

Ex e - Increased Safety Motors

Cast Iron Frame

Improved Efficiency EFF2

Standard Features:

- Three-phase, multivoltage, IP55, TEFC
- Output: 0.18 up to 100kW
- Frames: 63 up to 315S/M
- Voltage: 218-242 / 380-420 / 655-690
- Class "F" insulation ($\Delta T=80K$)
- Continuous duty: S1
- Design N
- Class of temperature: T1 / T2 / T3 / T4
- Thermistors 110°C/T4 - 1 per phase from frame 160
- Ambient temperature: 40°C, at 1000 m.a.s.l.
- Squirrel cage rotor/Aluminium die cast
- V'Ring seal
- Grease fitting from frame 160
- Aluminium fan
- Plastic thread plug
- Increased safety terminal box
- Ground lug inside the terminal box
- Color: RAL 5010

Options Available:

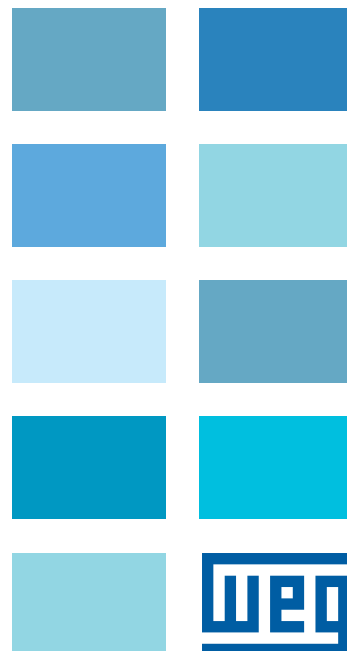
- Sealed Bearings on frames 160 up to 200
- Cable gland
- Roller bearing from 160
- Other bearing seals
- Other mounting
- Other paint options

More options available, on request

Typical Applications:

Environments where the probability of existing an explosive atmosphere is associated with normal operation of the equipment in amount enough to cause an explosion:

- Pumps
- Fans
- Conveyor belts
- Machine tools
- Mills
- Centrifugal machines
- Presses
- Elevators
- Looms
- Grinders
- Woodworking
- Cooling
- Packaging equipment
- Other Severe Duty applications where the environments are classified as Zone 1 and 2, groups IIA, IIB and IIC.



Features and Benefits

Terminal Box
Made of 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. Power supply connection components are certified, then reducing short-circuit inside the terminal box. The grounding system is placed inside and outside of the terminal box for improved safety. * Available as top or side mounted.

Winding
The wire is enameled with class H. Supplied with patented WISE (WEG Insulation System Evolution), which allows three times longer motor lifetime designed to work in environments with excess of moisture and suitable for VFD application. The winding is designed to obtain the smallest Joule losses and temperature rise. Electric design of the winding is specially developed to meet standard requirements in addition to zone and group of gases.

Rotor
High pressure die cast rotor dynamically balanced, thus reducing vibrations. Built with premium electrical grade steel lamination to improve efficiency.

Shaft
WEG uses SAE/AISI 1040/45 steel as standard, which provides high mechanical strength, preventing bending under load and minimizes fatigue which extends lifetime. Specially designed to withstand torques caused during motor acceleration and deceleration. It's size is larger than the standard motor and, upon special design, motor can have second shaft end.

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

Seals
WEG Explosion Proof Motors are fitted with either Lip seal or Labyrinth Tachonite as standard (see standard features list) to provide the best possible protection.

Stator
Built with premium electrical grade steel lamination to reduce electrical losses and operating temperature.

Drain Hole
Provided with plastic drain plug allowing drainage of condensed water.

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

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.

Fan Cover
Made of steel plate for frames 63 up to 132M and of cast iron for frames 160M and above. It offers a superior mechanical rigidity, corrosion-resistance and extended lifetime.

Fan
WEG has designed the fan and fan cover having in mind the lowest noise level. The efficient cooling ensures low motor temperature rise. This minimizes winding losses, thus increasing motor efficiency. The W21 line is supplied with anti-static polypropylene fans from 63 up to 315S/M frames. Alternatively, cast iron or aluminium fans can be supplied on request for all frames.

Frame
WEG motors are made of FC-200 high-grade cast iron. The frames are provided with fins aiming at improving the heat dissipation and adequately spaced to minimize air blockage due to build up of dirt. Motor designed to ensure that surface temperature is lower than ignition temperature of the gas that is present in the environment. Mechanical components are designed to withstand an explosion inside the motor without causing any risk to outside areas since there is no flame propagation through flame path. The motors can be mounted in any position, horizontal and vertical, withstanding the maximum axial and radial thrusts.

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Output		IEC Frame	Full load torque C _n (Nm)	Locked rotor current I _L /I _n	Locked rotor torque T _L /T _n	Break-down torque T _b /T _n	Inertia J kgm ²	Weight (kg)	Sound dB (A)	t _e Time				380V - 420V			Data Sheet PTB-ATEX	
										T1	T2	T3	T4	Rated speed (rpm)	% of full load			I _n (A)
kW	HP	Efficiency η 100%	Power Factor (Cos φ) 100%															
II Pole - 3000 rpm																		
0.18	0.25	63	0.64	4.4	2.7	2.7	0.00012	8	52	35	35	-	2750	66.2	0.77	0.51	3204/05	
0.25	0.33	63	0.85	4.5	2.8	3.3	0.00016	8	52	23	23	19	-	2735	66.8	0.72	0.75	3204/01
0.37	0.5	71	1.25	5.8	3.1	3.1	0.00033	10	56	24	24	24	9	2810	73.9	0.83	0.87	3205/01
0.55	0.75	71	1.88	6.3	2.9	3.3	0.00045	11	56	18	18	15	-	2800	75.7	0.86	1.22	3205/05
0.75	1	80	2.48	5.9	3.0	3.2	0.00079	15	59	20	20	10	-	2830	75.0	0.87	1.66	3206/01
1.1	1.5	80	3.74	6.1	2.8	2.9	0.00096	16	59	18	18	7*	-	2815	79.0	0.82	2.45	3206/07
1.3	1.77	90S	4.35	6.9	2.7	2.8	0.00205	20	65	14	14	11	-	2855	77.9	0.86	2.80	3207/07
1.85	2.51	90L	6.19	7.1	2.7	2.7	0.00266	24	65	11	11	7	-	2850	81.6	0.85	3.85	3207/01
2.5	3.4	100L	8.31	7.5	2.3	2.7	0.00616	32	67	10	10	8	-	2875	77.7	0.91	5.10	3208/01
3.3	4.5	112M	10.9	8.1	2.3	2.9	0.00765	42	64	18	18	6	-	2890	84.2	0.87	6.50	3209/01
4.6	6.25	132S	15.1	7.4	2.2	2.7	0.02243	70	68	17	17	13	-	2905	81.1	0.93	8.80	3210/09
5.5	7.5	132S	18.2	7.7	2.1	2.8	0.02617	68	68	11	11	9	-	2900	83.0	0.92	10.4	3210/01
6.5	8.8	132S	21.5	7.7	2.1	2.7	0.02430	67	68	9	9	-	-	2880	83.8	0.91	12.3	3210/03
7.5	10	160M	23.9	6.8	2.0	2.7	0.04707	108	70	22	22	22	-	2940	85.3	0.90	14.1	3006/09
10	13.5	160M	32.2	7.1	1.7	2.5	0.05883	120	70	19	19	17	-	2945	89.6	0.88	18.3	3006/05
12.5	17	160L	40.8	6.9	1.7	2.4	0.06766	135	70	14	14	9	-	2930	87.3	0.88	23.5	3006/03
15	20	180M	47.5	7.1	1.8	2.5	0.11919	170	70	15	15	14	-	2955	91.5	0.86	27.5	3036/01
20	27	200L	64.0	7.5	1.5	2.7	0.20630	220	74	30	30	15	-	2965	92.0	0.91	35.0	3017/01
24	33	200L	78.3	6.7	1.6	2.6	0.22424	244	74	33	33	12	-	2960	88.5	0.89	44.0	3017/03
28	38	225S/M	89.7	7.4	2.2	2.9	0.46640	411	78	30	30	17	-	2975	91.1	0.87	51.0	3001/01
36	49	250S/M	117	7.5	2.0	3.3	0.59196	500	78	28	28	15	-	2950	91.5	0.92	61.7	3018/01
47	64	280S/M	151	6.9	1.8	2.6	1.55324	730	79	50	50	30	-	2980	85.7	0.91	87.0	3015/01
58	79	280S/M	186	7.0	1.7	3.0	1.74151	820	79	50	50	23	-	2980	90.2	0.91	102	3015/03
68	92.4	315S/M	217	8.2	1.7	2.7	1.88272	890	81	35	35	15	-	2990	91.4	0.91	118	3002/01
80	109	315S/M	257	7.5	1.5	2.8	2.16513	1020	81	35	35	15	-	2980	92.9	0.92	135	3002/03
IV Pole - 1500 rpm																		
0.18	0.25	63	1.25	4.1	2.1	2.2	0.00056	8	44	24	24	24	-	1405	63.5	0.66	0.62	3204/03
0.25	0.33	71	1.64	4.7	2.8	2.8	0.00079	12	43	70	70	70	40	1410	74.8	0.67	0.72	3205/11
0.37	0.5	71	2.55	4.2	2.5	2.5	0.00079	12	43	40	40	40	-	1375	70.4	0.66	1.15	3205/09
0.55	0.75	80	3.67	6.1	2.5	2.6	0.00242	15	44	18	18	18	-	1435	73.2	0.77	1.40	3206/11
0.75	1	80	4.96	5.6	2.4	2.4	0.00294	16	44	14	14	14	-	1415	73.5	0.84	1.75	3206/09
1	1.36	90S	6.73	6.4	2.7	2.8	0.00504	20	47	17	17	17	-	1420	78.4	0.80	2.30	3207/05
1.35	1.83	90L	9.08	6.7	2.6	3.0	0.00672	23	47	15	15	15	-	1415	79.6	0.83	2.95	3207/03
2	2.72	100L	13.5	6.3	2.3	2.5	0.00765	28	51	17	17	17	-	1415	80.9	0.82	4.35	3208/05
2.5	3.4	100L	16.9	6.3	2.4	2.6	0.01072	35	51	14	14	14	-	1410	79.5	0.84	5.40	3208/03
3.6	4.9	112M	24.1	7.2	2.3	2.8	0.01875	46	55	11	11	10	-	1430	82.6	0.85	7.40	3209/03
5	6.8	132S	32.7	8.4	2.2	2.8	0.05039	67	58	7	7	7	-	1460	84.8	0.86	9.90	3210/05
6.8	9.24	132M	44.5	8.2	2.2	2.8	0.05815	73	58	8	8	7	-	1460	85.2	0.86	13.4	3210/07
10	13.5	160M	65.0	6.9	2.3	2.8	0.11040	100	62	17	17	17	-	1460	82.4	0.87	19.4	3006/07
13.5	18.3	160L	87.4	7.8	2.0	3.0	0.13048	130	62	11	11	7	-	1470	86.2	0.87	26.0	3006/01
15	20	180M	95.2	7.1	2.0	2.4	0.19740	190	52	24	24	21	-	1475	89.4	0.85	28.5	3036/05
17.5	23.8	180L	113	7.2	2.0	2.3	0.21527	185	64	19	19	12	-	1475	92.2	0.83	33.0	3036/03
24	33	200L	157	7.3	2.0	2.2	0.38611	272	67	17	17	14	-	1480	93.0	0.85	43.5	3017/05
30	40	225S/M	189	7.2	2.0	2.8	0.83980	375	70	22	22	22	-	1485	93.3	0.84	55.0	3001/03
36	49	225S/M	232	7.1	2.1	2.4	0.97990	460	70	20	20	14	-	1485	88.9	0.90	65.0	3001/05
58	79	280S/M	37.96	7.9	1.9	2.8	2.811	764	76	50	50	20	-	1490	93.7	0.82	109	3015/07
44	59.8	250S/M	283	7.1	2.0	2.7	1.15478	500	70	21	21	15	-	1485	91.5	0.89	78.0	3018/03
70	95	280S/M	446	8.0	2.0	3.0	3.21200	900	74	40	40	24	-	1495	93.2	0.84	129	3015/05
84	114	315S/M	537	7.6	1.5	2.8	3.53320	929	77	35	35	21	-	1490	95.3	0.81	157	3002/05
100	136	315S/M	643	6.7	1.5	2.6	3.77410	967	77	27	27	6*	-	1485	92.4	0.84	186	3002/07

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.

