

# Brake Motors Aluminium Frame

## Improved Efficiency EFF2

### Standard Features:

- Three-phase, multivoltage, IP55, TEFC
- Output: 0.12 up to 11kW
- Frames: 63 up to 132M
- Voltage: 220-240/380-415V (up to 100L)  
380-415/660V (from 112M and up)
- Class "F" insulation ( $\Delta T=80K$ )
- Continuous duty: S1
- Design N
- Ambient temperature: 40°C , at 1000 m.a.s.l.
- Squirrel cage rotor/Aluminium die cast
- Ball bearings
- D.E.: V'Ring
- N.D.E.: Lip Seal
- Stainless steel nameplate
- Dimensions according to IEC-72
- Performance characteristics according to IEC 34
- Color: RAL 5007

### Options Available:

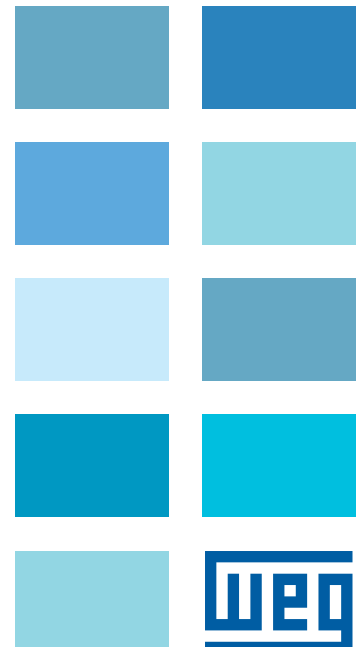
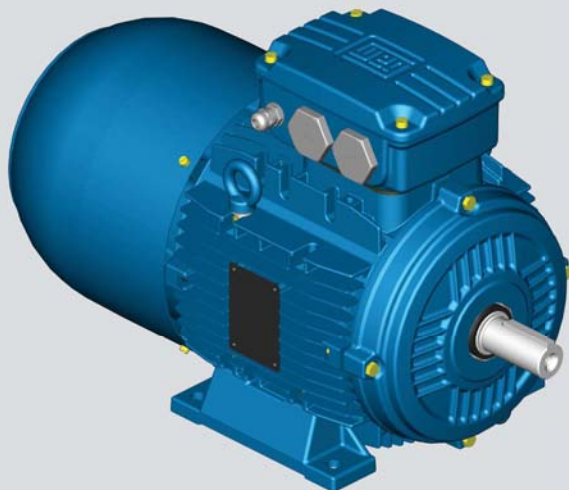
- Thermal protection
- Space heaters
- Shaft dimensions to customer requirements
- Special finishing paint
- Class "H" insulation
- Other mounting configurations

*More options available, on request*

### Typical Applications:

These motors can be used on any machine that requires quick stops and time savings during installation:

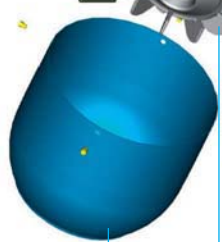
- Packing equipments
- Conveyor belts
- Washing and bottling machines
- Rolling bridges
- Elevators
- Printing machines
- Gates
- Wood machinery
- Cranes and others



# Features and Benefits

## Fan Cover

Made of steel plate for frames 63 up to 132M. The fan cover offers higher mechanical strength, corrosion-resistance and extended lifetime. With a design incorporating the braking system it is suitable for operation in severe environments. In addition, it offers quality and performance requirements of the motors such as noise level.



## Fan

WEG has designed the fan having in mind the lowest noise level. The efficient cooling ensures low motor temperature rise. This minimizes winding losses, thus increasing motor efficiency. Fan is designed with special materials to ensure suitable motor performance in reference to noise level and cooling. The W21 range is supplied with anti-static polypropylene fans from 63 up to 200 frames. Alternatively, aluminium fans can be supplied on request for all frames.

## Non-Drive Endshield

The non-drive endshield was specially designed to be coupled to the braking set as well as to withstand high thrusts coming from this set.

## Frame

Made of Aluminium with external fins for maximum cooling effect and minimum weight. This line of product is defined as a modern and easy assembly system, allowing change of mounting configuration including rotation of terminal box and/or removal of feet. Due to the material used on the frame construction there is an optimization of the electrical and mechanical designs resulting in an improved efficiency of the set and reduced weight. Resistance to corrosion is another benefit making it suitable for severe environments.

## Brake

The electromagnetic brake is built of sturdy construction offering high performance for its low number of movable components and versatility on the application, resulting in extended lifetime and low maintenance. The possibility of having several torques and several power supply voltages makes this set a versatile component.



## Terminal Box

Cast iron made with plenty of internal space. The terminal box can be rotated in 90° intervals, having one or two threaded holes to connect the power supply cables. Suitable to take the additional connection of the brake as well as bridge rectifier which is fixed internally without affecting the motor degree of protection. Larger volumes compared to standard motor allow easier connection and disconnection operations of the power supply, bridge rectifier and protection leads.  
\* Available as top or side mounting.

## Winding

The wire is enameled with class H varnish. Supplied with patented WISE (WEG Insulation System Evolution), which allows three times longer motor lifetime designed to operate in environments with excess of moisture and suitable for VFD application.

## Rotor

High pressure die cast rotor dynamically balanced, thus reducing vibrations.

## Bearings

WEG motors are fitted with the highest quality bearings selected from the best manufacturers in the world and designed to ensure long life of the motor even under heavy operating conditions. WEG also uses the Super-premium Polyrex EM polyurea grease that is specially formulated for electric motor bearings. Its advanced thickener formulation provides low noise characteristics, improved bearing performance and protection.

## Endshields

Made of cast iron, they are provided with external fins for better heat dissipation, thus increasing bearing life time.

## Seals

WEG motors are fitted with either V-ring seals, Oil seals, Lip seals and may also be fitted with Labyrinth Taconite or W3Seal to ensure the best possible protection under dusty and high moisture environments.

## Stator

Built with low magnetic loss steel lamination to reduce losses and operating temperature.



## Nameplate

Stainless steel nameplate ensuring a permanent record of all motor data.

## Feet

Removable feet on aluminium frames allow various mounting configurations.

## Drain Hole

Provided with plastic drain plug allowing drainage of condensed water.

# Brake Motors Aluminium Frame - Improved Efficiency EFF2

Output		IEC Frame	Full load torque C <sub>n</sub> (Nm)	Locked rotor current I <sub>r</sub> /I <sub>n</sub>	Locked rotor torque T <sub>r</sub> /T <sub>n</sub>	Break-down torque T <sub>b</sub> /T <sub>n</sub>	Inertia J kgm <sup>2</sup>	Allowable locked rotor time Hot/Cold (s)	Weight (kg)	Sound dB (A)	Rated speed (rpm)	400 V						Full load current I <sub>n</sub> (A)
												% of full load						
												Efficiency η			Power Factor (Cos φ)			
												50	75	100	50	75	100	
<b>II Pole - 3000 rpm</b>																		
0.12	0.16	63	0.41	3.8	2.3	2.3	0.00011	27/59	5.3	52	2720	45.5	53.5	56	0.55	0.68	0.8	0.387
0.18	0.25	63	0.64	4.2	2.4	2.3	0.00013	30/66	5.5	52	2730	50.5	56.5	59	0.55	0.69	0.8	0.55
0.25	0.33	63	0.85	4.3	2.5	2.3	0.00016	25/55	5.8	52	2720	52	57	60	0.5	0.65	0.76	0.791
0.37	0.5	71	1.29	4.3	2.3	2.3	0.00026	23/51	7	56	2730	61.2	66	67.6	0.6	0.75	0.85	0.929
0.55	0.75	71	1.94	4.2	2.5	2.7	0.00034	10/22	7.8	56	2710	67.5	70	70	0.65	0.78	0.87	1.3
0.75	1	80	2.54	5	2.4	2.4	0.00057	9/20	9.6	59	2770	66	72	73	0.59	0.73	0.82	1.81
1.1	1.5	80	3.8	5	2.6	2.6	0.00079	7/15	11	59	2770	74	76.5	76.5	0.6	0.75	0.83	2.5
1.5	2	90S/L	4.95	6.3	2.7	2.6	0.0017	7/15	15.5	64	2840	77	79.5	79.5	0.63	0.76	0.83	3.28
2.2	3	90S/L	7.5	6.8	2.8	2.9	0.00218	9/20	17.8	64	2810	78	80	81.5	0.63	0.77	0.85	4.584
3	4	100L	9.79	6.7	2.3	2.8	0.00518	9/20	24	67	2870	81.3	83	83.5	0.69	0.81	0.87	5.961
4	5.5	112M	13.44	6.8	2.4	3	0.00728	9/20	33	64	2875	82	84	85	0.71	0.82	0.87	7.81
5.5	7.5	132S	18.1	6.5	2.4	3	0.01589	11/24	43.6	68	2910	83.5	86	86.5	0.71	0.81	0.87	10.5
7.5	10	132S	24.22	6.4	2.3	2.6	0.0187	11/24	50	68	2900	86	87.5	87.5	0.72	0.82	0.87	14.2
9.2	12.5	132M	30.17	7.5	2.7	3.1	0.02431	8/18	56	68	2910	86.5	88.5	88.5	0.7	0.81	0.86	17.4
11	15	132M	36.08	8	2.7	3.2	0.02804	8/18	61.3	68	2920	88	89.5	89.5	0.71	0.81	0.86	20.6
<b>HIGH-OUTPUT DESIGN</b>																		
0.37	0.5	63	1.28	5.2	3.1	2.9	0.00021	14/31	6.7	52	2740	67	71	71.3	0.57	0.7	0.79	0.948
0.75	1	71	2.5	6.2	3.1	3.1	0.00052	8/18	9.3	56	2810	69	73	74	0.65	0.76	0.84	1.74
1.5	2	80	5.07	6	3	2.7	0.00096	10/22	12.4	59	2770	78	79	78.2	0.67	0.81	0.86	3.22
3	4	90S/L*	9.93	6.2	3.2	3.1	0.00266	6/13	18.3	64	2830	81	82	82	0.55	0.68	0.78	6.77
4	5.5	100L	13.46	7.5	2.9	3.1	0.00672	7/15	26.7	67	2870	81	82.3	82.5	0.72	0.81	0.86	8.14
5.5	7.5	112M	18.36	7.7	2.5	3	0.00995	10/22	39.8	64	2870	86.5	87.5	87.5	0.8	0.87	0.9	10.1
7.5	10	112M*	24.47	7.6	3	3	0.00995	6/13	40.3	64	2870	86.5	87.5	87.5	0.59	0.72	0.81	15.3
<b>IV Pole - 1500 rpm</b>																		
0.12	0.16	63	0.82	3.5	2	2.2	0.00034	30/66	5.4	44	1375	45	54	57	0.49	0.61	0.72	0.422
0.18	0.25	63	1.29	3.4	2	2.2	0.00039	23/51	6.4	44	1360	46	54	58	0.49	0.63	0.74	0.605
0.25	0.33	71	1.77	3.5	1.9	2.1	0.00039	21/46	6.9	43	1310	50	55	59	0.5	0.65	0.76	0.805
0.37	0.5	71	2.66	3.7	2	2	0.00056	17/37	8	43	1320	55	60	62	0.5	0.63	0.76	1.133
0.55	0.75	80	3.74	4.7	2.1	2.2	0.0019	17/37	10.2	44	1410	58.5	66.3	68	0.54	0.7	0.82	1.424
0.75	1	80	5.04	5	2.3	2.2	0.00225	14/31	11.2	44	1395	64.5	71	72	0.55	0.7	0.81	1.856
1.1	1.5	90S/L	7.42	5.6	2.3	2.4	0.00392	8/18	15.3	49	1420	70	76	77	0.55	0.69	0.79	2.61
1.5	2	90S/L	9.96	5.5	2.3	2.4	0.00476	8/18	16.6	49	1410	76.5	78.5	79	0.58	0.73	0.82	3.342
2.2	3	100L	14.94	5.6	2.4	2.6	0.00651	9/20	21.2	53	1410	80.5	81.5	81.5	0.6	0.74	0.82	4.751
3	4	100L	20.07	6	2.8	3	0.00804	8/18	24.2	53	1400	80	81	82.6	0.57	0.72	0.81	6.472
4	5.5	112M	26.83	6.2	2.1	2.5	0.01473	13/29	35.6	56	1440	83.5	84.6	85	0.65	0.77	0.83	8.18
5.5	7.5	132S	36.33	6.5	2.1	2.5	0.03489	11/24	43.9	60	1450	84.5	85.6	86	0.63	0.77	0.84	11
7.5	10	132M	48.27	6.7	2.1	2.9	0.04458	8/18	50	60	1455	85	86.5	87	0.63	0.77	0.84	14.8
9.2	12.5	132M	60.34	7.5	2.2	2.8	0.05815	6/13	58.5	60	1455	86.5	87.7	87.7	0.64	0.78	0.85	17.8
<b>HIGH-OUTPUT DESIGN</b>																		
0.25	0.33	63	1.64	5	3.1	3.1	0.00067	17/37	7	44	1415	52	60	62	0.44	0.54	0.65	0.895
0.55	0.75	71	3.8	5	2.8	2.9	0.00096	19/42	10	43	1385	66	70.5	72	0.45	0.58	0.68	1.62
1.1	1.5	80	7.61	5	2.3	2.3	0.00315	10/22	12.7	44	1385	65	68.5	69	0.55	0.7	0.81	2.84
2.2	3	90S/L	14.94	5.8	2.7	2.5	0.00672	8/18	20	49	1410	75	76.5	76.5	0.57	0.71	0.8	5.19
4	5.5	100L*	27.79	6.7	2.6	2.6	0.01072	7/15	30.1	53	1390	81.5	82.2	82	0.64	0.76	0.83	8.483
5.5	7.5	112M*	36.33	6.5	2.5	2.6	0.01875	8/18	40.4	56	1450	84	85.7	85.7	0.54	0.66	0.75	12.4
7.5	10	132S	48.27	6.7	2.1	2.9	0.04652	8/18	62.3	60	1455	85	86.5	87	0.63	0.77	0.84	14.8

Notes:

\*Class "F" insulation with ΔT105K

Standard voltage, connection and frequency: 220-240V Δ 50Hz

380-415V Y 50Hz

380-415V Δ 50Hz

660-690V Y 50Hz

The values shown are subject to change without prior notice. To obtain guaranteed values please access our website.

## Brake Motors Aluminium Frame - Improved Efficiency EFF2

Output		380 V								415 V							
		Rated speed (rpm)	% of full load						Full load current I <sub>n</sub> (A)	Rated speed (rpm)	% of full load						Full load current I <sub>n</sub> (A)
			Efficiency η			Power Factor (Cos φ)					Efficiency η			Power Factor (Cos φ)			
kW	HP	50	75	100	50	75	100	50	75	100	50	75	100	50	75	100	
<b>II Pole - 3000 rpm</b>																	
0.12	0.16	2690	48	55	58.8	0.59	0.74	0.84	0.369	2735	43	51	53.5	0.52	0.64	0.75	0.416
0.18	0.25	2700	52.5	57.5	59.5	0.6	0.75	0.85	0.541	2750	47.8	54.5	58	0.52	0.64	0.76	0.568
0.25	0.33	2685	54	59	60	0.56	0.71	0.81	0.782	2740	50	55.5	59.9	0.47	0.6	0.72	0.806
0.37	0.5	2700	62.8	66.5	67	0.66	0.81	0.89	0.943	2750	60	65.5	67	0.55	0.7	0.81	0.948
0.55	0.75	2670	68.5	70	69	0.71	0.83	0.9	1.35	2730	65	69	70.1	0.6	0.73	0.84	1.3
0.75	1	2740	69	73	72.5	0.67	0.79	0.86	1.83	2790	63	70.5	72.5	0.51	0.67	0.78	1.85
1.1	1.5	2745	75.5	76.5	76.5	0.68	0.81	0.87	2.51	2790	72	75.5	76.3	0.54	0.7	0.8	2.51
1.5	2	2820	78	80.1	78.9	0.7	0.81	0.87	3.32	2855	75	78.9	79.3	0.57	0.71	0.8	3.29
2.2	3	2790	78.5	80.2	80.8	0.7	0.82	0.88	4.701	2820	77.5	79.8	81.5	0.57	0.72	0.82	4.58
3	4	2855	82.4	83	83	0.75	0.85	0.89	6.17	2880	80.5	82.4	83.5	0.64	0.77	0.84	5.95
4	5.5	2860	83	84.2	84.5	0.77	0.86	0.89	8.08	2885	80.8	83.4	84.8	0.66	0.78	0.85	7.72
5.5	7.5	2895	84.4	86	86	0.77	0.85	0.89	10.9	2915	82.7	85.5	86.5	0.66	0.78	0.84	10.5
7.5	10	2890	86.8	87.5	87	0.78	0.86	0.89	14.7	2910	85	87	87.5	0.66	0.78	0.84	14.2
9.2	12.5	2900	87.4	88.5	88.4	0.76	0.85	0.89	17.8	2915	85.3	88	88.4	0.63	0.76	0.83	17.4
11	15	2910	88.5	89.5	89	0.76	0.84	0.88	21.3	2930	87.5	89	89.5	0.66	0.77	0.83	20.6
<b>HIGH-OUTPUT DESIGN</b>																	
0.37	0.5	2710	69.5	71.7	71	0.62	0.75	0.83	0.954	2765	65	70	71	0.52	0.66	0.76	0.954
0.75	1	2790	71	74	74	0.7	0.8	0.87	1.77	2830	67	71.5	73.5	0.6	0.71	0.8	1.77
1.5	2	2750	79	79.5	77	0.72	0.84	0.88	3.36	2790	77	78.5	78.5	0.62	0.77	0.84	3.16
3	4	2800	82	82.5	81.5	0.61	0.74	0.81	6.9	2845	80	81.5	81.5	0.5	0.64	0.74	6.92
4	5.5	2850	81.5	82.5	82	0.77	0.84	0.88	8.42	2890	80.3	82	82.5	0.68	0.78	0.84	8.03
5.5	7.5	2860	87	87.5	87.2	0.83	0.89	0.91	10.5	2880	86	87.5	87.7	0.77	0.85	0.89	9.8
7.5	10	2850	86.5	87	87	0.66	0.79	0.85	15.4	2885	85	87	87	0.53	0.67	0.76	15.8
<b>IV Pole - 1500 rpm</b>																	
0.12	0.16	1360	47	55	57	0.53	0.65	0.76	0.421	1385	42	51	55	0.45	0.57	0.67	0.457
0.18	0.25	1340	46	54	58	0.54	0.67	0.79	0.597	1370	43	52	56	0.45	0.57	0.68	0.658
0.25	0.33	1280	50	55	56	0.55	0.7	0.8	0.848	1320	43	51	55	0.45	0.58	0.7	0.903
0.37	0.5	1300	57	60	62	0.52	0.67	0.78	1.162	1340	52	57	60	0.44	0.55	0.68	1.262
0.55	0.75	1400	61	68	68.2	0.61	0.75	0.86	1.425	1415	58.5	66	67.6	0.51	0.67	0.79	1.433
0.75	1	1380	65	71.5	72	0.61	0.75	0.84	1.884	1405	61	68.4	71	0.5	0.64	0.76	1.934
1.1	1.5	1405	73	76	76.5	0.62	0.75	0.83	2.632	1425	67	75	77	0.49	0.64	0.75	2.65
1.5	2	1400	78.5	79	79	0.65	0.78	0.86	3.354	1415	74.5	78	79	0.52	0.67	0.77	3.431
2.2	3	1400	80.5	81	80.5	0.67	0.79	0.85	4.885	1420	79	81	81.5	0.55	0.68	0.78	4.815
3	4	1390	81.5	82	81.9	0.64	0.77	0.84	6.625	1410	78	81	82.6	0.52	0.67	0.78	6.478
4	5.5	1430	84.3	85	84.5	0.71	0.81	0.86	8.36	1445	82	84	85	0.59	0.72	0.8	8.18
5.5	7.5	1445	85.5	86	85.6	0.7	0.81	0.86	11.4	1455	83.2	85	85.7	0.58	0.72	0.81	11
7.5	10	1450	86.5	86.8	86.8	0.71	0.82	0.87	15.1	1455	83.2	85.7	86.7	0.57	0.72	0.8	15
9.2	12.5	1450	87.3	87.8	87.4	0.7	0.82	0.87	18.4	1455	85.3	87.1	87.5	0.59	0.73	0.82	17.8
<b>HIGH-OUTPUT DESIGN</b>																	
0.25	0.33	1405	54	61	63	0.49	0.6	0.7	0.861	1420	49	58	61	0.41	0.51	0.6	0.95
0.55	0.75	1370	69	72	72.5	0.51	0.63	0.72	1.6	1400	62	68	71	0.42	0.53	0.64	1.68
1.1	1.5	1370	68	69	69.5	0.61	0.76	0.86	2.8	1400	60	66	67	0.5	0.65	0.76	3.01
2.2	3	1390	76	77	76	0.65	0.75	0.83	5.3	1420	73	76	76.5	0.53	0.66	0.76	5.26
4	5.5	1380	82	82	81	0.69	0.8	0.85	8.827	1400	81	82.1	82.5	0.6	0.73	0.81	8.327
5.5	7.5	1445	85	86	85.7	0.6	0.72	0.79	12.3	1455	82	85.7	85.7	0.49	0.62	0.71	12.6
7.5	10	1450	86.5	86.8	86.8	0.71	0.82	0.87	15.1	1455	83.2	85.7	86.7	0.57	0.72	0.8	15

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Output		IEC Frame	Full load torque C <sub>n</sub> (Nm)	Locked rotor current I <sub>L</sub> /I <sub>n</sub>	Locked rotor torque T <sub>L</sub> /T <sub>n</sub>	Break-down torque T <sub>b</sub> /T <sub>n</sub>	Inertia J kgm <sup>2</sup>	Allowable locked rotor time Hot/Cold (s)	Weight (kg)	Sound dB (A)	Rated speed (rpm)	400 V						Full load current I <sub>n</sub> (A)
												% of full load						
kW	HP	Efficiency η			Power Factor (Cos φ)													
		50	75	100	50	75	100											
<b>VI Pole - 1000 rpm</b>																		
0.12	0.16	63	1.31	2.6	1.7	1.6	0.00051	46/101	6.2	43	855	40.7	46.7	45.5	0.49	0.6	0.71	0.536
0.18	0.25	71	1.94	3.3	2	2.2	0.00079	50/110	7.8	43	905	46	54	57	0.46	0.55	0.62	0.735
0.25	0.33	71	2.58	3.5	2.2	2.2	0.00096	43/95	9.5	43	900	53	60.5	64	0.4	0.5	0.57	0.989
0.37	0.5	80	3.88	3.6	1.7	1.7	0.0019	16/35	10.2	43	905	55	60	63	0.5	0.64	0.75	1.13
0.55	0.75	80	5.66	4.5	2.3	2.3	0.00311	10/22	12.3	43	930	60	65	67	0.5	0.63	0.73	1.62
0.75	1	90S/L	7.72	4.2	1.9	2	0.00448	16/35	15.9	45	910	71	73	72.4	0.55	0.69	0.79	1.89
1.1	1.5	90S/L	11.39	4.8	2.7	2.7	0.00616	9/20	18.9	45	925	72.5	74	72.5	0.47	0.6	0.72	3.042
1.5	2	100L	15.44	4.1	2	2.2	0.00897	17/37	21.1	44	910	74.5	77.5	76	0.51	0.65	0.73	3.902
2.2	3	112M	22.42	5	2.2	2.3	0.01682	14/31	34.5	48	940	77.5	80.5	80.1	0.53	0.66	0.74	5.36
3	4	132S	29.27	5.3	2	2.2	0.03489	20/44	40.2	52	960	80	82.7	82.5	0.58	0.7	0.77	6.82
4	5.5	132M	40.24	5.8	2.3	2.4	0.04458	19/42	48.9	52	960	81.5	83.6	84.2	0.54	0.66	0.74	9.27
5.5	7.5	132M	54.87	6.4	2.7	2.8	0.05814	15/33	58.2	52	960	82.5	84.8	85.8	0.49	0.62	0.71	13
<b>HIGH-OUTPUT DESIGN</b>																		
3	4	112M	29.27	6.3	2.6	2.6	0.02617	10/22	39.7	48	960	78.5	81.7	84	0.53	0.65	0.73	7.06
<b>VIII Pole - 750 rpm</b>																		
0.12	0.16	71	1.7	2.2	2.1	2	0.00079	84/185	8.9	41	660	36.3	43.4	45.6	0.37	0.45	0.53	0.717
0.18	0.25	80	2.53	2.8	2.2	2.4	0.00208	29/64	10.5	42	695	36.2	44.1	48.6	0.45	0.53	0.62	0.862
0.25	0.33	80	3.31	3.5	2.3	2.2	0.00277	24/53	12	42	700	46.1	53.6	56.6	0.42	0.52	0.61	1.045
0.37	0.5	90S/L	5.13	3	1.9	1.8	0.00392	32/70	14.8	43	685	50.6	56.5	57.4	0.44	0.55	0.64	1.454
0.55	0.75	90S/L	7.8	3.3	1.9	2	0.00561	25/55	17.8	43	675	58	60	60	0.43	0.56	0.66	2.005
0.75	1	100L	9.96	3.5	1.8	2.4	0.00785	33/73	19.5	50	705	62	67.2	67.8	0.42	0.53	0.62	2.575
1.1	1.5	100L	15.05	4	1.7	2.3	0.01177	27/59	25.6	50	700	69.3	72.3	71.2	0.45	0.57	0.66	3.379
1.5	2	112M	20.07	4.2	2.2	2.2	0.01776	26/57	31.8	46	700	73.7	75.4	73.5	0.48	0.61	0.7	4.208
2.2	3	132S	29.68	6.1	2.5	2.8	0.06023	22/48	54.3	48	710	75.8	78	77.1	0.55	0.68	0.77	5.349
3	4	132M	39.57	6.1	2.2	2.6	0.07277	18/40	55.7	48	710	78.5	80.1	79	0.55	0.68	0.76	7.212

Notes:

\*Class "F" insulation with ΔT105K

Standard voltage, connection and frequency: 220-240V Δ 50Hz

380-415V Δ 50Hz

380-415V Y 50Hz

660-690V Y 50Hz

The values shown are subject to change without prior notice. To obtain guaranteed values please access our website.

## Brake Motors Aluminium Frame - Improved Efficiency EFF2

Output		380 V								415 V							
		Rated speed (rpm)	% of full load						Full load current I <sub>n</sub> (A)	Rated speed (rpm)	% of full load						Full load current I <sub>n</sub> (A)
			Efficiency η			Power Factor (Cos φ)					Efficiency η			Power Factor (Cos φ)			
kW	HP	50	75	100	50	75	100	50	75	100	50	75	100	50	75	100	
<b>VI Pole - 1000 rpm</b>																	
0.12	0.16	845	46.2	50.6	47.6	0.52	0.64	0.76	0.504	860	36.2	42.8	43.2	0.48	0.57	0.67	0.577
0.18	0.25	895	49	55.5	57.5	0.49	0.59	0.65	0.732	910	43	52	56.5	0.44	0.52	0.59	0.751
0.25	0.33	890	56	63	65.3	0.44	0.55	0.61	0.954	905	50	58	62.5	0.37	0.46	0.54	1.03
0.37	0.5	890	57	62	65	0.54	0.69	0.8	1.08	910	55	60	62	0.47	0.6	0.72	1.15
0.55	0.75	920	62	65.8	68	0.54	0.67	0.77	1.6	935	58	64	66	0.47	0.59	0.68	1.7
0.75	1	895	70	72	72	0.61	0.75	0.83	1.91	915	70	71	71	0.52	0.66	0.76	1.93
1.1	1.5	915	73.2	76.4	75.6	0.52	0.67	0.77	2.871	930	71.3	71.4	72.5	0.42	0.55	0.67	3.15
1.5	2	900	73.6	78.5	79	0.57	0.7	0.77	3.747	920	74.2	75.9	74.2	0.46	0.6	0.69	4.076
2.2	3	930	79	80.8	79.7	0.58	0.7	0.76	5.52	950	76	80.3	80.5	0.5	0.63	0.72	5.28
3	4	955	81	83	82	0.61	0.72	0.79	7.04	965	79	82.5	82.6	0.53	0.66	0.74	6.83
4	5.5	960	82.7	84.2	84	0.58	0.73	0.78	9.28	965	80	82.9	83.9	0.52	0.64	0.72	9.21
5.5	7.5	960	84.2	85.5	85.7	0.56	0.69	0.75	13	965	81	83.7	85.4	0.45	0.57	0.66	13.6
<b>HIGH-OUTPUT DESIGN</b>																	
3	4	955	80	82	83.9	0.59	0.7	0.76	7.15	965	76.5	81.4	84	0.48	0.6	0.69	7.2
<b>VIII Pole - 750 rpm</b>																	
0.12	0.16	650	41	47.1	47.6	0.39	0.48	0.57	0.672	670	32.7	40.3	43.2	0.36	0.43	0.5	0.773
0.18	0.25	690	40.7	47.7	50.6	0.47	0.57	0.66	0.819	700	32.8	41.2	46.1	0.43	0.51	0.59	0.921
0.25	0.33	690	49	55.6	57.2	0.45	0.56	0.65	1.022	700	43.1	51.7	55.6	0.4	0.5	0.58	1.079
0.37	0.5	680	54.4	59	58.3	0.48	0.6	0.69	1.397	690	46.6	53.8	56.1	0.41	0.51	0.61	1.504
0.55	0.75	665	61.7	62	60	0.47	0.6	0.7	1.99	680	54.8	59	59	0.41	0.52	0.62	2.092
0.75	1	695	65.6	69	68	0.46	0.58	0.66	2.539	710	58.3	64.6	66.7	0.39	0.49	0.58	2.697
1.1	1.5	690	72.1	73.6	70.8	0.5	0.62	0.7	3.372	705	66.2	70.7	70.7	0.41	0.53	0.62	3.491
1.5	2	690	75.9	76.2	73.2	0.52	0.65	0.73	4.265	705	71.6	74.2	73.1	0.44	0.57	0.66	4.325
2.2	3	705	77.1	78.3	76.7	0.6	0.73	0.8	5.447	715	74.7	77.5	77.1	0.52	0.65	0.74	5.364
3	4	705	79.7	80.5	78.6	0.6	0.73	0.8	7.249	715	77.1	79.6	79	0.51	0.64	0.73	7.237





# Brake Motors Aluminium Frame

## Premium Efficiency EFF1

### Standard Features:

- Three-phase, multivoltage, IP55, TEFC
- Output: 0.12 up to 9.2kW
- Frames: 63 up to 132M
- Voltage: 220-240/380-415V (up to 100L)  
380-415/660V (from 112M and up)
- Class "F" insulation ( $\Delta T=80K$ )
- Continuous duty: S1
- Design N
- Ambient temperature: 40°C , at 1000 m.a.s.l.
- Squirrel cage rotor/Aluminium die cast
- Ball bearings
- D.E.: V'Ring
- N.D.E.: Lip Seal
- Stainless steel nameplate
- Dimensions according to IEC-72
- Performance characteristics according to IEC 34
- Color: RAL 5009

### Options Available:

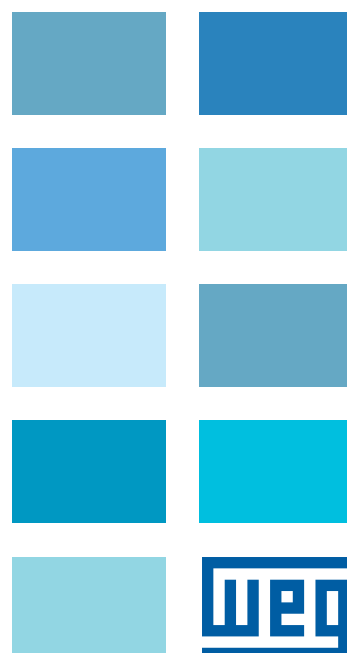
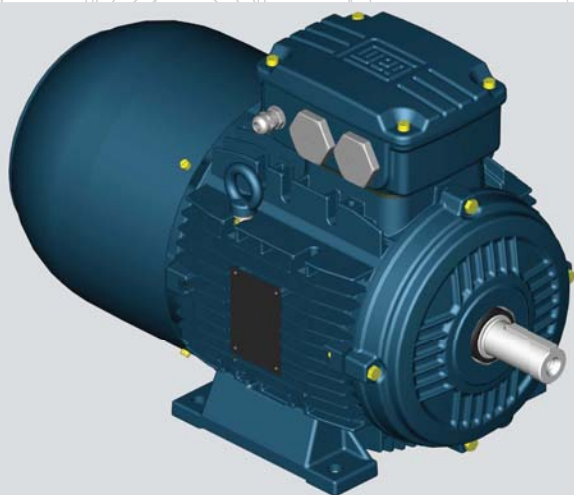
- Thermal protection
- Space heaters
- Shaft dimensions to customer requirements
- Special finishing paint
- Class "H" insulation
- Other mounting configurations

*More options available, on request*

### Typical Applications:

These motors can be used on any machine that requires quick stops and time savings during installation:

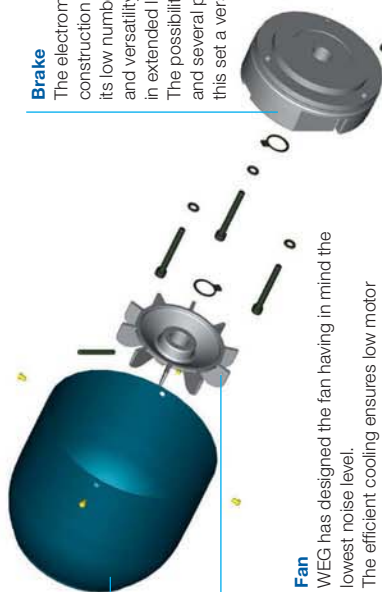
- Packing equipments
- Conveyor belts
- Washing and bottling machines
- Rolling bridges
- Elevators
- Printing machines
- Gates
- Wood machinery
- Cranes and others



# Features and Benefits

## Fan Cover

Made of steel plate for frames 63 up to 132M. The fan cover offers higher mechanical strength, corrosion-resistance and extended lifetime. With a design incorporating the braking system it is suitable for operation in severe environments. In addition, it offers quality and performance requirements of the motors such as noise level.



## Fan

WEG has designed the fan having in mind the lowest noise level. The efficient cooling ensures low motor temperature rise. This minimizes winding losses, thus increasing motor efficiency. Fan is designed with special materials to ensure suitable motor performance in reference to noise level and cooling. The W21 range is supplied with anti-static polypropylene fans, from 63 up to 200 frames. Alternatively, aluminium fans can be supplied on request for all frames.

## Non-Drive Endshield

The non-drive endshield was specially designed to be coupled to the braking set as well as to withstand high thrusts coming from this set.

## Frame

Made of Aluminium with external fins for maximum cooling effect and minimum weight. This line of product is defined as a modern and easy assembly system, allowing change of mounting configuration including rotation of terminal box and/or removal of feet. Due to the material used on the frame construction there is an optimization of the electrical and mechanical designs resulting in an improved efficiency of the set and reduced weight. Resistance to corrosion is another benefit making it suitable for severe environments.

## Terminal Box

Cast iron made with plenty of internal space. The terminal box can be rotated in 90° intervals, having one or two threaded holes to connect the power supply cables. Suitable to take the additional connection of the brake as well as bridge rectifier which is fixed internally without affecting the motor degree of protection. Larger volumes compared to standard motor allow easier connection and disconnection operations of the power supply, bridge rectifier and protection leads.  
\* Available as top or side mounting.

## Winding

The wire is enameled with class H varnish. Supplied with patented WISE (WEG Insulation System Evolution), which allows three times longer motor lifetime designed to operate in environments with excess of moisture and suitable for VFD application. The winding is designed to obtain the minimal Joule losses and temperature rise.

## Rotor

High pressure die cast rotor dynamically balanced, thus reducing vibrations.

## Bearings

WEG motors are fitted with the highest quality bearings selected from the best manufacturers in the world and designed to ensure long life of the motor even under heavy operating conditions. WEG also uses the Super-premium Polyrex EM polyurea grease that is specially formulated for electric motor bearings. Its advanced thickener formulation provides low noise characteristics, improved bearing performance and protection.

## Endshields

Made of cast iron, they are provided with external fins for better heat dissipation, thus increasing bearing life time.

## Seals

WEG motors are fitted with either V-ring seals, Oil seals, Lip seals and may also be fitted with Labyrinth Taconite or W3Seal to ensure the best possible protection under dusty and high moisture environments.

## Stator

Built with low magnetic loss steel lamination to reduce losses and operating temperature.

## Drain Hole

Provided with plastic drain plug allowing drainage of condensed water.

## Feet

Removable feet on aluminium frames allow various mounting configurations.

## Nameplate

Stainless steel nameplate ensuring a permanent record of all motor data.



# Brake Motors Aluminium Frame - Premium Efficiency EFF1

Output		IEC Frame	Full load torque C <sub>n</sub> (Nm)	Locked rotor current I <sub>L</sub> /I <sub>n</sub>	Locked rotor torque T <sub>L</sub> /T <sub>n</sub>	Break-down torque T <sub>b</sub> /T <sub>n</sub>	Inertia J kgm <sup>2</sup>	Allowable locked rotor time Hot/Cold (s)	Weight (kg)	Sound dB (A)	Rated speed (rpm)	400 V						Full load current I <sub>n</sub> (A)
												% of full load						
												Efficiency η			Power Factor (Cos φ)			
												50	75	100	50	75	100	
<b>II Pole - 3000 rpm</b>																		
0.12	0.16	63	5	0.41	2.8	3	0.00012	25/55	5.6	52	2760	58	64.8	65.5	0.51	0.64	0.74	0.357
0.18	0.25	63	4.4	0.64	2.5	2.5	0.00012	30/66	5.6	52	2730	63.5	68.5	69.5	0.62	0.76	0.81	0.462
0.25	0.33	63	4.5	0.85	2.5	2.5	0.00016	18/40	6.1	52	2730	64	68.5	71.2	0.58	0.71	0.8	0.634
0.37	0.5	71	5.5	1.25	3	3.2	0.00037	23/51	8.2	56	2810	69	73.8	74.5	0.63	0.77	0.85	0.843
0.55	0.75	71	5.7	1.89	2.7	2.7	0.00045	16/35	8.8	56	2790	72.5	76.6	76.7	0.68	0.8	0.86	1.2
0.75	1	80	6.8	2.51	3.1	3.1	0.00079	20/44	11.4	59	2795	76.5	80.5	80.5	0.73	0.82	0.86	1.56
1.1	1.5	80	7.8	3.74	3.4	3.4	0.00096	15/33	12.4	59	2820	81	83	83.6	0.64	0.76	0.84	2.26
1.5	2	90S/L	7.3	4.91	2.8	2.8	0.00205	14/31	16.1	62	2860	83.2	84.9	84.5	0.68	0.8	0.85	3.01
2.2	3	90S/L	8.4	7.35	3.7	3.5	0.00266	9/20	18.3	62	2865	84	86	86.6	0.64	0.76	0.83	4.42
3	4	100L	8.9	9.7	3	3.1	0.00672	12/26	26.8	67	2895	84.5	87	88.3	0.73	0.83	0.87	5.64
4	5.5	112M	8.2	13.32	2.7	3.4	0.00842	17/37	36.6	64	2900	87	88.4	88.6	0.72	0.83	0.87	7.49
5.5	7.5	132S	8	17.95	2.7	3.2	0.02056	19/42	54.9	67	2935	88.5	90	90.1	0.71	0.81	0.86	10.2
7.5	10	132S	8	24.01	2.5	2.9	0.0243	13/29	60	67	2925	88.5	90.6	90.8	0.72	0.82	0.87	13.7
9.2	12.5	132M	8.5	29.91	2.8	3.1	0.02804	11/24	74	67	2935	88.5	90.9	91	0.7	0.81	0.87	16.8
<b>IV Pole - 1500 rpm</b>																		
0.12	0.16	63	0.79	4.5	2.6	2.7	0.00045	20/44	6	44	1415	56.5	62.5	64.5	0.43	0.55	0.65	0.413
0.18	0.25	63	1.25	4.6	2.6	2.7	0.00056	27/59	6.5	44	1400	58	64	67.5	0.44	0.55	0.66	0.583
0.25	0.33	71	1.66	5	3	3.1	0.00079	48/106	9.3	43	1400	69	73	75	0.5	0.61	0.69	0.697
0.37	0.5	71	2.52	5	2.7	2.8	0.00079	37/81	9.3	43	1395	69	74	75.5	0.47	0.59	0.69	1.03
0.55	0.75	80	3.68	6	2.6	2.8	0.00242	17/37	11.6	44	1430	72	77	78	0.56	0.69	0.78	1.3
0.75	1	80	4.95	6	2.6	2.6	0.00328	16/35	13.4	44	1420	76	78.6	80.1	0.62	0.75	0.82	1.65
1.1	1.5	90S/L	7.29	7	2.6	3	0.0056	14/31	18.1	49	1445	80	83.8	83.8	0.59	0.72	0.8	2.37
1.5	2	90S/L	9.69	7.5	2.8	3.3	0.00672	12/26	20.2	49	1450	80.5	84.6	85.2	0.54	0.68	0.77	3.3
2.2	3	100L	14.79	7.4	3	3	0.01072	17/37	28.8	53	1425	85.3	86.4	86.4	0.65	0.77	0.83	4.43
3	4	100L	19.65	7.8	2.9	3.3	0.01225	12/26	34.8	53	1430	84.5	86.5	87.5	0.64	0.76	0.83	5.96
4	5.5	112M	26.73	6.6	2.1	2.6	0.01875	12/26	40.3	56	1445	87.1	88.3	88.6	0.66	0.77	0.83	7.85
5.5	7.5	132S	35.96	8.5	2.4	3.1	0.05427	12/26	60.9	56	1465	88	89.6	90.1	0.69	0.79	0.85	10.4
7.5	10	132M	47.95	8.2	2.5	3	0.0659	9/20	68.6	56	1465	89	90	90.4	0.71	0.81	0.86	13.9
9.2	12.5	132M	59.93	8	2.5	3	0.06202	7/15	74	56	1465	88	89.5	90.4	0.68	0.8	0.85	17.281
<b>HIGH-OUTPUT DESIGN</b>																		
7.5	10	132S	47.95	8.2	2.5	3	0.0659	9/20	85	56	1465	89	90	90.4	0.71	0.81	0.86	13.9
<b>VI Pole - 1000 rpm</b>																		
0.12	0.16	63	1.23	3.5	2.2	2.1	0.00067	41/90	7	43	910	44	52	56.3	0.44	0.53	0.63	0.488
0.18	0.25	71	1.95	3.5	2.1	2.2	0.00079	49/108	9.1	43	900	49	57	61	0.42	0.51	0.6	0.71
0.25	0.33	71	2.58	3.5	2.1	2.2	0.00096	43/95	9.9	43	900	53	63	67	0.39	0.48	0.55	0.979
0.37	0.5	80	3.8	4.7	2.1	2.2	0.00242	14/31	11.4	43	925	62	67.5	70	0.48	0.61	0.7	1.09
0.55	0.75	80	5.73	4.8	2.2	2.4	0.00311	11/24	12.8	43	920	62	68.5	70.3	0.48	0.63	0.72	1.57
0.75	1	90S/L	7.63	4.8	2.1	2.2	0.0056	20/44	18.2	45	920	74	77.7	77.7	0.5	0.63	0.72	1.94
1.1	1.5	90S/L	11.45	5	2.3	2.4	0.00672	12/26	20.4	45	920	72	77.7	77.7	0.48	0.61	0.71	2.88
1.5	2	100L	14.87	5.5	2.2	2.5	0.01289	19/42	25.9	44	945	79	81.5	81.5	0.49	0.6	0.7	3.8
2.2	3	112M	22.18	6.2	2.4	2.6	0.02243	16/35	36.9	48	950	81.5	84	83.8	0.52	0.64	0.72	5.26
3	4	132S	29.27	6	2.1	2.5	0.04264	28/62	59	52	960	82	85	86.5	0.53	0.67	0.74	6.76
4	5.5	132M	40.24	6.5	2.2	2.5	0.05039	21/46	57.7	52	960	85	86.6	87.2	0.56	0.69	0.76	8.71
5.5	7.5	132M	54.59	6.8	2.3	2.5	0.0659	17/37	67.5	52	965	84.5	87.5	87.6	0.53	0.65	0.73	12.4
<b>VIII Pole - 750 rpm</b>																		
0.12	0.16	71	2.5	1.64	1.9	2.1	0.00079	44/97	8.9	41	685	38	46.2	49	0.38	0.47	0.55	0.643
0.18	0.25	80	3.1	2.51	1.8	2	0.00242	16/35	11.1	42	700	42	51	55.8	0.42	0.52	0.61	0.763
0.25	0.33	80	3.5	3.34	2	2	0.00294	15/33	12.4	42	695	51	60	64.3	0.41	0.52	0.61	0.92
0.37	0.5	90S/L	4	5.09	2	2	0.00448	21/46	16.1	43	690	53.5	61.3	64.5	0.39	0.5	0.59	1.4
0.55	0.75	90S/L	4	7.63	2	2.2	0.00616	21/46	19.1	43	690	59	64	66.3	0.39	0.5	0.6	2
0.75	1	100L	4.2	9.89	1.9	2.2	0.01121	38/84	23.9	50	710	71	74.2	76	0.4	0.53	0.61	2.34
1.1	1.5	100L	4.2	15.05	1.8	2.2	0.01289	31/68	24.7	50	700	71	74.5	77	0.4	0.52	0.62	3.33
1.5	2	112M	5.4	19.79	2.4	2.7	0.0243	32/70	38.4	46	710	79	81.3	82	0.43	0.55	0.66	4
2.2	3	132S	6.2	29.68	2.4	2.5	0.07527	25/55	61.8	48	710	82	84.3	84.2	0.54	0.66	0.73	5.17
3	4	132M	6	39.57	2.4	2.4	0.08531	21/46	62.4	48	710	82.8	84.6	84.5	0.54	0.67	0.75	6.83

Notes:

\*Class "F" insulation with ΔT105K

Standard voltage, connection and frequency: 220-240V Δ 50Hz

380-415V Y 50Hz

380-415V Δ 50Hz

660-690V Y 50Hz

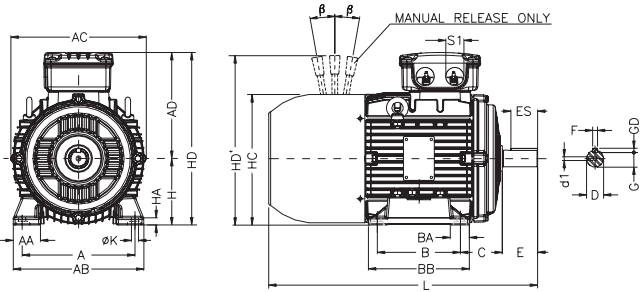
The values shown are subject to change without prior notice. To obtain guaranteed values please access our website.

# Brake Motors Aluminium Frame - Premium Efficiency EFF1

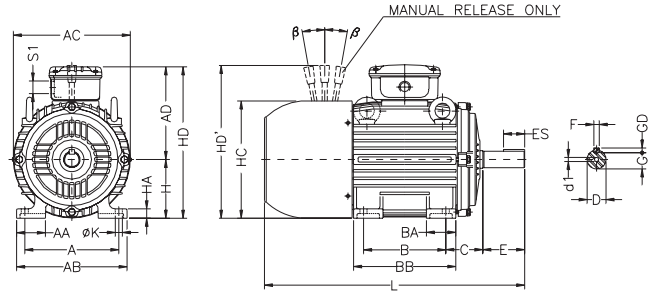
Output		380 V									415 V								
		Rated speed (rpm)	% of full load						Full load current I <sub>n</sub> (A)	Rated speed (rpm)	% of full load						Full load current I <sub>n</sub> (A)		
			Efficiency η			Power Factor (Cos φ)					Efficiency η			Power Factor (Cos φ)					
kW	HP	50	75	100	50	75	100	50	75	100	50	75	100	50	75	100			
<b>II Pole - 3000 rpm</b>																			
0.12	0.16	2730	60	66	67	0.56	0.69	0.79	0.344	2790	55	63	63	0.48	0.61	0.71	0.373		
0.18	0.25	2700	65	69	69	0.66	0.79	0.83	0.478	2760	62	68	70	0.58	0.73	0.78	0.459		
0.25	0.33	2700	65.5	69.5	70	0.62	0.75	0.83	0.654	2755	62.5	67.5	71.9	0.55	0.68	0.77	0.628		
0.37	0.5	2790	70.5	73.8	74.3	0.68	0.8	0.88	0.86	2825	67.5	73.8	74.5	0.6	0.74	0.82	0.843		
0.55	0.75	2760	73.5	76.7	76.5	0.73	0.82	0.88	1.24	2810	71.5	76.5	76.7	0.64	0.77	0.84	1.19		
0.75	1	2770	77	80.5	79.8	0.76	0.85	0.88	1.62	2805	76	80.5	80.5	0.7	0.79	0.84	1.54		
1.1	1.5	2800	82	83.2	82.8	0.69	0.8	0.86	2.35	2835	80	82.5	83.5	0.58	0.72	0.81	2.26		
1.5	2	2845	83.6	84.8	84.3	0.73	0.83	0.87	3.11	2870	82.8	84.8	84.6	0.64	0.77	0.83	2.97		
2.2	3	2855	84.5	86	86	0.69	0.8	0.86	4.52	2875	83.5	86	86.6	0.58	0.72	0.8	4.42		
3	4	2890	85	86.7	87.5	0.77	0.85	0.88	5.92	2900	84	86.7	88	0.69	0.81	0.86	5.51		
4	5.5	2890	87.5	88.3	88.3	0.77	0.85	0.89	7.73	2910	86.5	88.3	88.5	0.68	0.81	0.86	7.31		
5.5	7.5	2930	89	90.3	90.2	0.75	0.83	0.87	10.6	2940	88	89.8	90	0.68	0.78	0.84	10.1		
7.5	10	2920	89	90.5	90.6	0.75	0.84	0.88	14.3	2930	88	90.6	90.9	0.7	0.8	0.86	13.3		
9.2	12.5	2930	89	91	91	0.76	0.85	0.89	17.3	2940	88	90.8	91	0.66	0.77	0.85	16.5		
<b>IV Pole - 1500 rpm</b>																			
0.12	0.16	1405	59	64	65	0.46	0.59	0.69	0.407	1425	54	60.5	63	0.4	0.51	0.61	0.434		
0.18	0.25	1390	60	65	67	0.47	0.57	0.68	0.6	1410	56	63	67	0.41	0.53	0.64	0.584		
0.25	0.33	1385	70	73.5	74.5	0.54	0.65	0.73	0.698	1415	68	72.5	75.5	0.46	0.58	0.66	0.698		
0.37	0.5	1385	71	74.5	75.5	0.51	0.63	0.72	1.03	1405	67	73.5	75	0.43	0.55	0.66	1.04		
0.55	0.75	1420	73	77.5	77.5	0.59	0.72	0.81	1.33	1435	71	76.5	78	0.53	0.65	0.75	1.31		
0.75	1	1410	77	78.7	79.6	0.66	0.78	0.85	1.68	1425	75	78.5	80.1	0.58	0.71	0.79	1.65		
1.1	1.5	1440	81.5	83.8	83.6	0.64	0.76	0.83	2.41	1450	78.5	83.8	83.8	0.55	0.69	0.77	2.37		
1.5	2	1440	81.5	84.7	85	0.59	0.73	0.8	3.35	1455	79.5	84.5	85	0.5	0.64	0.74	3.32		
2.2	3	1420	85.5	86.3	86.2	0.7	0.81	0.86	4.51	1430	85	86.4	86.4	0.62	0.75	0.81	4.37		
3	4	1425	85	86.5	87.5	0.68	0.8	0.85	6.13	1435	84	86.5	87.5	0.6	0.73	0.81	5.89		
4	5.5	1440	87.5	88.4	88.3	0.7	0.8	0.86	8	1450	86.7	88.2	88.6	0.62	0.74	0.81	7.75		
5.5	7.5	1460	88.5	89.6	90	0.72	0.81	0.86	10.8	1470	87.5	89.4	90.1	0.65	0.77	0.83	10.2		
7.5	10	1460	89.2	89.8	89.8	0.75	0.84	0.88	14.4	1465	88.7	89.8	90.3	0.68	0.79	0.85	13.6		
9.2	12.5	1460	89	89.5	89.5	0.73	0.83	0.87	17.952	1465	87	89	90.3	0.64	0.76	0.83	17.077		
<b>HIGH-OUTPUT DESIGN</b>																			
7.5	10	1460	89.2	89.8	89.8	0.75	0.84	0.88	14.4	1465	88.7	89.8	90.3	0.68	0.79	0.85	13.6		
<b>VI Pole - 1000 rpm</b>																			
0.12	0.16	900	47	54	57	0.47	0.56	0.66	0.485	915	41	50	55	0.41	0.5	0.6	0.506		
0.18	0.25	890	51	58	61	0.46	0.55	0.63	0.712	910	47	56	61	0.39	0.47	0.57	0.72		
0.25	0.33	890	55	64	67	0.4	0.53	0.59	0.961	910	51	62	67	0.37	0.44	0.53	0.979		
0.37	0.5	920	64	68.5	70.5	0.52	0.65	0.74	1.08	930	60	66.5	69.5	0.44	0.57	0.66	1.12		
0.55	0.75	910	64	69.5	70.5	0.53	0.67	0.76	1.56	930	60	67.5	70	0.44	0.59	0.66	1.66		
0.75	1	910	75	77.5	76.8	0.55	0.67	0.74	2.01	930	73	77.7	77.7	0.46	0.6	0.7	1.92		
1.1	1.5	910	73	77.5	76.8	0.53	0.65	0.74	2.94	930	71	77.7	77.7	0.44	0.57	0.67	2.94		
1.5	2	940	80	81.5	81.5	0.53	0.64	0.72	3.88	950	78	81.5	81.5	0.45	0.57	0.68	3.77		
2.2	3	945	82.5	83.5	83.4	0.55	0.67	0.74	5.42	955	80.5	84	84	0.48	0.61	0.7	5.21		
3	4	955	83	85.2	86	0.57	0.69	0.76	6.97	965	81	84.8	86.5	0.5	0.64	0.72	6.7		
4	5.5	955	85.7	86.8	87	0.6	0.72	0.78	8.96	965	84.3	86.4	87.2	0.52	0.66	0.74	8.62		
5.5	7.5	960	85.5	87.6	87.6	0.58	0.7	0.76	12.6	965	83.5	87.4	87.6	0.48	0.61	0.7	12.5		
<b>VIII Pole - 750 rpm</b>																			
0.12	0.16	675	42	50	52	0.42	0.5	0.59	0.594	695	34	42	46.5	0.35	0.45	0.52	0.69		
0.18	0.25	690	44	53	56	0.44	0.55	0.64	0.763	705	40	49	55.5	0.4	0.49	0.58	0.778		
0.25	0.33	685	53	61	63.8	0.43	0.55	0.63	0.945	700	49	59	63.8	0.4	0.5	0.59	0.924		
0.37	0.5	680	55	62.5	65	0.42	0.54	0.64	1.35	695	52	60	64	0.37	0.47	0.56	1.44		
0.55	0.75	680	61	65	66.5	0.42	0.54	0.64	1.96	700	57	63	66	0.37	0.47	0.57	2.03		
0.75	1	700	72	74.4	75.5	0.44	0.56	0.64	2.36	715	70	74	76	0.38	0.5	0.58	2.37		
1.1	1.5	690	72.5	75.5	76.9	0.44	0.57	0.65	3.34	710	69.5	73.5	76.9	0.37	0.49	0.59	3.37		
1.5	2	700	79.8	81.6	82	0.47	0.59	0.69	4.03	715	78.2	81	81.8	0.4	0.51	0.63	4.05		
2.2	3	705	83	84.3	84.2	0.58	0.7	0.75	5.29	715	81	84.3	84.3	0.5	0.63	0.71	5.11		
3	4	705	83.2	84.6	84.5	0.58	0.71	0.77	7.01	715	82.5	84.6	84.6	0.51	0.64	0.73	6.76		

# Brake Motors Aluminium Frame

## Mechanical Data



Aluminium Frame



Cast Iron Frame

IEC FRAME	A	AA	AB	AC	AD	B	BA	BB	C	SHAFT DIMENSIONS						H	HA	HC	HD	K	L	S1	d1	BEARINGS		LENZE BRAKE		TORQUE		MANUAL RELEASE	
										D	E	ES	F	G	GD									D.E.	N.D.E.	TYP	BRAKE SIZE	N.m	HD	β	
ALUMINIUM FRAME	63	100	19	116	125	113	80	23	95	40	11j6	23	14	4	8.5	4	63	124	176	256	2x M20x1.5	EM4	6201-ZZ	BFK457	05	2N	-	-			
	71	112	28	134	141	121	90	24.5	108	45	14j6	30	18	5	11	5	71	139	192	296	DM5	6203-ZZ	6202-ZZ	06	4N	180.2	12°				
	80	125	32	155	159	130	100	28	124	50	19j6	40	28	6	15.5	6	80	8	157	210	338	DM6	6204-ZZ	6203-ZZ	08	8N	189.2	10°			
	90S/L	140	35	170	179	150	125	24	146	56	24j6	50	36		20		90	9	177	240	403	DM8	6205-ZZ	6204-ZZ	06	4N	189.2	12°			
	100L	160	40	196	200	160		30		63				8		7	100		198	260	457	DM10	6206-ZZ	6205-ZZ	08	8N	198.0	10°			
	112M	190	46	220	223	180	140	50	170	70	28j6	60	45		24		112	12	235	292	480	2x M32	6307-ZZ	6206-ZZ	10	16N	222.0	9°			
	132S	216	44	248	270	207		40									132		274	339	490	2x M32x1.5	DM12	6308-ZZ	6207-ZZ	10	16N	232.0	9°		
	132M	216	44	248	270	207	178	32	210	89	38k6	80	63	10	33	8	132		274	339	490	DM12	6308-ZZ	6207-ZZ	12	32N	261.0	10°			
	132M	216	44	248	270	207	178	32	210	89	38k6	80	63	10	33	8	132		274	339	490	DM12	6308-ZZ	6207-ZZ	12	32N	273.0	10°			
	132M	216	44	248	270	207	178	32	210	89	38k6	80	63	10	33	8	132		274	339	490	DM12	6308-ZZ	6207-ZZ	14	60N	307.0	9°			
CAST IRON FRAME	63	100	21	116	125	113	80	22	95	40	11j6	23	14	4	8.5	4	63	8	124		256	2x M20x1.5	EM4	6201-ZZ	BFK457	05	2N	-	-		
	71	112	30	132	141	121	90	38	113.5	45	14j6	30	18	5	11	5	71	12	139		296	DM5	6203-ZZ	6202-ZZ	06	4N	180.2	12°			
	80	125	35	149	159	130	100	40	125.5	50	19j6	40	28	6	15.5	6	80	13	157		338	DM6	6204-ZZ	6203-ZZ	08	8N	189.2	10°			
	90S	140	38	164	179	150	125	42	131	56	24j6	50	36		20		90	15	177		378	DM8	6205-ZZ	6204-ZZ	06	4N	189.2	12°			
	90L	140	38	164	179	150	125	42	131	56	24j6	50	36		20		90	15	177		378	DM8	6205-ZZ	6204-ZZ	08	8N	198.0	10°			
	100L	160	49	188	199	160		50	173	63	28j6	60	45		24		100	16	198		457	DM10	6206-ZZ	6205-ZZ	10	16N	222.0	9°			
	112M	190	48	220	222	180	140	50	177	70	28j6	60	45		24		112	18.5	235	280	480	DM10	6307-ZZ	6206-ZZ	10	16N	232.0	9°			
	132S	216	51	248	270	207		55	187	89	38k6	80	63	10	33		132	20	274	319	567	2x M32x1.5	DM12	6308-ZZ	6207-ZZ	12	32N	261.0	10°		
	132M	216	51	248	270	207	178	32	225	89	38k6	80	63	10	33		132	20	274	319	605	DM12	6308-ZZ	6207-ZZ	12	32N	273.0	10°			
	160M	254	64	308	312	250	210	65	254	108	42k6			12	37		160	22	317	370	719	DM16	6309-C3	6209-Z-C3	14	60N	327.0	10°			
	160L	254	64	308	312	250	210	65	254	108	42k6			12	37		160	22	317	370	719	DM16	6309-C3	6209-Z-C3	16	80N	372.0	10°			
	180M	279	80	350	358	270	241	75	254	121	48k6	110	80	14	42.5	9	180	28	360	360	786	DM16	6311-C3	6211-Z-C3	16	80N	400.0	10°			
	180L	279	80	350	358	270	241	75	254	121	48k6	110	80	14	42.5	9	180	28	360	360	786	DM16	6311-C3	6211-Z-C3	18	150N	439.0	9°			
	200M	254	64	308	312	250	210	65	254	133	55m6			16	49	10	200	30	402	402	836	2x M50x1.5	DM20	6312-C3	6212-Z-C3	20	260N	499.0	9°		
	200L	254	64	308	312	250	210	65	254	133	55m6			16	49	10	200	30	402	402	869	DM20	6312-C3	6212-Z-C3	20	260N	519.0	10°			
	200L	254	64	308	312	250	210	65	254	133	55m6			16	49	10	200	30	402	402	869	DM20	6312-C3	6212-Z-C3	25	400N	645.0	10°			

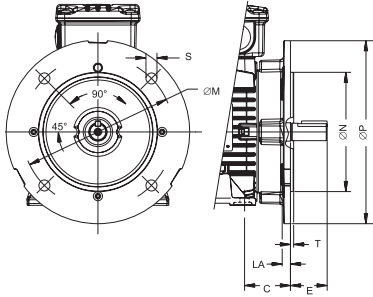
- All dimensions are given in millimeters.
- Larger and smaller flanges, on request.
- \* Shaft dimensions for 11 pole motors, only for direct coupling.
- The values shown are subject to change without prior notice.
- To obtain guaranteed values please contact our nearest sales office.

\* This data apply to Brake Motors – Cast Iron Frame and Aluminium Frame - Improved Efficiency - EFF2 / Premium Efficiency - EFF1 / Top Premium Efficiency - Exceeds EFF1.

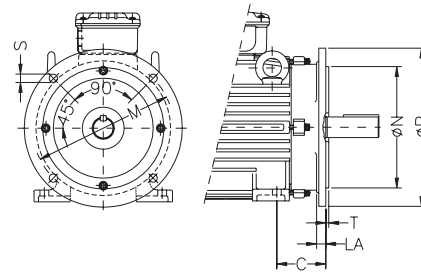
# Brake Motors Aluminium Frame

## Mechanical Data

### “FF” Flange



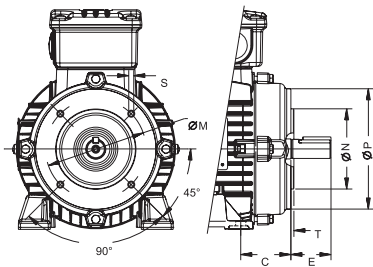
Aluminium Frame



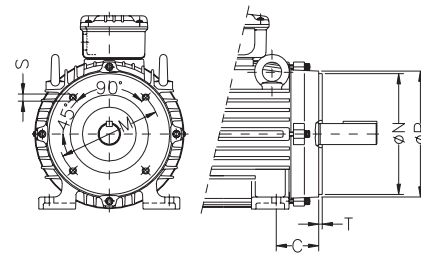
Cast Iron Frame

IEC FRAME	“FF” FLANGE									N° OF HOLES
	FLANGE	C	LA	M	N	P	T	S	$\alpha$	
63	FF-115	40	9	115	95	140	3	10	45°	4
71	FF-130	45		130	110	160	3.5	12		
80	FF-165	50	10	165	130	200				
90S/L		56								
100L	FF-215	63	11	215	180	250	4	15		
112M		70								
132S	FF-265	89	12	265	230	300	5	19		
132M										
160M	FF-300	108	18	300	250	350	5	19		
160L										
180M										
180L										
200M	FF-350	133		350	300	400				
200L										

### “C” Din Flange



Aluminum Frame



Cast Iron Frame

IEC FRAME	“C” DIN FLANGE							N° OF HOLES
	FLANGE	C	M	N	P	S	T	
63	C-90	40	75	60	90	M5	2.5	4
71	C-105	45	85	70	105	M6		
80	C-120	50	100	80	120	M8	3	
90S/L	C-140	56	115	95	140			
100L	C-160	63	130	110	160	M8	3.5	
112M		70						
132S	C-200	89	165	130	200	M10		
132M								