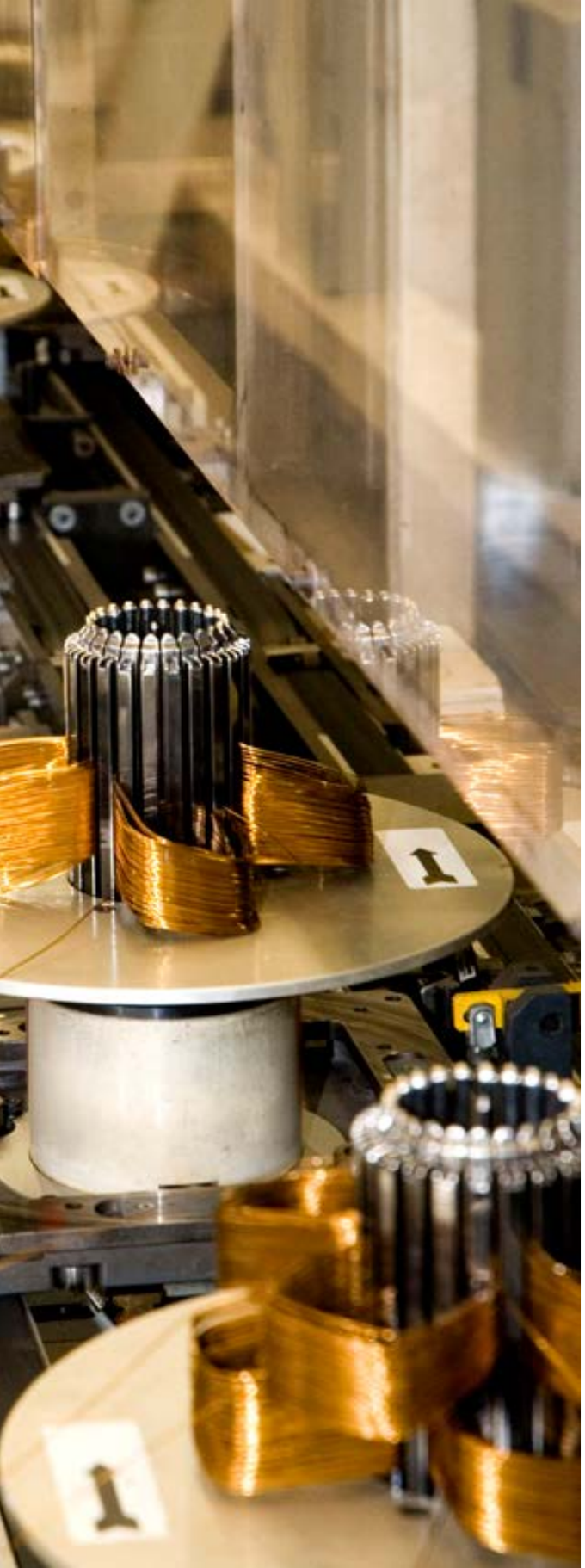
W20

Three Phase
Low Voltage Motors
IE3 Efficiency
Technical Catalogue
Central and Eastern European Market

Motors | Automation | Energy | Transmission & Distribution | Coatings



WEG World wide

WEG is a global company regarded as one of the world's leading manufacturers of energy efficient electric motors, automation, power transmission, renewable resource technologies, solar, biomass and wind power generation, distribution equipment and industrial coatings and varnishes.

WEG was founded in 1961 in Jaraguá do Sul, which is in the south of Brazil. As one of the world's biggest motor producers, WEG covers an area of more than 1,000,000 square meters. WEG now has 47 manufacturing plants in 12 countries and more than 1,400 service centers around the world. By now, there are approximately 33,000 WEG employees over the world and its annual sales amount is over 3 billion dollars. Doing business in over 135 countries, WEG is one of the top global players with background expertise to provide full turnkey systems for a wide variety of industrial applications.

W20 Motor

W20 motors are specially developed and promoted for conventional applications in Central and Eastern European markets.

Certifications

Europe · Russian · USA · China · France · Canada · China

China GB1 · China GB2 · China · Africa MASC · USA · IECEx · South Korea · Norway

WEG Global

Argentina	Columbia	Russia	
Australia	France	Saudi Arabien	
Belgium	Germany	Spain	
Brazil	Italy	South Africa	
Canada	Mexico	Norway	
USA	United Kingdom	Europe	

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(Aluminum Frame)

W20 Frame 160 to 200
(Cast Iron Frame)

W20 Frame W225S
(Cast Iron Frame)

W20 Frame 225M 250M W280S 280M
(Cast Iron Frame)

W20 Frame 315S/M 355S/M
(Cast Iron Frame)

1. Construction Details

1.1 Frame

Aluminum Frames are made of high quality die cast aluminum, providing a light weight and robust enclosure. Available as standard from 80 to 132 frame size.Frame sizes above 112 are all equipped with eyebolts in order to allow easy handling.

Figure 1 -1 Aluminum Frame

For 160 to 355 frame sizes the frame is made in cast iron ensuring reliability and robustness.

Figure 1-2.1 Cast Iron Frame
(315S/M、355S/M)

Figure 1-2.2 Cast Iron Frame
(W225S、225M、250M、W280S、280M)

1.2 End shields

W20 motors DE and NDE shields are made of cast iron. This new design ensures robustness for long term operation for a wide range of ambients and temperature.

Figure 2-1 DE Endshield

Figure 2-2 NDE Endshield

1.3 Fan cover

W20's fan cover is made of steel plate.

Figure 3 Fan Cover

1.4 Terminal box

As the fan cover, W20 motors' terminal box is made of steel plate and reserves enough space inside to make the wires' connection easy. The terminal box can be rotated at 90 intervals and easily to be installed. The holes of terminal box use Central and Eastern European Market Standard and are filled of plastic plug from factory.

Note: The user shall change plug with cable glands to fulfill the IP55 degree of protection requirement.

Figure 4 -1 Terminal box

Figure 4 - 2 Terminal box switching device (Frame size from W225S to 280M)

1.5 Terminal Block

The connection wires are in accordance with standard IEC 60034-8 and GB1971-2006, and are matched with appointed terminal block. W20 motors are equipped with BMC terminal block. The picture is as below.

Figure 5-1Terminal block

Figure 5-2 W225S to 280M Terminal block

1.6 Bearings

WEG motors are equipped with ball bearings, up to 200 frame the motors have ZZ (sealed) bearings and have regreasing nipples for frame 225 and above. WEG cooperate with international recognized bearing suppliers to ensure the motor's high performance and extended bearing life time. If a specific bearing brand was required, please contact WEG support team before placing order.

Note 1: Motor with shaft down mounting position shall considered drip cover.

Note 2: For shaft up outdoor applications, the use of slinger can provide extra protection to the bearing.

Figure 6 - Shaft down mounting & shaft up mounting

1.7 Nameplate

Nameplates are made of AISI 304 stainless steel. All the information is printed onto the nameplates by laser. Nameplate included main information of motor, such as: serial number, output, voltage, current, frequency, protection degree, power factor, insulation class, bearings type, grease and regreasing interval, etc. IEC frame up to 200 has vertical nameplate (figure 7) and frame 225 to 355 has horizontal nameplate (figure 8).

Figure 7 - Nameplate for frame size 80 to 200

Details on Nameplate:

1. Material number
2. Three phase
3. Rated voltage
4. Duty type
5. Efficiency
6. Frame size
7. Degree of protection
8. Insulation class
9. Temperature rise
10. Frequency
11. Rated power
12. Full load speed (RPM)
13. Rated current
14. Power factor
15. Ambient temperature
16. Service factor
17. Altitude
18. Weight
19. Drive End Bearing type
20. Non Drive End Bearing type
21. Grease
22. △ connection diagram
23. Y connection diagram
24. Regreasing interval
25. Certification

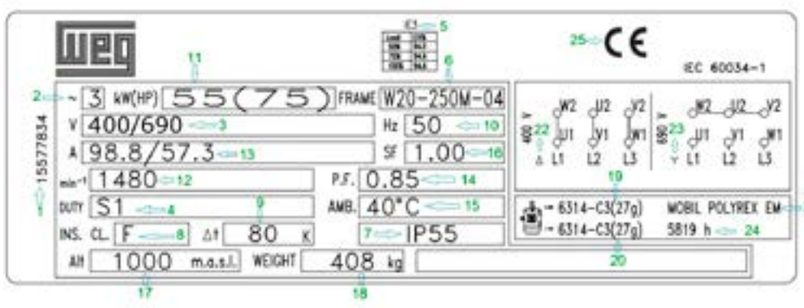


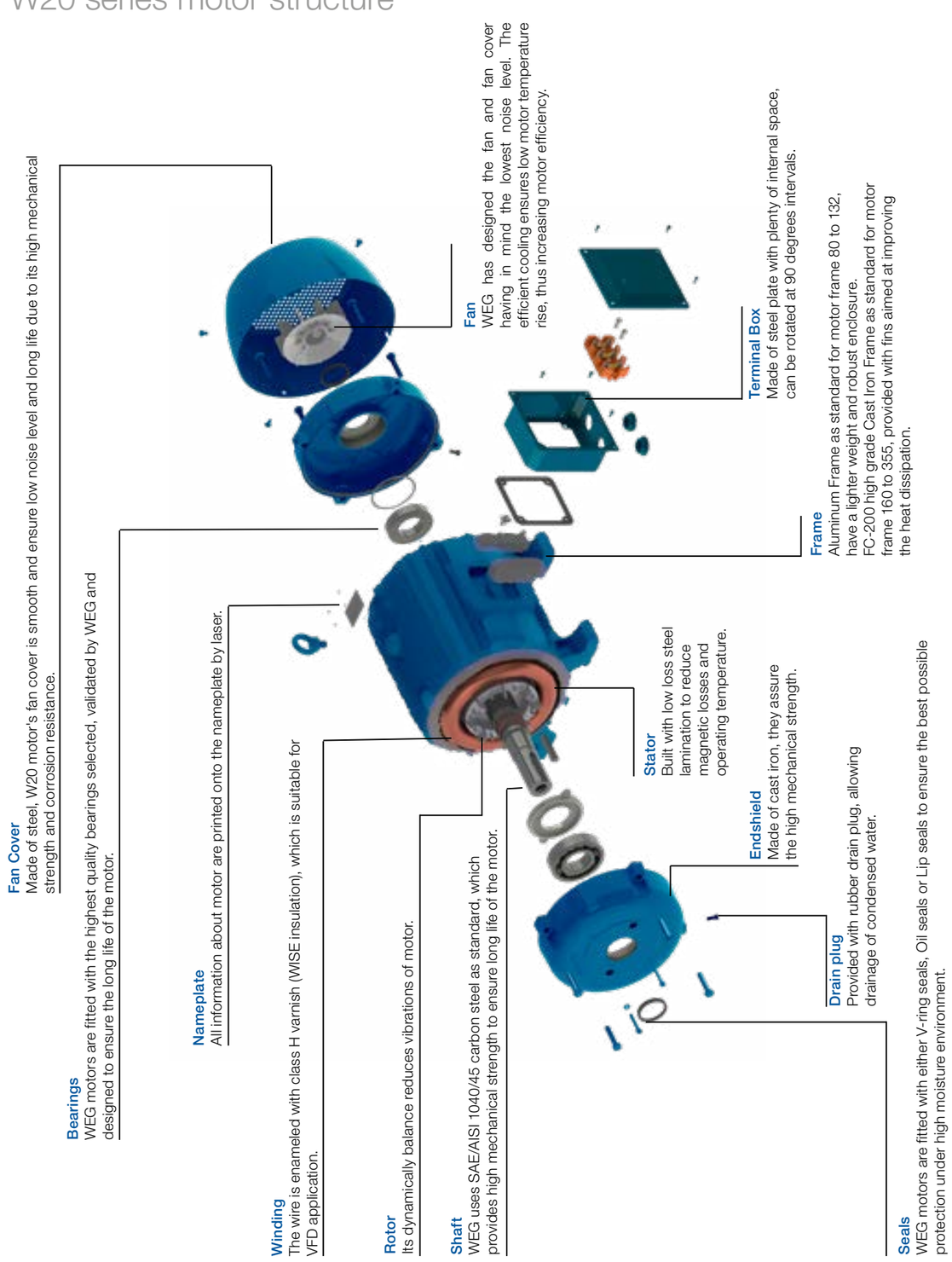
Figure 8 - Nameplate for frame size 225 to 355

1.8 Axial Flow Blower (Optional)

In inverter duty application, it is possible to configure motor according to customer needs with axial flow blower (up to 280M frame) to make a forced ventilation. In case of need, please contact related WEG support team for more details.

Figure 9 - W20 motor with forced ventilation blower

W20 series motor structure



2. Construction Features

Frame size			80	90S/L	100L	112M	S132S	132S	132M
Mechanical features									
Marking / logos on nameplate:			CE; IEC 60034						
Certification			CE						
Mounting			B3T						
Frame	Material		Aluminum						
Degree of protection			IP55						
Grounding			Single grounding (Terminal box)						
Cooling method			TEFC						
Fan	Material	2P	Plastic						
		4-8P							
Fan cover	Material		Steel						
Endshields	Material		FC-200 Cast Iron						
Drain plug			Rubber Drain Plug						
Bearings	Shielded / Clearance DE		ZZ						
	Shielded / Clearance NDE		ZZ						
	Locking		None						
	Bearing life (h)		20000						
	Drive end side	2P	6204	6205	6206	6307	6308	6308	6308
		4-8P							
	Non drive end side	2P	6203	6204	6205	6206	6207	6207	6207
		4-8P							
Bearing sealing			V'ring						
Lubrication	Grease type		Mobil Polyrex EM						
	Grease fitting		None						
Terminal block			BMC 6 Terminais						
Terminal box	Material		Steel Plate						
Additional terminal box			None						
Leads inlet	Main	Size	M24x1.5			2xM30x2			
	Plug		Plastic plug for transport and storage purposes						
Shaft	Material		45#						
	DE threaded hole	2P	M6	M8	M10	M10	M12	M12	M12
		4 - 8P							
Key			Fitted with "A" type						
Vibration level			Grade A						
Balancing			With 1/2 key						
Nameplate	Material		Stainless Steel AISI 304						
Painting	Type		201A						
	Color		IE3: RAL 5009						
	Tropicalized		None						
Packaging			Cardboard Box						
Electrical features									
Design			N						
Voltage			400V with 6 terminals						
Winding	Impregnation		Dip and Bake						
	Insulation class		F (DT 80K)						
Service factor			1.00						
Thermal protector			None						
Space heaters			None						
Flying leads			None						
Ambient temperature	Maximum		40°C						
	Minimum		-20°C						
Starting method			Direct						

Note: For features out of above table, WEG support team shall be consulted.

2. Construction Features

Frame size			160M	160L	180M	180L	200M	200L	W225S	225M	250M	W280S	280M	315S/M	355M/L
Mechanical features															
Marking / Logos on nameplate:			CE; IEC 60034												
Certification			CE												
Mounting			B3T												
Frame	Material		FC-200 Cast Iron												
Degree of protection			IP55												
Grounding			Single grounding (Terminal box)						Double grounding (Terminal box + Outside frame)						
Cooling method			TEFC												
Fan	Material	2P	Plastic												Aluminum
		4-8P													
Fan cover	Material		Steel												
Endshields	Material		FC-200 Cast Iron												
Drain plug			Rubber Drain Plug												
Bearings	Shielded / Clearance DE		ZZ-C3							C3					
	Shielded / Clearance NDE		ZZ-C3							C3					
	Locking		DE bearing locked with inner bearing cap and fitted with wave washer in the NDE bearing							DE bearing locked with inner and outer bearing caps and fitted with pre-load springs in the NDE bearing					
	Bearing life (h)		20000												
	Drive end side	2P	6309	6309	6311	6311	6312	6312	6312	6314		6314	6314	6314	6316
		4-8P							6314			6316	6316	6319	6322
	Non drive end side	2P	6209	6209	6211	6211	6212	6212	6312			6314	6314	6314	6314
		4-8P							6312			6314	6316	6316	6319
Bearing sealing			V'ring												
Lubrication	Grease type		Mobil Polyrex EM												
	Grease fitting		None							With grease fittings in DE and NDE bearings					
Terminal block			BMC 6 Terminais												
Terminal box	Material		Steel Plate												
Additional temrinal box			None												
Leads inlet	Main	Size	2xM36x2				2xM48x2			2xM64x2					2xM72x2
	Plug		Plastic plug for transport and storage purposes												
Shaft	Material		45#												AISI 4140
	DE threaded hole	2P	M16	M16	M16	M16	M20	M20	M20		M20		M20	M20	M20
		4 - 8P													M24
Key			Fitted with "A" type						Fitted with "B" type						
Vibration level			Grade A												
Balancing			With 1/2 key												
Nameplate	Material		Stainless Steel AISI 304												
Painting	Type		201A												
	Color		IE3: RAL 5009												
	Tropicalized		None												
Packaging			Crate												
Electrical features															
Design			N												
Voltage			400V with 6 terminals												
Winding	Impregnation		Dip and Bake							Continuous Resin Flow					
	Insulation class		F (DT 80K)												
Service factor			1.00												
Thermal protector			Thermistor 155 °C												
Space heaters			None												
Flying leads			None												
Ambient temperature	Maximum		40°C												
	Minimum		-20°C												
Starting method			Direct												

Note: For features out of above table, WEG support team shall be consulted.

3. Optional Features

Frame	80	90S/L	100L	112M	S132S	132S	132M	160M	160L	180M
Mechanical Options										
Flange										
Flange FF	O	O	O	O	O	O	O	O	O	O
Flange C-DIN	O	O	O	O	O	O	O	O	O	NA
Flange C	O	O	O	O	O	O	O	O	O	O
Cooling Fan										
Plastic	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
Fan Cover										
Steel Plate	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
Frame Material										
Aluminum	SD	SD	SD	SD	SD	SD	SD	NA	NA	NA
Cast Iron	E	E	E	E	E	E	E	SD	SD	SD
Insulation Class										
F DT 80K	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
F DT 105K	O	O	O	O	O	O	O	O	O	O
H DT 80K	O	O	O	O	O	O	O	O	O	O
H DT 105K	O	O	O	O	O	O	O	O	O	O
H DT 125K	O	O	O	O	O	O	O	O	O	O
Painting Plan										
201A	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
202E	NA	NA	NA	NA	NA	NA	NA	O	O	O
202P	NA	NA	NA	NA	NA	NA	NA	O	O	O
203A	O	O	O	O	O	O	O	O	O	O
205E	O	O	O	O	O	O	O	NA	NA	NA
205P	O	O	O	O	O	O	O	NA	NA	NA
207A	O	O	O	O	O	O	O	O	O	O
Prime	O	O	O	O	O	O	O	NA	NA	NA
Bearing Seal										
'V' ring	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
Nitrillic rubber lip seal	O	O	O	O	O	O	O	O	O	O
Nitrillic rubber oil seal	O	O	O	O	O	O	O	O	O	O
Bearing Cap										
Without bearing cap	SD	SD	SD	SD	SD	SD	SD	NA	NA	NA
Bearing cap	NA	NA	NA	NA	NA	NA	NA	SD	SD	SD
Shaft										
SAE 1040/45	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
AISI 4140	O	O	O	O	O	O	O	O	O	O
Degree of Protection										
IP55	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
Grounding										
Single Grounding	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
Double Grounding	O	O	O	O	O	O	O	O	O	O
Other Mechanical Option										
Drip Cover	O	O	O	O	O	O	O	O	O	O
Electrical Options										
Winding thermal protection										
Thermal Protection-Alarm	O	O	O	O	O	O	O	O	O	O
Thermal Protection-Trip	O	O	O	O	O	O	O	O	O	O
Space Heater										
110-127 V	O	O	O	O	O	O	O	O	O	O
200-240 V	O	O	O	O	O	O	O	O	O	O
110-127/220-240V	NA	NA	NA	O	O	O	O	O	O	O
380-480 V	O	O	O	O	O	O	O	O	O	O
Direction of Rotation										
Both	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
Clockwise	O	O	O	O	O	O	O	O	O	O
Counterclockwise	O	O	O	O	O	O	O	O	O	O
Service factor										
Service factor1.00	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
Service factor 1.15	E	E	E	E	E	E	E	E	E	E

Note: SD = Standard Feature O = Optional Feature E = Especial Feature NA = Not Available

3. Optional Features

Frame	180L	200M	200L	W225S	225M	250M	W280S	280M	315S/M	355M/L
Mechanical Options										
Flange										
Flange FF	O	O	O	O	O	O	O	O	O	O
Flange C-DIN	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Flange C	O	O	O	NA	NA	NA	NA	NA	O	O
Cooling Fan										
Plastic	SD	SD	SD	SD	SD	SD	SD	SD	SD	NA
Fan Cover										
Steel Plate	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
Frame Material										
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cast Iron	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
Insulation Class										
F DT 80K	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
F DT 105K	O	O	O	O	O	O	O	O	O	O
H DT 80K	O	O	O	O	O	O	O	O	O	O
H DT 105K	O	O	O	O	O	O	O	O	O	O
H DT 125K	O	O	O	O	O	O	O	O	O	O
Painting Plan										
201A	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
202E	O	O	O	O	O	O	O	O	O	O
202P	O	O	O	O	O	O	O	O	O	O
203A	O	O	O	O	O	O	O	O	O	O
205E	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
205P	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
207A	O	O	O	O	O	O	O	O	O	O
Prime	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bearing Seal										
'V' ring	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
Nitrillic rubber lip seal	O	O	O	O	O	O	O	O	O	O
Nitrillic rubber oil seal	O	O	O	O	O	O	O	O	O	O
Bearing Cap										
Without bearing cap	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bearing cap	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
Shaft										
SAE 1040/45	SD	SD	SD	SD	SD	SD	SD	SD	SD	NA
AISI 4140	O	O	O	O	O	O	O	O	O	SD
Degree of Protection										
IP55	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
Grounding										
Single Grounding	SD	SD	SD	NA	NA	NA	NA	NA	NA	NA
Double Grounding	O	O	O	SD	SD	SD	SD	SD	SD	SD
Other Mechanical Option										
Drip Cover	O	O	O	O	O	O	O	O	O	O
Electrical Options										
Winding thermal protection										
Thermal Protection-Alarm	O	O	O	O	O	O	O	O	O	O
Thermal Protection-Trip	O	O	O	O	O	O	O	O	O	O
Space Heater										
110-127 V	O	O	O	O	O	O	O	O	O	O
200-240 V	O	O	O	O	O	O	O	O	O	O
110-127/220-240V	O	O	O	O	O	O	O	O	O	O
380-480 V	O	O	O	O	O	O	O	O	O	O
Direction of Rotation										
Both	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
Clockwise	O	O	O	O	O	O	O	O	O	O
Counterclockwise	O	O	O	O	O	O	O	O	O	O
Service factor										
Service factor1.00	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
Service factor 1.15	E	E	E	O	O	O	O	O	E	E

Note: SD = Standard Feature O = Optional Feature E = Especial Feature NA = Not Available
Flanged motors frame 160 and above will be fitted with bearing cap as standard,
frame 132 and below fitted with bearing cap are special configurations, WEG support team shall be consulted.

4. Electrical Data

W20 - Aluminum Frame - 80 to 132 Frame- IE3 Efficiency

Output		Frame	Full Load Torque (kgfm)	Locked Rotor Current Il/In	Locked Rotor Torque Tl/Tn	Break-down Torque Tb/Tn	Inertia J (kgm2)	Allowable locked rotor time (s)		Weight (kg)	Sound dB(A)	400 V							
												Rated speed (rpm)	% of full load						Full load current In (A)
													Efficiency			Power Factor			
kW	HP							Hot	Cold				50	75	100	50	75	100	
2P - 3000 RPM - 50Hz																			
0.75	1	80	0.257	7.0	1.9	2.3	0.0007	16	35	11.4	59	2840	80.2	80.7	80.7	0.64	0.77	0.84	1.60
1.1	1.5	80	0.380	6.2	3.5	3.4	0.0009	26	57	14.0	59	2820	82.0	82.7	82.7	0.64	0.77	0.84	2.29
1.5	2	90S/L	0.504	8.7	2.2	3	0.0020	8	18	20.0	62	2900	83.6	84.2	84.2	0.62	0.75	0.82	3.14
2.2	3	90S/L	0.751	7.0	3.4	3.4	0.0025	10	22	21.5	62	2855	84.2	85.1	85.9	0.67	0.79	0.85	4.35
3	4	100L	1.01	7.5	2.7	3.3	0.0064	13	29	30.0	67	2885	85.6	87.1	87.1	0.72	0.83	0.88	5.65
4	5.5	112M	1.34	7.7	2.5	3.5	0.0905	12	26	41.0	62	2905	86.1	87.4	88.1	0.69	0.80	0.86	7.62
5.5	7.5	S132S	1.83	7.9	2.4	3.4	0.0270	16	35	61.0	67	2930	87.9	89.2	89.2	0.75	0.84	0.89	9.98
7.5	10	132S	2.49	8.0	2.6	3.4	0.0252	17	37	66.0	63	2930	88.1	89.5	90.1	0.73	0.83	0.88	13.7
9.2	12.5	132M	3.06	7.8	2.6	3.3	0.0303	16	35	70.0	63	2925	89.5	90.5	90.7	0.74	0.84	0.88	16.6
11	15	132M	3.67	7.9	2.7	3.3	0.0303	9	20	74.0	63	2920	89.2	90.0	91.2	0.71	0.82	0.87	20.0
High-Output Design																			
0.75	1	90S/L	0.251	8.8	2.4	2.9	0.0012	14	31	16.0	62	2915	78.9	80.7	80.7	0.60	0.71	0.78	1.72
1.1	1.5	90S/L	0.369	8.4	2	3	0.0014	11	24	16.5	62	2905	81.0	82.7	82.7	0.62	0.75	0.82	2.34
4	5.5	132S	1.33	7.9	2.4	3.5	0.0216	19	42	57.0	63	2940	85.9	87.9	88.1	0.72	0.82	0.87	7.53
4	5.5	S132S	1.33	7.9	2.4	3.5	0.0216	19	42	57.0	63	2940	85.9	87.9	88.1	0.72	0.82	0.87	7.53
5.5	7.5	132S	1.83	7.9	2.4	3.4	0.0270	16	35	61.0	67	2930	87.9	89.2	89.2	0.75	0.84	0.89	9.98
4P - 1500 RPM - 50Hz																			
0.55	0.75	80	0.376	6.0	2.6	3.0	0.0026	21	46	13.0	44	1425	79.7	80.8	80.8	0.62	0.75	0.83	1.19
0.75	1	80	0.514	7.0	2.8	3.2	0.0032	17	37	14.0	44	1420	80.0	82.0	82.5	0.56	0.71	0.80	1.64
1.1	1.5	90S/L	0.739	6.9	2.4	3.1	0.0055	16	35	19.5	49	1450	83.9	84.1	84.1	0.58	0.72	0.80	2.36
1.5	2	90S/L	1.01	7.4	2.9	3.6	0.0066	10	22	20.5	49	1450	83.1	85.0	85.3	0.59	0.72	0.80	3.17
2.2	3	100L	1.48	7.7	3.9	4.1	0.0097	18	40	32.0	53	1445	84.7	86.3	86.7	0.57	0.70	0.78	4.69
3	4	L100L	2.04	7.2	3.8	3.8	0.0112	19	42	35.0	53	1435	85.5	86.5	87.7	0.60	0.73	0.80	6.18
4	5.5	112M	2.69	7.5	2.2	2.7	0.0167	17	37	39.0	56	1450	87.8	88.4	88.6	0.58	0.71	0.79	8.25
5.5	7.5	S132S	3.66	8.0	2.1	3.3	0.0528	14	31	56.0	56	1465	89.0	89.6	89.6	0.70	0.81	0.86	10.3
7.5	10	132M	5.00	7.9	2.2	3.4	0.0638	12	26	70.0	56	1460	90.0	90.4	90.4	0.68	0.79	0.85	14.1
High-Output Design																			
0.75	1	90S/L	0.500	7.0	2.0	3.2	0.0049	16	35	17.5	49	1460	82.0	82.5	82.5	0.58	0.71	0.79	1.66
1.5	2	100L	1.01	7.6	3	3.6	0.0105	17	37	30.0	53	1450	82.7	84.8	85.3	0.58	0.71	0.79	3.21
2.2	3	112M	1.46	7.3	2	3.3	0.0182	14	31	41.0	56	1465	86.2	86.7	86.7	0.57	0.70	0.78	4.69
3	4	L112M	1.99	7.2	2.1	3.2	0.0195	14	31	42.0	56	1465	86.6	87.7	87.7	0.58	0.71	0.79	6.25
5.5	7.5	132S	3.66	8.0	2.1	3.3	0.0528	14	31	56.0	56	1465	89.0	89.6	89.6	0.70	0.81	0.86	10.3

Note: Efficiency values are given according to IEC 60034-2-1. They are calculated according to indirect method, with stray load losses determined by measurement.
(*) Insulation Class "F", temperature rise as Delta T 105K.

W20 - Aluminum Frame - 80 to 132 Frame- IE3 Efficiency

Output		Frame	Full Load Torque (kgfm)	Locked Rotor Current Il/In	Locked Rotor Torque Tl/Tn	Break-down Torque Tb/Tn	Inertia J (kgm2)	Allowable locked rotor time (s)		Weight (kg)	Sound dB(A)	400 V							
												Rated speed (rpm)	% of full load						Full load current In (A)
													Efficiency			Power Factor			
kW	HP							Hot	Cold				50	75	100	50	75	100	
6P - 1000 RPM - 50Hz																			
0.25	0.33	80	0.256	4.1	1.6	2.2	0.0019	21	46	12.0	43	950	60.0	65.0	68.6	0.47	0.60	0.69	0.762
0.37	0.5	80	0.390	4.5	1.9	2.1	0.0026	25	55	13.9	43	925	66.0	69.5	73.5	0.51	0.65	0.75	0.969
0.55	0.75	L80	0.567	5.1	2.9	3.1	0.0037	20	44	18.0	43	945	70.5	75.2	77.2	0.45	0.58	0.69	1.49
0.75	1	90S/L	0.777	5.2	2.5	2.8	0.0066	31	68	22.0	45	940	76.5	79.0	79.0	0.49	0.62	0.71	1.93
1.1	1.5	100L	1.13	4.9	2	2.4	0.0110	32	70	25.0	44	945	80.5	81.0	81.0	0.51	0.65	0.73	2.69
1.5	2	100L	1.54	5.5	2.3	2.8	0.0143	31	68	29.0	44	950	81.5	82.5	82.5	0.49	0.62	0.71	3.70
2.2	3	112M	2.23	6.0	2.5	2.6	0.0257	26	57	39.0	49	960	83.0	84.5	84.5	0.53	0.64	0.72	5.22
3	4	132S	3.01	6.0	1.9	2.5	0.0568	28	62	61.0	53	970	85.0	85.8	85.8	0.52	0.65	0.73	6.92
4	5.5	132M	4.06	6.5	2.2	2.5	0.0568	30	66	65.0	53	960	86.0	86.8	86.8	0.53	0.66	0.74	8.99
5.5	7.5	L132M	5.52	7.3	2.1	2.5	0.0795	26	57	72.0	52	970	86.0	87.0	88.0	0.50	0.64	0.72	12.5
High-Output Design																			
1.1	1.5	112M	1.12	5.9	2.3	2.8	0.0220	28	62	32.0	49	955	84.0	85.0	85.0	0.52	0.64	0.72	2.59
1.5	2	112M	1.52	6.0	2.1	2.8	0.0257	28	62	35.0	49	960	84.5	85.5	85.5	0.51	0.63	0.71	3.56
2.2	3	132S	2.21	5.7	1.8	2.7	0.0492	30	66	55.0	53	970	86.0	87.5	87.5	0.52	0.64	0.72	5.04
2.2	3	S132S	2.21	5.7	1.8	2.7	0.0492	30	66	55.0	53	970	86.0	87.5	87.5	0.52	0.64	0.72	5.04
8P - 750 RPM - 50Hz																			
0.18	0.25	80	0.258	3.3	2.0	2.2	0.0029	30	66	15.0	42	680	51.0	57.0	58.7	0.45	0.55	0.65	0.681
0.25	0.33	80	0.350	3.5	2	2.2	0.0032	30	66	15.5	42	695	53.0	60.0	64.1	0.42	0.52	0.63	0.894
0.37	0.5	90S/L	0.522	3.7	2.1	2.4	0.0055	30	66	19.0	44	690	61.0	66.0	69.3	0.41	0.53	0.62	1.24
0.55	0.75	90S/L	0.782	3.6	1.8	2.1	0.0066	29	64	23.0	44	685	63.0	72.5	73.0	0.44	0.57	0.67	1.62
0.75	1	100L	1.03	4.6	1.9	2.3	0.0127	30	66	28.5	50	710	72.5	75.5	75.5	0.41	0.53	0.62	2.31
1.1	1.5	100L	1.51	4.6	1.9	2	0.0143	30	66	30.0	50	710	73.0	76.0	77.7	0.41	0.53	0.62	3.30
1.5	2	112M	2.07	5.0	2.5	2.8	0.0238	28	62	37.0	46	705	79.0	80.5	80.5	0.45	0.59	0.68	3.95
2.2	3	S132S	3.02	6.2	2.3	2.5	0.0690	27	59	57.0	48	710	82.0	82.6	82.6	0.51	0.65	0.72	5.34
3	4	132M	4.12	6.4	2.4	2.6	0.0838	21	46	65.0	48	710	82.5	83.5	83.5	0.51	0.64	0.72	7.20
High-Output Design																			
2.2	3	132S	3.02	6.2	2.3	2.5	0.0690	27	59	57.0	48	710	82.0	82.6	82.6	0.51	0.65	0.72	5.34

W20 - Cast Iron Frame - 160 to 355 Frame- IE3 Efficiency

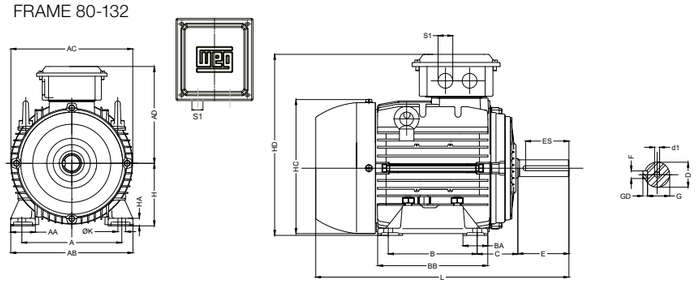
Output		Frame	Full Load Torque (kgfm)	Locked Rotor Current Il/In	Locked Rotor Torque Tl/Tn	Break-down Torque Tb/Tn	Inertia J (kgm2)	Allowable locked rotor time (s)		Weight (kg)	Sound dB(A)	400 V							
												Rated speed (rpm)	% of full load						Full load current In (A)
													Efficiency			Power Factor			
kW	HP							Hot	Cold				50	75	100	50	75	100	
2P - 3000 RPM - 50Hz																			
11	15	160M	3.63	8.5	2.8	3.4	0.0618	13	29	120	70	2950	89.5	90.5	91.2	0.75	0.84	0.87	20.0
15	20	160M	4.97	8.0	2.8	3.2	0.0565	14	31	132	70	2940	90.5	91.5	91.9	0.75	0.84	0.87	27.1
18.5	25	L160L	6.11	9.1	3.1	3.6	0.0763	7	15	136	70	2950	90.4	91.0	92.4	0.73	0.83	0.87	33.3
22	30	180M	7.24	8.2	2.5	3.2	0.1138	9	20	180	70	2960	91.8	92.7	92.7	0.69	0.80	0.85	40.3
30	40	200L	9.85	8.0	2.6	2.8	0.2214	25	55	245	74	2965	91.6	92.7	93.3	0.78	0.85	0.87	53.4
37	50	200L	12.2	6.3	2.3	2.6	0.1958	39	86	260	74	2960	92.7	93.6	93.7	0.75	0.83	0.86	66.3
45	60	225M	14.8	8.7	2.4	2.9	0.2601	12	26	304	75	2955	93.0	93.8	94.0	0.74	0.83	0.87	79.4
55	75	250M	18.0	9.0	2.7	3.2	0.3920	11	24	370	78	2970	92.9	94.0	94.3	0.75	0.84	0.88	95.9
75	100	W280S	24.6	9.0	2.8	3.2	0.5094	10	22	451	82	2970	94.0	94.7	94.7	0.78	0.86	0.89	128
90	125	280M	29.5	8.1	2.2	2.6	1.06	12	26	605	83	2975	93.6	94.6	95.0	0.81	0.88	0.90	152
110	150	315S/M	36.0	7.8	2	3.3	1.23	25	55	800	83	2980	95.0	95.2	95.2	0.75	0.84	0.88	189
132	175	315S/M	43.2	7.3	1.9	3	1.40	22	48	850	83	2975	95.0	95.4	95.4	0.80	0.87	0.89	224
160	220	315S/M	52.3	8.2	2.3	3.2	1.97	19	42	950	83	2980	95.0	95.6	95.6	0.81	0.88	0.90	269
200	270	355M/L	65.4	7.2	2	2.6	4.63	42	92	1000	81	2980	95.7	95.8	95.8	0.89	0.92	0.93	324
High-Output Design																			
110	150	280M	36.0	9.7	2.4	2.7	1.10	10	22	619	83	2975	93.9	94.8	95.2	0.81	0.88	0.90	185
200	270	315S/M*	65.5	7.8	2.1	2.9	2.03	15	33	1000	83	2975	95.1	95.7	95.8	0.84	0.89	0.91	332
4P - 1500 RPM - 50Hz																			
11	15	L160L	7.29	7.5	2.7	3.0	0.1360	9	20	120	62	1470	88.5	89.8	91.4	0.61	0.74	0.81	21.5
15	20	160L	9.97	6.8	2.5	2.7	0.1214	12	26	130	62	1465	90.0	90.8	92.1	0.66	0.77	0.83	28.3
18.5	25	180M	12.3	6.9	2.7	3.1	0.2088	22	48	175	64	1470	92.0	92.6	92.6	0.68	0.79	0.84	34.3
22	30	180L	14.6	6.9	2.7	3	0.2098	16	35	195	64	1470	92.5	92.9	93.0	0.71	0.81	0.85	40.2
30	40	200L	19.7	7.0	2.5	3	0.3342	17	37	260	69	1480	92.0	92.9	93.6	0.68	0.79	0.84	55.1
37	50	W225S	24.4	7.8	2.5	3.2	0.3987	14	31	275	69	1480	93.2	93.9	93.9	0.63	0.75	0.81	70.2
45	60	225M	29.6	7.0	2.9	3.4	0.6143	11	24	330	66	1480	93.0	94.0	94.2	0.71	0.81	0.85	81.1
55	75	250M	36.2	7.6	2.7	2.7	0.8822	15	33	377	70	1480	94.0	94.6	94.6	0.71	0.81	0.85	98.8
75	100	W280S	49.2	8.5	3	3	1.24	10	22	500	70	1485	94.5	95.0	95.0	0.66	0.78	0.83	138
90	125	280M	59.0	6.1	2.2	2.6	1.80	10	22	591	76	1485	94.9	95.2	95.2	0.73	0.82	0.85	161
110	150	315S/M	72.1	7.5	2.3	2.9	2.71	20	44	860	77	1485	95.1	95.4	95.4	0.76	0.84	0.87	191
132	175	315S/M	86.6	7.6	2.4	2.9	3.09	17	37	920	77	1485	95.4	95.6	95.6	0.75	0.83	0.86	232
160	220	315S/M	105	7.6	2.5	2.9	3.40	17	37	990	77	1485	95.4	95.8	95.8	0.76	0.84	0.87	277
200	270	355M/L	131	7.6	2.5	2.9	6.62	26	57	1250	79	1490	95.2	96.0	96.0	0.71	0.80	0.84	358
250	340	355M/L	163	7.3	2.2	2.7	7.70	28	62	1380	79	1490	95.7	96.0	96.0	0.72	0.81	0.85	442
300	400	355M/L	196	7.0	2.1	2.6	8.93	25	55	1440	79	1490	95.8	96.0	96.0	0.75	0.83	0.86	524
315	430	355M/L	206	7.4	2.5	2.6	9.47	20	44	1560	79	1490	95.8	96.0	96.0	0.75	0.83	0.86	551
High-Output Design																			
11	15	160M	7.29	7.7	2.9	3.1	0.1025	12	26	119	62	1470	89.2	90.3	91.4	0.63	0.75	0.81	21.5
110	150	280M	72.1	9.2	2.6	3	2.04	9	20	655	72	1485	94.7	95.3	95.4	0.67	0.78	0.82	203
200	270	315S/M*	131	7.9	2.6	3	3.48	10	22	1250	77	1485	95.3	95.6	96.0	0.75	0.83	0.86	350

W20 - Cast Iron Frame - 160 to 355 Frame- IE3 Efficiency

Output		Frame	Full Load Torque (kgfm)	Locked Rotor Current Il/In	Locked Rotor Torque Tl/Tn	Break-down Torque Tb/Tn	Inertia J (kgm2)	Allowable locked rotor time (s)		Weight (kg)	Sound dB(A)	400 V							
												Rated speed (rpm)	% of full load						Full load current In (A)
													Efficiency			Power Factor			
kW	HP							Hot	Cold				50	75	100	50	75	100	
6P - 1000 RPM - 50Hz																			
7.5	10	160M	7.53	6.0	2.2	2.7	0.1614	15	33	127	56	970	86.0	88.5	89.1	0.61	0.74	0.81	15.0
11	15	160L	11.0	7.0	2.8	3	0.1891	13	29	136	56	970	89.0	90.0	90.3	0.60	0.73	0.80	21.9
15	20	180L	15.0	7.7	2.6	3.2	0.2975	10	22	178	56	975	90.5	91.0	91.2	0.65	0.78	0.84	28.2
18.5	25	200L	18.5	6.3	2.3	2.5	0.3861	17	37	225	58	975	90.5	91.8	92.0	0.65	0.76	0.82	35.4
22	30	200L	22.0	6.2	2.3	2.6	0.4388	15	33	245	58	975	90.4	92.0	92.2	0.65	0.75	0.82	42.0
30	40	225M	29.7	6.6	2	2.7	0.7853	15	33	312	61	985	92.0	92.5	92.9	0.71	0.81	0.85	54.8
37	50	250M	36.8	6.7	1.9	2.5	1.05	14	31	355	61	980	92.8	93.2	93.3	0.69	0.79	0.84	68.1
45	60	W280S	44.5	8.5	2.5	3.2	1.52	12	26	464	61	985	93.0	93.7	93.7	0.68	0.79	0.84	82.6
55	75	280M	54.4	6.6	2	2.6	2.04	14	31	546	69	985	93.0	93.8	94.1	0.67	0.78	0.83	102
75	100	315S/M	73.8	7.7	2.9	3.5	3.59	15	33	725	69	990	93.7	94.3	94.6	0.62	0.73	0.81	142
90	125	315S/M	88.5	7.8	2.8	3.3	5.05	16	35	810	69	990	94.3	94.8	95.0	0.66	0.77	0.82	167
110	150	315S/M	109	6.5	2.2	2.4	5.14	18	40	980	69	985	95.0	95.1	95.1	0.69	0.79	0.84	199
132	175	355M/L	129	6.5	1.9	2.5	10.4	40	88	1600	73	995	93.8	94.8	95.4	0.68	0.77	0.81	247
150	200	355M/L	147	6.3	2.1	2.5	11.1	27	59	1650	73	995	94.4	95.3	95.7	0.66	0.76	0.81	279
160	220	355M/L	157	6.0	2	2.4	11.1	60	132	1650	73	995	94.0	95.0	95.6	0.68	0.78	0.81	298
185	250	355M/L	181	6.3	2.2	2.5	11.6	34	75	1700	73	995	94.7	95.6	95.8	0.66	0.76	0.81	344
220	300	355M/L	215	6.1	2.1	2.4	13.5	31	68	1795	73	995	95.0	95.6	95.8	0.67	0.77	0.81	409
250	340	355M/L	245	6.5	2	2.4	14.4	60	132	1890	73	995	95.5	95.8	95.8	0.68	0.78	0.81	465
High-Output Design																			
75	100	280M	74.2	8.2	2.4	3	2.66	13	29	674	66	985	93.9	94.6	94.6	0.65	0.77	0.82	140
110	150	355M/L	108	7.0	2.1	2.7	9.28	40	88	1460	73	995	93.0	94.5	95.1	0.64	0.75	0.80	209
8P - 750 RPM - 50Hz																			
4	5.5	160M	5.37	4.8	1.9	2.6	0.1264	27	59	102	53	725	83.0	86.2	86.6	0.51	0.64	0.72	9.26
5.5	7.5	160M	7.39	4.7	1.8	2.5	0.1614	22	48	125	53	725	85.0	87.7	87.7	0.53	0.66	0.74	12.3
7.5	10	160L	10.1	5.2	2	2.4	0.1838	19	42	130	51	725	87.5	88.9	88.9	0.54	0.66	0.73	16.7
11	15	180L	14.7	8.0	2.6	2.8	0.3129	12	26	180	51	730	90.0	90.3	90.3	0.62	0.73	0.80	21.9
15	20	200L	19.9	5.0	2	2.2	0.4932	28	62	250	56	735	89.5	90.5	90.9	0.53	0.65	0.71	33.5
18.5	25	W225S	24.5	4.9	1.7	2.2	0.5109	28	62	269	56	735	88.7	90.1	90.1	0.57	0.69	0.75	39.5
22	30	225M	29.2	5.6	1.7	2.3	0.7192	25	55	316	56	735	90.0	90.6	90.6	0.62	0.73	0.78	44.9
30	40	250M	39.8	5.6	1.6	2.1	1.15	18	40	369	56	735	90.5	91.3	91.3	0.64	0.75	0.80	59.3
37	50	W280S	49.0	5.4	1.6	2	1.38	15	33	439	56	735	91.0	91.8	91.8	0.67	0.77	0.81	71.8
45	60	280M*	59.6	4.9	1.4	1.9	2.12	18	40	556	62	735	91.2	92.0	92.2	0.60	0.71	0.77	91.5

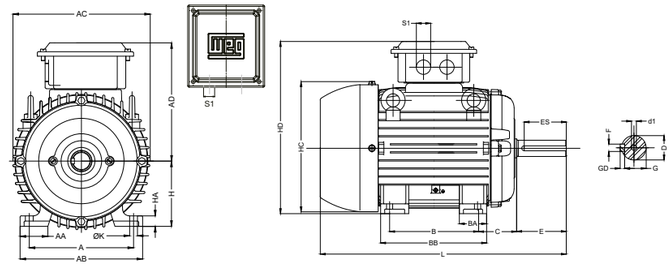
5. Mechanical Data

FRAME 80-132

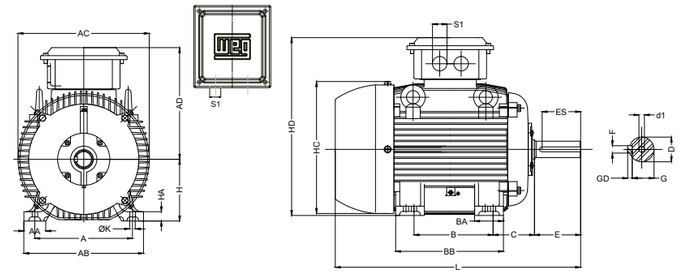


Frame	Shaft					
	D	E	ES	F	G	GD
80	19j6	40	28	6	15.5	6
90S/L	24j6	50	36	8	20	7
100L	28j6	60	45	8	24	7
112M	28j6	60	45	8	24	7
S132S	38k6	80	63	10	33	8
132S						
132M						
160M	42k6	110	80	12	37	8
160L						
180M	48k6	110	80	14	42.5	9
180L						
200L	55m6	110	80	16	49	10
W225S	55m6*	110	100	16	49	10
	60m6	140	125	18	53	11
225M	55m6	110	100	16	49	10
	60m6	140	125	18	53	11
250M	60m6*	140	125	18	53	11
	65m6	140	125	18	58	11
W280S	65m6*	140	125	18	58	11
	75m6	140	125	20	67.5	12
280M	65m6*	140	125	18	58	11
	75m6	140	125	20	67.5	12
315S/M	*65m6	*140	*125	*18	*58	*11
	80m6	170	160	22	71	14
355M/L	*75m6	*140	*125	*20	*67.5	*12
	100m6	210	200	28	90	16

FRAME 160-200



FRAME 225-355

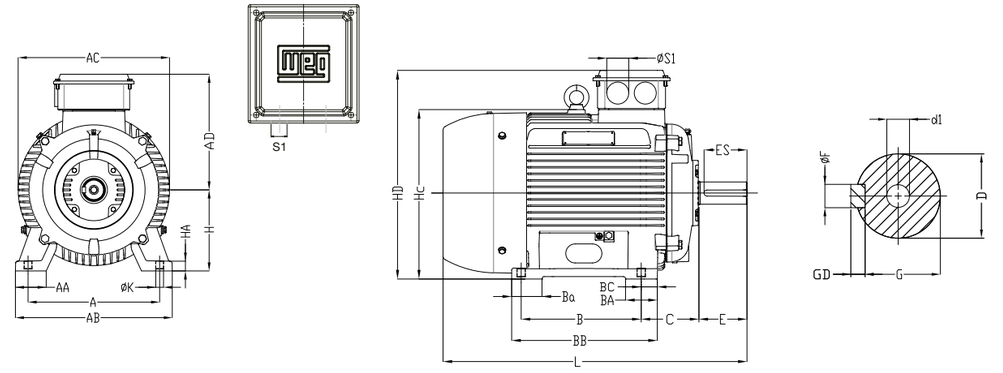


Note:
--(*) refers to shaft dimensions for all II poles motors, only for direct coupling;
--(**) refers to the total length of the motor using the extended NDE endshield. Please refer to the notes under the electrical performance table for the specific motor specifications.
-- All dimensions are in millimeters;
-- The average values are subject to change without prior notice. To obtain guaranteed value, please contact with nearest WEG sales office.

Frame	A	AA	AB	AC	AD	B	BA	BB	C	H	HA	HC	HD	K	L	S1	CG***	d1	Bearing DE	Bearing NDE
80	125	32	155	159	136	100	28	124	50	80	8	157	216	10	276/**325	M24x1.5	10-15	DM6	6204-ZZ	6203-ZZ
90S/L	140	35	170	179	146	100 125	49	146	56	90	9	177	236	10	330/**360			DM8	6205-ZZ	6204-ZZ
100L	160	40	196	199	156	140	30	170	63	100	12	198	256	12	376/**418			DM10	6206-ZZ	6205-ZZ
112M	190	46	220	222	179	140	32	170	70	112	12	235	291	12	393/**422			DM10	6307-ZZ	6206-ZZ
S132S	216	44	248	270	212	140	40	170	89	132	12	274	344	12	452	2xM30x2	13-18	DM12	6308-ZZ	6207-ZZ
132S					207	140	32	170					339		490/**515					
132M						178	33	210												
160M	254	64	308	312	241	210	65	254	108	160	22	317	401	14.5	590/**615	2xM36x2	18-25	DM16	6309-ZZ-C3	6209-ZZ-C3
160L						254		298							634/**657					
180M	279	80	350	358	261	241	75	294	121	180	28	360	441	14.5	656			DM16	6311-ZZ-C3	6211-ZZ-C3
180L						279		332							694					
200L	318	82	385	396	303	305	85	370	133	200	30	402	503	18.5	759	2xM48x2	25-32	DM20	6312-ZZ-C3	6212-ZZ-C3
315S/M	508	120	628	600	499	406	152	558	216	315	52	613	814	28	1116	2xM64x2	37-44	DM20	*6314-C3	*6314-C3
						457									1146				6319-C3	6316-C3
355M/L	610	140	750	816	676	560	200	760	254	355	50	725	1031		1387	2xM72x2	45-53	DM20	*6316-C3	*6314-C3
						630									1457			DM24	6322-C3	6319-C3

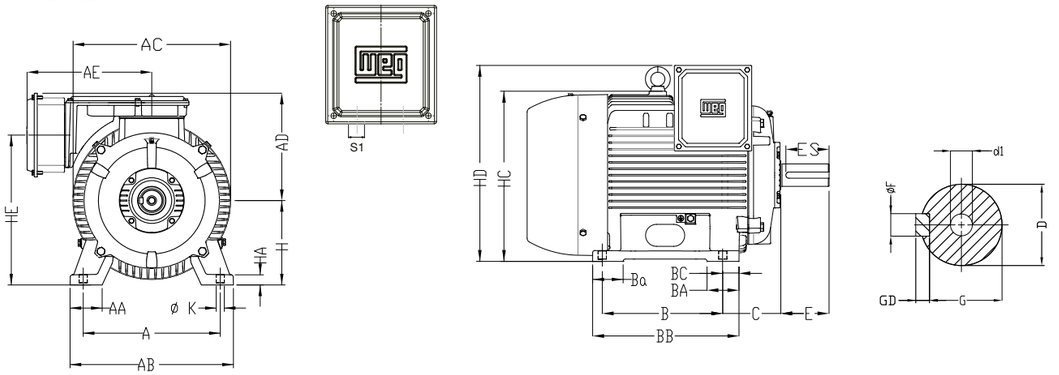
****CG (cable gland) is optional. This is the inner diameter range, in mm.*
If the cable size exceeds this range, please contact the relevant sales personnel.

FRAME W225S-280M B3T



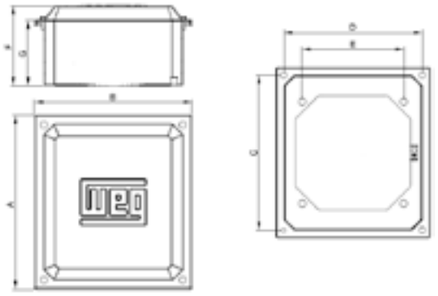
Frame	A	AA	AB	AC	AD	B	BA	BB	BC	C	H	HA	HC	HD	K	L	S1	d1	BEARING DE	BEARING NDE
W225S	356	80	436	389	311	286	80	348	40	149	225	27	433	536	18.5	748	2xM48x2	DM20	6312-ZZ-C3	6212-ZZ-C3
																778			6314-ZZ-C3	
225M	356	85	432	446	351	311	86	362	20.5	149	225	30	462	576	18.5	784.5	2xM64x2	DM20	6314-C3	6314-C3
																814.5			6314-C3	6314-C3
250M	406	95	484	468	357	349	93	424	42.5	168	250	30	493	607	24	875		DM20	6314-C3	6314-C3
																			6314-C3	6314-C3
W280S	457	100	542	480	357	368	100	435	37	190	280	32	525	637	24	945		DM20	6314-C3	6314-C3
																			6316-C3	6314-C3
280M	457	108	542	541	399	419	119	499	25	190	280	37	566	679	24	1027		DM20	6314-C3	6314-C3
																			6316-C3	6316-C3

FRAME W225S-280M B3D/B3E



Frame	A	AA	AB	AC	AD	AE	B	BA	BB	BC	C	H	HA	HC	HD	HE	K	L	S1	d1	BEARING DE	BEARING NDE
W225S	356	80	436	389	272	297	286	80	348	40	149	225	27	433	498	391	18.5	748	2xM48x2	DM20	6312-ZZ-C3	6212-ZZ-C3
																		778			6314-ZZ-C3	
225M	356	85	432	446	308	370	311	86	362	20.5	149	225	30	462	533	405	18.5	784.5	2xM64x2	DM20	6314-C3	6314-C3
																		814.5			6314-C3	6314-C3
250M	406	95	484	468	314	370	349	93	424	42.5	168	250	30	493	564	436	24	875		DM20	6314-C3	6314-C3
																					6314-C3	6314-C3
W280S	457	100	542	480	316	370	368	100	435	37	190	280	32	525	596	468	24	945		DM20	6314-C3	6314-C3
																					6316-C3	6314-C3
280M	457	108	542	541	376	370	419	119	499	25	190	280	37	566	656	508	24	1027		DM20	6314-C3	6314-C3
																					6316-C3	6316-C3

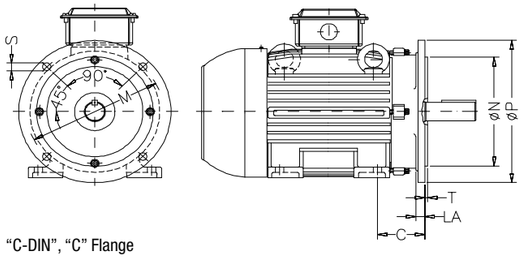
Terminal Box Dimension



Frame	A	B	C	D	E	F	G
63-100	103.4	103.4	88	88	56	55	45
112-132	126.2	118.2	109	101	70	62	50
160-180	168	160	146	138	110	81	65
200	216	200	190	174	120	100	78.5
W225S	216	200	190	174	132	100	78
225M-280M	248	224	222	198	152	102	88
315	342	310	305	273	200	161	128
355	400	362	358	320	260	173	140

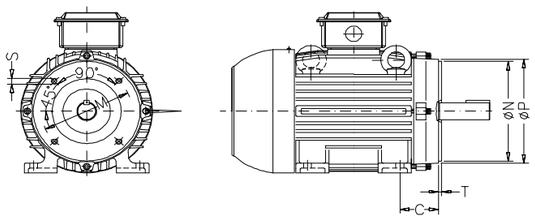
Flange Dimension

"FF" Flange



Frame	FF Flange dimension									Qty of holes
	Flange	C	LA	M	N	P	T	S	a	
80	FF-165	50	10	165	130	200	3.5	12	45°	4
90S/L		56								
100L	FF-215	63	11	215	180	250	4	15		
112M		70								
S132S	FF-265	89	12	265	230	300				
132S/M										
160M/L	FF-300	108	18	300	250	350	5	19		
180M/L		121								
200M/L	FF-350	133		350	300	400				
W225S	FF-400	149		400	350	450			22°30'	8
225M		168								
250M	FF-500	190		500	450	550				
W280S										
280M										
315S/M	FF-600	216	22	600	550	660	6	24		
355M/L	FF-740	254		740	680	800				

"C-DIN", "C" Flange



Frame	"C" Flange dimension							Qty of holes
	Flange	C	M	N	P	S	T	
80	FC-95	50	95.2	76.2	143	1/4"20	4	4
90S/L	FC-149	56	149.2	114.3	165	UNC 3/8"16		
100L		63						
112M	FC-184	70	184.2	215.9	225	UNC 1/2"13	6.3	
S132S		89						
132S/M								
160M/L		108						
180M/L	FC-228	121	228.6	266.7	280			
200M/L		133						
315S/M	FC-368	216	368.3	419.1	455	UNC 5/8"11		8
355M/L		254						

Frame	"C-DIN" Flange dimension							Qty of holes
	Flange	C	M	N	P	S	T	
80	C-120	50	100	80	120	M6	3	4
90S/L	C-140	56	115	95	140	M8		
100L	C-160	63	130	110	160		3.5	
112M		70						
S132S	C-200	89	165	130	200	M10		
132S/M								
160M/L	C-250	108	215	180	250	M12	4	

Note:
For motors in Aluminum frame, the Flanges (and/or End-shields) may be supplied as optional in Aluminum material according to commercial definitions.

Global Presence

With approximately 33,000 employees worldwide, WEG is one of the largest electric motors, electronic equipment and systems manufacturers. We are constantly expanding our portfolio of products and services with expertise and market knowledge. We create integrated and customized solutions ranging from innovative products to complete after-sales service.

WEG's know-how guarantees our ***W20 three-phase induction motor*** is the right choice for your application and business, assuring safety, efficiency and reliability.

Availability is to have a global support network

Partnership is to create solutions that suits your needs

Competitive edge is to unite technology and innovation

For WEG's worldwide
operations visit our website

www.weg.net

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The values shown are subject to change without prior notice.
The information contained is reference values.