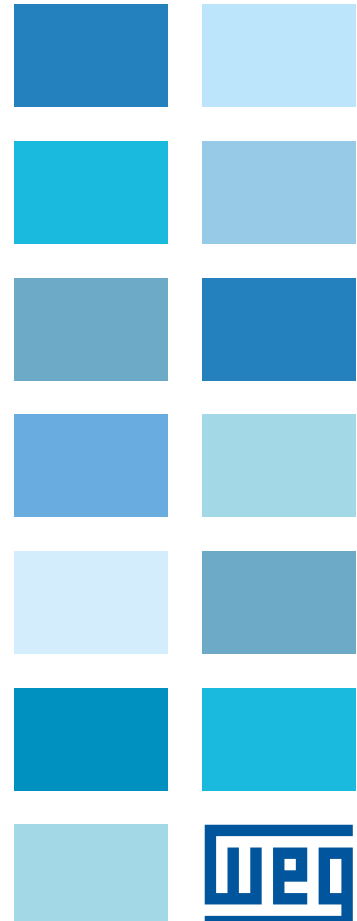
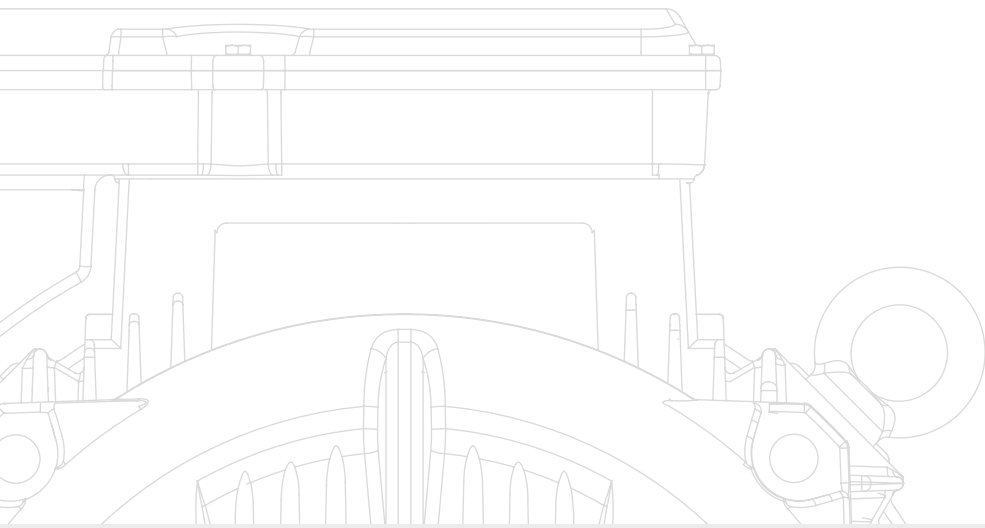


W21

Premium Efficiency EFF1

Technical Catalogue
Thailand Market





About WEG

Founded in 1961, WEG is acknowledged today as one of the largest manufacturers of electric motors in the world. Twenty thousand people are employed in the different manufacturing units which cover over 500,000 square meters of constructed area.

In support of exports in over 100 countries worldwide, WEG has branch offices located in all five continents. WEG's great success with export activities is based on the company's willingness to meet worldwide standard requirements, keeping product inventories in strategic locations, personnel training and prompt service.

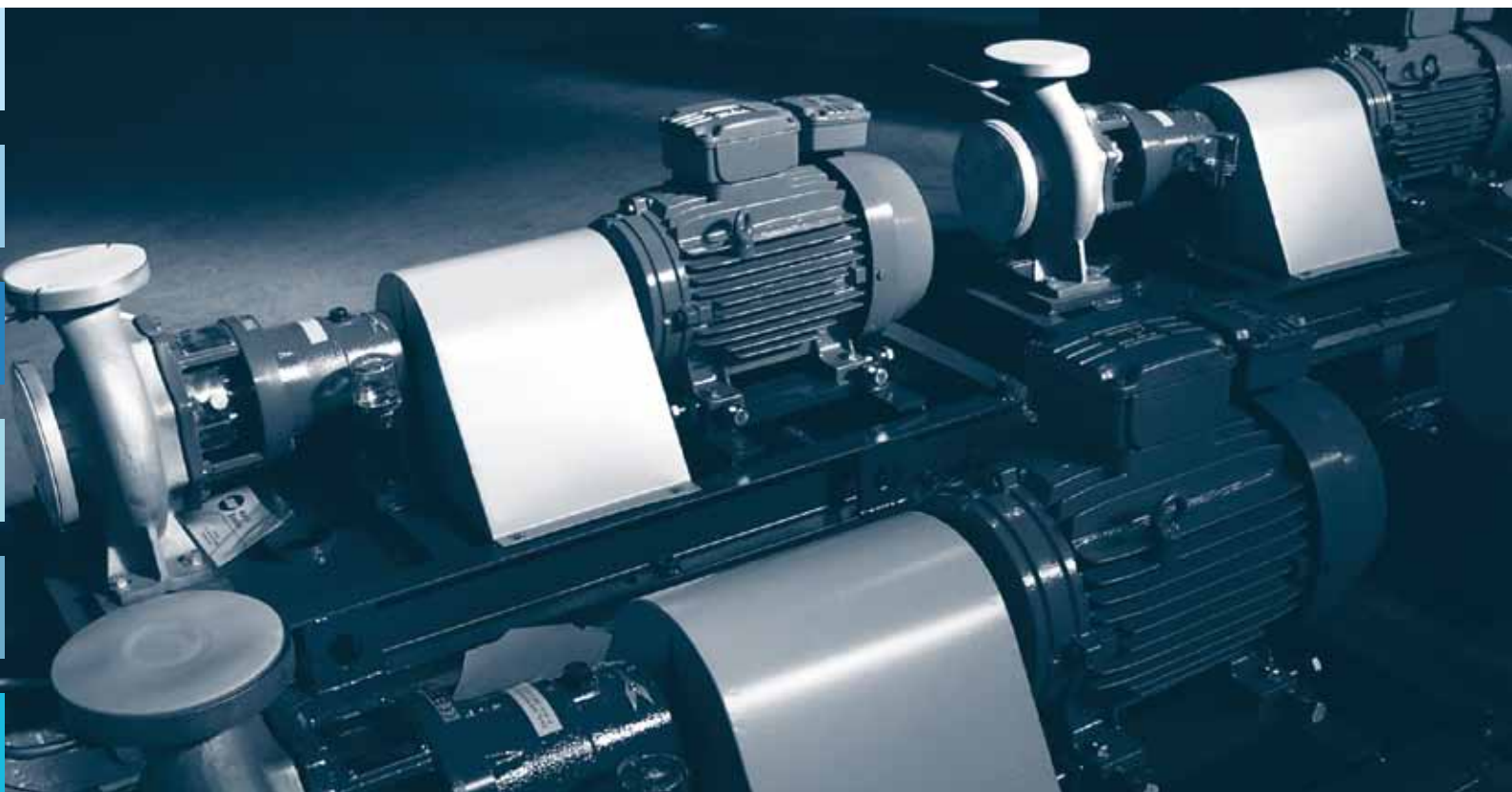


W21 Premium Efficiency EFF1

Three phase asynchronous motor, with lower acquisition cost and high technology. Easy to adapt to the most application types, allowing to your company agility during installation, easy operation and low maintenance cost. The project is according to IEC34 standards, which guarantees higher energy savings, and is suitable for the use with Frequency Inverters.

Features	Benefits
WISE insulation system	Increase the electrical strength of the stator, allowing the motor to operate with frequency inverters, without damaging by the voltage peaks*.
Efficiency	Premium Efficiency (EFF1) motors, guarantee a fast return of investment.
Painting plan for industrial environments	Suitable for the use in slightly severe and sheltered environments, with low average humidity, regular temperature variations.
Cast iron frames	More strength for your application
State-of-the-art ventilation system	Uniform refrigeration of the motor with significant temperature reduction in the external surface and bearings, guarantee high performance and energy saving to your application.
Customization	Product suitable to meet the most demanded applications in the industry.

Motor rated voltage	Insulation system	Technical criteria for use of motors fed by inverters F(F)			
		Voltage peak in the motor (maximum)	dV/dt Inverter outlet (maximum)	Rise Time(*) Of Inverter (minimum)	MTBP(*) Time between pulses (minimum)
$V_{NOM} \leq 460 \text{ V}$	Standard insulation	$\leq 1430 \text{ V}$	$\leq 5200 \text{ V}/\mu\text{s}$	$\geq 0,1 \mu\text{s}$	$\geq 6 \mu\text{s}$
$460 \text{ V} < V_{NOM} \leq 575 \text{ V}$	Reinforced insulation	$\leq 1780 \text{ V}$	$\leq 6500 \text{ V}/\mu\text{s}$		



Features and Benefits

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 provides higher mechanical strength, 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 and minimizes winding losses, thus increasing motor efficiency. The W21 line is supplied with anti-static polypropylene fans from 63 up to 315S/M frames and aluminium for 355M/L frame. 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 (same density as flameproof motors). The frames are provided with fins aimed at improving the heat dissipation and adequately spaced to minimize air blockage due to accumulation of dirt. The motors can be mounted in horizontal or vertical positions.

Terminal Box

Made of cast iron with plenty of internal space, the terminal box can be rotated at 90° intervals, having one or two threaded holes to connect power supply cables.
* Available as top or side mounted.

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.

Shaft

WEG uses SAE/AISI 1040/45 carbon steel as standard, which provides high mechanical strength, avoiding bending under load and minimizes fatigue which extends lifetime performance. Specially designed to withstand torques caused during motor acceleration and deceleration (brake). Upon special design motor can have a second shaft end.

Endshields

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

Stator

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

Seals

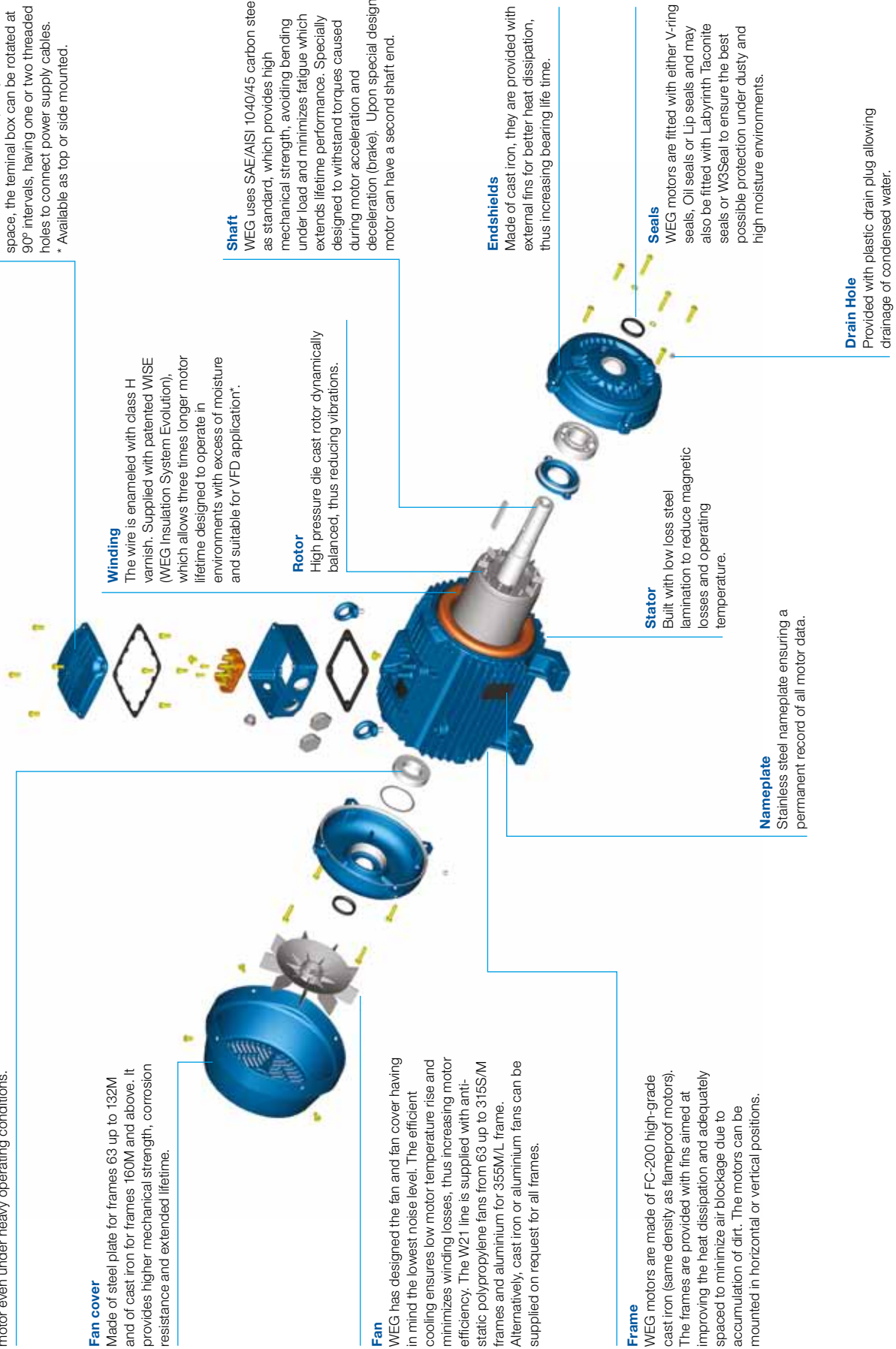
WEG motors are fitted with either V-ring seals, Oil seals or Lip seals and may also be fitted with Labyrinth Taconite seals or W3Seal to ensure the best possible protection under dusty and high moisture environments.

Drain Hole

Provided with plastic drain plug allowing drainage of condensed water.

Nameplate

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



W21 Premium Efficiency EFF1

Standard features:

- Three-phase, IP55, TEFC, B3T
- Output: 0.12 up to 330 kW
- Frames: 63 up to 355M/L
- Voltage: Up to 100L: 220-240/380-415 V
112M and above: 380-415/660 V
- Class “F” insulation ($\Delta T=80$ K)
- Continuous duty: S1
- Design N
- Ambient temperature: 40°C, at 1000 m.a.s.l.
- Squirrel cage rotor / Aluminium die cast
- V’Ring on both endshields
- Stainless steel nameplate AISI 316
- Dimensions according to IEC-72
- Performance characteristics according to IEC 34
- Regreasing nipple from frame 225S/M and above
- Metric threaded cable entries on the terminal box
- Thermistors (1 per phase) fitted in frame 160M and above
- Suitable for inverter duty applications *
- Color: RAL 5009
- Plastic fans for frames 63 to 315S/M and aluminium fan for frame 355M/L
- Painting Plan: 201A
- 6 terminals BMC (Bulk Molding Compound - Polyester with 20% fiberglass) terminal block
- Single grounding for frames 63 to 200 and double grounding for frames 225S/M to 355M/L.

* More information, contact WEG.

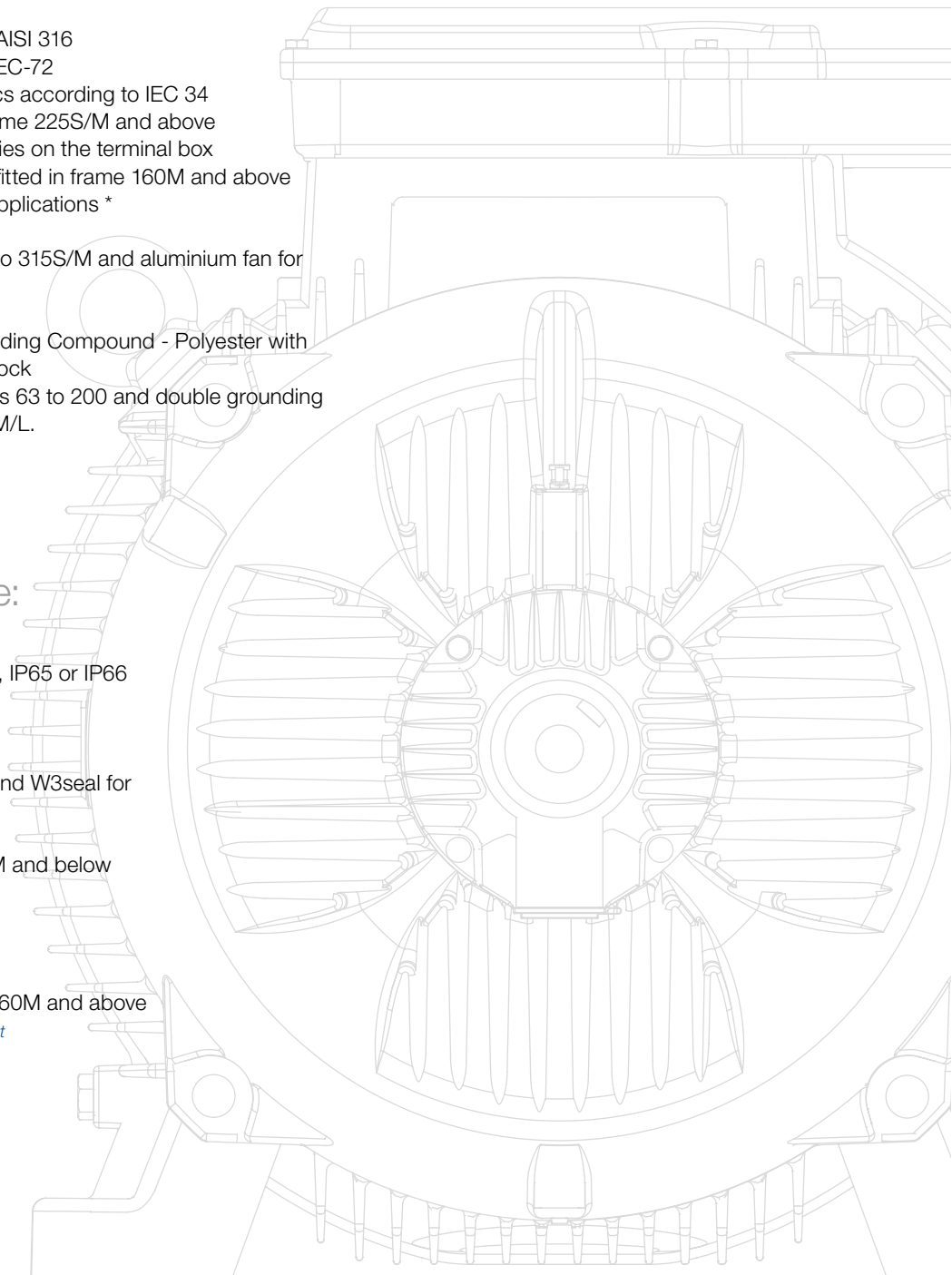
Options available:

- Other Voltages
- Degree of Protection: IP56, IP65 or IP66
- Bearing seals:
 - Lip seal
 - Oil seal
 - Labyrinth taconite seal and W3seal for frames 90S and above
- Thermal protection:
 - Thermistors: frame 132M and below
 - Thermostats
 - RTD-PT 100
- Space heaters
- Class “H” insulation
- Roller bearings for frame 160M and above

More options available, on request

Typical Applications:

- Pumps
- Fans
- Crushers
- Conveyor belts
- Mills
- Centrifugal machines
- Presses
- Elevators
- Packaging equipment
- Grinders and others.





Electrical data – W21 Premium Efficiency EFF1

Output		Frame	Full Load Torque (Nm)	Locked Rotor Current I/In	Locked Rotor Torque TI/Tn	Break-down Torque Tb/Tn	Inercia J (kgm ²)	Allowable locked rotor time (s)		Weight (kg)	Sound dB (A)	380 V						Full load current In (A)	
								Rated speed (rpm)	% of full load			Power Factor Cos φ							
									Efficiency η			50	75	100	50	75	100		
II pole - 3000 rpm - 50 Hz																			
0.12	0.16	63	0.415	5.0	2.8	3.0	0.00012	25	55	6.8	52	2760	58.0	64.8	65.5	0.51	0.64	0.74	0,376
0.18	0.25	63	0.630	4.4	2.5	2.5	0.00012	30	66	6.9	52	2730	63.5	68.5	69.5	0.62	0.76	0.81	0,486
0.25	0.33	63	0.875	4.5	2.5	2.5	0.00016	18	40	7.3	52	2730	64.0	68.5	71.2	0.58	0.71	0.80	0,667
0.37	0.5	71	1.26	5.5	3.0	3.2	0.00037	23	51	10.0	56	2810	69.0	73.8	74.5	0.63	0.77	0.85	0,887
0.55	0.75	71	1.88	5.7	2.7	2.7	0.00045	16	35	10.6	56	2790	72.5	76.6	76.7	0.68	0.80	0.86	1,26
0.75	1	80	2.56	6.8	3.1	3.1	0.00079	20	44	13.8	59	2795	76.5	80.5	80.5	0.73	0.82	0.86	1,64
1.1	1.5	80	3.73	7.8	3.4	3.4	0.00096	15	33	14.9	59	2820	81.0	83.0	83.6	0.64	0.76	0.84	2,38
1.5	2	90S	5.01	7.3	2.8	2.8	0.0021	14	31	19.4	62	2860	83.2	84.9	84.5	0.68	0.80	0.85	3,17
2.2	3	90L	7.34	8.4	3.7	3.5	0.0027	9	20	21.8	62	2865	84.0	86.0	86.6	0.64	0.76	0.83	4,65
3	4	100L	9.90	8.9	3.0	3.1	0.0067	12	26	31.4	67	2895	84.5	87.0	88.3	0.73	0.83	0.87	5,94
4	5.5	112M	13.2	8.2	2.7	3.4	0.0084	17	37	42.7	64	2900	87.0	88.4	88.6	0.72	0.83	0.87	7,88
5.5	7.5	132S	17.9	8.0	2.7	3.2	0.0206	19	42	60.9	67	2935	88.5	90.0	90.1	0.71	0.81	0.86	10,7
7.5	10	132S	24.5	8.0	2.5	2.9	0.0243	13	29	66.0	67	2925	88.5	90.6	90.8	0.72	0.82	0.87	14,4
9.2	12.5	132M	30.0	8.5	2.8	3.1	0.0280	11	24	73.8	67	2935	88.5	90.9	91.0	0.70	0.81	0.87	17,7
11	15	160M	35.6	8.5	2.8	3.3	0.0530	14	31	115	70	2950	90.0	91.9	92.3	0.70	0.80	0.85	21,3
15	20	160M	48.7	8.2	2.4	3.3	0.0588	12	26	120	70	2945	91.0	92.0	92.5	0.74	0.82	0.86	28,6
18.5	25	160L	60.0	8.8	2.5	3.2	0.0677	10	22	134	70	2945	91.9	92.8	93.1	0.73	0.82	0.85	35,5
22	30	180M	71.3	8.6	2.7	3.3	0.1192	14	31	189	70	2950	92.5	93.5	93.7	0.76	0.84	0.87	41,1
30	40	200L	96.8	7.4	2.7	2.8	0.2063	31	68	247	74	2960	92.8	93.7	94.0	0.77	0.84	0.87	55,7
37	50	200L	119	7.6	2.7	2.7	0.2242	16	35	258	74	2960	93.2	94.0	94.6	0.76	0.84	0.87	68,3
45	60	225S/M	145	8.5	2.4	2.9	0.4485	18	40	410	82	2970	93.6	94.5	94.7	0.82	0.88	0.90	80,2
55	75	250S/M	177	8.9	2.6	3.4	0.5023	15	33	455	82	2965	94.0	95.0	95.0	0.85	0.89	0.91	96,6
75	100	280S/M	241	7.7	2.2	2.9	1.27	51	112	700	83	2975	93.2	94.4	95.6	0.83	0.87	0.89	134
90	125	280S/M	289	8.2	2.2	2.8	1.41	42	92	740	83	2975	94.1	95.5	95.8	0.80	0.87	0.89	160
110	150	315S/M	353	8.0	2.3	2.8	1.51	20	44	834	83	2975	94.4	95.3	95.8	0.82	0.87	0.89	196
132	175	315S/M	424	7.8	2.2	2.7	1.74	32	70	871	83	2975	94.3	95.5	96.0	0.82	0.88	0.89	235
150	200	315S/M	483	7.9	2.2	2.7	2.12	31	68	1010	83	2970	95.0	95.8	96.2	0.84	0.89	0.90	263
160	220	315S/M	515	7.8	2.2	2.5	2.12	33	73	1001	83	2970	95.0	96.0	96.2	0.85	0.89	0.90	281
185	250	315S/M	594	8.2	2.4	2.8	2.12	28	62	1010	83	2975	95.0	95.9	96.2	0.80	0.86	0.88	332
200	270	355M/L	640	7.2	1.8	2.6	4.83	70	154	1490	81	2985	93.7	95.2	95.6	0.89	0.91	0.92	345
220	300	355M/L	704	8.5	2.2	3.0	5.17	65	143	1650	81	2985	95.2	96.1	96.4	0.85	0.90	0.92	377
250	340	355M/L	800	7.8	1.7	2.5	5.75	65	143	1750	81	2985	95.5	96.3	96.4	0.87	0.91	0.92	428
Optional Frames																			
1.5	2	90L	5.01	7.3	2.8	2.8	0.0021	14	31	20.0	62	2860	83.2	84.9	84.5	0.68	0.80	0.85	3,17
2.2	3	100L	7.25	8.5	2.9	3.3	0.0062	13	29	32.5	67	2900	83.2	85.6	86.0	0.77	0.85	0.88	4,42
5.5	7.5	112M	18.3	7.7	2.5	3.0	0.0100	10	22	45.0	64	2870	87.5	88.5	88.6	0.78	0.86	0.89	10,6
5.5	7.5	132M	17.9	8.0	2.7	3.2	0.0206	19	42	60.5	67	2935	88.5	90.0	90.1	0.71	0.81	0.86	10,7
7.5	10	132M	24.5	8.0	2.5	2.9	0.0243	13	29	66.5	67	2925	88.5	90.6	90.8	0.72	0.82	0.87	14,4
11	15	160L	35.6	8.5	2.8	3.3	0.0530	14	31	110	70	2950	90.0	91.9	92.3	0.70	0.80	0.85	21,3
15	20	160L	48.7	8.2	2.4	3.3	0.0588	12	26	115	70	2945	91.0	92.0	92.5	0.74	0.82	0.86	28,6
18.5	25	180M	60.0	7.8	2.3	2.9	0.1135	20	44	189	70	2945	91.5	92.0	92.5	0.80	0.87	0.89	34,1
22	30	180L	71.3	8.6	2.7	3.3	0.1192	14	31	180	70	2950	92.5	93.5	93.7	0.76	0.84	0.87	41,1
75	100	250S/M	242	8.5	3.0	3.4	0.5561	10	22	490	82	2965	93.0	94.3	94.6	0.83	0.88	0.90	134
110	150	280S/M	353	8.0	2.3	2.8	1.51	20	44	830	83	2975	94.4	95.3	95.8	0.82	0.87	0.89	196
200	270	315S/M	641	7.9	2.2	2.9	2.17	49	108	1010	83	2980	95.6	96.2	96.4	0.77	0.84	0.87	362

Frames 63 and 71 available on request

Electrical data – W21 Premium Efficiency EFF1

Output		Frame	Full Load Torque (Nm)	Locked Rotor Current II/In	Locked Rotor Torque TI/Tn	Break-down Torque Tb/Tn	Inercia J (kgm ²)	Allowable locked rotor time (s)		Weight (kg)	Sound dB (A)	380 V						Full load current In (A)	
								Rated speed (rpm)	% of full load			Full load current In (A)							
									Efficiency η			Power Factor Cos ϕ							
kW	HP							Hot	Cold			50	75	100	50	75	100		
IV pole - 1500 rpm - 50 Hz																			
0.12	0.16	63	0.810	4.5	2.6	2.7	0.00045	20	44	7.3	44	1415	56.5	62.5	64.5	0.43	0.55	0.65	0,435
0.18	0.25	63	1.23	4.6	2.6	2.7	0.00056	27	59	7.8	44	1400	58.0	64.0	67.5	0.44	0.55	0.66	0,614
0.25	0.33	71	1.71	5.0	3.0	3.1	0.00079	48	106	11.1	43	1400	69.0	73.0	75.0	0.50	0.61	0.69	0,734
0.37	0.5	71	2.53	5.0	2.7	2.8	0.00079	37	81	11.1	43	1395	69.0	74.0	75.5	0.47	0.59	0.69	1,08
0.55	0.75	80	3.67	6.0	2.6	2.8	0.0024	17	37	14.0	44	1430	72.0	77.0	78.0	0.56	0.69	0.78	1,37
0.75	1	80	5.05	6.0	2.6	2.6	0.0033	16	35	15.9	44	1420	76.0	78.6	80.1	0.62	0.75	0.82	1,74
1.1	1.5	90S	7.27	7.0	2.6	3.0	0.0056	14	31	21.4	49	1445	80.0	83.8	83.8	0.59	0.72	0.80	2,49
1.5	2	90L	9.88	7.5	2.8	3.3	0.0067	12	26	23.7	49	1450	80.5	84.6	85.2	0.54	0.68	0.77	3,47
2.2	3	100L	14.8	7.4	3.0	3.0	0.0107	17	37	32.2	53	1425	85.3	86.4	86.4	0.65	0.77	0.83	4,66
3	4	100L	20.0	7.8	2.9	3.3	0.0123	12	26	39.4	53	1430	84.5	86.5	87.5	0.64	0.76	0.83	6,27
4	5.5	112M	26.4	6.6	2.1	2.6	0.0188	12	26	46.4	56	1445	87.1	88.3	88.6	0.66	0.77	0.83	8,26
5.5	7.5	132S	35.9	8.5	2.4	3.1	0.0543	12	26	66.9	56	1465	88.0	89.6	90.1	0.69	0.79	0.85	10,9
5.5	7.5	132S	35.9	8.5	2.4	3.1	0.0543	12	26	65.0	56	1465	88.0	89.6	90.1	0.67	0.78	0.85	10,9
7.5	10	132M	48.9	8.2	2.5	3.0	0.0659	9	20	72.4	56	1465	89.0	90.0	90.4	0.71	0.81	0.86	14,6
9.2	12.5	160M	60.2	5.6	2.3	2.3	0.0803	27	59	104	67	1460	89.6	91.0	91.0	0.70	0.80	0.84	18,3
11	15	160M	71.7	6.0	2.5	2.6	0.1004	19	42	111	67	1465	90.3	91.4	91.2	0.68	0.78	0.83	22,1
11	15	160M	71.7	6.0	2.5	2.6	0.1004	19	42	125	67	1465	90.3	91.4	91.2	0.68	0.78	0.83	22,1
15	20	160L	97.8	6.1	2.5	2.6	0.1154	17	37	130	67	1465	90.5	91.9	91.8	0.66	0.77	0.83	29,9
18.5	25	180M	120	8.0	2.9	2.9	0.1973	12	26	189	64	1470	91.6	93.0	93.4	0.65	0.76	0.82	36,7
22	30	180L	143	7.9	2.8	2.9	0.2332	16	35	195	64	1475	92.5	93.5	93.7	0.71	0.81	0.86	41,5
22	30	180L	143	7.1	2.8	2.9	0.2332	16	35	195	64	1470	92.0	92.7	93.0	0.73	0.82	0.87	41,3
30	40	200L	194	7.0	2.5	2.6	0.3310	18	40	243	69	1475	93.0	94.0	93.9	0.67	0.78	0.83	58,5
30	40	200L	194	7.0	2.5	2.6	0.3310	18	40	240	69	1475	93.0	94.0	93.9	0.67	0.78	0.83	58,4
37	50	225S/M	239	7.2	2.2	2.7	0.6999	16	35	370	70	1480	93.0	94.0	94.1	0.76	0.84	0.87	68,6
37	50	225S/M	239	7.2	2.2	2.7	0.6999	16	35	365	70	1480	92.8	93.7	93.9	0.75	0.84	0.87	68,7
45	60	225M	291	7.4	2.4	3.0	0.8398	15	33	400	70	1480	94.0	94.5	94.5	0.76	0.83	0.88	82,2
55	75	250S/M	355	7.2	2.5	2.8	1.15	17	37	492	70	1480	94.3	94.9	94.8	0.75	0.84	0.88	100
55	75	250S/M	355	7.2	2.5	2.8	1.15	17	37	510	70	1480	93.9	94.5	94.4	0.77	0.86	0.89	99,5
75	100	280S/M	483	7.2	2.2	2.6	2.17	38	84	660	70	1485	93.9	95.1	95.2	0.79	0.85	0.88	136
75	100	280S/M	483	7.2	2.2	2.6	2.17	38	84	660	70	1485	93.9	95.1	95.2	0.79	0.85	0.88	136
90	125	280S/M	579	7.8	2.4	2.6	2.81	25	55	799	70	1485	94.3	95.1	95.3	0.79	0.85	0.88	163
90	125	280S/M	579	7.8	2.4	2.6	2.81	25	55	795	70	1485	94.6	95.4	95.6	0.77	0.84	0.87	164
110	150	315S/M	708	7.6	2.4	2.6	3.21	29	64	925	72	1485	94.5	95.2	95.6	0.80	0.86	0.88	199
132	175	315S/M	849	7.8	2.4	2.6	3.77	25	55	993	72	1485	94.8	95.4	95.7	0.78	0.85	0.88	238
132	180	315S/M	849	7.8	2.4	2.6	3.77	25	55	995	72	1485	94.8	95.4	95.7	0.78	0.85	0.88	238
150	200	315S/M	965	7.5	2.4	2.7	3.77	20	44	1005	72	1485	94.5	95.7	95.8	0.78	0.84	0.87	274
160	220	315S/M	1030	7.6	2.4	2.6	3.77	20	44	1047	72	1485	94.7	95.7	95.9	0.76	0.84	0.87	292
185	250	315S/M	1190	7.3	2.4	2.9	3.77	19	42	1036	72	1485	95.0	95.8	95.9	0.72	0.81	0.85	345
200	270	355M/L	1280	6.6	2.1	2.3	6.86	49	108	1525	79	1490	95.3	95.8	96.0	0.80	0.86	0.88	360
220	300	355M/L	1410	7.0	2.1	2.4	6.86	38	84	1583	79	1490	95.2	96.0	96.3	0.79	0.86	0.88	395
250	340	355M/L	1600	6.9	2.2	2.5	8.12	36	79	1608	79	1490	95.3	96.3	96.5	0.80	0.86	0.88	447
260	350	355M/L	1670	6.5	2.2	2.3	8.12	32	70	1615	79	1490	95.3	96.3	96.5	0.80	0.86	0.88	465
280	380	355M/L	1800	7.1	2.2	2.4	9.02	39	86	1770	79	1490	95.8	96.3	96.5	0.81	0.87	0.88	496
300	400	355M/L	1920	6.7	2.2	2.4	9.92	47	103	1770	79	1490	95.5	96.3	96.5	0.81	0.87	0.89	531
315	430	355M/L	2020	7.0	2.2	2.4	9.92	42	92	1797	79	1490	95.9	96.3	96.6	0.79	0.86	0.88	563
330	450	355M/L	2120	6.5	2.3	2.3	10.8	32	70	1865	79	1490	95.5	96.3	96.6	0.81	0.87	0.89	583
Optional Frames																			
0.75	1	90S	4.94	6.9	2.4	2.9	0.0056	13	29	25.0	49	1450	77.0	80.5	81.0	0.56	0.69	0.78	1,80
1.1	1.5	90L	7.27	7.0	2.6	3.0	0.0056	14	31	25.0	49	1445	80.0	83.8	83.8	0.59	0.72	0.80	2,49
2.2	3	112M	14.4	7.2	2.1	2.5	0.0134	25	55	40.0	56	1455	85.5	86.5	86.5	0.67	0.78	0.83	4,66
2.2	3	90L	14.8	5.8	2.7	2.5	0.0067	8	18	24.0	49	1420	76.5	79.0	81.0	0.55	0.69	0.78	5,29
4	5.5	132S	26.0	8.3	2.4	3.1	0.0426	12	26	64.0	56	1470	86.5	88.4	88.6	0.64	0.77	0.83	8,26
5.5	7.5	132M	35.9	8.5	2.4	3.1	0.0543	12	26	65.0	56	1465	88.0	89.6	90.1	0.69	0.79	0.85	10,9
7.5	10	132S	48.9	8.2	2.5	3.0	0.0582	9	20	80.0	56	1465	88.5	90.0	90.2	0.70	0.81	0.86	14,7
7.5	10	160M	48.9	6.5	2.3	2.8	0.0652	16	35	95.0	67	1465	89.0	90.0	90.5	0.68	0.79	0.84	14,9
9.2	12.5	132M	60.0	8.0	2.5	3.0	0.0620	7	15	74.0	56	1465	88.0	89.5	90.4	0.68	0.80	0.85	18,2
11	15	160L	71.7	6.0	2.5	2.6	0.1004	19	42	125	67	1465	90.3	91.4	91.2	0.68	0.78	0.83	22,1
15	20	180M	97.5	7.5	2.6	2.8	0.1615	16	35	175	64	1470	90.2	91.8	91.8	0.66	0.77	0.82	30,3
18.5	25	180L	120	8.0	2.9	2.9	0.1973	12	26	175	64	1470	91.6	93.0	93.4	0.65	0.76	0.82	36,7
30	40	225S/M	194	7.2	2.2	2.7	0.6299	20	44	330	70	1475	92.0	93.0	93.9	0.80	0.86	0.88	55,2
37	50	200L	240	6.2	2.1	2.2	0.3861	19	42	260	69	1470	92.5	93.0	93.2	0.69	0.79	0.83	72,7
37	50	250S/M	239	7.2	2.2	2.7	0.6999	16	35	365	70	1480	93.0	94.0	94.1	0.76	0.84	0.87	68,6
45	60	250S/M	291	7.4	2.4	3.0	0.8398	15	33	400	70	1480	94.0	94.5	94.5	0.76	0.83	0.88	82,2
55	75	280S/M	354	7.3	2.3	2.8	2.33	40	88	735	70	1485	92.5	94.0	94.6	0.72	0.81	0.85	104
75	100	250S/M	484	7.5	2.7	3.2	1.26	16	35	530	70	1480	94.0	94.7	94.7	0.74	0.84	0.87	138
75	100	250S/M	484	7.5	2.7	3.2	1.26	16	35	530	70	1480	94.0	94.7	94.7	0.74	0.84	0.87	138
90	125	315S/M	579	7.8	2.4	2.6	2.81	25	55	795	72	1485	94.3	95.1	95.3	0.79	0.85	0.88	163
110	150	280S/M	708	7.6	2.4	2.6	3.21	29	64	855	70	1485	94.5	95.2	95.6	0.80	0.86	0.88	199
110	150	280S/M	708	8.2	2.4	2.7	3.21	15	33	860	70	1485	95.0	95.3	95.3	0.7			

Electrical data – W21 Premium Efficiency EFF1

Output		Frame	Full Load Torque (Nm)	Locked Rotor Current I/In	Locked Rotor Torque TI/Tn	Break-down Torque Tb/Tn	Inercia J (kgm ²)	Allowable locked rotor time (s)		Weight (kg)	Sound dB (A)	380 V						Full load current In (A)	
								Rated speed (rpm)	% of full load			Power Factor Cos φ							
									Efficiency η			50	75	100	50	75	100		
VI pole - 1000 rpm - 50 Hz																			
0.12	0.16	63	1.26	3.5	2.2	2.1	0.00067	41	90	8.0	43	910	44.0	52.0	56.3	0.44	0.53	0.63	0,514
0.18	0.25	71	1.91	3.5	2.1	2.2	0.00079	49	108	10.8	43	900	49.0	57.0	61.0	0.42	0.51	0.60	0,747
0.25	0.33	71	2.65	3.5	2.1	2.2	0.00096	43	95	11.7	43	900	53.0	63.0	67.0	0.39	0.48	0.55	1,03
0.37	0.5	80	3.82	4.7	2.1	2.2	0.0024	14	31	13.8	43	925	62.0	67.5	70.0	0.48	0.61	0.70	1,15
0.55	0.75	80	5.71	4.8	2.2	2.4	0.0031	11	24	15.2	43	920	62.0	68.5	70.3	0.48	0.63	0.72	1,65
0.75	1	90S	7.79	4.8	2.1	2.2	0.0056	20	44	21.6	45	920	74.0	77.7	77.7	0.50	0.63	0.72	2,04
1.1	1.5	90L	11.4	5.0	2.3	2.4	0.0067	12	26	23.9	45	920	72.0	77.7	77.7	0.48	0.61	0.71	3,03
1.5	2	100L	15.2	5.5	2.2	2.5	0.0129	19	42	30.6	44	945	79.0	81.5	81.5	0.49	0.60	0.70	4,00
2.2	3	112M	22.1	6.2	2.4	2.6	0.0224	16	35	43.0	48	950	81.5	84.0	83.8	0.52	0.64	0.72	5,54
3	4	132S	29.9	6.0	2.1	2.5	0.0426	28	62	58.9	52	960	82.0	85.0	86.5	0.53	0.67	0.74	7,12
4	5.5	132M	39.8	6.5	2.2	2.5	0.0504	21	46	66.1	52	960	85.0	86.6	87.2	0.56	0.69	0.76	9,17
5.5	7.5	132M	54.5	6.8	2.3	2.5	0.0659	17	37	76.0	52	965	84.5	87.5	87.6	0.53	0.65	0.73	13,1
7.5	10	160M	73.9	6.6	2.5	2.9	0.1436	19	42	115	56	970	87.5	89.5	90.0	0.61	0.74	0.81	15,6
9.2	12.5	160L	90.6	6.2	2.2	2.7	0.1652	15	33	130	56	970	89.4	90.1	90.1	0.60	0.73	0.80	19,4
11	15	160L	108	7.0	2.4	2.7	0.1760	13	29	133	56	970	89.0	90.3	90.3	0.58	0.72	0.79	23,5
15	20	180L	148	8.0	2.7	3.0	0.2896	9	20	172	56	970	91.2	91.9	91.6	0.72	0.81	0.87	28,6
18.5	25	200L	181	6.3	2.3	2.5	0.3767	17	37	227	58	975	91.3	92.7	92.9	0.67	0.78	0.82	36,9
22	30	200L	216	6.2	2.3	2.6	0.4485	15	33	243	58	975	91.2	92.6	92.9	0.65	0.75	0.82	43,9
30	40	225S/M	291	7.0	2.6	2.6	0.9884	21	46	360	61	985	91.7	93.0	93.5	0.73	0.81	0.85	57,4
37	50	250S/M	361	7.0	2.5	2.6	1.32	20	44	443	61	980	91.8	94.0	94.0	0.72	0.81	0.84	71,2
45	60	280S/M	437	6.8	2.2	2.7	2.30	27	59	604	66	985	92.0	93.6	94.2	0.67	0.77	0.82	88,5
55	75	280S/M	534	6.7	2.1	2.6	2.64	21	46	633	66	985	92.5	93.9	94.3	0.67	0.78	0.82	108
75	100	315S/M	728	6.7	2.1	2.4	3.45	20	44	725	69	985	93.7	94.4	94.5	0.72	0.81	0.84	143
90	125	315S/M	873	6.5	2.2	2.4	4.02	16	35	834	69	985	94.0	94.8	94.8	0.71	0.80	0.83	174
110	150	315S/M	1070	6.5	2.2	2.4	5.29	18	40	995	69	985	94.5	95.1	95.1	0.69	0.79	0.84	209
132	175	315S/M	1280	6.6	2.2	2.5	5.63	12	26	1050	69	985	94.4	94.8	94.9	0.70	0.79	0.84	252
150	200	355M/L	1450	6.0	1.9	2.2	9.05	81	178	1460	73	990	94.1	95.6	95.9	0.65	0.75	0.80	297
160	220	355M/L	1540	6.0	1.9	2.1	9.53	76	167	1487	73	990	94.2	95.8	96.0	0.65	0.77	0.81	313
185	250	355M/L	1790	6.0	1.9	2.1	10.2	76	167	1530	73	990	94.2	95.6	95.7	0.65	0.75	0.80	367
200	270	355M/L	1930	6.1	2.2	2.3	12.4	85	187	1715	73	990	94.7	95.5	95.7	0.66	0.76	0.81	392
220	300	355M/L	2110	6.5	2.0	2.3	13.8	72	158	1795	73	995	94.0	95.2	95.8	0.67	0.77	0.80	436
250	340	355M/L	2410	6.1	1.9	2.1	14.8	64	141	1885	73	990	95.0	96.0	96.2	0.69	0.78	0.81	487
260	350	355M/L	2510	6.0	1.8	2.0	14.8	64	141	1830	73	990	95.0	96.0	96.2	0.69	0.78	0.81	507
280	380	355M/L*	2700	6.0	2.1	2.2	14.8	54	119	1890	73	990	94.7	95.7	96.0	0.68	0.77	0.80	554
300	400	355M/L*	2900	6.4	2.1	2.1	14.8	39	86	1920	73	990	94.0	95.5	96.0	0.63	0.73	0.79	601
315	430	355M/L*	3040	6.0	1.9	1.9	15.5	38	84	1981	73	990	94.8	96.1	96.3	0.69	0.78	0.81	614
Optional Frames																			
3	4	132M	29.9	6.0	2.1	2.5	0.0426	28	62	59.0	52	960	82.0	85.0	86.5	0.53	0.67	0.74	7,12
5.5	7.5	160M	53.9	6.3	2.5	2.8	0.1436	18	40	106	56	975	87.7	88.0	88.5	0.59	0.72	0.79	12,0
37	50	225S/M	361	7.0	2.5	2.6	1.32	20	44	450	61	980	91.8	94.0	94.0	0.72	0.81	0.84	71,2
45	60	250S/M	439	8.0	2.8	2.8	1.55	18	40	484	61	980	92.0	93.5	93.5	0.76	0.84	0.87	84,0
75	100	280S/M	728	6.7	2.1	2.4	3.45	20	44	725	69	985	93.7	94.4	94.5	0.72	0.81	0.84	143
132	175	355M/L	1270	6.1	1.9	2.2	9.05	90	198	1400	73	990	94.3	95.5	95.8	0.67	0.77	0.81	259

*Class "F" insulation with ΔT 105 K.
Frames 63 and 71 available on request

Electrical data – W21 Premium Efficiency EFF1

Output		Frame	Full Load Torque (Nm)	Locked Rotor Current I _L /I _n	Locked Rotor Torque T _L /T _n	Break-down Torque T _b /T _n	Inercia J (kgm ²)	Allowable locked rotor time (s)		Weight (kg)	Sound dB (A)	380 V								
								Rated speed (rpm)	% of full load						Full load current I _n (A)					
									Efficiency η			Power Factor Cos φ								
kW	HP							Hot	Cold			50	75	100	50	75	100			
VIII pole - 750 rpm - 50 Hz																				
0.12	0.16	71	1.67	2.5	1.9	2.1	0.0079	44	97	11.4	41	685	38.0	46.2	49.0	0.38	0.47	0.55	0,677	
0.18	0.25	80	2.46	3.1	1.8	2.0	0.0024	16	35	14.7	42	700	42.0	51.0	55.8	0.42	0.52	0.61	0,803	
0.25	0.33	80	3.44	3.5	2.0	2.0	0.0029	15	33	14.8	42	695	51.0	60.0	64.3	0.41	0.52	0.61	0,968	
0.37	0.5	90S	5.12	4.0	2.0	2.0	0.0045	21	46	18.0	43	690	53.5	61.3	64.5	0.39	0.50	0.59	1,47	
0.55	0.75	90L	7.62	4.0	2.0	2.2	0.0062	21	46	22.5	43	690	59.0	64.0	66.3	0.39	0.50	0.60	2,11	
0.75	1	100L	10.1	4.2	1.9	2.2	0.0112	38	84	28.5	50	710	71.0	74.2	76.0	0.40	0.53	0.61	2,46	
1.1	1.5	100L	15.0	4.2	1.8	2.2	0.0129	31	68	29.2	50	700	71.0	74.5	77.0	0.40	0.52	0.62	3,51	
1.5	2	112M	20.2	5.4	2.4	2.7	0.0243	32	70	44.4	46	710	79.0	81.3	82.0	0.43	0.55	0.66	4,21	
2.2	3	132S	29.6	6.2	2.4	2.5	0.0753	25	55	67.8	48	710	82.0	84.3	84.2	0.54	0.66	0.73	5,44	
3	4	132M	40.4	6.0	2.4	2.4	0.0853	21	46	73.1	48	710	82.8	84.6	84.5	0.54	0.67	0.75	7,19	
4	5.5	160M	52.7	5.2	2.2	2.8	0.1221	27	59	113	51	725	83.0	85.8	86.6	0.44	0.57	0.66	10,6	
5.5	7.5	160M	72.0	5.6	2.5	2.8	0.1652	22	48	124	51	730	83.5	86.4	87.0	0.42	0.55	0.65	14,7	
7.5	10	160L	98.8	5.2	2.0	2.4	0.1652	19	42	134	51	725	85.5	88.0	88.5	0.52	0.64	0.71	18,1	
9.2	12.5	180M	121	7.0	2.2	2.7	0.2620	12	26	163	51	725	87.5	88.3	88.5	0.67	0.77	0.83	19,1	
11	15	180L	145	7.0	2.2	2.4	0.2620	9	20	173	51	725	88.0	89.0	89.0	0.68	0.78	0.83	22,6	
15	20	200L	196	5.0	2.0	2.2	0.5023	28	62	262	53	730	89.5	90.8	91.5	0.53	0.65	0.71	35,1	
18.5	25	225S/M	242	7.2	2.1	2.6	0.8472	18	40	341	56	730	90.5	91.5	91.9	0.69	0.79	0.83	36,8	
22	30	225S/M	288	7.5	2.2	3.0	0.9884	18	40	365	56	730	90.8	92.2	92.5	0.67	0.77	0.82	44,1	
30	40	250S/M	393	7.5	2.1	2.8	1.22	17	37	425	56	730	91.7	92.5	93.0	0.69	0.79	0.83	59,1	
37	50	280S/M	478	6.5	1.9	2.2	2.64	32	70	637	59	740	92.6	93.5	93.9	0.63	0.74	0.80	74,8	
45	60	280S/M	581	6.5	2.0	2.4	3.10	32	70	698	59	740	92.9	93.7	94.0	0.62	0.73	0.79	92,1	
55	75	315S/M	710	6.5	2.0	2.2	3.45	32	70	789	62	740	93.5	94.5	94.5	0.63	0.74	0.80	111	
75	100	315S/M	968	6.6	1.9	2.2	4.37	20	44	876	62	740	93.9	94.7	94.9	0.66	0.78	0.81	148	
90	125	315S/M	1160	6.8	1.9	2.4	5.29	23	51	982	62	740	93.9	94.7	95.0	0.67	0.77	0.81	178	
110	150	355M/L	1420	6.4	1.5	2.2	12.6	41	90	1430	70	740	93.5	95.2	95.2	0.62	0.73	0.79	222	
132	175	355M/L	1700	6.5	1.6	2.2	13.2	47	103	1445	70	740	94.0	95.4	95.4	0.63	0.73	0.79	266	
132	180	355M/L	1700	6.5	1.6	2.2	13.2	47	103	1445	70	740	94.0	95.4	95.4	0.63	0.73	0.79	266	
150	200	355M/L	1940	7.0	1.6	2.2	15.9	40	88	1600	70	740	94.3	95.4	95.7	0.61	0.72	0.78	305	
160	220	355M/L	2070	6.6	1.6	2.2	16.3	42	92	1620	70	740	94.3	95.7	95.7	0.62	0.74	0.79	321	
185	250	355M/L	2370	6.5	1.6	2.2	17.3	30	66	1730	70	745	93.5	95.3	95.6	0.58	0.70	0.78	377	
200	270	355M/L	2580	6.8	1.6	2.1	19.5	37	81	1830	70	740	94.2	95.1	95.5	0.58	0.71	0.78	408	
220	300	355M/L	2840	6.8	1.6	2.2	20.4	35	77	1930	70	740	94.5	95.2	95.6	0.61	0.73	0.77	454	
Optional Frames																				
15	20	225S/M	195	8.7	2.3	3.0	0.8472	20	44	340	56	735	89.7	91.5	91.6	0.66	0.77	0.82	30,3	
55	75	280S/M	710	6.5	2.0	2.2	3.45	32	70	730	62	740	93.5	94.5	94.5	0.63	0.74	0.80	111	

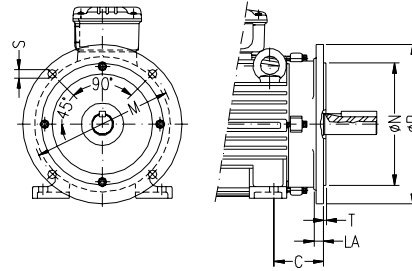
Frames 63 and 71 available on request



Mechanical data – W21 Premium Efficiency Motors

“FF” Flange

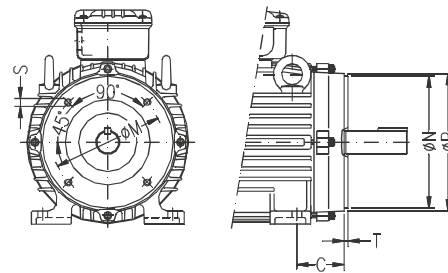
IEC Frame	“FF”Flange									N° of Holes		
	Flange	C	LA	M	N	P	T	S	α			
63	FF-115	40	9	115	95	140	3	10	45°	4		
71	FF-130	45		130	110	160	3.5					
80	FF-165	50	10	165	130	200		4			15	
90S/L		56										
100L	FF-215	63	11	215	180	250	5	19				
112M	70											
132S/M	FF-265	89	12	265	230	300	6	24			22°30'	8
160M/L	FF-300	108										
180M/L		121										
200M/L	FF-350	133	18	350	300	400	5	19				
225S/M	FF-400	149							22	600		
250S/M	FF-500	168	500	450	550							
280S/M		190										
315S/M	FF-600	216	22	740	680	800	6	24				
355M/L	FF-740	254										



Standard Frame

“C” Din Flange

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	
90S/L	C-140	56	115	95	140			
100L	C-160	63	130	110	160	M10	3.5	
112M		70						
132S/M	C-200	89	165	130	200	M10		



Standard Frame



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