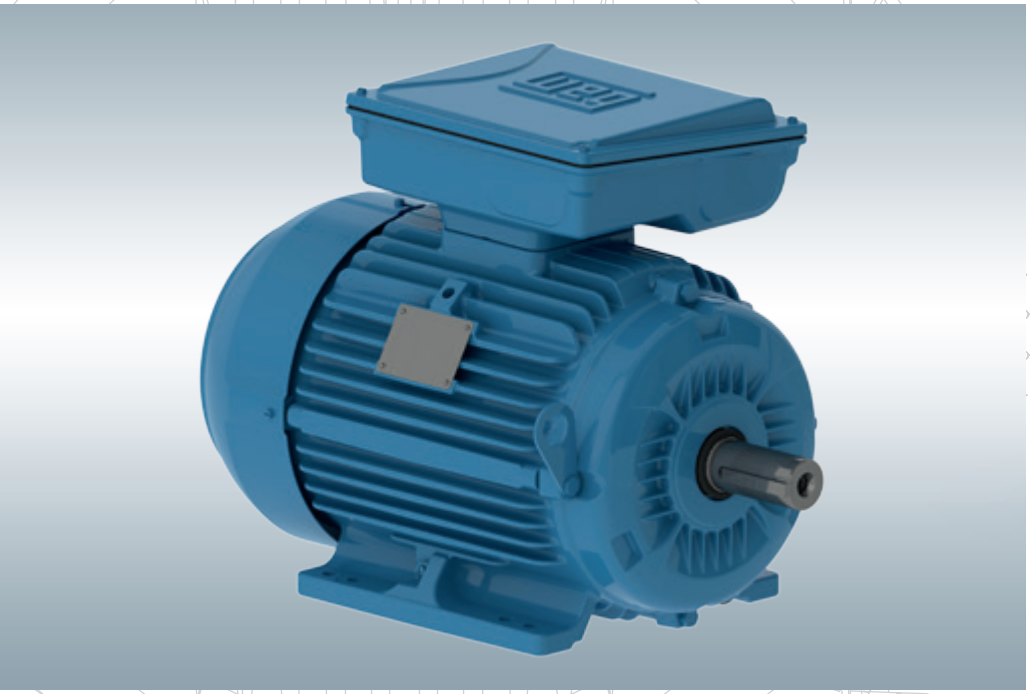
W22

Single-Phase Electric Motor

Commercial Catalogue
European Market

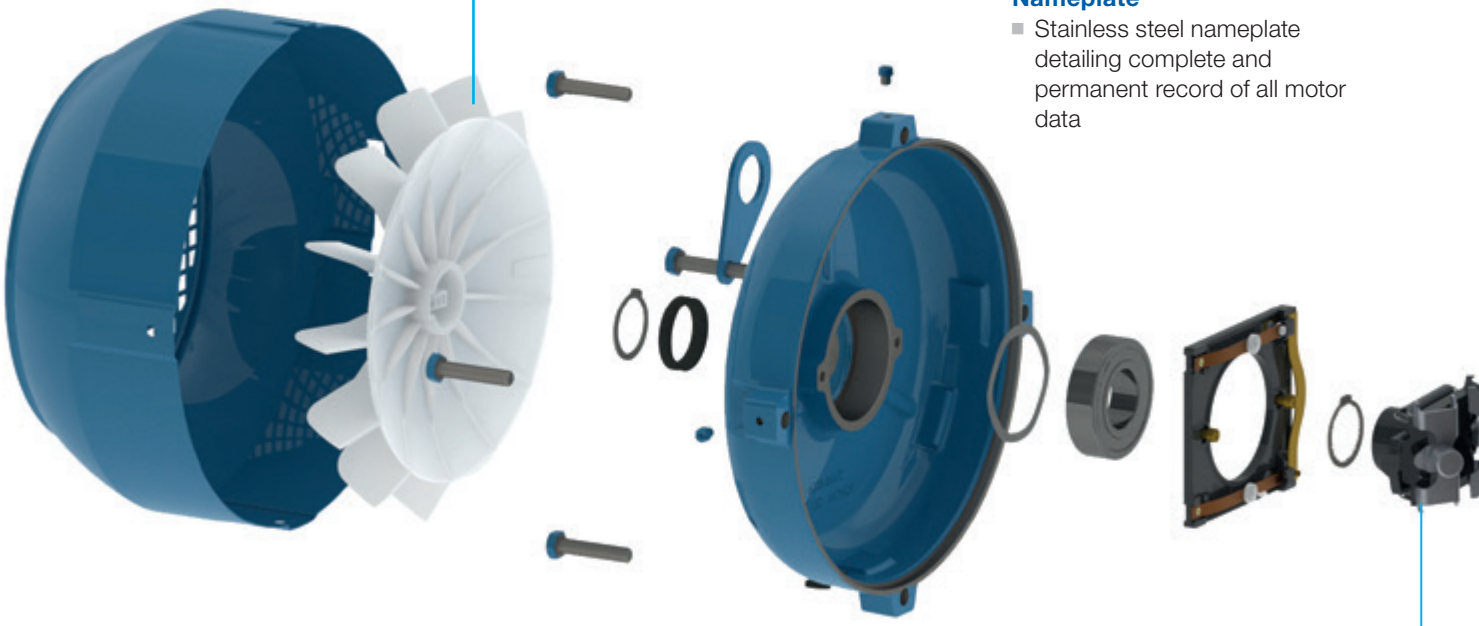


Exploded View

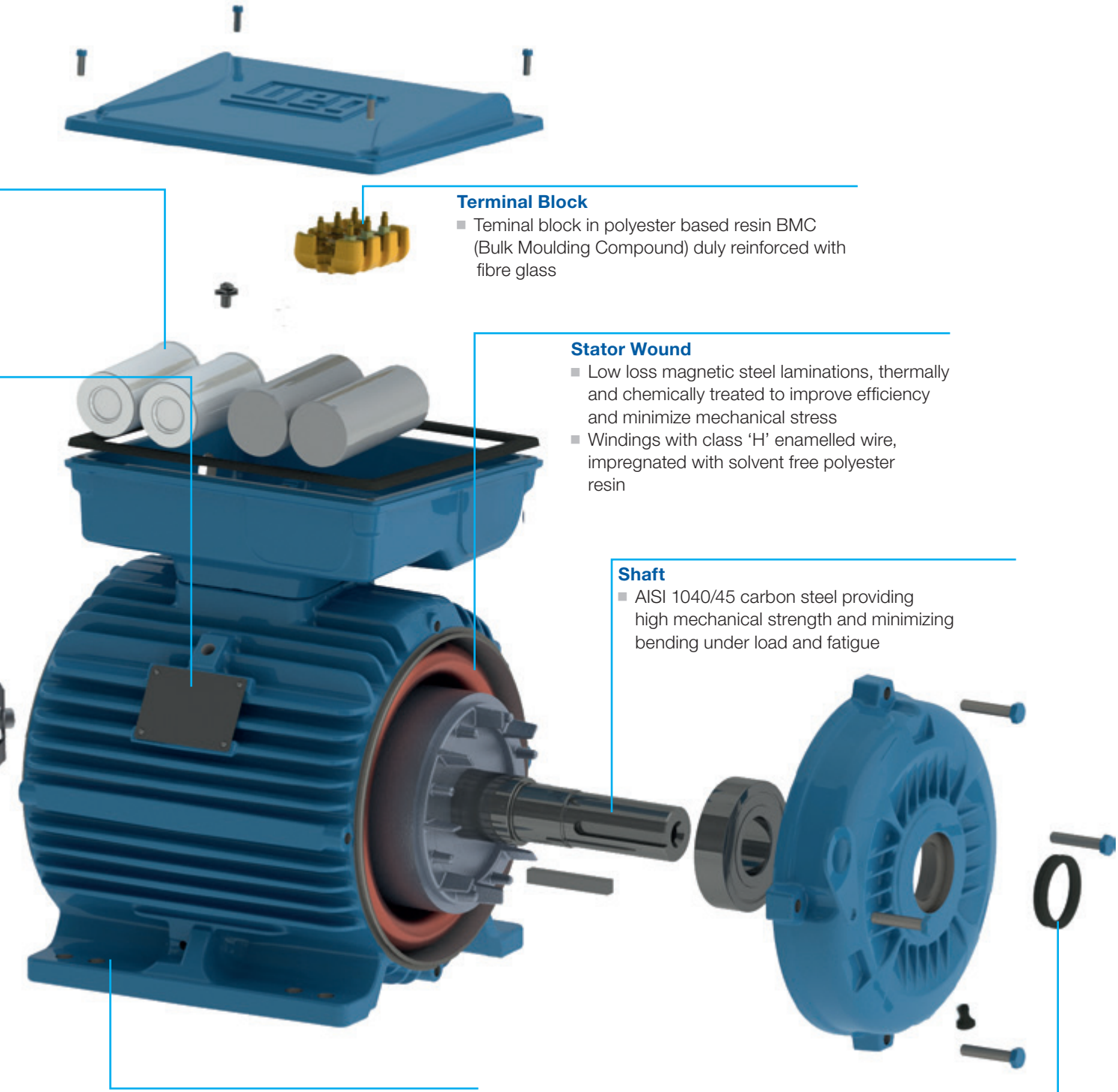
Cooling System
- The cooling system (fan, non drive end-shield and fan cover) is designed to minimize noise level and improve thermal efficiency
- Steel plate fan cover provides high mechanical strength, corrosion resistance and extended lifetime

Capacitor
- With start and run capacitors

Nameplate
- Stainless steel nameplate detailing complete and permanent record of all motor data



Centrifugal Switch
- The starting system of W22 single phase motors was completely redsigned to improve functionality, thus increasing system reliability and lifespan.



Terminal Block

- Teminal block in polyester based resin BMC (Bulk Moulding Compound) duly reinforced with fibre glass

Stator Wound

- Low loss magnetic steel laminations, thermally and chemically treated to improve efficiency and minimize mechanical stress
- Windings with class 'H' enamelled wire, impregnated with solvent free polyester resin

Shaft

- AISI 1040/45 carbon steel providing high mechanical strength and minimizing bending under load and fatigue

Cast Iron Frame

- FC-200 (EN GJL 200) cast iron frames meeting impact level IK08 (5J) ensuring superior mechanical strength for the most demanding applications
- Solid motor feet providing excellent rigidity, allowing easier alignment and installation

V-Ring Seals

- V-Ring seals to prevent ingress of liquids and dust into the motor

Features

- High starting torque
- Suitable for domestic and rural power supply conditions
- Adaptable design suitable for a variety of applications and needs

Standard

- Rated output: 0,18 kW up to 9,2 kW
- Number of poles: 2 and 4
- Frame sizes: 63 up to 132M/L
- Voltage: 230 V or 230/460 V
- Frequency: 50 Hz
- Degree of protection: IP55
- Painting plan: 207A
- Frame material: Cast iron
- Mounting: B3T
- Cooling method: Totally enclosed fan cooled
- Grounding: Single (inside the terminal box)
- Fan material: Polypropylene
- Shaft material: AISI 1040/45 Carbon steel
- Nameplate material: Stainless steel
- Colour: Blue RAL 5009
- Insulation class: F
- Service factor: 1.00

Optional

- Voltage: 110 V, 220 V, 240 V etc.
- Insulation class: H
- Degree of Protection: IP56 and above
- Frequency: 60 Hz
- Thermal protection
- Other mounting forms / terminal box positions
- Stainless steel shaft
- Undersized terminal box (For frames 90L and 100L)*

*Only by request

Applications

- Fans and Blowers
- Grain Driers
- Centrifugal pumps
- Compressors
- High Pressure Washers
- Silo Unloaders and Augers
- Conveyors / Materials Handling
- Silo unloaders
- Grinding Machines

Electrical Data

W22 Single-Phase - CSR (Starting and Run Capacitor) - Starting torque beginning from 170%

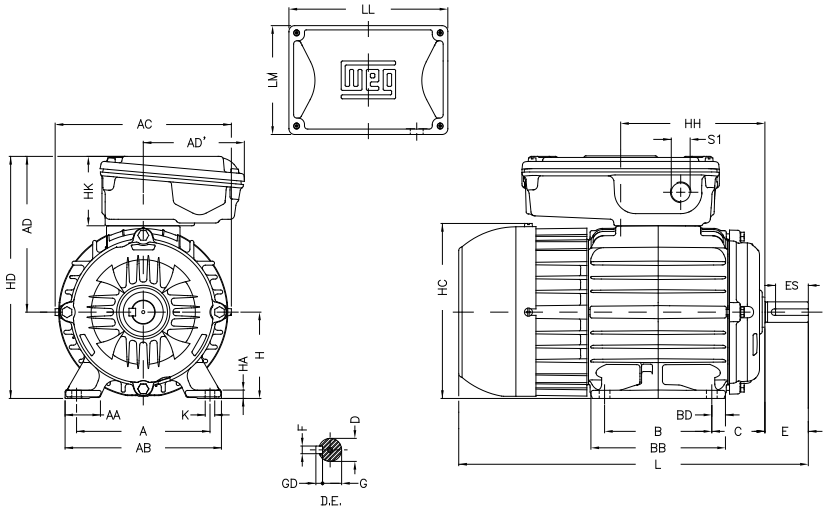
Output		Frame	Full load torque (Nm)	Locked rotor current Il/In	Locked rotor torque Tl/Tn	Breakdown torque Tb/Tn	Inertia J (kgm²)	Allowable locked rotor time (s)	Weight (kg)	Sound dB (A)	Rated speed (rpm)	% of full load						Full load current In (A)	
												Efficiency (%)			Power factor				
kW	HP											50	75	100	50	75	100	230 V	460 V
II pole - 50 Hz																			
0,18	0,25	63	0,595	6,5	2,6	2,5	0,0002	5	10,3	47	2890	37,2	47,8	54,5	0,82	0,88	0,90	1,60	0,800
0,25	0,33	63	0,832	5,8	2	2,1	0,0002	5	10,5	47	2870	43,1	53,6	59,5	0,76	0,85	0,95	1,93	0,966
0,37	0,5	71	1,21	8,5	3	2,9	0,0005	6	13,0	57	2930	55,1	64,7	69,5	0,72	0,82	0,86	2,70	1,35
0,55	0,75	71	1,80	7,5	2,2	2,5	0,0006	5	13,5	57	2920	56,9	66,6	71,5	0,87	0,94	0,97	3,45	1,73
0,75	1	80	2,46	7,6	2,3	2,6	0,0010	9	18,0	62	2915	63,9	71,7	75,0	0,79	0,87	0,91	4,78	2,39
1,1	1,5	80	3,65	6,3	2,4	2	0,0011	6	19,0	62	2880	69,9	75,2	76,0	0,74	0,85	0,91	6,92	3,45
1,5	2	90S	4,94	7,3	2	2,2	0,0022	7	24,0	66	2900	73,9	79,2	80,0	0,89	0,94	0,94	8,68	4,34
2,2	3	90L	7,26	6,8	2,3	2,1	0,0028	6	27,0	66	2895	75,5	80,0	80,0	0,94	0,97	0,96	12,5	6,25
3	4	100L	9,90	6,7	2,1	2,2	0,0070	6	40,0	69	2895	74,9	80,1	81,0	0,89	0,95	0,96	16,8	8,40
3,7	5	112M	12,1	8,0	2,4	2,5	0,0095	6	48,5	69	2910	82,0	85,2	85,0	0,95	0,97	0,99	19,1	9,55
5,5	7,5	132M	18,1	7,7	2,4	2,6	0,0234	6	71,0	69	2900	80,7	84,7	85,0	0,95	0,97	0,99	28,4	14,2
7,5	10	132M	24,5	9,0	2,1	3,1	0,0288	6	80,0	69	2920	82,7	85,8	86,0	0,94	0,96	0,97	39,0	19,5
9,2	12,5	132M/L	30,1	8,5	1,7	2,9	0,0342	6	88,5	69	2920	86,1	88,3	88,0	0,99	0,99	0,99	45,9	23,0
IV pole - 50 Hz																			
0,18	0,25	71	1,19	5,8	3,8	2,6	0,0008	12	13,2	53	1450	38,8	49,0	55,5	0,61	0,69	0,75	1,91	0,957
0,25	0,33	71	1,66	6,4	4	2,3	0,0009	9	13,7	53	1440	42,7	53,0	59,0	0,71	0,78	0,80	2,30	1,15
0,37	0,5	71	2,49	5,9	3,1	2	0,0009	16	14,1	53	1420	53,0	62,5	67,0	0,80	0,86	0,89	2,70	1,35
0,55	0,75	80	3,61	6,6	2,1	2,6	0,0030	7	18,3	53	1455	52,2	61,7	66,5	0,60	0,71	0,78	4,61	2,30
0,75	1	80	4,99	6,5	2,1	1,9	0,0032	6	18,7	53	1435	61,0	68,3	70,0	0,80	0,89	0,92	5,06	2,53
1,1	1,5	90S	7,29	6,6	2	2,07	0,0055	9	25,5	56	1441	63,1	70,8	73,5	0,93	0,96	0,97	6,70	3,35
1,5	2	90L	9,95	7,2	2,4	2,1	0,0066	7	28,0	56	1440	65,8	73,3	75,5	0,91	0,96	0,96	4,70	4,50
2,2	3	100L	14,5	6,7	2	2,2	0,0097	10	38,5	56	1450	73,9	79,5	77,5	0,87	0,92	0,93	13,2	6,65
3	4	112M	20,0	6,7	2,4	2,4	0,0164	9	49,0	58	1430	72,4	78,0	78,5	0,84	0,91	0,93	17,9	8,95
3,7	5	132M	24,5	6,9	2,3	2,6	0,0357	8	67,0	61	1445	68,5	75,6	78,5	0,86	0,91	0,94	21,8	10,9
5,5	7,5	132M	36,2	8,0	2,9	2,6	0,0543	7	82,2	61	1450	73,8	79,7	81,5	0,96	0,98	0,97	30,0	15,0
7,5	10	132M*	49,6	7,3	2,7	2,7	0,0543	11	86,5	61	1445	79,7	83,7	83,0	0,85	0,91	0,93	42,2	21,0
High-Output Design																			
3,7	5	112M*	24,8	6,3	2,2	2,2	0,0184	7	51,0	58	1425	72,5	78,2	78,5	0,95	0,97	0,97	21,0	10,5

Notes:

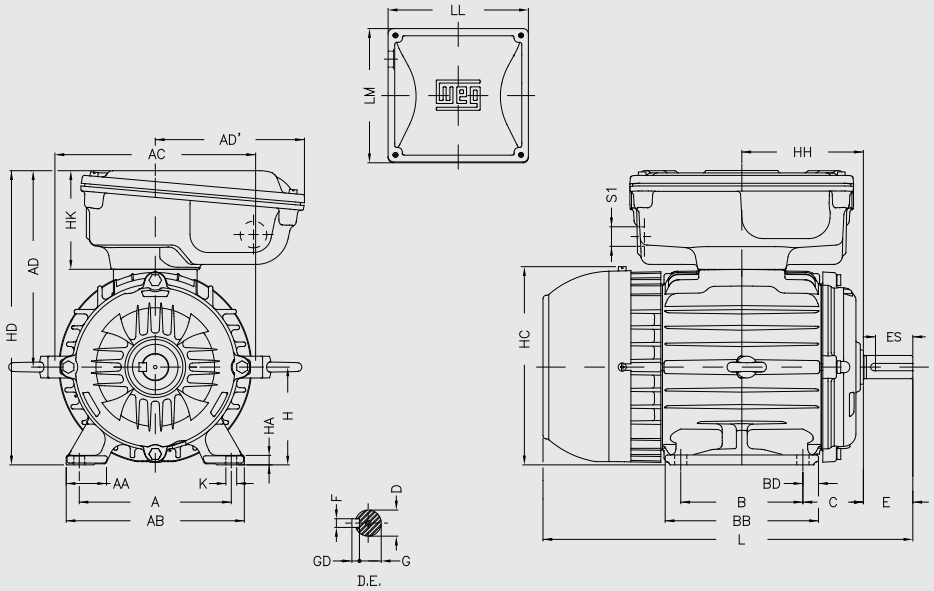
(*) Motor with class F (105 K) temperature rise.
(**) Values subjected to change without previous advise.

Mechanical Data

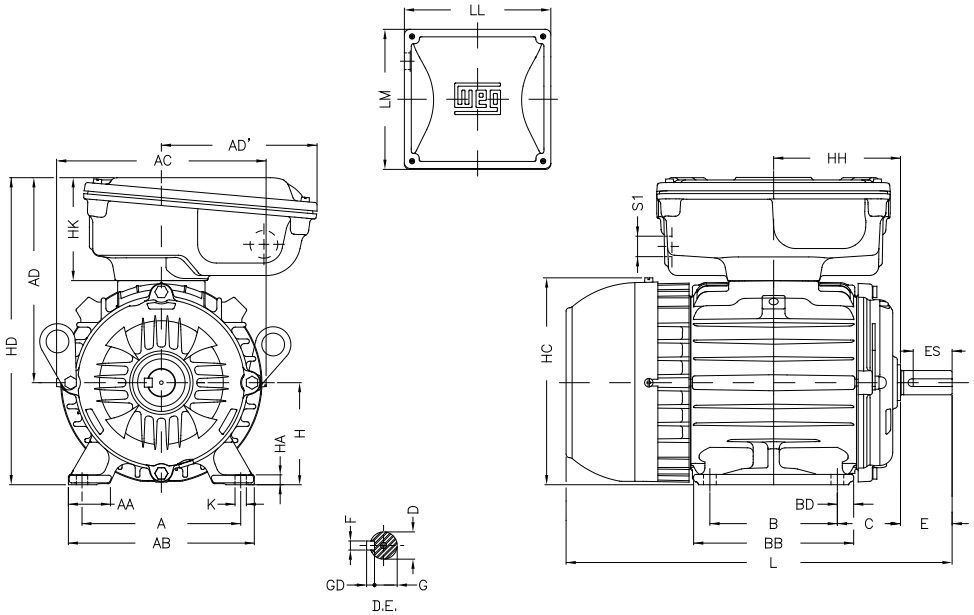
Frames 63 up to 90S



Frames 90L and 100L



Frames 112M up to 132M/L



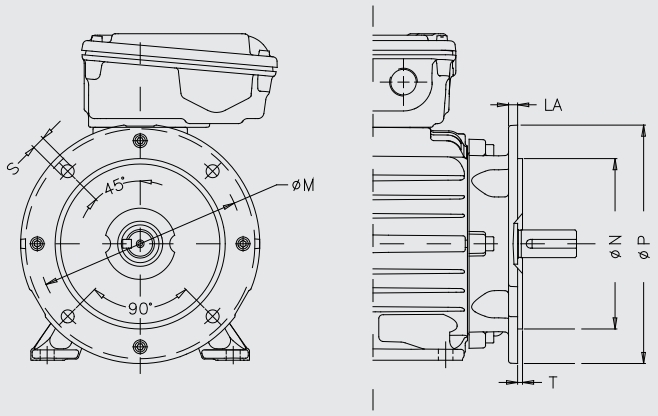
Frame	A	AA	AB	AC	AD	AD'	B	BB	BD	C	Shaft					
											D	E	ES	F	G	GD
63	100	25.5	116	125	128	95	80	95	7.5	40	11j6	23	14	4	8.5	4
71	112	28.5	132	141	136	93	90	113.5	11.75	45	14j6	30	18	5	11	5
80	125	30.5	149	159	145	94	100	125.5	12.75	50	19j6	40	28	6	15.5	6
90S	140	37	164	184	155	88		131	15.5	56	24j6	50	36	8	20	7
90L					181	137	125	156								
100L	160	40	188	206	191	144	140	173	16.5	63	28j6	60	45		24	
112M	190	40.5	220	227	206	154		177	18.5	70						
132M	216	45.5	248	274	234		178	225	23.5	89	38k6	80	63	10	33	8
132M/L							178/203	250								

Frame	H	HA	HC	HD	HH	HK	K	L	LL	LM	S1	Bearing	
												DE	NDE
63	63	7	130	156	80	65	7	256	184	135	M20	6201-ZZ	
71	71		145	164	90			293				6202-ZZ	
80	80	8	163	174	100		10	326				6204-ZZ	6203-ZZ
90S	90	9	182	227	106			334			M25	6205-ZZ	
90L					118.5	91		358	221	206			
100L	100	10	205	244	133		12	418				6206-ZZ	
112M	112		226	280	140	94		423	246	232	M32	6207-ZZ	6206-ZZ
132M	132	16	274	319	178			489	246/286[1]			6308-ZZ	6206-ZZ
132M/L					190.5			514					

Notes:

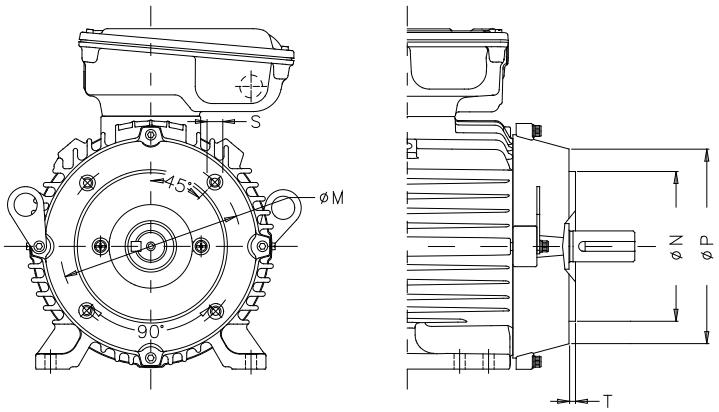
1) Motor with 5 capacitors.

"FF" Flange

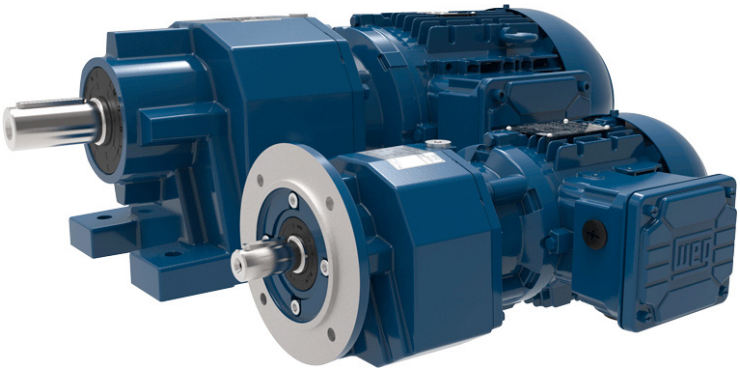


"FF" Flange									
Frame	Flange	LA	M	N	P	S	T	α	Nº of holes
63	FF-115	5,5	115	95	140	10	3	45°	4
71	FF-130	7	130	110	160		3,5		
80	FF-165	9	165	130	200	12			
90		10							
100	FF-215	12,5	215	180	250	15	4		
112									
132	FF-265	12	265	230	300				

"C-DIN" Flange



"C-DIN" Flange								
Frame	Flange	M	N	P	S	T	α	Nº of holes
63	C-90	75	60	90	M5	2,5	45°	4
71	C-105	85	70	105	M6			
80	C-120	100	80	120		3		
90	C-140	115	95	140	M8			
100	C-160	130	110	160		3,5		
112								
132	C-200	165	130	200	M10			



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