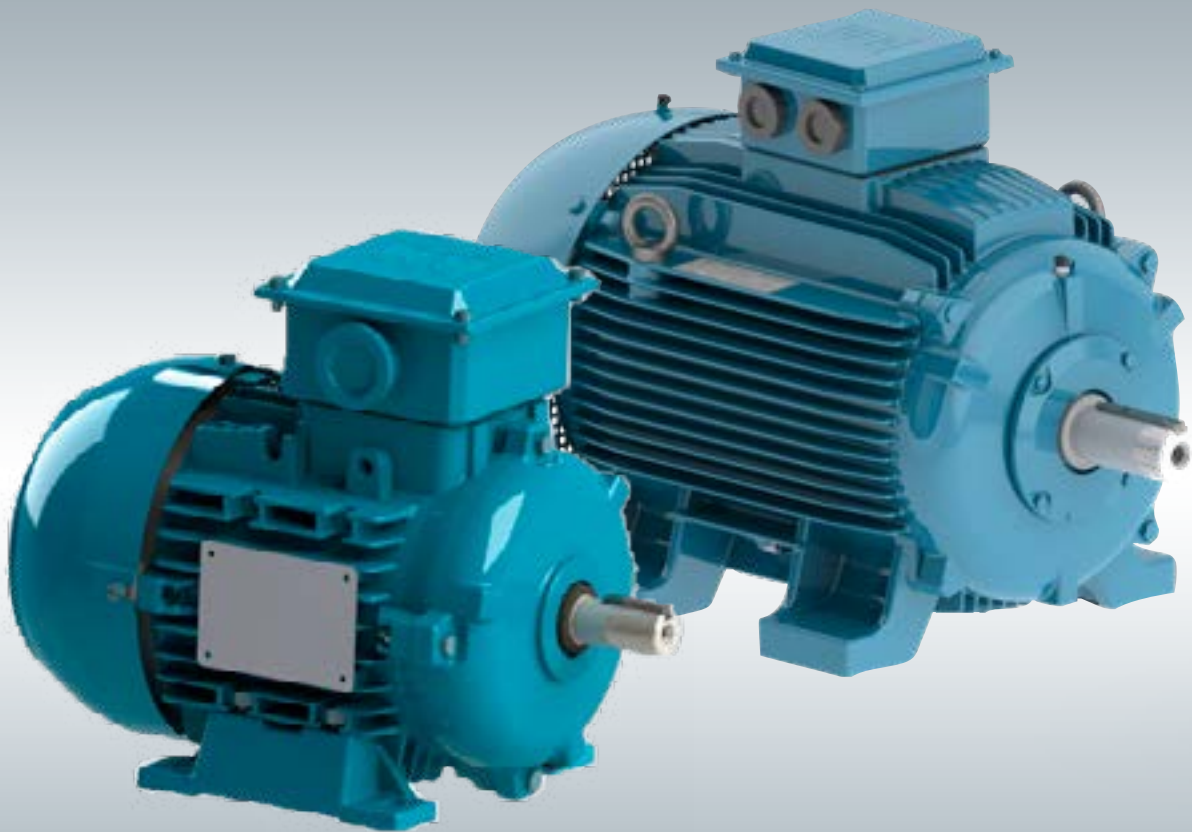


W20

Three Phase
Low Voltage Motors
Technical Catalogue Chinese Market



Motors | Automation | Energy | Transmission & Distribution | Coatings

About WEG

Founded in 1961, WEG is acknowledged today as one of the largest manufacturers of electric motors in the world. More than 37,000 people are employed in the different manufacturing units which cover over 2,500,000 square meters of constructed area. In support of exports in over 135 countries worldwide, WEG has branch offices located in all five continents and has manufacturing plants in 13 countries supported by more than 1400 service centers around the world. 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.

About WEG (Nantong) Electric Motor Mfg. Co., Ltd

With the expansion of WEG Group's business, in addition to setting up commercial branches around the world, the establishment of factories in overseas strategic markets has also become a solid backing to support local business growth. WEG Group established the first manufacturing plant in Asia in 2005 in the Nantong Economic and Technological Development Zone, Jiangsu, namely WEG (Nantong) Electrical Motor Manufacturing Co., Ltd. ("WEG Nantong"). The company covers an area of 67,000 square meters, with a construction area of 33,500 square meters, and currently employs 650 people. It is a high-efficiency motor manufacturer integrating R&D, design, production, testing, sales, after-sales service and motor maintenance. The annual production capacity of motors exceeds 3 million kilowatts. The company has a research and development center in collaboration with the headquarters, more than 270 sets of various advanced large and medium-sized production equipment, and a complete and scientific management system. It has successively obtained "ISO9001:2015 Quality Management System Certification" and "ISO14001:2015 Environmental Management System" and "ISO45001-2018 Occupational Health and Safety Management System Certification" provide a strong guarantee for the sustainable development of enterprises. The products sell well in domestic and foreign markets, and are widely used in many industrial segments such as pulp and paper, water treatment, marine, food and beverage, power energy, metallurgy, mining, petroleum and natural gas, urban infrastructure, etc., and are well received by domestic and foreign customers.

About WEG (Jiangsu) Electric Equipment Co., Ltd

Since the establishment of WEG Nantong factory in 2005, WEG brand awareness and market share have been increasing in the Chinese market year by year. WEG Group is optimistic about the development potential and opportunities of the Chinese market. In order to establish a competitive advantage and ensure the sustainable growth of WEG business, the WEG Rugao Greenfield Project with a total investment of US\$120 million came into being. Established in 2015 and located in Jiangsu Rugao Economic and Technological Development Zone, WEG(Jiangsu) Electrical Equipment Co., Ltd. ("WEG Rugao" for short) is the third motor manufacturing plant established by WEG Group in China. Covering a total area of about 180,000 square meters, the second phase of the project has now been completed and officially put into production in 2020. There are about 900 employees, and the products mainly cover small and medium-sized low-voltage motors and reducers. The annual design capacity of industrial motors is 800,000 units and 200,000 sets of parts. WEG Rugao is the motor manufacturing plant with the highest degree of industrial automation in the group. In addition to highly automated intelligent warehousing, a large number of automated production equipment such as robots are equipped to production, which provides a strong guarantee for the high volume and high quality of products. The ISO9001, ISO14001 and ISO45001 system certifications obtained are also recognition of its scientific and complete management system. In addition to supplying the Chinese market, the products are also exported to Europe, America, Asia and Africa and other countries and regions. They are widely used in various industrial fields, including traditional applications such as fans, pumps and compressors. The company has established a R&D low-voltage center, through the WMS system (WEG manufacturing system), six sigma and other lean production systems to ensure to provide customers with high-quality products and services.

Certifications

WEG China



 USA	 China	 Europe	 China	 GEMS Australia	 France	 Russia	 Norway & Germany	 Saudi Arabia
 China	 China	 China	 Canada	 Custom Federation	 South Korea	 South Africa	 USA	 IEC Ex
								

ISO9001:2015 Quality Management System ISO45001:2018 Occupational health and safety management ISO14001:2015 Environmental Management System

Note: For the specific product certification please consult WEG support team.



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W20 Frame 80 to 200 (Aluminum Frame - Standard)



W20 Frame 160 to 200 (Cast Iron - Optional)



W20 Frame W225S 225M 250M W280S 280M (Cast Iron Frame - Standard)



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 200 frame size. Frame sizes above 112 are all equipped with eyebolts in order to allow easy handling.



Frame size 80-W160M Frame size 160-200

Figure 1- Aluminum Frame

The cast iron frame is made of FC-200 cast iron, which is sturdy and durable. Frame sizes from W225S to 280M are designed with one-piece feet.



Frame size 160,180,200,315,355 Frame size W225S,225M,250M,W280S,280M

Figure 2 - Cast Iron Frame

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.



DE End shield NDE End Shield

Figure 3 - End shields

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 motor terminal box is also made of steel. In order to facilitate wiring, there is enough space in the terminal box, which can be rotated 90 degrees, and the installation is very flexible. The hole of the terminal box is the Chinese standard threaded hole, with plastic cover.

Note: users can select or replace the wiring gland to meet the IP55 protection level.



Figure 5 - Terminal Box

Figure 6 - Terminal box switching device

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 7 - Terminal block

Figure 8 - W225S to 280M Terminal block

1.6 Bearings

WEG motors are equipped with ball 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 9 - Shaft down mounting & shaft up mounting

1.6.1 Bearings thrusts

62 series bearing

Frame	DE Bearing	Poles	50 Hz - Fr (kN*) - 20,000h			
			Radial Load		Axial Load	
			L/2	L	Push	Pull
80	6204	2	0.64	0.58	0.26	0.42
		4	0.72	0.65	0.35	0.56
		6	0.84	0.76	0.45	0.7
		8	0.98	0.79	0.55	0.83
90	6205	2	0.66	0.6	0.37	0.43
		4	0.76	0.69	0.51	0.59
		6	0.9	0.81	0.63	0.71
		8	1.03	0.94	0.76	0.86
100	6206	2	0.94	0.85	0.37	0.59
		4	1.03	0.93	0.5	0.81
		6	1.22	1.1	0.65	1.02
		8	1.4	1.26	0.78	1.19
112	6207	2	1.3	1.2	0.5	0.8
		4	1.5	1.4	0.7	1.1
		6	1.8	1.6	1	1.4
		8	1.9	1.7	1.1	1.5
132	6208	2	1.6	1.8	0.9	1
		4	2.2	2	1.3	1.4
		6	2.3	2.2	1.5	1.6
		8	2.5	2.3	1.6	1.7
W160M	6209	2	1.95	1.75	0.72	1.32
		4	2.25	2.3	0.99	1.81
		6	2.33	2.58	1.22	2.2
		8	2.88	2.6	1.37	2.45
160M/L	6209	2	1.95	1.53	1.85	1.02
		4	2.36	1.89	2.25	1.42
		6	2.8	2.19	2.61	1.8
		8	3.06	2.4	2.88	2.07
180M/L	6211	2	1.49	2	2.34	1.34
		4	3.06	2.5	2.88	1.89
		6	3.58	2.92	3.33	2.34
		8	3.97	3.24	3.74	2.75
200M/L	6212	2	3.03	2.52	2.7	1.62
		4	3.74	3.11	3.38	2.3
		6	4.35	3.62	3.92	2.84
		8	4.71	3.94	4.32	3.24

63 series bearing

Frame	DE Bearing	Poles	50 Hz - Fr (kN*) - 20,000h			
			Radial Load		Axial Load	
			L/2	L	Push	Pull
225	6314	2	5.23	4.81	4.35	3.55
		4	5.92	5.33	5.5	4.7
		6	6.67	6.01	6.6	5.8
		8	7.54	6.18	7.5	6.7
250	6314	2	5.12	4.66	4.3	3.5
		4	5.52	5.03	5.3	4.45
		6	6.48	5.91	6.4	5.6
		8	7.15	6.51	7.3	6.5
280	6314	2	4.92	4.54	4.15	3.35
		4	6.41	5.91	5.8	5
	6316	6	7.37	6.79	7.2	6.4
		8	7.57	6.98	8.4	7.6
315	6314	2	4.48	4.16	3.65	2.85
		4	7.01	6.42	6.1	5.4
	6319	6	7.83	7.17	7.4	6.6
		8	8.49	7.78	8.5	7.7
355	6316	2	4.03	3.79	3.7	2.95
		4	8.53	7.83	6.6	5.8
	6322	6	9.33	8.56	7.7	7
		8	11.4	10.5	7.7	7

1.7 Nameplate

Nameplates are made of AISI 304 stainless steel. All the information are printed onto the nameplates by laser. Nameplate included main informations 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).

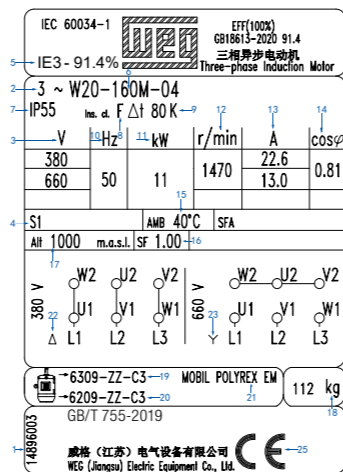


Figure 7 - Nameplate for frame size 80 to 200

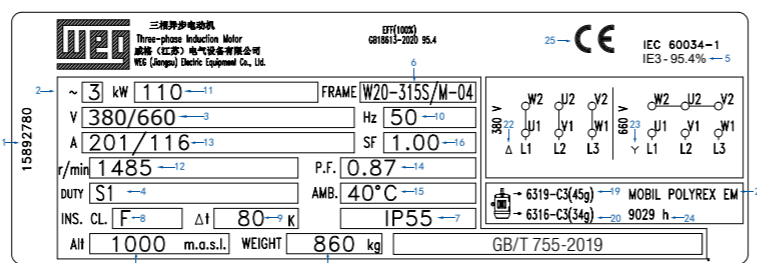


Figure 8 - Nameplate for frame size 225 to 355

63 series bearing

Frame	DE Bearing	Poles	50 Hz - Fr (kN*) - 20,000h			
			Radial Load		Axial Load	
			L/2	L	Push	Pull
112	6307	2	1.66	1.5	0.54	1.14
		4	1.96	1.72	0.73	1.55
		6	2.24	1.76	0.96	1.94
		8	2.58	1.8	1.07	2.15
132	6308	2	1.94	1.75	0.72	1.32
		4	2.25	2.03	0.99	1.81
		6	2.58	2.33	1.22	2.2
		8	2.88	2.6	1.37	2.45
160	6309	2	2.5	2.25	2.4	1.69
		4	2.87	2.58	2.95	2.25
		6	3.2	2.65	3.4	2.7
		8	3.81	2.76	3.85	3.15
180	6311	2	4.27	3.87	3.2	2.3
		4	3.98	3.61	3.9	3
		6	4.7	4.15	4.65	3.75
		8	5.06	4.1	5.2	4.35
200	6312	2	4.01	3.67	3.55	2.55
		4	4.57	4.19	4.45	3.45
		6	5.19	4.75	5.2	4.2
		8	5.81	5.31	6	5

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 Power factor
14. Ambient temperature
15. Service factor
16. Altitude
17. Weight
18. Drive End Bearing type
19. Non Drive End Bearing type
20. Grease
21. Δ connection diagram
22. Y connection diagram
23. Regreasing interval
24. Certification
25. Power factor

1.8 Axial Flow Blower (Optional)

In frequency conversion applications, axial flow fans (inner rotor motor 380V 50Hz) can be selected according to customer requirements for forced cooling (90 to 355 frames). The position of the terminal box of the axial flow fan is at the top by default (view from the shaft end). If you have special requirements for the position of the terminal box of the axial flow fan, please contact related WEG support team for more details.



Figure 12 - W20 motor with axial flow blower

Frame	Poles	Enclosure	Total length (L) (mm)		Output (W)	Current (A)	Speed (rpm)
			Without Axial flow blower	With Axial flow blower			
90S/L	All	Aluminum	330	481/*505	39	0.1	2600
100L	All	Aluminum	376	545/*595	62	0.17	2750
112M	All	Aluminum	393	559/*589	75	0.16	2550
S132S	All	Aluminum	452	645	45	0.18	1430
132S	All	Aluminum	490	683/*715			
132M	All	Aluminum	490	683/*715			
W160M	All	Aluminum	540	733/*760	60	0.2	1400
160M/L	All	Aluminum	634	843			
160M	All	Cast Iron	590	799			
160L	All	Cast Iron	634	843	75	0.2	1350
180M	All	Cast Iron	656	850			
180L	All	Cast Iron	694	888			
180M/L	All	Aluminum	759	943	105	0.23	1200
200L	All	Cast Iron	748	942			
200M/L	All	Aluminum	778	972			
W225S	2	Cast Iron	785	1000	80	0.28	1450
	4-8		815	1093			
225M	2	Cast Iron	875	1093	120	0.45	1400
	4-8		875	1093			
250M	2	Cast Iron	945	1163	195	0.5	1350
	4-8		945	1163			
W280S	2	Cast Iron	1027	1250	520	1.05	950
	4-8		1027	1250			
280M	2	Cast Iron	1116	1415	310	1.92	1350
	4-8		1146	1445			
315S/M	2	Cast Iron	1387	1677			
	4-8		1457	1757			

Note: The length data without * is the length of the ordinary axial flow fan, and the one with * is the length of the axial flow fan with the extended rear endshield.

1.9 Packing

W20 motors frame 80 to 132 have carton box as standard packaging (figure 13). Frame 160 to 355, the packaging of motor are carton box or wooden box WEG choose different packaging according to the mounting and frame size of motors). The WEG packaging is under continuous improvement, it is subject to change without previous notifications.

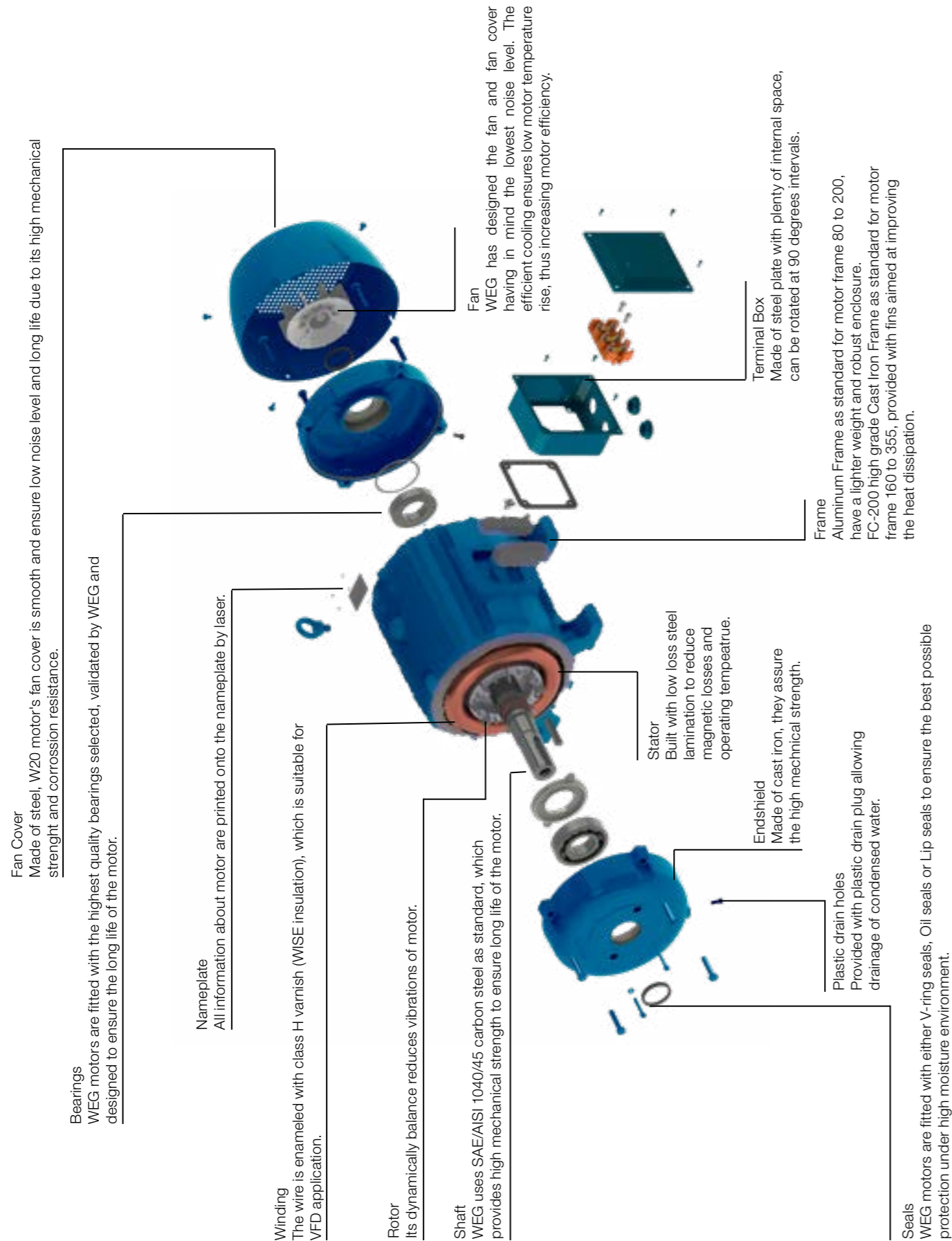


Figure 13 - Carton box



Figure 14 - Crate 1

W20 series motor structure



2. Construction Features

Frame size	80	90S/L	100L	112M	132S	132M	S132S	W160M	160M/L	180M/L	200M/L	
Mechanical features												
Marking/logos on nameplate:	CE; IEC 60034											
Certification	CCC*, CEL											
Mounting	B3T											
Frame	Material: Aluminium											
Degree of protection	IP55											
Grounding	Single grounding(Terminal box)											
Cooling method	TEFC											
Fan	Material	2P: Plastic 4-8P: Plastic										
Fan cover	Material: Steel											
Endshields	Material: FC-200 Cast Iron											
Drain plug	Automatic Plastic Drain Plug											
Rolling bearings	Shielded/Clearance DE	ZZ							ZZ-C3			
	Shielded/Clearance NDE	ZZ							ZZ-C3			
	Locking	None							DE bearing locked with inner bearing cap and fitted with wave washer in the NDE bearing			
	Bearing life (h)	20000										
	Drive end side	2P	6204	6205	6206	6207	6208	6208	6208	6209	6209	6211
Non drive end side	2P	6203	6204	6205	6206	6207	6207	6207	6207	6209	6211	6212
4-8P	6203	6204	6205	6206	6207	6207	6207	6207	6207	6209	6211	6212
Bearing sealing	V'ring											
Lubrication	Grease type	Mobil Polyrex EM										
	Grease fitting	None										
Terminal block	BMC 6 Terminais											
Terminal box	Material: Steel											
Additional terminal box	None											
Leads inlet	Main	Size	M24x1.5				2xM30x2			2xM36x2		2xM48x2
	Lateral hole	Size	None									
	Additional	Size	None									
Plug	Plastic plug for transport and storage purposes											
Shaft	Material	45# Steel										
		DE threaded hole	2P	M6	M8	M10	M10	M12	M12	M12	M12	M16
4-8P	M6	M8	M10	M10	M12	M12	M12	M12	M16	M20		
Key	Fitted with "A" type (China key type: B)											
Vibration level	Grade A											
Balancing	With 1/2 key											
Nameplate	Material: Stainless Steel AISI 304											
Painting	Type	201A										
	Color	IE1: RAL 7000 IE2/IE3: RAL 5009										
	Tropicalized	None										
Packaging	Cardboard Box							Crate				
Electrical features												
Desing	N											
Voltage	220/380with 6 terminals					380/660V 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										
	Minium	-20°C										
Starting method	Direct											

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

*:Rated power≤synchronous speed×1.1kW/1500

2P:≤2.2kW 4P:≤1.1kW

6P:≤0.75kW 8P:≤0.55kW

2. Construction Features

Frame size	160M	160L	180M	180L	200L	W225S	225M	250M	W280S	280M	315S/M	355M/L	
Mechanical features													
Marking/logos on nameplate:	CE; IEC 60034												
Certification	CCC*, CEL												
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	Plastic										Aluminium	
Fan cover	Material	Steel											
Endshields	Material	FC-200 Cast Iron											
Drain plug	Automatic Plastic Drain Plug												
Rolling 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	6314	6314	6314	6314	6316	
		4-8P							6314	6316	6319	6322	
Non drive end side	2P	6209	6209	6211	6211	6212	6314	6314	6314	6314	6314		
	4-8P							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 terminal box	None												
Leads inlet	Main	Size	2xM36x2			2xM48x2			2xM64x2			2xM72x2	
	Lateral hole	Size	None										
	Additional	Size	None										
	Plug	Plastic plug for transport and storage purposes											
Shaft	Material	45# Steel										42CrMo	
	DE threaded hole	2P	M16	M16	M16	M16	M20	M20	M20	M20	M20	M20	
	4-8P										M24		
Key	Fitted with "A" type (China key type: B)						Fitted with "B" type (China key type: C)						
Vibration level	Grade A												
Balancing	With 1/2 key												
Nameplate	Material	Stainless Steel AISI 304											
Painting	Type	201A											
	Color	IE1: RAL 7000 IE2/IE3: RAL 5009											
	Tropicalized	None											
Packaging	Crate												
Electrical features													
Desing	N												
Voltage	380/660V with 6 terminals												
Winding	Impregnation	Dip and Bake						Continuous Resin Flow					
	Insulation class	F (DT 80K)											
Service factor	1.00												
Thermal protector	None												
Space heaters	None												
Flying leads	None												
Ambient temperature	Maximum	40°C											
	Minium	-20°C											
Starting method	Direct												

Note: For features out of above table, WEG support team shall be consulted.
 *:Rated power synchronous speed×1.1kW/1500
 2P:≤2.2kW 4P:≤1.1kW
 6P:≤0.75kW 8P:≤0.55kW

3. Optional Features

Frame	80	90S/L	100L	112M	S132S	132S	132M	W160M	160M	160L	160M/L
Mechanical Options											
Flange											
Flange FF	0	0	0	0	0	0	0	0	0	0	0
Flange C-DIN	0	0	0	0	0	0	0	0	0	0	0
Flange C	0	0	0	0	0	0	0	NA	0	0	0
Frame Material											
Aluminum	SD	SD	SD	SD	SD	SD	SD	SD	NA	NA	SD
Cast Iron	E	E	E	E	E	E	E	E	NA	0	NA
Insulation Class											
F DT 105K	0	0	0	0	0	0	0	0	0	0	0
H DT 80K	0	0	0	0	0	0	0	0	0	0	0
H DT105K	0	0	0	0	0	0	0	0	0	0	0
Painting Plan											
203A	0	0	0	0	0	0	0	0	0	0	0
207A	0	0	0	0	0	0	0	0	0	0	0
Bearing Seal											
Lip seal	0	0	0	0	0	0	0	0	0	0	0
Oil seal	0	0	0	0	0	0	0	0	0	0	0
Degree of Protection											
IP56	0	0	0	0	0	0	0	0	0	0	0
Shaft											
42CrMo	0	0	0	0	0	0	0	0	0	0	0
Grounding											
Single Grounding	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
DoubleGrounding	0	0	0	0	0	0	0	0	0	0	0
Other Mechanical Option											
Drip Cover	0	0	0	0	0	0	0	0	0	0	0
Electrical Options											
Winding thermal protection											
PTC-Alarm	0	0	0	0	0	0	0	0	0	0	0
PTC-Trip	0	0	0	0	0	0	0	0	0	0	0
Space Heater											
110-127 V	0	0	0	0	0	0	0	0	0	0	0
200-240 V	0	0	0	0	0	0	0	0	0	0	0
110-127 / 220-240 V	NA	NA	NA	0	0	0	0	0	0	0	0
380-480 V	0	0	0	0	0	0	0	0	0	0	0
Direction of Rotation											
Clockwise	0	0	0	0	0	0	0	0	0	0	0
Counterclockwise	0	0	0	0	0	0	0	0	0	0	0
Service factor											
S.F 1.15	E	E	E	E	E	E	E	0	E	E	E

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

W20 - Aluminum Frame - 80 to 200 Frame- IE2

W20 - Aluminum Frame - 80 to 200 Frame- GB3

Table for W20 - Aluminum Frame - 80 to 200 Frame- IE2. Includes columns for Output (kW, HP), Frame, Full Load Torque, Locked Rotor Current, Locked Rotor Torque, Break-down Torque, Inertia J, Allowable locked rotor time, Weight, Sound dB(A), Rated speed, Efficiency (50%, 75%, 100%), Power Factor (50%, 75%, 100%), and Full load current.

Table for W20 - Aluminum Frame - 80 to 200 Frame- GB3. Includes columns for Output (kW, HP), Frame, Full Load Torque, Locked Rotor Current, Locked Rotor Torque, Break-down Torque, Inertia J, Allowable locked rotor time, Weight, Sound dB(A), Rated speed, Efficiency (50%, 75%, 100%), Power Factor (50%, 75%, 100%), and Full load current.

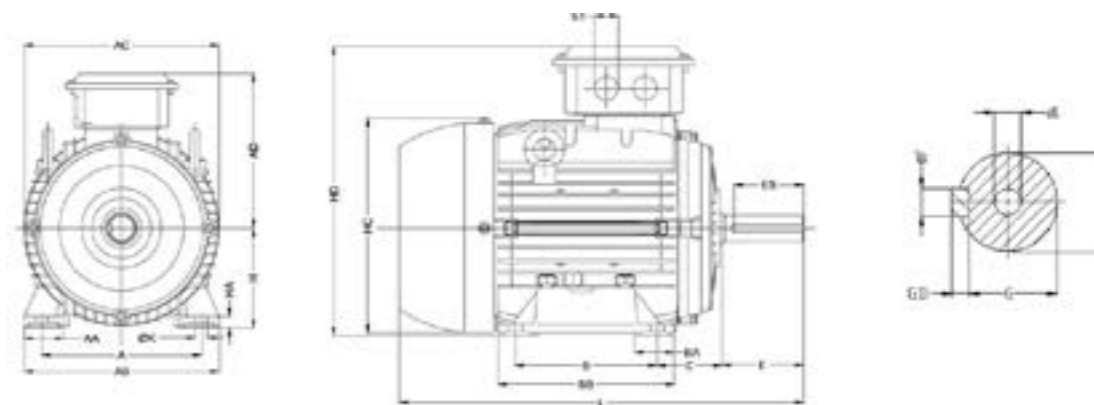
Note: GB efficiency value based on GB18613-2020 standard, data measured on direct on line starting. IE efficiency value based on IEC60034-2-1 standard, data measured on direct on line starting. (*) Insulation Class "F", temperature rise as Delta T 105K. Frame with L in the front means that it uses extended endshield.

W20 - Cast Iron Frame - 160 to 355 frame - GB3 (IE3)

Output		Frame	Full Load Torque (kgfm)	Locked Rotor Current I/In	Locked Rotor Torque Tl/Tn	Break-down Torque Tb/Tn	Inertia J (kgm ²)	Allowable locked rotor time (s)		Weight (kg)	Sound dB(A)	Rated speed (rpm)	380 V						Full load current In (A)
								Hot	Cold				% of full load			Power Factor			
													50	75	100	50	75	100	
6P - 1000 RPM - 50Hz																			
7.5	10	160M	7.49	6.6	2.4	2.8	0.1614	15	33	127	56	975	86.0	88.5	89.1	0.61	0.73	0.80	16.0
11	15	160L	11.0	6.8	2.6	3	0.1891	13	29	136	56	975	89.0	90.0	90.3	0.59	0.72	0.79	23.4
15	20	180L	15.0	8.4	2.7	3.2	0.2975	8	18	178	56	975	90.6	91.2	91.2	0.68	0.79	0.84	29.7
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	37.3
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	44.2
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	57.7
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	71.7
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	86.9
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	107
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	149
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	176
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	209
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	260
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	294
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	314
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	362
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	431
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	489
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	147
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	220
8P - 750 RPM - 50Hz																			
4	5.5	160M	5.34	5.4	2.0	2.9	0.1264	16	35	102	53	730	81.0	83.0	84.8	0.50	0.63	0.72	9.95
5.5	7.5	160M	7.39	5.3	2.1	2.8	0.1614	22	48	125	53	725	85.0	86.2	86.2	0.53	0.66	0.73	13.3
7.5	10	160L	10.0	5.6	2.3	3	0.1838	19	42	130	51	730	86.0	87.0	87.3	0.52	0.65	0.72	18.1
11	15	180L	14.6	7.5	2.4	3.1	0.3129	8	18	180	51	735	87.0	88.0	88.6	0.54	0.68	0.76	24.8
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	35.3
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	41.6
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	47.3
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	62.4
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	75.6
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	96.3

5. Mechanical Data (Aluminum Frame)

Frame 80-200

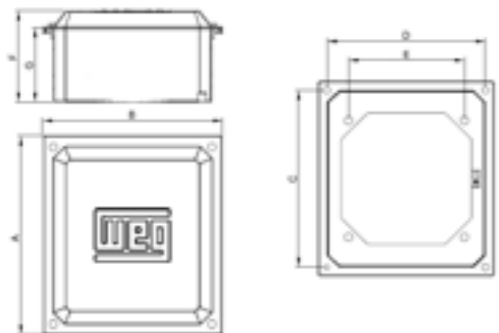


Frame	Shaft					
	D	E	ES	F	G	GD
80	19j6	40	28	6	15.5	6
90S/L	24j6	50	36	8	20	7
100L	28j6	60	45	8	24	7
112M	28j6	60	45	8	24	7
S132S						
132S	38k6	80	63	10	33	8
132M						
W160M						
160M/L	42k6	110	80	12	37	8
180M/L	48k6	110	80	14	42.5	9
200M/L	55m6	110	80	16	49	10

Note:
 --(*) refers to shaft dimensions for all 11 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.

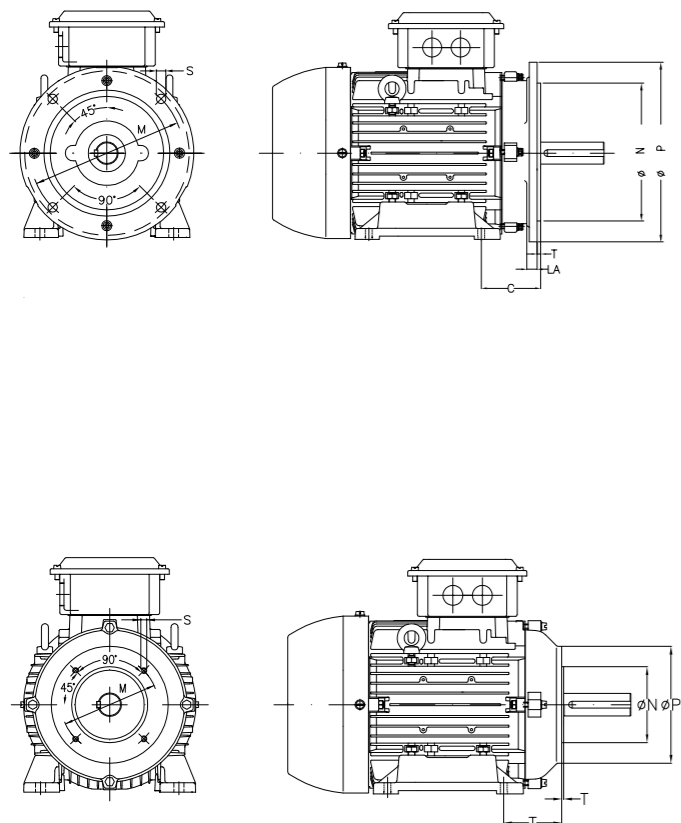
Frame	A	AA	AB	AC	AD	B	BA	BB	C	H	HA	HC	HD	K	L	S1	CG***	d1	Bearing	
																			DE	NDE
80	125	32	155	159	136	100	28	124	50	80	8	157	216	10	276/**325	M24x1.5	10-15	M6	6204-ZZ	6203-ZZ
90S/L	140	35	170	179	146	100 125	49	146	56	90	9	177	236	10	330/**360			DM8	6205-ZZ	6204-ZZ
100L	160	40	196	199	156	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	6207-ZZ	6206-ZZ
S132S						212	140	40	170						452	2xM30x2	13-18	DM12	6208-ZZ	6207-ZZ
132S	216	44	248	270	207	140	32	170	89	132	12	274	344	12	490/**515					
132M					207	178	33	210												
W160M	254	75	305	260	200	210	68	256	108	160	12	266	360	14.5	540/**565	2xM30x2	18-25	DM16	6209-ZZ C3	6207-ZZ C3
160M/L	254	62	308	347	255	210 254	60	298	108	160	18	313	414	14.5	634/**668	2xM36x2		DM16	6209-ZZ C3	6209-ZZ C3
180M/L	279	68	350	306	274	241 279	49	322	121	180	20	354	454						694	6211-ZZ C3
200M/L	318	73	385	386	300	267 305	60	370	133	200	25	393	500	18.5	758	2xM48x2		25-32	DM20	6212-ZZ C3

W20 Aluminum - 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

W20 Aluminum - Flange dimension

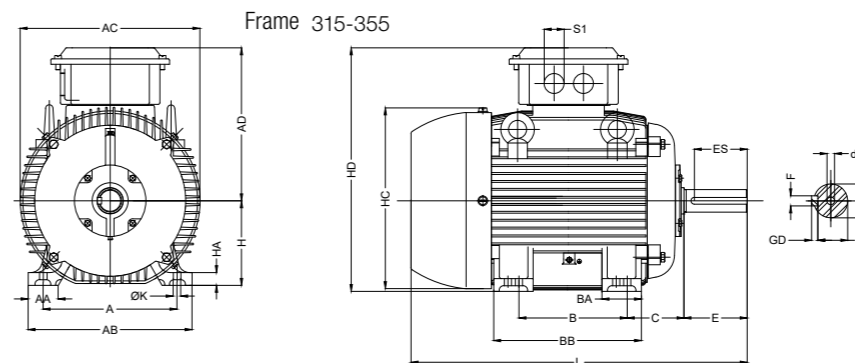
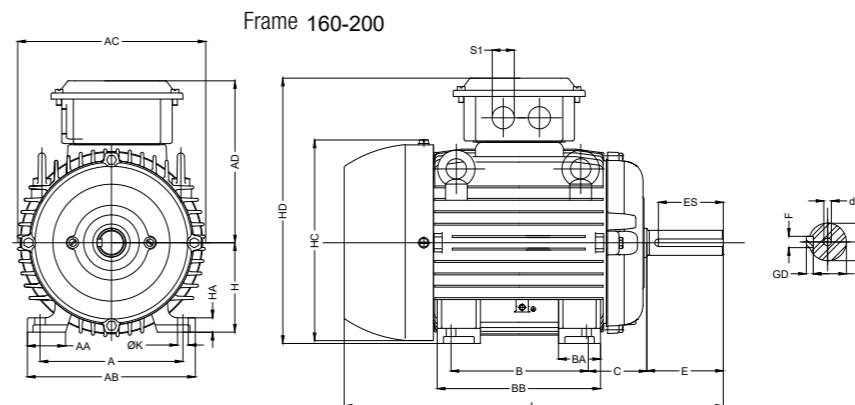


Frame	FF Flange Dimension								Qty of holes	
	Flange	C	LA	M	N	P	T	S		
80	FF-165	50	10	165	130	200	3.5	12	45°	4
90S/L		56								
100L	FF-215	63	11	215	180	250	4	15		
112M		70								
S132S	FF-265	89	12	265	230	300	5	19		
132S/M										
W160M	FF-300	108	18	300	250	350	5	19		
160M/L		121								
180M/L	FF-350	133		350	300	400				
200M/L										

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		M10	
112M		70						
S132S	C-200	89	165	130	200	M12	4	
132S/M								
W160M	C-250	108	215	180	250	M12	4	
160M/L								

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	6.3
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		
S132S								
132S/M	FC-228	89	228.6	266.7	280	UNC 1/2"13		
160M/L		108						
180M/L	FC-228	121	228.6	266.7	280	UNC 1/2"13		
200M/L		133						
315S/M	FC-368	216	368.3	419.1	455	UNC 5/8"11	8	
355M/L		254						

5. Mechanical Data (Cast Iron frame)



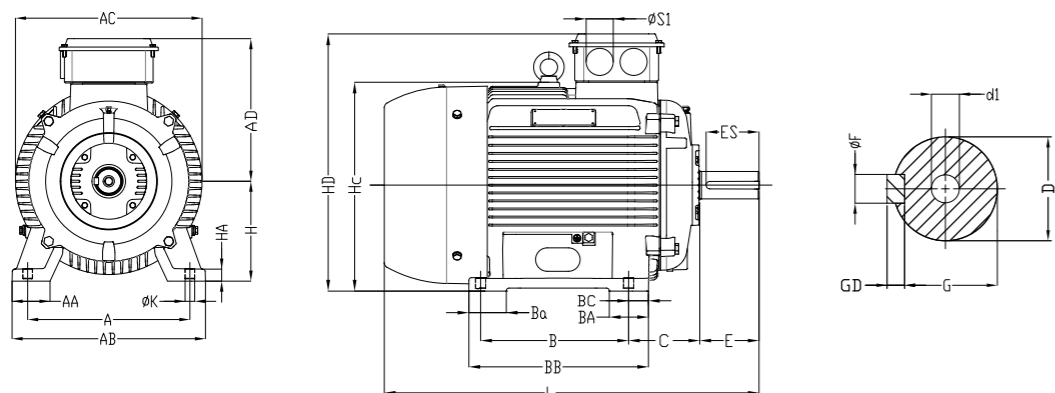
机座	轴伸					
	D	E	ES	F	G	GD
160M	42k6	110	80	12	37	8
160L						
180M	48k6	110	80	14	42.5	9
180L						
200L	55m6	110	80	16	49	10
W225S	55m6*	110*	100*	16*	49*	10*
	60m6	140	125	18	53	11
225M	55m6*	110*	100*	16*	49*	10*
	60m6	140	125	18	53	11
250M	60m6*	140	125	18	53*	11
	65m6			18*	58*	
W280S	65m6*	140	125	18*	58*	11*
	75m6			20	67.5	12
280M	65m6*	140	125	18*	58*	11*
	75m6			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

Note:
 --(*) refers to shaft dimensions for all 11 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	Bearings	
																			DE	NDE
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	2xM48x2	25-32	DM20	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	605	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	980	28	1387	2xM72x2	45-53	DM20	*6316-C3	*6314-C3
						630		1457							DM24				6322-C3	6319-C3

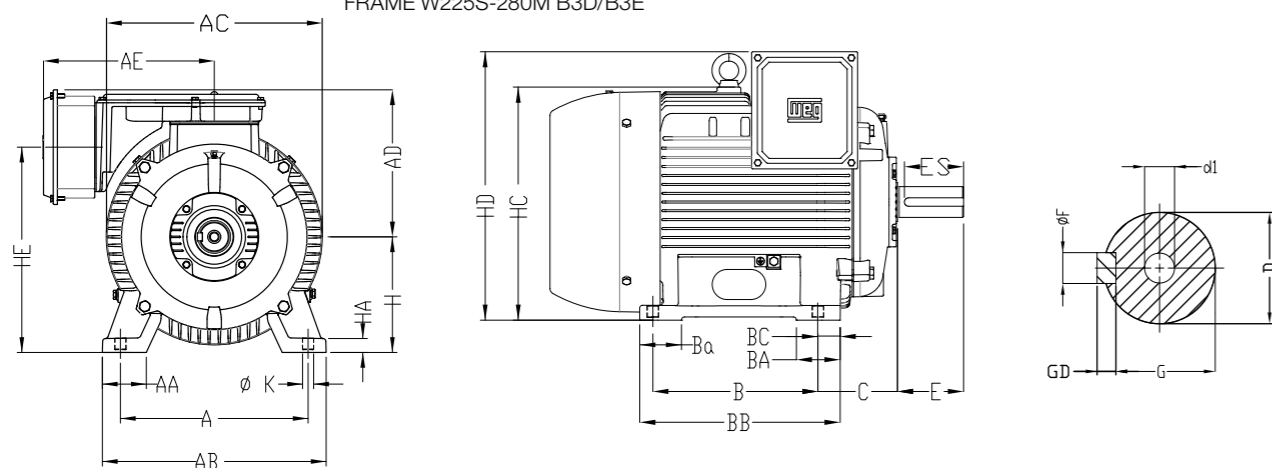
***CG (cable gland) is optional. This is the inner diameter range, in mm. If the cable size exceeds this range, please contact the relevant sales personnel.

FRAME W225S-280M B3T



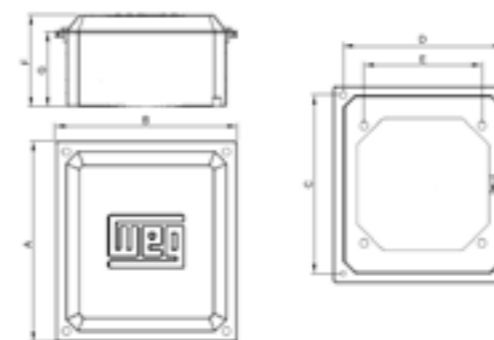
Frame	A	AA	AB	AC	AD	B	BA	BB	BC	C	H	HA	HC	HD	K	L	S1	d1	Bearing	
																			DE	NDE
W225S	356	80	436	391	311	286	80	348	40	149	225	27	433	536	18.5	748	2xM48x2	DM20	6312-ZZ-C3	6212-ZZ-C3
																			6314-ZZ-C3	
225M	356	85	432	446	351	311	86	362	20.5	149	225	30	462	576	18.5	785	2xM64x2	DM20	6314-C3	6314-C3
																			6314-C3	
250M	406	95	484	468	357	349	93	424	42.5	168	250	30	493	607	24	875	2xM64x2	DM20	6314-C3	6314-C3
																			6314-C3	
W280S	457	100	542	480	357	368	100	435	37	190	280	32	525	637	24	945	2xM64x2	DM20	6314-C3	6314-C3
																			6316-C3	
280M	457	108	542	541	399	419	119	499	25	190	280	37	566	679	24	1027	2xM64x2	DM20	6314-C3	6314-C3
																			6316-C3	

FRAME W225S-280M B3D/B3E

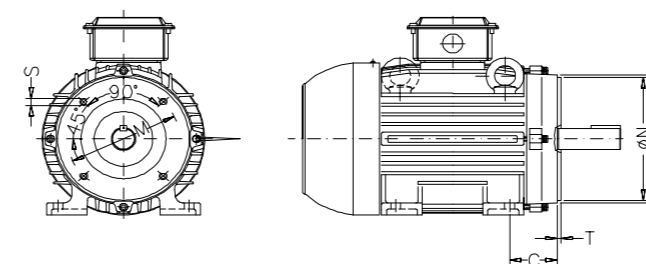
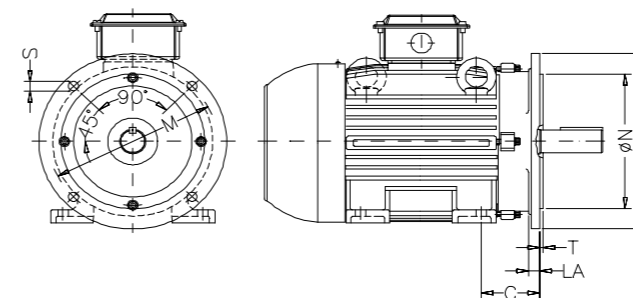


Frame	A	AA	AB	AC	AD	AE	B	BA	BB	BC	C	H	HA	HC	HD	HE	K	L	S1	d1	Bearing	
																					DE	NDE
W225S	356	80	436	391	272	297	286	80	348	40	149	225	27	433	498	391	18.5	748	2xM48x2	DM20	6312-ZZ-C3	6212-ZZ-C3
																					6314-ZZ-C3	
225M	356	85	432	446	308	370	311	86	362	20.5	149	225	30	462	533	405	18.5	785	2xM64x2	DM20	6314-C3	6314-C3
																					6314-C3	
250M	406	95	484	468	314	370	349	93	424	42.5	168	250	30	493	564	436	24	875	2xM64x2	DM20	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	2xM64x2	DM20	6314-C3	6314-C3
																					6316-C3	
280M	457	108	542	541	376	370	419	119	499	25	190	280	37	566	656	508	24	1027	2xM64x2	DM20	6314-C3	6314-C3
																					6316-C3	

W20 Cast iron - Terminal box dimension



W20 Cast iron - Flange Dimension



Frame	A	B	C	D	E	F	G
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
225-250	248	224	222	198	150	109	86
225M-280M	248	224	222	198	152	102	88
280	248	224	222	198	150	111	86
315	342	310	305	273	200	161	128
355	400	362	358	320	260	173	140

Frame	FF Flange dimension										Qty of holes
	Flange	C	LA	M	N	P	T	S	a		
160M	FF-300	108	18	300	250	350	5	19	45°	4	
160L											
180M											
180L											
200L	FF-350	133	18	350	300	400	5	19	45°	4	
W225S	FF-400	149	18	400	350	450	5	19	22°30'	8	
225M											
250M	FF-500	168	18	500	450	550	5	19	22°30'	8	
W280S											
280M	FF-500	190	18	500	450	550	5	19	22°30'	8	
280M											
315S/M	FF-600	216	22	600	550	660	6	24			
355M/L	FF-740	254	22	740	680	800	6	24			

Frame	"C" Flange dimension								Qty of holes
	Flange	C	M	N	P	S	T		
160M	FC-184	108	184.2	215.9	225	UNC 1/2"13	6.3	4	
160L									
180M	FC-228	121	228.6	266.7	280	UNC 1/2"13	6.3	4	
180L									
200L	FC-228	133	228.6	266.7	280	UNC 1/2"13	6.3	4	
315S/M	FC-368	216	368.3	419.1	455	UNC 5/8"11	8		
355M/L									
355M/L	FC-368	254	368.3	419.1	455	UNC 5/8"11	8		


Frame	"C-DIN" Flange dimension							Qty of holes
	Flange	C	M	N	P	S	T	
160M	C-250	108	215	180	250	M12	4	
160L								


Global presence is essential, as much as understanding your needs.


Global Presence

With approximately 37,000 employees worldwide, WEG is one of the largest electric motors, electronic equipments 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



SERVICE



From our wide Services portfolio, stands out the list of interventions on products from WEG activity areas: Electric Motors, Energy and Automation, being the most common:

Inspection, Tests and Technical Analyses

From all the inspections, tests and technical analyses we have capacity to offer, we emphasize the following:

- Production and expedition of spare parts to all over the world;
- Application diagnosis on site or in our factory;
- Technical advise on best, reliable and efficient solutions on energy saving.



	Products		Procedure	
	Automation	Motor	Internal	External
General Repair and overhaul	X	X	X	X
Product repair that may include the replacement of the components by original parts	X	X	X	X
Commissioning and start up	X	X		X
Repair of electrical machines (Ex and Safety)		X	X	X
Inspection and/or replacement of sleeve bearing or bearings		X	X	X
Repair of the sleeve bearings shell		X	X	X
High, Medium and Low Voltage rewinding		X	X	
Stator or rotor core replacement		X	X	
Brushes and brushes holder replacement		X	X	X
Shaft complete replacement or repair of shafts with grinding finishing of complete rotor		X	X	
Dynamic balancing of rotor (Maximum speed 1600 rpm 20T)		X	X	
Field dynamic balancing		X		X
Centring service		X		X
Painting (standard and special plan)		X	X	X
Inspection, tests and technical analysis	X	X	X	X
Energy Efficiency Study	X	X		X
Training of product maintenance	X	X		X

Automation

- Analysis of application improvements and technical assessment to the client, helping on the choice of the most appropriate equipment, targeting the application/optimizing installation efficiency
- Manufacturing, Installation, Modification, Start-Up and Maintenance of Electrical Panels
- Support on the settings parametrization of Variable Speed Drives and Soft Starters
- Commissioning and Start-Up of applications with Variable Speed Drives
- WEG Products Training



Electric Motors

- Commissioning and Start-Up of applications with electric motors
- Alignment applications with electric motors
- Vibration analysis and failures diagnosis
- Dimensional check of Electric Motors and Components/Spare Parts
- Electric Motors maintenance
- Electric Motors Mechanical and Electrical refurbishment:
 - Replacement of bearings / sleeve bearings
 - Recovery of sleeve bearings
 - Rewinding of Electric Motors (stator/rotor) - in Low, Medium and High Voltage (up to 11KV)
 - Recover / Refurbishment / replacement of spare parts
 - Replacement of rotor shafts
 - Repair and replacement of accessories, temperature sensors and anti-condensation heaters and other auxiliaries
- Balancing in factory up to 1600 rpm (20T, Ø Max. 4640 mm)
- Dynamic balancing on site
- Electric Motors modification to new operating conditions (IP protection, cooling system, auxiliaries mounting form, terminal boxes, external loads, etc)
- Painting and finishing recovery
- Customer training on electric motors
- Repair electric machines (Ex and Safety)
- Energy analysis and efficiency of electric motors



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