

W21

Aluminum Multimounting Three-phase Electric Motors

Aluminum Frame
Technical Catalogue
Asian Market

Industrial Motors

Commercial & Appliance Motors

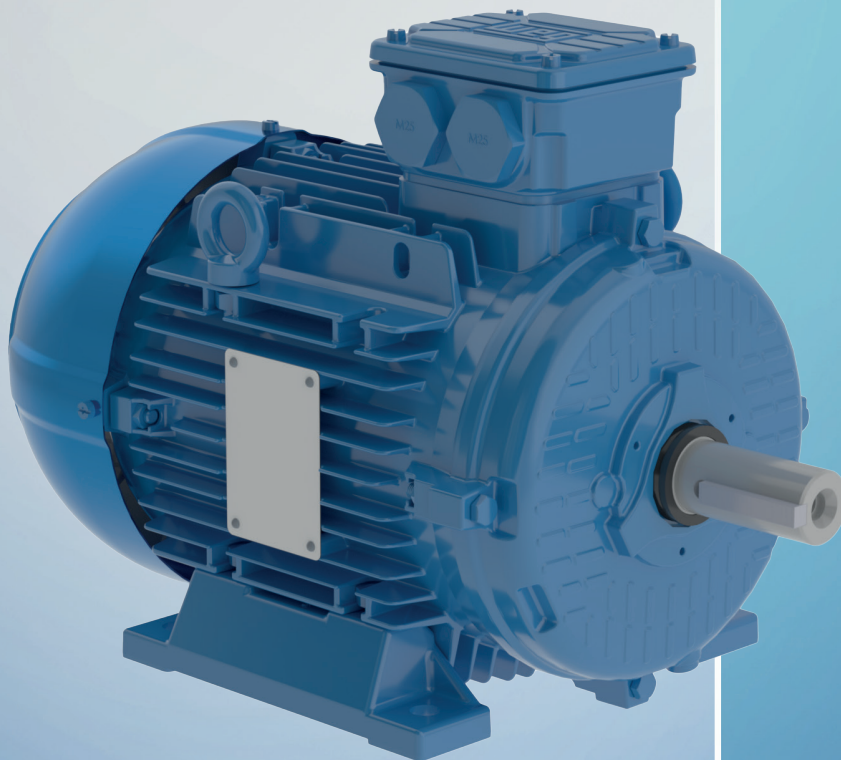
Automation

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Driving efficiency and sustainability



W21 ALUMINIUM MULTIMOUNTING

THREE-PHASE INDUCTION MOTORS

Looking for the optimum solution to satisfy a diversity of requirements and applications, WEG offers its W21 Aluminium Multimounting three phase motor platform. Recognised for their high quality, reliability and flexibility, these motors are utilised throughout the world in a variety of industrial applications.

Standard Features

- Rated output: 0,12 to 37 kW
- Number of poles: 2, 4, 6 and 8
- Frame sizes IEC 63 to 200M/L
- Efficiency levels IE2, IE3 or IE4
- Ambient Temperature Range: -20°C to +40°C
- Frequency: 50 Hz
- Voltage at 50 Hz: 220-240/380-415 V (up to 100 L)
380-415/660 V (from 112M and up);
- Insulation class F (DT 80 K)
- Design N
- Degree of protection: IP55
- Cooling method: IC411 according to DIN EN 60034-6
- Mounting: B3T
- Frame material: Die cast aluminium
- Endshields material: Aluminum
- Terminal box material: Aluminium
- Terminal block for motor connection
- Grounding: Simple grounding inside the terminal box
- Fan Material: Polypropylene
- Fan Cover Material: Steel plate
- Drain: Plastic drain plug
- V'ring seal on both endshields
- Shaft material: SAE 1040/45
- ZZ Ball bearings
- Eyebolts for frames 112M to 200L
- Painting Plan: WEG internal painting plans 207A semi-matt (frames 63 up to 132) and 203A semi-gloss (frames 160 up to 200), both meeting the 'C3' performance criteria defined in the DIN EN ISO 12944-2 standard
- Thermal Protection: Thermistors PTC (155 °C) in windings for frames 160 up to 200
- WISE® Insulation System - Suitable for frequency inverter operation*

**For further information about frequency inverter operation, please contact WEG.*

Optional Features

- Number of poles: 10, 12 or multispeed motors
- Non standard voltages
- Insulation Class H
- Thermal protections: Thermostats, Thermistors (PTC) or Thermoresistances (Pt-100) in windings
- Space Heaters
- Higher degrees of protection, up to IP66
- Forced ventilation, encoders or brakes
- Other mounting configurations, including foot/flange, flange, pad
- Accessories terminal box
- Cable glands
- Canopy for vertical shaft down applications
- Fan material: Conductive plastic, aluminium
- Shaft material: Stainless steel
- Double shaft end
- Painting plans for aggressive environments e.g. C5M / C5I acc. ISO 12944
- Internal anticorrosive epoxy painting

Features and Benefits

Reliability

WEG W21 Aluminium Motors are the result of high technological design, premium quality components and a wide application experience. Recognized for its quality, reliability and efficiency, the W21 Aluminium motor range incorporates the benefits of the W22 General Purpose cast iron line but with a lightweight construction and the flexibility offered by its multi-mounting mechanical design.

Flexible Construction

The W21 Aluminium motor line was developed in response to Market requirements regarding mounting flexibility. Consequently, and as its name suggests, the design incorporates a multimount feature which permits the motor to be mounted with the terminal box oriented on the top or on either side. Additionally, the motor terminal box can be rotated in 90° increments, permitting connection of the incoming power cables in any position.

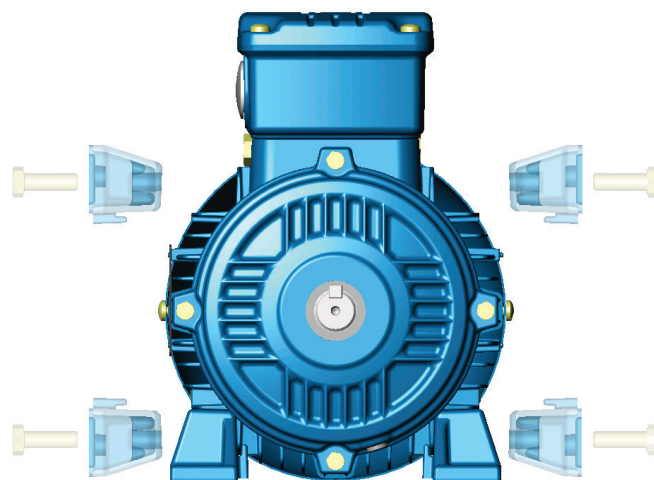
This unique system enables the mounting configuration to be easily changed with no machining or modification to the motor feet required.

Furthermore, the innovative design of the W21 Aluminium Multimounting line offers the additional advantage on standardization and stock flexibility, considering that a single motor may be utilised for all mounting possibilities whilst also offering full interchangeability with existing cast iron frame motors.

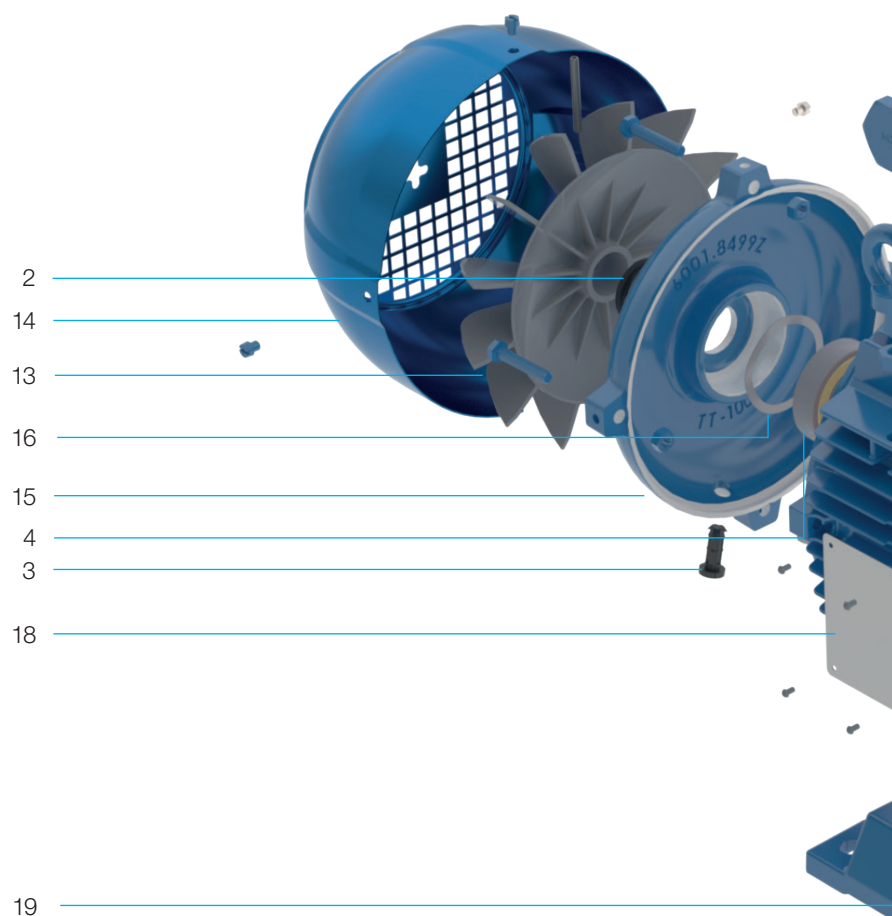
Definite Purpose Designs

Complimenting what is already a comprehensive range of industrial motors, the W21 aluminium multi-mounting line features, besides the standard version, several definite purpose derived designs, such as Brake Motors, Single Phase Motors, Marine Motors and TEAO (IC 418) Motors for Fan & Exhaust applications.

These definite purpose designs are perfectly adapted to suit all application needs, and incorporate the same reliability, easy maintenance, reduced energy consumption and flexibility offered by the standard W21 Aluminium Multi-mounting line.

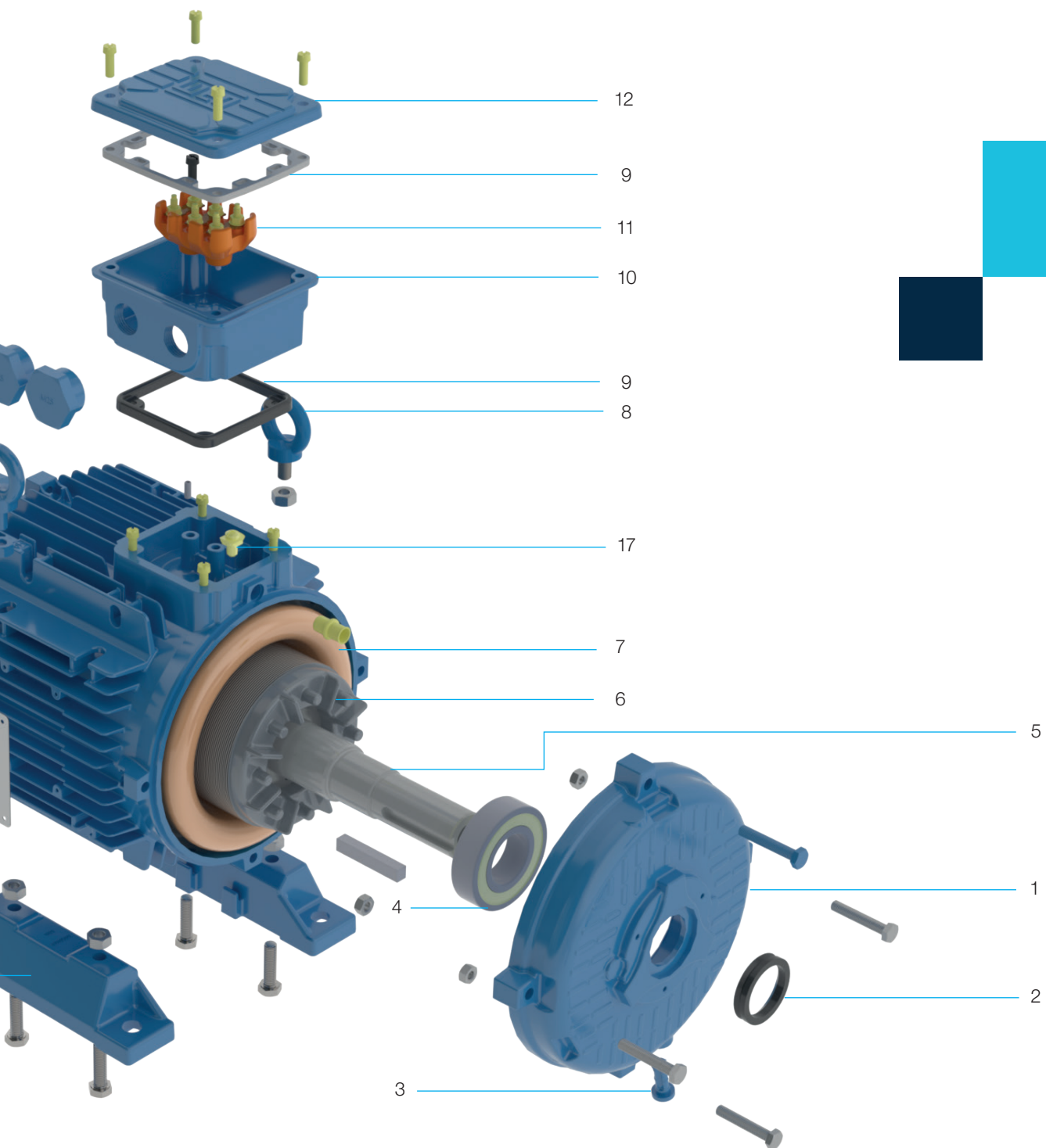


Visual Index



- 1 - Drive endshield
- 2 - Bearing seal (v'ring)
- 3 - Drain plug
- 4 - Bearings
- 5 - Shaft

- 6 - Squirrel cage rotor
- 7 - Wound stator
- 8 - Eye bolts
- 9 - Rubber gasket
- 10 - Terminal box



- 11 - Terminal block
- 12 - Terminal box cover
- 13 - Cooling Fan
- 14 - Fan cover
- 15 - Non-drive endshield

- 16 - Spring washer
- 17 - Grounding terminal
- 18 - Nameplate
- 19 - Removable feet

Construction Features

Frame			63	71	80	90S/L	100L	112M	132S	132M	S132S	160M/L	180M/L	200M/L	
Mechanical features															
Nameplate markings			CE, UR, CSA, EAC												
Mounting			B3T												
Frame Material			Aluminum												
Degree of Protection (IP rating)			IP55												
Grounding			Single Grounding												
Cooling Method (IC)			Totally enclosed fan cooled (IC411)												
Fan Material			Plastic												
Fan Cover Material			Steel plate												
Endshields Material			Aluminum												
Drain			Automatic T Labyrinth Drain Plug												
Bearings	Shielded/Clearance (DE)		ZZ									ZZ-C3			
	Shielded/Clearance (NDE)		ZZ									ZZ-C3			
	Locating bearing configuration		None, fitted with spring washer in the NDE												
	Drive End	2P	6201	6203	6204	6205	6206	6207	6308	6308	6308	6309	6311	6312	
		4 - 12P													
Non drive end	2P	6202		6203	6204	6205	6206	6207	6207	6207	6209	6211	6212		
	4 - 12P														
Bearing Seal			V'ring												
Joint Seal			None												
Lubrica- tion	Grease type		Mobil Polyrex EM												
	Grease fitting		Without grease fitting												
Terminal block			BMC - 6-pins												
Terminal box material			Die cast aluminium												
Cable entries	Main	Size	2 x M20 x 1.5			2 x M25 x 1.5			2 x M32 x 1.5			2 x M40 x 1.5		2 x M50 x 1.5	
	Plug		Plastic plug for transport and storage												
Shaft	Material		SAE 1040/45												
	DE Threaded hole	2P	M4	M5	M6	M8	M10	M12			M16		M20		
		4 - 12P													
Vibration level			Grade A												
Balancing	2P		Without balance			With 1/2 key									
	4 - 12P		Without balance			With 1/2 key									
Nameplate material			Stainless steel AISI 304												
Painting	Type		207 A									203 A			
	Performance Criteria		Corrosive category C2 according to DIN EN ISO 12944-2												
	Colour		RAL 5009												
Electrical features															
Design			N												
Voltage / Frequency			220-240/380-415//440-460 V (50 // 60Hz)						380-415/660//440-460 V (50 // 60Hz)						
			380V with 3 terminals (IE4)						380V with 6 terminals (IE4)						
Winding	Impregnation		Polyester Impregnation												
	Insulation class		F (DT 80K)												
Service factor			1.00												
Rotor			Aluminium die cast												
Thermal protection			Without thermal protection									Thermistor PTC, 1 per phase, for tripping at 155 °C			

Optional Features

Frame	63	71	80	90S/L	100L	112M	132S	132M	S132S	160M/L	180M/L	200M/L
Mechanical options												
Cable glands												
Plastic cable gland	0	0	0	0	0	0	0	0	0	0	0	0
Flange												
Flange FF	0	0	0	0	0	0	0	0	0	0	0	0
Flange C-DIN	0	0	0	0	0	0	0	0	0	NA	NA	NA
Cooling fan												
Conductive plastic	0	0	0	0	0	0	0	0	0	0	0	0
Aluminium	0	0	0	0	0	0	0	0	0	0	0	0
Bearings												
2RS ball bearings at both ends	0	0	0	0	0	0	0	0	0	NA	NA	NA
bearing cap	NA	0	0	0	0	0	0	0	0	P	P	P
C3	NA	NA	NA	E	E	E	E	E	E	0	0	0
Shaft sealing												
Nitrilic rubber lip seal	0	0	0	0	0	0	0	0	0	0	0	0
Nitrilic rubber oil seal	0	0	0	0	0	0	0	0	0	0	0	0
Other sealing												
Joints sealing with Loctite 5923 (permatex)	0	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	0
Shaft												
Second shaft end	0	0	0	0	0	0	0	0	0	0	0	0
Grease / Lubrication												
Grease - Mobiltemp SHC 32	0	0	0	0	0	0	0	0	0	0	0	0
Polyrea Ester Oil (WT/ENS)	0	0	0	0	0	0	0	0	0	0	0	0
Double grounding (1 in terminal box + 1 frame)												
0	0	0	0	0	0	0	0	0	0	0	0	0
Nameplates												
Direction of Rotation plate	0	0	0	0	0	0	0	0	0	0	0	0
Drip cover (recommended for vertical shaft down applications)	0	0	0	0	0	0	0	0	0	E	E	E
Painting Plan												
203A	0	0	0	0	0	0	0	0	0	P	P	P
205E	0	0	0	0	0	0	0	0	0	0	0	0
205P	0	0	0	0	0	0	0	0	0	0	0	0
Internal Tropicalized Painting												
Complete (200h)	0	0	0	0	0	0	0	0	0	0	0	0
According to IEEE 841 (96h)	0	0	0	0	0	0	0	0	0	0	0	0
Only rotor	0	0	0	0	0	0	0	0	0	0	0	0
Key												
C Key	0	0	0	0	0	0	0	0	0	0	0	0
Without key	0	0	0	0	0	0	0	0	0	0	0	0
Without keyway	0	0	0	0	0	0	0	0	0	0	0	0
Electrical options												
Direction of rotation												
Clockwise	0	0	0	0	0	0	0	0	0	0	0	0
Counterclockwise	0	0	0	0	0	0	0	0	0	0	0	0
Thermal Protection												
Bimetal thermal protector - 155°C Tripping	0	0	0	0	0	0	0	0	0	0	0	0
PTC Thermistor - 155°C - Tripping	0	0	0	0	0	0	0	0	0	P	P	P
Space heaters												
220-240 V	0	0	0	0	0	0	0	0	0	0	0	0
110-127 / 220-240 V	NA	NA	NA	NA	NA	0	0	0	0	0	0	0
Service factor												
Service factor 1.15	0	0	0	0	0	0	0	0	0	0	0	0
Insulation class												
F (DT=105K)	0	0	0	0	0	0	0	0	0	0	0	0

Note: P= Standard; O=Optional; E=Special; NA=Not available

IE4 - Super Premium Efficiency - 50 Hz ¹⁾

Output		Frame	Full Load Torque (kgfm)	Locked Rotor Current II/In	Locked Rotor Torque TI/Tn	Break-down Torque Tb/Tn	Inertia J (kgm2)	Allowable locked rotor time (s)		Weight (kg)	Sound dB(A)	380 V								Full load current In (A)
												Rated speed (rpm)	% of full load							
								Efficiency					Power Factor							
kW	HP							Hot	Cold				50	75	100	50	75	100		
II Poles																				
0.18	0.25	63	0.064	4.2	2.8	2.6	0.0002	47	103	6.6	52	2745	70.0	73.0	70.8	0.59	0.72	0.81	0.477	
0.25	0.33	63	0.087	4.9	3.8	3.5	0.0002	34	75	6.8	52	2790	69.2	73.8	74.3	0.49	0.63	0.73	0.700	
0.37	0.5	71	0.126	6.8	4.2	4.1	0.0004	35	77	9.5	56	2855	73.4	77.4	78.1	0.59	0.72	0.80	0.900	
0.55	0.75	71	0.189	6.2	3.9	3.7	0.0005	29	64	11.5	56	2830	78.7	80.9	81.5	0.63	0.76	0.83	1.24	
0.75	1	80	0.256	7.4	4.2	3.8	0.0009	39	86	11.8	59	2855	82.0	83.7	83.5	0.62	0.74	0.81	1.68	
1.1	1.5	L80	0.375	7.5	4.7	4.2	0.0011	30	66	19.0	59	2860	83.2	84.7	85.2	0.60	0.72	0.80	2.45	
1.5	2	90S/L	0.503	9.1	4.4	4.5	0.0026	20	44	18.3	62	2905	81.6	84.4	86.5	0.63	0.74	0.81	3.25	
2.2	3	L90S/L	0.740	9.2	4.8	4.7	0.0033	16	35	31.5	62	2895	83.9	86.0	88.0	0.63	0.75	0.82	4.63	
3	4	L100L	0.997	11.0	4.6	5.3	0.0075	18	40	28.6	67	2930	87.1	89.0	89.1	0.65	0.77	0.84	6.09	
4	5.5	112M	1.34	9.0	3.4	4.3	0.0094	26	57	36.5	62	2910	89.0	90.1	90.0	0.67	0.78	0.84	8.04	
5.5	7.5	S132S	1.82	9.0	2.9	3.9	0.0216	28	62	50.5	63	2950	88.3	90.0	90.9	0.70	0.80	0.85	10.8	
7.5	10	132S	2.48	9.9	3.3	4	0.0306	22	48	65.0	63	2950	89.9	91.2	91.7	0.74	0.83	0.87	14.3	
11	15	160M/L	3.63	8.1	3.2	4.2	0.0501	24	53	110	70	2950	90.2	91.4	92.6	0.64	0.76	0.82	22.0	
15	20	160M/L	4.95	8.8	3.5	4.3	0.0641	18	40	116	70	2950	91.2	92.1	93.3	0.65	0.77	0.83	29.4	
18.5	25	L160M/L	6.11	8.2	3.3	4	0.0722	17	37	125	70	2950	92.5	92.9	93.7	0.70	0.80	0.85	35.3	
22	30	180M/L	7.24	9.3	3.7	3.6	0.1237	21	46	162	70	2960	93.2	93.8	94.0	0.70	0.80	0.84	42.3	
30	40	200M/L	9.84	8.5	3.5	3.5	0.2115	30	66	212	74	2970	92.9	93.9	94.5	0.67	0.78	0.83	58.1	
37	50	200M/L	12.2	8.1	3.3	3.3	0.2368	25	55	242	74	2965	93.6	94.3	94.8	0.71	0.80	0.84	70.6	
High-Output Design																				
5.5	7.5	132S	1.82	9.0	2.9	3.9	0.0216	28	62	56.2	63	2950	88.3	90.0	90.9	0.70	0.80	0.85	10.8	
IV Poles																				
0.12	0.16	63	0.084	3.8	2.5	2.5	0.0006	94	207	6.9	44	1400	58.1	63.8	69.8	0.49	0.61	0.70	0.373	
0.18	0.25	63	0.125	4.3	2.9	2.8	0.0007	71	156	7.3	44	1405	63.2	68.2	74.7	0.46	0.59	0.69	0.531	
0.25	0.33	71	0.173	4.9	3.2	3.1	0.0009	131	288	10.9	43	1405	70.3	74.4	77.9	0.47	0.59	0.67	0.728	
0.37	0.5	80	0.249	7.5	3.7	3.8	0.0031	37	81	14.2	44	1445	74.0	77.8	81.1	0.57	0.70	0.78	0.889	
0.55	0.75	L80	0.369	7.4	3.1	3.4	0.0037	30	66	18.5	44	1450	81.6	83.6	83.9	0.57	0.70	0.78	1.28	
0.75	1	90S/L	0.502	7.0	2.6	3.1	0.0055	33	73	19.4	49	1455	83.2	85.1	85.7	0.58	0.71	0.78	1.70	
1.1	1.5	L90S/L	0.734	8.4	3.4	4	0.0077	24	53	24.6	49	1460	84.1	86.3	87.2	0.53	0.67	0.75	2.56	
1.5	2	100L	1.00	9.1	4.5	4.2	0.0097	33	73	26.0	53	1455	85.8	87.6	88.2	0.53	0.66	0.74	3.49	
2.2	3	L100L	1.47	9.5	5.1	4.7	0.0120	25	55	30.6	53	1455	86.0	87.9	89.5	0.51	0.64	0.73	5.12	
3	4	L112M	2.00	8.0	3	3.7	0.0206	36	79	40.2	56	1460	88.0	89.4	90.4	0.52	0.66	0.74	6.81	
4	5.5	132S	2.64	9.7	2.8	4	0.0563	28	62	56.7	56	1475	87.9	89.7	91.1	0.62	0.74	0.81	8.24	
5.5	7.5	132S	3.64	10.0	3	4.2	0.0638	18	40	62.0	56	1470	89.3	90.7	91.9	0.61	0.74	0.81	11.2	
7.5	10	160M/L	4.95	8.5	3.7	4.1	0.1120	26	57	116	67	1475	90.4	91.6	92.6	0.57	0.71	0.78	15.8	
11	15	180M/L	7.21	9.1	3.6	4.1	0.1827	33	73	150	64	1485	91.9	93.2	93.3	0.61	0.73	0.80	22.4	
15	20	180M/L	9.84	9.1	3.7	4.1	0.2088	25	55	163	64	1485	92.4	93.4	93.9	0.61	0.74	0.80	30.3	
18.5	25	L180M/L	12.2	9.4	3.8	4.1	0.2437	20	44	180	64	1480	92.7	93.7	94.2	0.61	0.73	0.80	37.3	
22	30	200M/L	14.4	9.0	3.7	3.8	0.3743	28	62	233	69	1485	94.0	94.8	94.5	0.61	0.73	0.79	44.8	
30	40	L200M/L	19.7	8.6	3.6	3.7	0.3979	20	44	241	69	1480	94.0	94.6	94.9	0.57	0.70	0.77	62.4	

Notes:

(1) Efficiency values are given according to IEC 60034-2-1. They are calculated according to indirect method, with stray load losses determined by measurement.

IE4 - Super Premium Efficiency - 50 Hz ¹⁾

Output		Frame	Full Load Torque (kgfm)	Locked Rotor Current I/In	Locked Rotor Torque TI/Tn	Break-down Torque Tb/Tn	Inertia J (kgm2)	Allowable locked rotor time (s)		Weight (kg)	Sound dB(A)	380 V								Full load current In (A)
												Rated speed (rpm)	% of full load							
								Hot	Cold				Efficiency			Power Factor				
kW	HP												50	75	100	50	75	100		
VI Poles																				
0.12	0.16	71	0.128	2.8	2.0	2.0	0.0007	216	475	9.5	43	910	54.8	60.6	64.9	0.38	0.48	0.56	0.502	
0.18	0.25	71	0.193	3.1	2.3	2.2	0.0009	181	398	12.5	43	910	60.8	65.7	70.1	0.36	0.46	0.54	0.722	
0.25	0.33	80	0.258	4.4	2.7	2.8	0.0027	58	128	13.2	43	945	65.9	70.1	74.1	0.46	0.58	0.68	0.754	
0.37	0.5	L80	0.381	4.7	2.9	3	0.0037	46	101	15.8	43	945	71.9	74.8	78.0	0.44	0.57	0.67	1.08	
0.55	0.75	90S/L	0.560	5.4	2.7	3.2	0.0066	44	97	20.7	45	957	77.2	80.6	80.9	0.45	0.58	0.65	1.59	
0.75	1	L90S/L	0.769	5.3	2.6	2.9	0.0077	43	95	23.8	45	950	81.0	83.1	82.7	0.48	0.62	0.68	2.03	
1.1	1.5	100L	1.12	5.3	2.5	2.7	0.0143	6	13	25.3	44	960	80.6	83.0	84.5	0.47	0.60	0.68	2.91	
1.5	2	L100L	1.52	5.7	2.7	2.8	0.0176	50	110	31.5	44	960	82.0	84.0	85.9	0.47	0.60	0.69	3.85	
2.2	3	L112M	2.23	6.2	2.7	2.9	0.0293	39	86	48.0	48	960	84.7	86.0	87.4	0.51	0.63	0.71	5.39	
3	4	132S	3.00	6.5	2.3	2.7	0.0568	68	150	56.5	52	973	85.6	87.0	88.6	0.52	0.64	0.72	7.15	
4	5.5	L132S	4.00	7.1	2.6	2.9	0.0757	55	121	70.5	52	975	86.8	88.0	89.5	0.52	0.64	0.71	9.56	
5.5	7.5	160M/L	5.46	7.5	3.5	3.9	0.1544	23	51	119	56	982	87.2	89.6	90.5	0.50	0.64	0.73	12.6	
7.5	10	160M/L	7.44	7.7	3.7	4	0.1895	19	42	125	56	982	87.6	90.0	91.3	0.50	0.63	0.72	17.3	
11	15	180M/L	10.9	9.5	3.3	3.8	0.3381	18	40	172	56	980	91.2	92.0	92.3	0.65	0.77	0.83	21.8	
15	20	200M/L	14.8	6.8	2.6	3	0.4212	39	86	215	58	985	91.7	92.5	92.9	0.60	0.72	0.78	31.5	
18.5	25	200M/L	18.3	6.9	2.8	3.2	0.4896	32	70	230	58	985	92.7	93.3	93.4	0.55	0.68	0.76	39.6	
22	30	L200M/L	21.8	6.8	2.7	3.1	0.5246	25	55	248	58	985	92.6	93.2	93.7	0.56	0.69	0.76	46.9	
VIII Poles																				
0.12	0.16	80	0.168	2.6	1.9	1.9	0.0030	144	317	14.9	42	695	50.9	56.8	62.3	0.44	0.55	0.64	0.457	
0.18	0.25	L80	0.256	2.8	1.8	1.7	0.0037	124	273	16.8	42	685	56.7	61.1	67.2	0.46	0.58	0.67	0.607	
0.25	0.33	L90S/L	0.343	3.5	1.8	2.4	0.0071	154	339	22.5	43	710	64.0	69.9	70.8	0.38	0.48	0.56	0.958	
0.37	0.5	100L	0.499	3.9	1.9	2.4	0.0077	88	194	25.5	50	722	65.3	71.5	74.3	0.36	0.47	0.54	1.40	
0.55	0.75	100L	0.758	3.4	1.5	1.7	0.0088	104	229	26.8	50	707	73.7	76.6	77.0	0.44	0.57	0.63	1.72	
0.75	1	100L	1.03	3.7	1.6	1.8	0.0116	76	167	30.0	50	708	76.0	78.5	78.4	0.44	0.57	0.63	2.31	
1.1	1.5	L100L	1.50	4.1	2	2.1	0.0165	70	154	34.8	50	713	77.3	80.2	80.8	0.41	0.53	0.60	3.45	
1.5	2	L112M	2.05	5.0	2.8	2.9	0.0275	57	125	44.8	46	713	79.0	81.5	82.6	0.44	0.56	0.65	4.24	
2.2	3	132S	2.98	6.5	2.4	3.1	0.0838	53	117	70.5	48	720	82.8	84.2	84.5	0.48	0.61	0.69	5.73	
3	4	160M/L	4.00	4.9	2.3	2.6	0.1053	36	79	82.3	51	730	82.7	84.9	85.9	0.45	0.58	0.67	7.92	
4	5.5	160M/L	5.34	5.0	2.4	2.7	0.1404	35	77	99.8	51	730	84.2	86.1	87.1	0.45	0.58	0.67	10.4	
5.5	7.5	180M/L	7.31	6.6	2.3	2.8	0.1894	27	59	105	51	733	89.0	89.7	88.3	0.57	0.69	0.77	12.3	
7.5	10	180M/L	9.98	6.8	2.5	2.9	0.2299	20	44	120	51	732	89.2	89.9	89.3	0.56	0.69	0.76	16.8	
11	15	180M/L	14.7	6.9	2.6	2.8	0.3246	18	40	178	51	730	90.3	90.5	90.4	0.59	0.71	0.78	23.7	
15	20	200M/L	19.9	4.8	2.1	2.4	0.5099	41	90	230	53	735	90.4	91.2	91.2	0.51	0.63	0.70	35.7	

Notes:

(1) Efficiency values are given according to IEC 60034-2-1. They are calculated according to indirect method, with stray load losses determined by measurement.

IE3 - Premium Efficiency - 50 Hz ¹⁾

Output		Frame	Full Load Torque (kgfm)	Locked Rotor Current l/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								Full load current In (A)
												Rated speed (rpm)	% of full load							
								Efficiency					Power Factor							
kW	HP							Hot	Cold			50	75	100	50	75	100			
II Poles																				
0.18	0.25	63	0.060	5.5	2.6	3.0	0.0002	20	44	7.0	52.0	2730	64.0	66.0	66.0	0.54	0.68	0.78	0.505	
0.25	0.33	63	0.090	4.8	2.3	2.8	0.0002	15	33	7.2	52.0	2710	66.0	69.0	69.7	0.56	0.70	0.81	0.639	
0.37	0.5	71	0.130	6.3	3.0	3.5	0.0004	12	26	6.9	56.0	2840	73.0	74.5	74.5	0.63	0.70	0.79	0.907	
0.55	0.75	71	0.190	5.9	2.7	2.7	0.0005	15	33	7.7	56.0	2830	75.0	76.0	77.8	0.68	0.80	0.86	1.19	
0.75	1	80	0.250	7.5	3.3	3.4	0.0008	25	55	12.1	59.0	2870	80.0	82.0	81.0	0.61	0.74	0.82	1.63	
1.1	1.5	80	0.380	7.4	3.6	3.6	0.0009	23	51	10.7	59.0	2830	81.0	83.5	83.5	0.56	0.70	0.79	2.41	
1.5	2	90S/L	0.500	8.0	2.6	3.5	0.0020	15	33	19.5	62.0	2900	83.0	84.2	84.2	0.64	0.75	0.82	3.14	
2.2	3	90S/L	0.750	7.5	3.4	3.5	0.0026	12	26	18.3	62.0	2870	86.0	86.5	86.3	0.65	0.77	0.83	4.43	
3	4	100L	1.01	7.9	2.5	3.3	0.0064	9	20	23.3	67.0	2905	85.0	86.5	87.1	0.65	0.78	0.85	5.85	
4	5.5	112M	1.34	7.7	2.5	3.5	0.0080	14	31	42.7	62.0	2900	87.0	88.0	88.3	0.69	0.80	0.86	7.60	
5.5	7.5	S132S	1.82	7.9	2.3	3.4	0.0216	14	31	46.7	63.0	2945	86.4	88.5	89.2	0.68	0.79	0.85	10.5	
7.5	10	132S	2.48	8.8	2.8	3.9	0.0252	10	22	55.1	63.0	2950	87.0	89.0	90.1	0.63	0.76	0.83	14.5	
9.2	12.5	132M	3.05	8.5	3.0	3.8	0.0306	12	26	57.7	63.0	2940	88.2	90.0	90.7	0.62	0.75	0.82	17.9	
11	15	160M/L	3.63	9.2	3.1	3.8	0.0506	12	26	115	70.0	2955	88.5	90.5	91.2	0.70	0.80	0.85	20.5	
15	20	160M/L	4.95	9.0	2.8	3.4	0.0565	8	18	109	70.0	2950	89.0	90.5	91.9	0.67	0.78	0.83	28.4	
18.5	25	160M/L	6.12	8.8	3.1	3.4	0.0650	11	24	113	70.0	2945	90.0	91.0	92.4	0.71	0.81	0.85	34.0	
22	30	180M/L	7.24	8.3	2.5	3.2	0.1192	10	22	145	70.0	2960	92.0	92.7	92.7	0.69	0.80	0.85	40.3	
30	40	200M/L	9.85	7.6	2.4	2.7	0.2063	14	31	219	74.0	2965	92.0	93.0	93.3	0.76	0.84	0.87	53.3	
37	50	200M/L	12.2	7.3	2.2	2.8	0.2114	18	40	208	74.0	2960	92.5	93.5	93.7	0.74	0.82	0.85	67.1	
37	50	200M/L	12.2	7.3	2.2	2.8	0.2114	18	40	208.2	74.0	2960	92.5	93.5	93.7	0.74	0.82	0.85	67.1	
High-Output Design																				
0.75	1	90S/L	0.250	8.2	2.4	3.4	0.0015	15	33	15.0	62.0	2920	75.5	79.3	80.7	0.63	0.75	0.82	1.64	
1.1	1.5	90S/L	0.370	7.8	2.2	3.3	0.0018	12	26	17.1	62.0	2910	79.4	81.8	82.7	0.63	0.75	0.82	2.34	
4	5.5	132S	1.32	7.2	2.1	3.3	0.0180	19	42	56.2	63.0	2945	84.7	87.1	88.1	0.67	0.79	0.85	7.71	
4	5.5	S132S	1.32	7.2	2.1	3.3	0.0180	19	42	56.2	63.0	2945	84.7	87.1	88.1	0.67	0.79	0.85	7.71	
5.5	7.5	132M	1.82	7.9	2.3	3.4	0.0216	14	31	46.7	63.0	2945	86.4	88.5	89.2	0.68	0.79	0.85	10.5	
5.5	7.5	132S	1.82	7.9	2.3	3.4	0.0216	14	31	46.7	63.0	2945	86.4	88.5	89.2	0.68	0.79	0.85	10.5	
7.5	10	132M	2.48	8.8	2.8	3.9	0.0252	10	22	55.1	63.0	2950	87.0	89.0	90.1	0.63	0.76	0.83	14.5	
11	15	132M	3.65	7.7	2.8	3.4	0.0306	12	26	65.1	63.0	2935	89.3	90.0	91.2	0.70	0.81	0.86	20.2	
IV Poles																				
0.12	0.16	63	0.080	5.5	2.8	3.5	0.0004	20	44	7.3	44.0	1415	53.0	60.0	64.8	0.47	0.58	0.68	0.393	
0.18	0.25	63	0.130	4.3	2.2	2.2	0.0006	30	66	7.6	44.0	1380	65.0	67.0	69.9	0.53	0.63	0.72	0.516	
0.25	0.33	71	0.180	4.8	2.3	2.3	0.0007	30	66	9.1	43.0	1390	69.0	72.0	73.5	0.52	0.65	0.72	0.682	
0.37	0.5	71	0.260	4.8	2.9	3.0	0.0008	30	66	9.6	43.0	1395	76.3	76.8	77.3	0.45	0.60	0.69	1.00	
0.55	0.75	80	0.370	6.5	2.3	2.7	0.0026	25	55	11.7	44.0	1440	77.0	79.0	80.8	0.58	0.72	0.79	1.24	
0.75	1	80	0.510	6.2	2.4	2.8	0.0032	23	51	12.8	44.0	1435	80.0	82.0	82.5	0.61	0.74	0.81	1.62	
1.1	1.5	90S/L	0.740	7.6	2.5	3.3	0.0055	15	33	19.4	49.0	1455	83.0	84.5	84.8	0.57	0.70	0.78	2.40	
1.5	2	90S/L	1.01	7.4	2.6	3.0	0.0066	13	29	18.1	49.0	1445	84.0	85.0	85.5	0.58	0.72	0.79	3.21	
2.2	3	100L	1.49	7.6	2.5	3.0	0.0090	16	35	25.2	53.0	1435	85.0	86.5	86.7	0.55	0.68	0.78	4.70	
3	4	L100L	2.03	7.8	3.5	3.7	0.0120	15	33	35.6	53.0	1440	87.0	88.0	88.0	0.58	0.71	0.78	6.31	
4	5.5	112M	2.69	7.0	2.3	3.1	0.0182	15	33	36.3	56.0	1450	88.0	88.5	88.6	0.60	0.72	0.79	8.25	
5.5	7.5	S132S	3.66	8.5	2.4	3.4	0.0528	15	33	53.4	56.0	1465	89.0	89.5	89.6	0.67	0.79	0.85	10.4	
7.5	10	132M	4.99	8.5	2.5	3.4	0.0642	13	29	76.6	56.0	1465	87.5	90.0	90.6	0.67	0.78	0.84	14.2	
11	15	160M/L	7.29	8.0	3.2	3.4	0.1071	12	26	103	67.0	1470	88.3	90.0	91.4	0.57	0.70	0.78	22.3	
15	20	160M/L	9.94	7.1	3.1	3.2	0.1263	11	24	115	67.0	1470	89.2	90.2	92.1	0.64	0.76	0.82	28.7	
18.5	25	180M/L	12.2	7.8	3.0	3.2	0.2088	15	33	154	64.0	1480	91.0	92.0	92.6	0.65	0.77	0.82	35.2	
22	30	180M/L	14.5	8.0	3.0	3.3	0.2393	13	29	181	64.0	1475	91.0	92.0	93.0	0.65	0.77	0.82	41.6	
30	40	200M/L	19.8	7.0	3.2	3.4	0.3743	8	18	208	69.0	1475	92.5	93.6	93.6	0.63	0.75	0.81	57.1	
22	30	180M/L	14.5	8.0	3.0	3.3	0.2393	13	29	181	64.0	1475	91.0	92.0	93.0	0.65	0.77	0.82	41.6	
30	40	200M/L	19.8	7.0	3.2	3.4	0.3743	8	18	207.8	69.0	1475	92.5	93.6	93.6	0.63	0.75	0.81	57.1	
High-Output Design																				
0.75	1	90S/L	0.500	6.8	2.1	3.4	0.0049	16	35	17.5	49.0	1460	78.2	81.8	82.5	0.50	0.63	0.73	1.80	
1.5	2	100L	1.01	7.8	2.5	3.4	0.0082	10	22	27.9	53.0	1445	84.0	85.3	85.3	0.54	0.67	0.76	3.34	
2.2	3	112M	1.46	7.8	2.9	3.1	0.0143	31	68	37.9	56.0	1470	84.0	86.5	86.7	0.52	0.66	0.74	4.95	
3	4	112M	2.01	8.1	2.3	3.1	0.0169	20	44	38.7	56.0	1455	86.3	87.7	87.7	0.56	0.69	0.76	6.50	
5.5	7.5	132M	3.66	8.5	2.4	3.4	0.0528	15	33	53.4	56.0	1465	89.0	89.5	89.6	0.67	0.79	0.85	10.4	
5.5	7.5	132S	3.66	8.5	2.4	3.4	0.0528	15	33	53.4	56.0	1465	89.0	89.5	89.6	0.67	0.79	0.85	10.4	
7.5	10	L132M	4.99	8.5	2.5	3.4	0.0638	13	29	62.7	56.0	1465	87.5	90.0	90.6	0.67	0.78	0.84	14.2	

Notes:

(1) Efficiency values are given according to IEC 60034-2-1. They are calculated according to indirect method, with stray load losses determined by measurement.

IE3 - Premium Efficiency - 50 Hz ¹⁾

Output		380 V								415 V							
		Rated speed (rpm)	% of full load						Full load current In (A)	Rated speed (rpm)	% of full load						Full load current In (A)
			Efficiency			Power Factor					Efficiency			Power Factor			
kW	HP		50	75	100	50	75	100			50	75	100	50	75	100	
II Poles																	
0.18	0.25	2705	65.0	66.0	66.0	0.58	0.72	0.82	0.505	2745	62.0	66.0	66.0	0.51	0.65	0.76	0.499
0.25	0.33	2680	67.0	69.0	69.7	0.60	0.75	0.84	0.649	2730	64.0	68.0	69.7	0.53	0.68	0.78	0.640
0.37	0.5	2825	73.6	74.3	73.8	0.68	0.79	0.81	0.940	2850	72.4	74.5	75.0	0.60	0.67	0.77	0.891
0.55	0.75	2805	75.6	75.7	77.8	0.73	0.83	0.88	1.22	2845	74.4	76.0	77.8	0.64	0.77	0.84	1.17
0.75	1	2855	80.0	80.5	80.7	0.66	0.78	0.85	1.66	2880	79.1	81.0	81.1	0.57	0.71	0.79	1.63
1.1	1.5	2810	82.0	83.7	83.1	0.63	0.75	0.83	2.42	2840	80.0	83.0	83.4	0.51	0.65	0.75	2.45
1.5	2	2885	83.7	84.2	84.2	0.69	0.79	0.84	3.22	2910	82.2	84.2	84.2	0.59	0.71	0.79	3.14
2.2	3	2855	86.5	86.4	85.9	0.70	0.81	0.86	4.52	2880	85.3	86.4	86.5	0.61	0.74	0.81	4.37
3	4	2895	84.5	86.0	87.1	0.71	0.82	0.88	5.95	2915	84.5	86.5	87.1	0.60	0.74	0.82	5.84
4	5.5	2890	87.0	88.0	88.3	0.73	0.83	0.88	7.82	2910	87.0	88.0	88.3	0.65	0.77	0.84	7.50
5.5	7.5	2940	86.9	88.0	89.2	0.73	0.83	0.88	10.6	2950	86.2	88.3	89.2	0.64	0.76	0.83	10.3
7.5	10	2945	87.5	89.0	90.1	0.70	0.80	0.86	14.7	2955	86.0	88.5	90.1	0.59	0.72	0.80	14.5
9.2	12.5	2935	88.7	90.0	90.7	0.69	0.80	0.86	17.9	2945	87.0	89.0	90.7	0.56	0.69	0.78	18.1
11	15	2950	89.5	90.5	91.2	0.75	0.84	0.87	21.1	2960	88.5	90.5	91.2	0.66	0.78	0.83	20.2
15	20	2945	90.0	91.0	91.9	0.74	0.83	0.86	28.8	2955	88.0	90.0	91.9	0.62	0.74	0.80	28.4
18.5	25	2935	91.0	91.5	92.4	0.77	0.85	0.88	34.6	2945	89.5	91.0	92.4	0.66	0.77	0.83	33.6
22	30	2955	92.0	92.7	92.7	0.73	0.82	0.86	41.9	2965	91.5	92.7	92.7	0.66	0.77	0.83	39.8
30	40	2960	92.0	93.0	93.3	0.80	0.86	0.88	55.5	2970	92.0	93.0	93.3	0.73	0.82	0.86	52.0
37	50	2955	93.0	93.5	93.7	0.78	0.85	0.87	69.0	2965	92.0	93.5	93.7	0.69	0.79	0.84	65.4
37	50	2955	93.0	93.5	93.7	0.78	0.85	0.87	69.0	2965	92.0	93.5	93.7	0.69	0.79	0.84	65.4
High-Output Design																	
0.75	1	2910	76.1	79.4	80.7	0.68	0.78	0.84	1.68	2925	74.8	79.0	80.7	0.60	0.72	0.79	1.64
1.1	1.5	2895	79.8	81.7	82.7	0.68	0.79	0.84	2.41	2915	78.7	81.6	82.7	0.59	0.72	0.80	2.31
4	5.5	2935	85.4	87.3	88.1	0.73	0.82	0.87	7.93	2950	84.1	86.8	88.1	0.63	0.75	0.82	7.70
4	5.5	2935	85.4	87.3	88.1	0.73	0.82	0.87	7.93	2950	84.1	86.8	88.1	0.63	0.75	0.82	7.70
5.5	7.5	2940	86.9	88.0	89.2	0.73	0.83	0.88	10.6	2950	86.2	88.3	89.2	0.64	0.76	0.83	10.3
5.5	7.5	2940	86.9	88.0	89.2	0.73	0.83	0.88	10.6	2950	86.2	88.3	89.2	0.64	0.76	0.83	10.3
7.5	10	2945	87.5	89.0	90.1	0.70	0.80	0.86	14.7	2955	86.0	88.5	90.1	0.59	0.72	0.80	14.5
11	15	2920	89.0	90.0	91.2	0.75	0.84	0.88	20.8	2940	89.0	90.0	91.2	0.66	0.78	0.84	20.0
IV Poles																	
0.12	0.16	1405	55.0	61.0	64.8	0.50	0.62	0.71	0.396	1420	52.0	59.0	64.8	0.45	0.56	0.65	0.396
0.18	0.25	1360	65.0	67.0	69.9	0.57	0.67	0.75	0.522	1390	65.0	67.0	69.9	0.50	0.61	0.70	0.512
0.25	0.33	1375	67.0	69.1	73.5	0.56	0.69	0.75	0.689	1400	65.1	68.6	73.5	0.50	0.62	0.69	0.686
0.37	0.5	1380	76.3	76.8	77.3	0.49	0.64	0.72	1.01	1405	76.3	76.8	77.3	0.42	0.57	0.67	0.994
0.55	0.75	1435	78.0	79.1	80.8	0.63	0.75	0.82	1.26	1445	76.0	78.9	80.8	0.55	0.68	0.77	1.23
0.75	1	1425	80.8	82.0	82.5	0.66	0.77	0.83	1.66	1440	79.1	81.8	82.5	0.57	0.70	0.79	1.60
1.1	1.5	1450	84.0	84.7	84.3	0.62	0.74	0.81	2.45	1460	82.0	84.1	84.8	0.55	0.67	0.75	2.41
1.5	2	1440	85.0	85.3	85.3	0.63	0.76	0.81	3.30	1450	83.1	85.0	85.7	0.54	0.68	0.77	3.16
2.2	3	1425	86.0	86.5	86.7	0.60	0.72	0.80	4.82	1440	84.0	85.8	86.7	0.51	0.65	0.75	4.71
3	4	1430	87.7	88.0	87.7	0.63	0.75	0.81	6.42	1445	86.3	87.7	88.1	0.54	0.68	0.76	6.23
4	5.5	1445	88.0	88.5	88.6	0.65	0.76	0.81	8.47	1455	88.0	88.5	88.6	0.57	0.70	0.77	8.16
5.5	7.5	1460	89.0	89.5	89.6	0.71	0.82	0.87	10.7	1470	89.0	89.5	89.6	0.64	0.76	0.83	10.3
7.5	10	1460	88.5	90.0	90.6	0.71	0.81	0.86	14.6	1470	86.5	90.0	90.6	0.63	0.75	0.83	13.9
11	15	1470	89.3	90.3	91.4	0.62	0.75	0.81	22.6	1475	87.5	89.3	91.4	0.53	0.67	0.75	22.3
15	20	1465	90.0	90.4	92.1	0.69	0.80	0.84	29.5	1470	88.5	90.0	92.1	0.60	0.73	0.80	28.3
18.5	25	1475	91.0	92.0	92.6	0.70	0.80	0.84	36.1	1480	91.0	92.0	92.6	0.61	0.73	0.80	34.7
22	30	1475	91.0	92.0	93.0	0.70	0.80	0.84	42.8	1480	91.0	92.0	93.0	0.61	0.73	0.80	41.1
30	40	1475	92.5	93.6	93.6	0.68	0.79	0.84	58.0	1480	92.0	93.6	93.6	0.58	0.71	0.79	56.4
22	30	1475	91.0	92.0	93.0	0.70	0.80	0.84	42.8	1480	91.0	92.0	93.0	0.61	0.73	0.80	41.1
30	40	1475	92.5	93.6	93.6	0.68	0.79	0.84	58.0	1480	92.0	93.6	93.6	0.58	0.71	0.79	56.4
High-Output Design																	
0.75	1	1455	79.2	82.2	82.5	0.54	0.67	0.76	1.82	1465	77.2	81.4	82.5	0.47	0.60	0.70	1.81
1.5	2	1440	84.0	85.3	85.3	0.58	0.71	0.79	3.38	1450	83.0	85.3	85.3	0.51	0.64	0.73	3.35
2.2	3	1465	84.0	86.0	86.7	0.56	0.67	0.75	5.14	1470	84.0	86.5	87.0	0.49	0.60	0.70	5.03
3	4	1450	86.9	87.0	87.7	0.60	0.73	0.79	6.58	1460	85.7	87.4	87.7	0.59	0.66	0.74	6.43
5.5	7.5	1460	89.0	89.5	89.6	0.71	0.82	0.87	10.7	1470	89.0	89.5	89.6	0.64	0.76	0.83	10.3
5.5	7.5	1460	89.0	89.5	89.6	0.71	0.82	0.87	10.7	1470	89.0	89.5	89.6	0.64	0.76	0.83	10.3
7.5	10	1460	88.5	90.0	90.6	0.71	0.81	0.86	14.6	1470	86.5	90.0	90.6	0.63	0.75	0.83	13.9

Notes:

(1) Efficiency values are given according to IEC 60034-2-1. They are calculated according to indirect method, with stray load losses determined by measurement.

IE3 - Premium Efficiency - 50 Hz ¹⁾

Output		Frame	Full Load Torque (kgfm)	Locked Rotor Current I/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		
VI Poles																				
0.12	0.16	71	0.180	2.4	1.6	1.8	0.0009	30	66	11.5	41.0	650	44.0	50.0	50.7	0.35	0.43	0.50	0.683	
0.18	0.25	80	0.260	3.3	2.0	2.2	0.0029	30	66	11.7	42.0	680	51.0	57.0	58.7	0.45	0.55	0.65	0.681	
0.25	0.33	80	0.350	3.5	2.0	2.2	0.0034	30	66	11.5	42.0	695	53.0	60.0	64.1	0.42	0.52	0.63	0.894	
0.37	0.5	90S/L	0.510	3.7	2.0	2.2	0.0055	30	66	19.0	44.0	705	61.0	66.0	69.3	0.41	0.53	0.62	1.24	
0.55	0.75	90S/L	0.780	3.6	1.8	2.1	0.0066	29	64	18.3	44.0	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	23.6	50.0	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	0.0143	30	66	25.6	50.0	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	37.8	46.0	705	79.0	80.5	80.5	0.45	0.59	0.68	3.96	
2.2	3	S132S	3.02	6.2	2.3	2.5	0.0690	27	59	58.9	48.0	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	61.5	48.0	710	82.5	83.5	83.5	0.51	0.64	0.72	7.20	
4	5.5	160M/L	5.34	5.6	2.1	3.1	0.1221	15	33	94.7	53.0	730	81.0	83.0	84.8	0.48	0.61	0.70	9.73	
5.5	7.5	160M/L	7.34	5.7	2.4	3.2	0.1652	20	44	98.7	53.0	730	84.0	86.0	86.2	0.49	0.62	0.71	13.0	
7.5	10	160M/L	10.1	5.3	2.2	2.8	0.1652	19	42	119	53.0	725	86.0	87.0	87.3	0.54	0.66	0.73	17.0	
11	15	180M/L	14.7	6.5	2.3	2.7	0.3034	13	29	145	51.0	730	88.6	88.6	88.6	0.55	0.68	0.76	23.6	
15	20	200M/L	19.9	5.0	2.0	2.2	0.5023	28	62	228	56.0	735	89.5	90.5	90.9	0.53	0.65	0.71	33.5	
5.5	7.5	L132M	5.52	7.3	2.1	2.5	0.0755	26	57	71.8	53.0	970	86.0	87.0	88.0	0.50	0.64	0.72	12.5	
7.5	10	160M/L	7.49	6.6	2.5	2.9	0.1614	19	42	101.3	54.0	975	86.0	88.5	89.1	0.61	0.74	0.80	15.2	
11	15	160M/L	11.0	7.0	3.2	3.2	0.1689	13	29	119.3	54.0	977	87.5	89.4	90.3	0.54	0.68	0.76	23.1	
15	20	180M/L	14.9	8.4	3.1	3.7	0.3310	8	18	137.1	56.0	980	90.0	91.2	91.2	0.61	0.74	0.81	29.3	
18.5	25	200M/L	18.5	6.3	2.3	2.5	0.3861	17	37	193	58.0	975	90.5	91.8	92.0	0.67	0.78	0.82	35.4	
22	30	200M/L	22.0	6.2	2.3	2.6	0.4388	15	33	208.5	58.0	975	90.4	92.0	92.2	0.65	0.75	0.82	42.0	
High-Output Design																				
2.2	3	132S	3.02	6.2	2.3	2.5	0.0690	27	59	58.9	48.0	710	82.0	82.6	82.6	0.51	0.65	0.72	5.34	
VIII Poles																				
0.12	0.16	71	0.180	2.4	1.6	1.8	0.0009	30	66	11.5	41.0	650	44.0	50.0	50.7	0.35	0.43	0.50	0.683	
0.18	0.25	80	0.260	3.3	2.0	2.2	0.0029	30	66	11.7	42.0	680	51.0	57.0	58.7	0.45	0.55	0.65	0.681	
0.25	0.33	80	0.350	3.5	2.0	2.2	0.0034	30	66	11.5	42.0	695	53.0	60.0	64.1	0.42	0.52	0.63	0.894	
0.37	0.5	90S/L	0.510	3.7	2.0	2.2	0.0055	30	66	19.0	44.0	705	61.0	66.0	69.3	0.41	0.53	0.62	1.24	
0.55	0.75	90S/L	0.780	3.6	1.8	2.1	0.0066	29	64	18.3	44.0	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	23.6	50.0	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	0.0143	30	66	25.6	50.0	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	37.8	46.0	705	79.0	80.5	80.5	0.45	0.59	0.68	3.96	
2.2	3	S132S	3.02	6.2	2.3	2.5	0.0690	27	59	58.9	48.0	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	61.5	48.0	710	82.5	83.5	83.5	0.51	0.64	0.72	7.20	
4	5.5	160M/L	5.34	5.6	2.1	3.1	0.1221	15	33	94.7	53.0	730	81.0	83.0	84.8	0.48	0.61	0.70	9.73	
5.5	7.5	160M/L	7.34	5.7	2.4	3.2	0.1652	20	44	98.7	53.0	730	84.0	86.0	86.2	0.49	0.62	0.71	13.0	
7.5	10	160M/L	10.1	5.3	2.2	2.8	0.1652	19	42	119	53.0	725	86.0	87.0	87.3	0.54	0.66	0.73	17.0	
11	15	180M/L	14.7	6.5	2.3	2.7	0.3034	13	29	145	51.0	730	88.6	88.6	88.6	0.55	0.68	0.76	23.6	
15	20	200M/L	19.9	5.0	2.0	2.2	0.5023	28	62	228	56.0	735	89.5	90.5	90.9	0.53	0.65	0.71	33.5	
15	20	200M/L	19.9	5.0	2.0	2.2	0.5023	28	62	228	56.0	735	89.5	90.5	90.9	0.53	0.65	0.71	33.5	
High-Output Design																				
2.2	3	132S	3.02	6.2	2.3	2.5	0.0690	27	59	58.9	48.0	710	82.0	82.6	82.6	0.51	0.65	0.72	5.34	

Notes:

(1) Efficiency values are given according to IEC 60034-2-1. They are calculated according to indirect method, with stray load losses determined by measurement.

IE3 - Premium Efficiency - 50 Hz ¹⁾

Output		380 V									415 V							
		Rated speed (rpm)	% of full load						Full load current In (A)	Rated speed (rpm)	% of full load						Full load current In (A)	
			Efficiency			Power Factor					Efficiency			Power Factor				
kW	HP		50	75	100	50	75	100			50	75	100	50	75	100		
VI Poles																		
0.12	0.16	640	46.6	51.7	50.7	0.38	0.46	0.54	0.666	660	41.8	48.2	50.7	0.34	0.41	0.48	0.686	
0.18	0.25	670	52.8	58.0	58.7	0.48	0.59	0.69	0.675	685	49.3	56.0	58.7	0.43	0.53	0.62	0.688	
0.25	0.33	685	54.0	60.0	64.1	0.44	0.57	0.67	0.884	705	56.0	62.0	64.3	0.39	0.50	0.60	0.902	
0.37	0.5	700	62.9	66.9	69.3	0.44	0.56	0.66	1.23	710	59.0	64.7	69.3	0.39	0.50	0.59	1.26	
0.55	0.75	675	64.8	70.0	73.0	0.48	0.61	0.70	1.64	690	61.4	72.5	73.0	0.42	0.54	0.64	1.64	
0.75	1	705	73.9	76.1	75.1	0.44	0.57	0.66	2.30	715	71.1	74.8	75.5	0.38	0.50	0.59	2.34	
1.1	1.5	700	74.9	76.8	77.7	0.45	0.58	0.66	3.26	710	71.1	76.0	77.7	0.38	0.50	0.59	3.34	
1.5	2	700	79.9	80.6	79.8	0.49	0.63	0.71	4.02	710	77.9	80.2	80.8	0.42	0.56	0.65	3.97	
2.2	3	705	82.9	82.6	81.9	0.57	0.68	0.76	5.37	715	81.2	82.3	82.9	0.48	0.62	0.70	5.27	
3	4	705	82.7	83.0	83.5	0.56	0.68	0.75	7.28	715	81.5	83.2	83.7	0.48	0.61	0.70	7.12	
4	5.5	730	82.0	83.5	84.8	0.52	0.65	0.73	9.82	735	80.0	83.0	84.8	0.46	0.59	0.68	9.65	
5.5	7.5	725	85.0	86.0	86.2	0.53	0.66	0.73	13.3	730	83.0	85.5	86.2	0.46	0.59	0.68	13.1	
7.5	10	720	86.5	87.0	87.3	0.58	0.70	0.76	17.2	730	85.5	87.0	87.3	0.51	0.64	0.72	16.6	
11	15	725	88.5	88.6	88.6	0.59	0.71	0.77	24.5	730	88.0	88.6	88.6	0.52	0.65	0.74	23.3	
15	20	735	89.5	90.0	90.6	0.56	0.67	0.73	34.5	735	89.0	90.0	90.9	0.50	0.63	0.69	33.3	
5.5	7.5	965	85.5	87.0	88.0	0.55	0.68	0.75	12.7	970	86.0	87.0	88.0	0.47	0.61	0.69	12.6	
7.5	10	970	86.5	88.5	89.1	0.65	0.76	0.82	15.6	975	85.5	88.5	89.1	0.58	0.71	0.79	14.8	
11	15	974	88.3	89.6	90.3	0.59	0.71	0.79	23.4	979	86.7	89.0	90.3	0.51	0.64	0.73	23.2	
15	20	975	90.7	91.0	91.2	0.65	0.76	0.83	30.1	980	89.0	91.0	91.2	0.57	0.71	0.79	29.0	
18.5	25	970	90.5	91.8	92.0	0.72	0.81	0.84	36.4	980	90.0	91.8	92.0	0.64	0.75	0.80	35.0	
22	30	970	91.0	92.0	92.2	0.70	0.78	0.84	43.2	980	89.5	91.5	92.2	0.60	0.72	0.80	41.5	
High-Output Design																		
2.2	3	705	82.9	82.6	81.9	0.57	0.68	0.76	5.37	715	81.2	82.3	82.9	0.48	0.62	0.70	5.27	
VIII Poles																		
0.12	0.16	640	46.6	51.7	50.7	0.38	0.46	0.54	0.666	660	41.8	48.2	50.7	0.34	0.41	0.48	0.686	
0.18	0.25	670	52.8	58.0	58.7	0.48	0.59	0.69	0.675	685	49.3	56.0	58.7	0.43	0.53	0.62	0.688	
0.25	0.33	685	54.0	60.0	64.1	0.44	0.57	0.67	0.884	705	56.0	62.0	64.3	0.39	0.50	0.60	0.902	
0.37	0.5	700	62.9	66.9	69.3	0.44	0.56	0.66	1.23	710	59.0	64.7	69.3	0.39	0.50	0.59	1.26	
0.55	0.75	675	64.8	70.0	73.0	0.48	0.61	0.70	1.64	690	61.4	72.5	73.0	0.42	0.54	0.64	1.64	
0.75	1	705	73.9	76.1	75.1	0.44	0.57	0.66	2.30	715	71.1	74.8	75.5	0.38	0.50	0.59	2.34	
1.1	1.5	700	74.9	76.8	77.7	0.45	0.58	0.66	3.26	710	71.1	76.0	77.7	0.38	0.50	0.59	3.34	
1.5	2	700	79.9	80.6	79.8	0.49	0.63	0.71	4.02	710	77.9	80.2	80.8	0.42	0.56	0.65	3.97	
2.2	3	705	82.9	82.6	81.9	0.57	0.68	0.76	5.37	715	81.2	82.3	82.9	0.48	0.62	0.70	5.27	
3	4	705	82.7	83.0	83.5	0.56	0.68	0.75	7.28	715	81.5	83.2	83.7	0.48	0.61	0.70	7.12	
4	5.5	730	82.0	83.5	84.8	0.52	0.65	0.73	9.82	735	80.0	83.0	84.8	0.46	0.59	0.68	9.65	
5.5	7.5	725	85.0	86.0	86.2	0.53	0.66	0.73	13.3	730	83.0	85.5	86.2	0.46	0.59	0.68	13.1	
7.5	10	720	86.5	87.0	87.3	0.58	0.70	0.76	17.2	730	85.5	87.0	87.3	0.51	0.64	0.72	16.6	
11	15	725	88.5	88.6	88.6	0.59	0.71	0.77	24.5	730	88.0	88.6	88.6	0.52	0.65	0.74	23.3	
15	20	735	89.5	90.0	90.6	0.56	0.67	0.73	34.5	735	89.0	90.0	90.9	0.50	0.63	0.69	33.3	
15	20	735	89.5	90.0	90.6	0.56	0.67	0.73	34.5	735	89.0	90.0	90.9	0.50	0.63	0.69	33.3	
High-Output Design																		
2.2	3	705	82.9	82.6	81.9	0.57	0.68	0.76	5.37	715	81.2	82.3	82.9	0.48	0.62	0.70	5.27	

Notes:

(1) Efficiency values are given according to IEC 60034-2-1. They are calculated according to indirect method, with stray load losses determined by measurement.

IE2 - High Efficiency - 50 Hz ¹⁾

Output		Frame	Full Load Torque (kgfm)	Locked Rotor Current II/ In	Locked Rotor Torque TI/ Tn	Break-down Torque Tb/Tn	Inertia J (kgm2)	Allowable locked rotor time (s)		Weight (kg)	Sound dB(A)	Rated speed (rpm)	400 V						Full load current In (A)
													% of full load						
								Efficiency					Power Factor						
kW	HP							Hot	Cold				50	75	100	50	75	100	
II Poles																			
0.12	0.16	63	0.040	4.8	3.0	2.9	0.0001	37	81	11.3	52.0	2790	53.0	60.0	60.7	0.53	0.66	0.75	0.380
0.18	0.25	63	0.060	5.0	2.6	3.4	0.0001	18	40	6.8	52.0	2745	57.0	62.0	64.0	0.48	0.62	0.73	0.556
0.25	0.33	63	0.090	5.0	2.3	2.9	0.0002	15	33	7.0	52.0	2710	64.0	66.0	66.0	0.51	0.66	0.78	0.701
0.37	0.5	71	0.130	5.8	2.5	2.6	0.0004	12	26	6.2	56.0	2830	68.0	70.0	71.0	0.60	0.75	0.84	0.895
0.55	0.75	71	0.190	5.8	2.4	2.4	0.0005	9	20	7.1	56.0	2780	70.0	72.0	74.1	0.68	0.82	0.88	1.22
0.75	1	80	0.260	6.5	2.8	2.8	0.0008	14	31	11.2	59.0	2800	76.0	78.5	79.5	0.67	0.80	0.86	1.58
1.1	1.5	80	0.380	6.5	2.8	2.8	0.0009	10	22	9.7	59.0	2800	78.0	80.0	80.0	0.67	0.79	0.83	2.39
1.5	2	90S/L	0.510	7.0	2.6	3.1	0.0021	7	15	18.2	62.0	2880	80.0	82.0	82.0	0.63	0.76	0.83	3.18
2.2	3	L90S/L	0.750	8.4	3.2	3.2	0.0035	5	11	18.4	62.0	2875	82.2	82.7	83.2	0.64	0.77	0.84	4.54
3	4	100L	1.01	7.5	2.3	3.0	0.0051	7	15	25.0	67.0	2900	83.0	84.5	85.0	0.66	0.78	0.86	5.92
4	5.5	112M	1.35	7.0	2.0	2.8	0.0088	10	22	31.0	64.0	2880	86.0	86.0	86.0	0.73	0.83	0.88	7.63
5.5	7.5	S132S	1.82	7.5	2.2	3.4	0.0197	13	29	45.0	67.0	2945	86.0	87.0	87.0	0.65	0.77	0.84	10.9
7.5	10	S132S	2.48	8.1	2.4	3.4	0.0251	10	22	52.5	67.0	2945	87.0	88.0	88.1	0.68	0.79	0.85	14.5
9.2	12.5	132M	3.04	8.5	2.6	3.6	0.0234	8	18	65.4	67.0	2945	88.2	89.5	89.9	0.65	0.78	0.85	17.4
11	15	160M/L	3.64	7.9	2.7	3.2	0.0421	10	22	88.3	70.0	2940	88.5	89.4	89.4	0.71	0.81	0.86	20.7
15	20	160M/L	4.97	8.1	2.8	3.2	0.0506	7	15	103	70.0	2940	89.5	90.3	90.3	0.73	0.82	0.87	27.6
18.5	25	160M/L	6.13	8.4	3.0	3.3	0.0590	8	18	109	70.0	2940	90.0	90.9	90.9	0.70	0.80	0.85	34.6
22	30	180M/L	7.24	8.3	2.5	3.0	0.0975	8	18	145	70.0	2960	91.5	91.6	91.6	0.68	0.79	0.84	41.3
30	40	200M/L	9.87	7.2	2.4	2.8	0.1532	10	22	185	74.0	2960	91.2	92.0	92.0	0.70	0.80	0.84	56.0
37	50	200M/L	12.1	7.8	2.4	2.7	0.1703	8	18	197	74.0	2965	92.0	92.5	92.5	0.74	0.83	0.86	67.1
High-Output Design																			
0.37	0.5	63	0.130	5.0	2.2	2.2	0.0002	7	15	7.2	52.0	2740	64.0	67.0	69.5	0.56	0.71	0.81	0.949
0.75	1	71	0.260	5.8	2.8	2.8	0.0005	14	31	12.2	56.0	2800	77.0	77.5	77.6	0.67	0.80	0.87	1.60
0.75	1	90S/L	0.250	7.0	2.0	3.5	0.0012	15	33	17.5	62.0	2880	77.0	78.0	78.0	0.62	0.74	0.81	1.71
1.1	1.5	90S/L	0.370	6.1	2.5	2.6	0.0014	12	26	19.0	62.0	2860	80.0	80.5	80.5	0.65	0.77	0.83	2.38
1.5	2	80	0.530	6.5	3.1	3.0	0.0009	15	33	17.6	59.0	2770	80.0	81.0	81.5	0.65	0.78	0.85	3.13
2.2	3	100L	0.740	7.8	2.4	3.0	0.0043	8	18	27.8	67.0	2900	80.0	82.5	83.2	0.66	0.78	0.84	4.54
2.2	3	90S/L	0.750	6.6	3.0	3.0	0.0022	9	20	19.4	62.0	2840	83.0	83.6	83.6	0.63	0.76	0.83	4.58
3	4	L90S/L	1.03	7.1	3.4	3.4	0.0030	9	20	29.5	62.0	2840	84.0	84.6	84.6	0.61	0.75	0.82	6.24
4	5.5	100L	1.36	7.8	2.8	3.3	0.0064	9	20	36.4	67.0	2870	85.2	85.8	85.8	0.67	0.80	0.86	7.82
5.5	7.5	112M	1.86	7.3	2.7	3.0	0.0088	11	24	46.0	64.0	2880	86.5	87.0	87.0	0.72	0.82	0.87	10.5
5.5	7.5	132M	1.82	7.5	2.2	3.4	0.0197	13	29	45.0	67.0	2945	86.0	87.0	87.0	0.65	0.77	0.84	10.9
5.5	7.5	132S	1.82	7.5	2.2	3.4	0.0197	13	29	45.0	67.0	2945	86.0	87.0	87.0	0.65	0.77	0.84	10.9
7.5	10	132M	2.48	8.1	2.4	3.4	0.0251	10	22	52.5	67.0	2945	87.0	88.0	88.1	0.68	0.79	0.85	14.5
7.5	10	132S	2.48	8.1	2.4	3.4	0.0251	10	22	52.5	67.0	2945	87.0	88.0	88.1	0.68	0.79	0.85	14.5
7.5	10	L112M	2.55	7.9	3.0	3.4	0.0109	10	22	52.5	64.0	2870	87.3	88.1	88.1	0.67	0.79	0.85	14.5
11	15	132M	3.65	7.7	2.8	3.4	0.0270	12	26	64.6	67.0	2935	89.3	90.0	90.7	0.70	0.81	0.86	20.4
IV Poles																			
0.12	0.16	63	0.080	5.0	2.8	3.5	0.0004	20	44	5.4	44.0	1395	53.0	58.0	59.1	0.45	0.56	0.67	0.437
0.18	0.25	63	0.130	4.1	2.0	2.0	0.0006	20	44	5.4	44.0	1400	53.0	59.0	64.7	0.47	0.60	0.68	0.591
0.25	0.33	71	0.170	4.5	2.0	2.2	0.0007	68	150	10.2	43.0	1410	59.0	65.0	68.5	0.49	0.62	0.71	0.742
0.37	0.5	71	0.260	4.3	2.0	2.0	0.0008	48	106	8.7	43.0	1400	63.0	68.0	72.7	0.50	0.62	0.72	1.02
0.55	0.75	80	0.380	6.0	2.5	2.8	0.0029	22	48	10.7	44.0	1425	72.9	76.3	77.1	0.56	0.70	0.80	1.29
0.75	1	80	0.520	6.0	2.6	2.6	0.0029	15	33	10.9	44.0	1410	79.0	79.6	79.8	0.63	0.76	0.81	1.67
1.1	1.5	90S/L	0.740	6.5	2.0	2.9	0.0060	9	20	19.0	49.0	1455	80.0	81.6	81.6	0.53	0.67	0.76	2.56
1.5	2	L90S/L	1.00	6.7	1.7	2.7	0.0074	8	18	21.3	49.0	1460	77.2	80.6	82.8	0.54	0.68	0.77	3.40
2.2	3	100L	1.50	7.0	2.9	3.0	0.0105	11	24	24.8	53.0	1430	83.0	84.5	84.5	0.60	0.73	0.81	4.64
3	4	L100L	2.02	8.1	3.5	3.8	0.0120	6	13	28.7	53.0	1445	83.0	84.5	85.5	0.54	0.68	0.76	6.66
4	5.5	L112M	2.69	6.9	2.1	2.8	0.0207	9	20	37.0	56.0	1450	85.5	86.0	86.7	0.61	0.74	0.81	8.24
5.5	7.5	S132S	3.67	7.3	1.9	3.0	0.0528	8	18	49.8	56.0	1460	86.5	87.3	87.7	0.68	0.80	0.86	10.5
7.5	10	132M	4.97	7.8	2.1	3.0	0.0528	7	15	58.0	56.0	1470	86.5	88.0	88.7	0.55	0.69	0.80	15.3
9.2	12.5	160M/L	6.10	7.1	2.6	2.8	0.0638	8	18	105	67.0	1470	87.5	89.0	89.5	0.63	0.76	0.82	18.1
11	15	160M/L	7.29	6.9	2.5	2.7	0.0828	8	18	107	67.0	1470	87.5	89.0	89.8	0.63	0.76	0.82	21.6
15	20	160M/L	9.94	7.4	2.7	3.0	0.1069	8	18	108	67.0	1470	89.5	90.6	90.6	0.64	0.76	0.82	29.1
18.5	25	180M/L	12.2	7.8	2.8	3.2	0.1573	6	13	146	64.0	1480	90.0	91.0	91.2	0.62	0.75	0.81	36.1
22	30	180M/L	14.5	8.0	2.9	3.3	0.2010	7	15	162	64.0	1480	90.0	91.0	91.6	0.62	0.75	0.81	42.8
30	40	200M/L	19.9	7.0	2.5	2.8	0.2941	8	18	199	69.0	1470	92.0	92.3	92.3	0.69	0.80	0.84	55.8
37	50	200M/L	24.4	6.0	2.4	2.7	0.3721	14	31	225	69.0	1475	92.8	93.0	93.0	0.70	0.80	0.83	69.2
30	40	200M/L	19.9	7.0	2.5	2.8	0.2941	8	18	199.2	69.0	1470	92.0	92.3	92.3	0.69	0.80	0.84	55.8
37	50	200M/L	24.4	6.0	2.4	2.7	0.3721	14	31	225.1	69.0	1475	92.8	93.0	93.0	0.70	0.80	0.83	69.2
High-Output Design																			
0.75	1	90S/L	0.500	6.2	2.1	2.6	0.0038	14	31	18.0	49.0	1465	78.0	80.0	80.0	0.50	0.64	0.74	1.83
1.1	1.5	L80	0.770	6.6	2.6	2.8	0.0037	11	24	14.9	44.0	140.							

IE2 - High Efficiency - 50 Hz ¹⁾

Output		Rated speed (rpm)	380 V							Full load current In (A)	Rated speed (rpm)	415 V							Full load current In (A)
			% of full load						% of full load										
			Efficiency			Power Factor			Efficiency			Power Factor							
kW	HP		50	75	100	50	75	100		50	75	100	50	75	100				
II Poles																			
0.12	0.16	2765	54.7	60.7	60.7	0.57	0.71	0.79	0.380	2805	51.4	59.0	60.6	0.50	0.63	0.72	0.383		
0.18	0.25	2720	57.0	62.0	64.0	0.52	0.66	0.77	0.555	2755	57.0	62.0	64.0	0.45	0.58	0.70	0.559		
0.25	0.33	2685	65.0	66.0	66.0	0.55	0.71	0.82	0.702	2730	63.0	66.0	66.0	0.48	0.62	0.74	0.712		
0.37	0.5	2805	69.0	70.1	70.3	0.66	0.79	0.87	0.919	2845	66.9	69.7	71.2	0.57	0.72	0.82	0.882		
0.55	0.75	2750	70.8	71.9	74.1	0.73	0.85	0.91	1.24	2795	68.9	71.7	74.1	0.63	0.79	0.86	1.20		
0.75	1	2770	77.7	78.0	78.0	0.66	0.81	0.87	1.68	2810	75.0	78.5	79.5	0.64	0.77	0.84	1.56		
1.1	1.5	2775	78.9	79.2	79.6	0.73	0.83	0.86	2.44	2815	77.1	80.2	80.2	0.62	0.75	0.80	2.39		
1.5	2	2865	80.5	81.6	81.6	0.68	0.79	0.85	3.29	2890	79.3	81.9	82.5	0.58	0.73	0.81	3.12		
2.2	3	2860	82.2	82.7	83.2	0.70	0.81	0.87	4.62	2890	82.2	82.7	83.2	0.59	0.73	0.82	4.49		
3	4	2885	83.9	84.5	85.0	0.71	0.83	0.88	6.09	2910	82.1	84.1	85.0	0.61	0.75	0.83	5.92		
4	5.5	2865	86.6	86.0	85.8	0.78	0.87	0.90	7.87	2890	85.3	85.9	86.3	0.69	0.80	0.86	7.50		
5.5	7.5	2935	86.0	87.0	87.0	0.73	0.82	0.87	11.0	2950	85.0	87.0	87.0	0.60	0.73	0.81	10.9		
7.5	10	2935	87.5	88.0	88.1	0.73	0.83	0.88	14.7	2950	86.0	88.0	88.1	0.63	0.76	0.83	14.3		
9.2	12.5	2935	87.5	88.0	88.9	0.71	0.82	0.87	18.1	2950	87.0	88.0	88.9	0.61	0.74	0.82	17.6		
11	15	2935	89.0	89.4	89.4	0.77	0.85	0.88	21.2	2945	88.0	89.4	89.4	0.67	0.78	0.84	20.4		
15	20	2935	89.5	90.3	90.3	0.78	0.85	0.88	28.7	2945	89.5	90.3	90.3	0.69	0.79	0.85	27.2		
18.5	25	2930	90.5	90.9	90.9	0.77	0.85	0.88	35.1	2945	89.5	90.9	90.9	0.64	0.76	0.82	34.5		
22	30	2955	91.2	91.5	91.5	0.72	0.82	0.86	42.5	2965	91.5	91.6	91.6	0.64	0.76	0.83	40.3		
30	40	2955	91.5	92.0	92.0	0.75	0.83	0.86	57.6	2965	90.5	91.8	92.0	0.65	0.77	0.82	55.3		
37	50	2960	92.2	92.5	92.5	0.79	0.85	0.88	69.1	2965	92.0	92.5	92.5	0.69	0.79	0.84	66.2		
High-Output Design																			
0.37	0.5	2705	65.0	67.6	69.5	0.62	0.76	0.83	0.975	2760	61.1	66.2	69.5	0.52	0.66	0.77	0.962		
0.75	1	2780	77.0	77.4	77.4	0.73	0.84	0.90	1.64	2830	76.0	77.6	77.6	0.62	0.76	0.85	1.58		
0.75	1	2865	77.0	78.0	78.0	0.67	0.78	0.84	1.74	2890	77.0	78.0	78.0	0.58	0.71	0.79	1.69		
1.1	1.5	2850	80.7	80.3	79.6	0.70	0.80	0.85	2.47	2870	79.2	80.4	81.0	0.60	0.74	0.81	2.33		
1.5	2	2750	81.0	81.5	81.3	0.71	0.83	0.88	3.19	2790	80.0	81.0	81.7	0.59	0.74	0.82	3.11		
2.2	3	2890	80.0	82.5	83.2	0.72	0.82	0.87	4.62	2905	80.0	82.5	83.2	0.62	0.75	0.82	4.49		
2.2	3	2820	83.7	83.5	83.2	0.69	0.80	0.85	4.75	2855	82.2	83.4	83.9	0.59	0.72	0.80	4.56		
3	4	2830	84.5	84.5	84.6	0.67	0.79	0.85	6.34	2860	84.0	84.7	84.7	0.57	0.71	0.79	6.24		
4	5.5	2860	85.5	85.8	85.8	0.73	0.83	0.88	8.05	2880	85.0	86.0	86.0	0.63	0.76	0.83	7.80		
5.5	7.5	2865	87.0	86.9	87.0	0.76	0.86	0.89	10.8	2885	85.9	86.8	87.2	0.67	0.79	0.85	10.3		
5.5	7.5	2935	86.0	87.0	87.0	0.73	0.82	0.87	11.0	2950	85.0	87.0	87.0	0.60	0.73	0.81	10.9		
5.5	7.5	2935	86.0	87.0	87.0	0.73	0.82	0.87	11.0	2950	85.0	87.0	87.0	0.60	0.73	0.81	10.9		
7.5	10	2935	87.5	88.0	88.1	0.73	0.83	0.88	14.7	2950	86.0	88.0	88.1	0.63	0.76	0.83	14.3		
7.5	10	2935	87.5	88.0	88.1	0.73	0.83	0.88	14.7	2950	86.0	88.0	88.1	0.63	0.76	0.83	14.3		
7.5	10	2860	87.5	88.1	88.1	0.72	0.83	0.88	14.7	2885	87.0	88.1	88.1	0.62	0.75	0.83	14.3		
11	15	2920	89.0	90.0	90.7	0.75	0.84	0.88	20.9	2940	89.0	90.0	90.7	0.66	0.78	0.84	20.1		
IV Poles																			
0.12	0.16	1385	55.0	58.0	59.1	0.48	0.60	0.70	0.441	1405	52.0	58.0	59.1	0.43	0.54	0.64	0.441		
0.18	0.25	1380	60.4	61.3	64.7	0.52	0.65	0.74	0.571	1410	57.7	60.6	64.7	0.40	0.51	0.60	0.645		
0.25	0.33	1400	60.0	65.0	68.5	0.53	0.66	0.74	0.749	1420	57.8	64.5	68.5	0.46	0.59	0.69	0.736		
0.37	0.5	1380	66.0	68.5	72.7	0.55	0.66	0.76	1.02	1405	63.0	68.0	72.7	0.46	0.58	0.69	1.03		
0.55	0.75	1420	74.6	77.0	77.1	0.60	0.74	0.83	1.31	1435	70.6	75.1	77.1	0.52	0.66	0.76	1.31		
0.75	1	1400	80.1	79.9	79.8	0.68	0.80	0.84	1.70	1415	77.9	79.2	80.1	0.60	0.73	0.79	1.65		
1.1	1.5	1450	80.0	81.5	81.5	0.59	0.71	0.78	2.63	1460	76.5	80.0	81.4	0.51	0.64	0.73	2.58		
1.5	2	1450	79.1	81.7	82.8	0.59	0.73	0.81	3.40	1460	75.3	79.4	82.8	0.50	0.64	0.74	3.41		
2.2	3	1420	83.5	84.3	84.3	0.65	0.77	0.83	4.78	1435	82.3	84.5	84.9	0.56	0.71	0.79	4.56		
3	4	1435	84.0	84.5	85.5	0.59	0.72	0.80	6.66	1450	82.5	84.0	85.5	0.49	0.64	0.73	6.69		
4	5.5	1440	85.5	86.0	86.6	0.65	0.78	0.83	8.46	1455	85.5	86.0	86.7	0.58	0.71	0.79	8.12		
5.5	7.5	1455	88.1	87.7	87.7	0.73	0.83	0.88	10.8	1460	86.5	87.3	87.7	0.65	0.77	0.84	10.4		
7.5	10	1465	87.0	88.2	88.7	0.59	0.71	0.81	15.9	1470	85.3	87.5	88.7	0.50	0.64	0.77	15.3		
9.2	12.5	1470	88.0	89.0	89.5	0.68	0.79	0.84	18.6	1475	87.0	88.5	89.5	0.60	0.73	0.80	17.9		
11	15	1465	88.5	89.0	89.8	0.68	0.79	0.84	22.2	1475	87.0	88.5	89.8	0.60	0.72	0.80	21.3		
15	20	1465	90.0	90.6	90.6	0.70	0.80	0.85	29.6	1470	88.5	90.3	90.6	0.60	0.73	0.80	28.8		
18.5	25	1475	90.0	91.0	91.2	0.68	0.79	0.84	36.7	1480	89.0	90.5	91.2	0.58	0.71	0.79	35.7		
22	30	1475	90.5	91.0	91.6	0.67	0.79	0.84	43.4	1480	90.0	91.0	91.6	0.58	0.71	0.78	42.8		
30	40	1465	92.0	92.3	92.3	0.74	0.83	0.86	57.4	1475	92.0	92.3	92.3	0.65	0.77	0.83	54.5		
37	50	1470	93.1	92.9	92.7	0.74	0.83	0.85	71.3	1475	92.5	93.0	93.2	0.67	0.78	0.81	68.2		
30	40	1465	92.0	92.3	92.3	0.74	0.83	0.86	57.4	1475	92.0	92.3	92.3	0.65	0.77	0.83	54.5		
37	50	1470	93.1	92.9	92.7	0.74	0.83	0.85	71.3	1475	92.5	93.0	93.2	0.67	0.78	0.81	68.2		
High-Output Design																			
0.75	1	1460	79.1	79.9	79.6	0.55	0.68	0.77	1.86	1465	76.9	79.6	80.4	0.48	0.61	0.71	1.83		
1.1	1.5	1395	81.0	81.0	81.4	0.71	0.82	0.86	2.39	1410	80.0	81.0	81.4	0.62	0.75	0.83	2.27		
1.5	2	1430	80.0	82.5	82.8	0.60	0.72	0.79	3.48	1445	78.0	82.5	82.8	0.51	0.65	0.74	3.41		
1.5	2	1435	82.8	83.2	82.8	0.63	0.74	0.81	3.40	1450	80.1	82.3	82.8	0.53	0.65	0.74	3.41		
2.2	3	1455	85.0	84.8	84.3	0.67	0.78	0.83	4.78	1465	83.9	84.9	85.4	0.59	0.72	0.79	4.54		
2.2	3	1420	84.0	84.3	84.3	0.62	0.75	0.81	4.90	1440	83.4	84.4							

IE2 - High Efficiency - 50 Hz ¹⁾

Output		Frame	Full Load Torque (kgfm)	Locked Rotor Current I/In	Locked Rotor Torque T/In	Break-down Torque T/In	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		
VI Poles																				
0.12	0.16	63	0.130	3.0	1.9	2.0	0.0006	52	114	5.5	43.0	905	42.0	50.0	52.0	0.43	0.53	0.63	0.529	
0.18	0.25	71	0.190	3.2	2.0	2.0	0.0008	96	211	7.9	43.0	915	52.0	58.0	59.0	0.40	0.51	0.58	0.759	
0.25	0.33	71	0.270	3.2	1.9	2.1	0.0008	70	154	9.7	43.0	890	53.0	60.0	61.6	0.37	0.48	0.58	1.01	
0.37	0.5	80	0.390	4.1	2.0	2.4	0.0022	24	53	10.2	43.0	925	65.0	67.0	67.6	0.47	0.62	0.72	1.10	
0.55	0.75	80	0.580	4.5	2.3	2.5	0.0030	21	46	13.6	43.0	930	65.0	71.0	73.1	0.50	0.62	0.72	1.51	
0.75	1	90S/L	0.790	4.5	2.0	2.1	0.0055	23	51	16.3	45.0	925	74.5	76.0	76.0	0.51	0.64	0.73	1.95	
1.1	1.5	90S/L	1.16	4.7	2.3	2.2	0.0066	17	37	20.7	45.0	925	76.0	78.1	78.1	0.50	0.63	0.73	2.78	
1.5	2	100L	1.54	6.0	2.0	2.4	0.0110	15	33	29.2	44.0	950	76.0	79.8	79.8	0.52	0.65	0.73	3.72	
2.2	3	112M	2.24	6.0	2.0	2.4	0.0257	10	22	34.4	49.0	955	80.0	81.8	81.8	0.52	0.65	0.73	5.32	
3	4	S132S	3.04	5.7	2.0	2.4	0.0359	31	68	44.1	53.0	960	82.5	83.6	83.6	0.50	0.63	0.71	7.30	
4	5.5	132M	4.04	6.0	2.1	2.5	0.0453	21	46	56.9	53.0	965	84.0	84.8	84.8	0.51	0.64	0.72	9.46	
5.5	7.5	132M	5.55	6.4	2.5	2.8	0.0604	19	42	63.7	53.0	965	85.5	86.1	86.1	0.51	0.64	0.72	12.8	
7.5	10	160M/L	7.45	6.6	2.2	2.9	0.1055	10	22	103	56.0	980	86.6	87.2	87.2	0.58	0.71	0.78	15.9	
9.2	12.5	160M/L	9.14	6.8	2.3	3.0	0.1266	10	22	109	57.0	980	86.5	87.5	88.1	0.55	0.69	0.77	19.6	
11	15	160M/L	11.1	6.5	2.4	2.8	0.1689	10	22	107	57.0	970	88.0	88.7	88.7	0.63	0.75	0.81	22.1	
15	20	180M/L	14.9	8.4	2.5	3.7	0.2705	6	13	150	56.0	980	87.0	89.0	89.7	0.61	0.73	0.81	29.8	
18.5	25	200M/L	18.4	7.5	2.7	2.7	0.3335	8	18	178	58.0	980	89.0	90.4	90.4	0.62	0.74	0.80	36.9	
22	30	200M/L	21.9	8.0	3.0	3.1	0.3868	8	18	199	58.0	980	88.5	90.0	90.9	0.59	0.71	0.78	44.8	
22	30	200M/L	21.9	8.0	3.0	3.1	0.3868	8	18	199	58.0	980	88.5	90.0	90.9	0.59	0.71	0.78	44.8	
High-Output Design																				
3	4	132M	3.04	5.7	2.0	2.4	0.0359	31	68	44.1	53.0	960	82.5	83.6	83.6	0.50	0.63	0.71	7.30	
3	4	132S	3.04	5.7	2.0	2.4	0.0359	31	68	44.1	53.0	960	82.5	83.6	83.6	0.50	0.63	0.71	7.30	
5.5	7.5	160M/L	5.47	6.3	2.0	2.8	0.1191	14	31	106	56.0	980	85.0	85.5	86.0	0.59	0.72	0.79	11.7	
VIII Poles																				
0.12	0.16	71	0.180	2.2	1.6	1.9	0.0008	60	132	7.9	41.0	660	40.0	48.0	50.0	0.33	0.41	0.50	0.693	
0.18	0.25	80	0.250	3.1	1.9	2.0	0.0024	27	59	10.1	42.0	690	34.8	43.9	45.9	0.44	0.55	0.65	0.871	
0.25	0.33	80	0.360	3.3	1.9	2.2	0.0029	32	70	11.7	42.0	675	47.0	52.5	55.0	0.43	0.55	0.66	0.994	
0.37	0.5	90S/L	0.520	3.5	1.8	2.0	0.0044	23	51	15.4	44.0	690	46.1	53.2	56.1	0.41	0.52	0.62	1.54	
0.55	0.75	90S/L	0.780	3.5	1.9	2.0	0.0060	31	68	18.9	44.0	685	61.0	64.0	64.0	0.44	0.56	0.66	1.88	
0.75	1	100L	1.01	5.0	2.0	2.5	0.0110	18	40	23.4	50.0	720	60.0	68.0	70.0	0.40	0.49	0.58	2.67	
1.1	1.5	100L	1.51	4.5	2.2	2.3	0.0127	27	59	23.6	50.0	710	62.0	69.0	70.8	0.37	0.49	0.59	3.80	
1.5	2	112M	2.09	4.7	2.4	2.3	0.0202	12	26	35.1	46.0	700	77.0	79.0	79.0	0.44	0.57	0.67	4.09	
2.2	3	S132S	3.06	5.5	2.2	2.4	0.0592	12	26	47.8	48.0	700	81.0	81.5	81.0	0.52	0.65	0.72	5.44	
3	4	132M	4.12	6.2	2.4	2.9	0.0740	19	42	68.0	48.0	710	82.0	82.5	82.0	0.54	0.65	0.72	7.33	
4	5.5	160M/L	5.34	5.5	2.1	3.0	0.0985	13	29	85.8	51.0	730	80.0	81.9	81.9	0.48	0.61	0.70	10.1	
5.5	7.5	160M/L	7.34	5.5	2.1	3.0	0.1266	9	20	102	51.0	730	79.0	81.5	83.8	0.47	0.60	0.69	13.7	
7.5	10	160M/L	10.0	5.6	2.4	3.1	0.1555	15	33	108	53.0	730	84.0	85.3	85.3	0.50	0.63	0.71	17.9	
9.2	12.5	180M/L	12.2	7.0	2.1	2.9	0.2308	8	18	133	51.0	735	85.0	86.0	86.3	0.55	0.68	0.76	20.2	
11	15	180M/L	14.6	7.4	2.3	3.1	0.3259	8	18	154	51.0	735	85.0	86.0	86.9	0.55	0.68	0.76	24.0	
15	20	200M/L	19.9	6.0	2.3	2.3	0.4228	12	26	222	53.0	735	86.5	87.5	88.0	0.53	0.66	0.73	33.7	
High-Output Design																				
2.2	3	132S	3.06	5.5	2.2	2.4	0.0592	12	26	47.8	48.0	700	81.0	81.5	81.0	0.52	0.65	0.72	5.44	

Notes:

(1) Efficiency values are given according to IEC 60034-2-1. They are calculated according to indirect method, with stray load losses determined by measurement.

IE2 - High Efficiency - 50 Hz ¹⁾

Output		380 V									415 V							
		Rated speed (rpm)	% of full load						Full load current In (A)	Rated speed (rpm)	% of full load						Full load current In (A)	
			Efficiency			Power Factor					Efficiency			Power Factor				
kW	HP		50	75	100	50	75	100			50	75	100	50	75	100		
VI Poles																		
0.12	0.16	895	45.4	52.1	52.9	0.46	0.57	0.67	0.514	910	39.1	47.5	50.7	0.41	0.50	0.59	0.558	
0.18	0.25	905	54.2	59.0	58.7	0.37	0.50	0.57	0.817	920	50.1	56.8	58.6	0.38	0.48	0.57	0.750	
0.25	0.33	875	56.3	61.6	61.6	0.41	0.52	0.62	0.995	900	50.1	60.0	61.6	0.35	0.45	0.54	1.05	
0.37	0.5	920	65.0	67.0	67.6	0.52	0.66	0.76	1.09	935	62.0	67.0	67.6	0.45	0.58	0.67	1.14	
0.55	0.75	920	67.5	71.8	73.1	0.55	0.66	0.76	1.50	935	62.5	69.6	73.1	0.47	0.61	0.72	1.45	
0.75	1	915	75.8	75.9	75.9	0.55	0.68	0.76	1.98	930	73.2	75.6	76.4	0.48	0.61	0.71	1.92	
1.1	1.5	915	77.9	78.5	78.5	0.55	0.67	0.77	2.76	930	74.3	77.3	78.1	0.46	0.59	0.70	2.80	
1.5	2	945	76.0	79.8	79.8	0.57	0.69	0.76	3.76	955	75.0	79.8	79.8	0.48	0.62	0.70	3.74	
2.2	3	945	81.0	81.8	81.8	0.57	0.69	0.76	5.38	955	79.0	81.8	81.8	0.50	0.62	0.71	5.27	
3	4	955	83.4	83.8	83.3	0.54	0.67	0.74	7.39	960	81.4	83.1	83.6	0.46	0.59	0.68	7.34	
4	5.5	965	84.9	85.0	84.6	0.55	0.68	0.74	9.71	970	83.0	84.4	84.9	0.47	0.61	0.69	9.50	
5.5	7.5	960	86.4	86.3	86.0	0.56	0.68	0.75	13.0	970	84.6	85.7	86.2	0.47	0.61	0.69	12.9	
7.5	10	975	86.8	87.2	87.2	0.62	0.75	0.81	16.1	980	86.0	87.2	87.2	0.55	0.69	0.76	15.7	
9.2	12.5	975	87.2	87.7	88.1	0.60	0.73	0.80	19.8	980	85.5	87.1	88.1	0.52	0.66	0.75	19.4	
11	15	965	88.0	88.7	88.7	0.67	0.78	0.83	22.7	975	86.8	88.1	88.7	0.59	0.72	0.79	21.8	
15	20	980	87.0	89.0	89.7	0.66	0.78	0.84	30.2	985	87.0	89.0	89.7	0.57	0.70	0.79	29.4	
18.5	25	975	89.0	90.4	90.4	0.66	0.77	0.83	37.5	980	88.0	90.4	90.4	0.58	0.71	0.78	36.5	
22	30	980	88.5	90.0	90.9	0.64	0.76	0.81	45.4	980	88.5	89.5	90.9	0.55	0.68	0.75	44.9	
22	30	980	88.5	90.0	90.9	0.64	0.76	0.81	45.4	980	88.5	89.5	90.9	0.55	0.68	0.75	44.9	
High-Output Design																		
3	4	955	83.4	83.8	83.3	0.54	0.67	0.74	7.39	960	81.4	83.1	83.6	0.46	0.59	0.68	7.34	
3	4	955	83.4	83.8	83.3	0.54	0.67	0.74	7.39	960	81.4	83.1	83.6	0.46	0.59	0.68	7.34	
5.5	7.5	975	85.0	85.5	86.0	0.63	0.76	0.81	12.0	980	85.0	85.5	86.0	0.57	0.70	0.77	11.6	
VIII Poles																		
0.12	0.16	650	42.9	50.1	50.6	0.35	0.44	0.53	0.680	670	37.1	45.7	48.8	0.31	0.38	0.47	0.728	
0.18	0.25	680	37.2	45.7	45.9	0.47	0.59	0.69	0.864	695	33.0	42.2	45.9	0.42	0.53	0.59	0.925	
0.25	0.33	665	49.0	53.0	55.0	0.47	0.59	0.70	0.987	680	45.0	52.0	55.0	0.42	0.53	0.63	1.00	
0.37	0.5	680	49.0	54.9	56.1	0.44	0.56	0.67	1.50	695	43.7	51.5	56.1	0.39	0.49	0.55	1.67	
0.55	0.75	675	63.3	65.1	63.5	0.47	0.61	0.70	1.88	690	58.5	62.8	63.9	0.41	0.53	0.63	1.90	
0.75	1	715	65.0	70.0	72.0	0.43	0.54	0.62	2.55	720	56.0	64.0	68.0	0.38	0.46	0.54	2.84	
1.1	1.5	705	66.0	70.0	70.8	0.41	0.54	0.63	3.75	715	59.0	67.0	70.8	0.35	0.46	0.55	3.93	
1.5	2	695	78.8	79.6	78.5	0.49	0.61	0.70	4.15	705	75.3	78.2	78.9	0.41	0.53	0.63	4.20	
2.2	3	695	81.8	81.5	79.9	0.57	0.69	0.75	5.58	705	80.1	81.4	81.4	0.49	0.62	0.70	5.37	
3	4	705	82.7	82.4	80.8	0.57	0.68	0.75	7.52	715	81.1	82.4	82.5	0.50	0.62	0.70	7.23	
4	5.5	730	81.0	81.9	81.9	0.52	0.65	0.73	10.2	735	78.5	81.9	81.9	0.45	0.58	0.68	10.0	
5.5	7.5	730	80.5	82.0	83.8	0.51	0.64	0.72	13.8	735	77.0	80.5	83.8	0.44	0.57	0.67	13.6	
7.5	10	725	85.0	85.3	85.3	0.54	0.66	0.74	18.1	730	83.0	85.0	85.3	0.46	0.59	0.68	18.0	
9.2	12.5	730	85.0	86.3	86.3	0.58	0.71	0.78	20.8	735	85.0	86.0	86.3	0.51	0.65	0.73	20.3	
11	15	730	85.0	86.3	86.9	0.58	0.71	0.78	24.7	735	85.0	86.0	86.9	0.51	0.65	0.73	24.1	
15	20	730	87.5	88.0	88.0	0.58	0.70	0.76	34.1	735	85.5	87.5	88.0	0.50	0.62	0.70	33.9	
High-Output Design																		
2.2	3	695	81.8	81.5	79.9	0.57	0.69	0.75	5.58	705	80.1	81.4	81.4	0.49	0.62	0.70	5.37	

Notes:

(1) Efficiency values are given according to IEC 60034-2-1. They are calculated according to indirect method, with stray load losses determined by measurement.

IE1 - High Efficiency - 50 Hz ¹⁾

Output		Frame	Full Load Torque (kgfm)	Locked Rotor Current I/ In	Locked Rotor Torque T/ Tn	Break-down Torque Tb/Tn	Inertia J (kgm2)	Allowable locked rotor time (s)		Weight (kg)	Sound dB(A)	Rated speed (rpm)	400 V							Full load current In (A)
													% of full load							
								Efficiency					Power Factor							
kW	HP							Hot	Cold				50	75	100	50	75	100		
II Poles																				
0.12	0.16	63	0.040	6.5	4.5	5.0	0.0001	12	26	5.8	52.0	2870	50.0	53.5	53.5	0.46	0.56	0.65	0.498	
0.18	0.25	63	0.060	5.0	2.4	2.4	0.0001	10	22	8.0	52.0	2790	52.0	57.0	59.0	0.54	0.67	0.77	0.572	
0.25	0.33	63	0.090	4.5	2.3	2.4	0.0002	12	26	8.5	52.0	2745	52.0	57.0	60.0	0.57	0.72	0.81	0.742	
0.37	0.5	71	0.130	5.0	2.5	3.0	0.0003	11	24	6.3	56.0	2790	61.2	66.0	67.6	0.60	0.75	0.85	0.929	
0.55	0.75	71	0.190	5.0	2.5	2.8	0.0003	10	22	6.8	56.0	2755	64.0	68.5	69.0	0.66	0.81	0.87	1.32	
0.75	1	80	0.260	5.0	2.4	2.4	0.0006	9	20	7.8	59.0	2805	66.0	72.0	72.5	0.50	0.65	0.76	1.96	
1.1	1.5	80	0.380	5.8	2.1	2.5	0.0008	7	15	9.3	59.0	2790	73.0	75.0	75.5	0.61	0.76	0.84	2.50	
1.5	2	90S/L	0.510	6.3	2.7	2.6	0.0017	7	15	13.5	64.0	2840	75.0	78.0	78.0	0.63	0.76	0.83	3.34	
2.2	3	90S/L	0.760	6.8	2.8	2.9	0.0022	9	20	23.0	64.0	2810	77.0	78.0	80.0	0.63	0.77	0.85	4.58	
3	4	100L	1.02	6.8	2.0	2.8	0.0052	9	20	23.5	67.0	2870	80.0	81.0	82.0	0.69	0.81	0.87	6.07	
4	5.5	112M	1.36	6.8	2.4	3.0	0.0073	9	20	28.2	64.0	2875	81.0	83.0	83.1	0.71	0.82	0.87	7.81	
5.5	7.5	S132S	1.82	6.5	2.1	3.1	0.0159	8	18	40.9	68.0	2940	81.0	84.0	84.7	0.64	0.76	0.82	11.4	
7.5	10	S132S	2.49	6.8	2.2	3.2	0.0187	8	18	46.6	68.0	2935	84.3	86.0	86.0	0.62	0.75	0.82	15.4	
9.2	12.5	132M	3.05	7.5	2.4	3.3	0.0243	8	18	68.0	68.0	2940	84.5	86.0	86.9	0.67	0.79	0.85	18.0	
11	15	160M/L	3.64	7.7	2.6	3.1	0.0335	7	15	85.6	70.0	2940	85.5	87.5	87.6	0.68	0.79	0.85	21.3	
15	20	160M/L	4.96	8.7	3.0	3.5	0.0452	7	15	100	70.0	2945	86.6	88.5	88.7	0.67	0.78	0.84	29.1	
18.5	25	160M/L*	6.12	8.6	3.0	3.5	0.0559	6	13	120	70.0	2945	88.0	89.5	89.5	0.69	0.80	0.85	35.1	
22	30	180M/L	7.24	8.5	2.6	3.2	0.0921	7	15	141	70.0	2960	89.5	90.5	90.5	0.71	0.81	0.85	41.3	
30	40	200M/L	9.87	7.2	2.4	2.8	0.1958	8	18	185	74.0	2960	89.5	90.7	90.7	0.73	0.82	0.86	55.5	
37	50	200M/L	12.1	7.7	2.6	2.8	0.2128	8	18	211	74.0	2965	90.0	91.0	91.5	0.71	0.80	0.86	67.9	
High-Output Design																				
0.37	0.5	63	0.130	5.0	2.5	2.8	0.0002	8	18	9.8	52.0	2735	62.0	65.0	65.0	0.60	0.73	0.83	0.990	
0.55	0.75	80	0.190	6.5	2.3	2.3	0.0007	20	44	13.0	59.0	2805	68.0	70.0	71.0	0.65	0.77	0.86	1.20	
0.75	1	71	0.260	5.5	2.7	2.6	0.0005	8	18	11.0	56.0	2790	68.0	72.5	72.5	0.60	0.75	0.84	1.78	
1.5	2	80	0.530	6.0	3.0	2.7	0.0009	10	22	15.0	59.0	2770	76.0	77.0	77.5	0.70	0.82	0.87	3.20	
3	4	90S/L*	1.03	6.2	3.2	3.1	0.0025	6	13	24.0	64.0	2830	80.0	81.0	81.5	0.55	0.68	0.78	6.77	
4	5.5	100L	1.35	7.5	3.4	3.7	0.0065	6	13	28.0	67.0	2888	82.5	82.8	83.1	0.60	0.73	0.81	8.58	
5.5	7.5	112M	1.87	7.7	2.5	3.0	0.0096	10	22	45.0	64.0	2870	85.0	85.0	85.5	0.79	0.86	0.89	10.4	
5.5	7.5	132S	1.82	6.5	2.1	3.1	0.0159	8	18	40.9	68.0	2940	81.0	84.0	84.7	0.64	0.76	0.82	11.4	
7.5	10	112M*	2.55	7.6	3.0	3.0	0.0094	6	13	45.0	64.0	2870	85.5	86.0	86.5	0.59	0.72	0.81	15.3	
7.5	10	132M	2.49	6.8	2.2	3.2	0.0187	8	18	46.6	68.0	2935	84.3	86.0	86.0	0.62	0.75	0.82	15.4	
7.5	10	132S	2.49	6.8	2.2	3.2	0.0187	8	18	46.6	68.0	2935	84.3	86.0	86.0	0.62	0.75	0.82	15.4	
9.2	12.5	160M/L	3.05	7.6	2.5	3.0	0.0339	7	15	85.0	70.0	2940	83.6	86.5	86.9	0.69	0.80	0.85	18.0	
22	30	160M/L*	7.31	8.3	3.0	3.3	0.0639	6	13	125	70.0	2930	89.0	89.5	90.0	0.70	0.80	0.85	41.5	
30	40	180M/L	9.87	9.3	3.0	3.5	0.1301	9	20	181	70.0	2960	91.0	91.9	91.9	0.68	0.79	0.84	56.1	
IV Poles																				
0.12	0.16	63	0.080	4.5	2.8	3.2	0.0003	20	44	6.2	44.0	1405	45.0	51.0	52.0	0.41	0.51	0.62	0.537	
0.18	0.25	63	0.130	3.5	2.0	2.2	0.0004	23	51	7.4	44.0	1370	46.0	54.0	58.0	0.49	0.63	0.72	0.622	
0.25	0.33	71	0.180	3.7	2.0	2.0	0.0004	28	62	8.8	43.0	1370	53.0	58.0	61.5	0.50	0.62	0.71	0.826	
0.37	0.5	71	0.260	3.7	2.0	2.0	0.0006	17	37	9.3	43.0	1365	58.0	62.0	66.0	0.50	0.63	0.76	1.06	
0.55	0.75	80	0.380	5.4	2.0	2.8	0.0019	8	18	9.2	44.0	1415	63.0	68.0	70.0	0.57	0.70	0.80	1.42	
0.75	1	80	0.510	6.7	2.1	2.2	0.0023	10	22	10.9	44.0	1420	63.5	71.0	72.1	0.55	0.70	0.81	1.85	
1.1	1.5	90S/L	0.740	5.6	2.3	2.4	0.0039	8	18	13.4	49.0	1440	70.0	75.0	75.5	0.55	0.69	0.79	2.66	
1.5	2	90S/L	1.01	5.5	2.0	2.4	0.0048	8	18	22.0	49.0	1440	74.0	77.0	77.2	0.58	0.73	0.82	3.42	
2.2	3	100L	1.51	6.0	2.4	2.6	0.0065	9	20	21.1	53.0	1420	79.0	80.0	80.0	0.60	0.73	0.81	4.90	
3	4	100L	2.06	6.0	2.8	3.0	0.0084	8	18	25.0	53.0	1420	79.0	80.0	81.5	0.57	0.72	0.81	6.56	
4	5.5	112M	2.71	7.0	2.1	2.5	0.0147	7	15	43.0	56.0	1440	82.0	83.1	83.1	0.62	0.75	0.82	8.33	
5.5	7.5	132S	3.69	6.5	2.1	2.5	0.0349	6	13	43.2	60.0	1450	83.5	84.5	85.0	0.63	0.77	0.84	11.1	
7.5	10	132M	5.00	6.7	2.4	2.8	0.0465	8	18	53.8	60.0	1460	84.0	85.5	86.0	0.63	0.77	0.84	15.0	
9.2	12.5	160M/L	6.10	6.8	2.3	2.6	0.0633	6	13	83.0	67.0	1470	86.0	87.0	87.0	0.65	0.77	0.84	18.2	
11	15	160M/L	7.29	7.0	2.6	2.8	0.0730	6	13	95.5	67.0	1470	86.0	87.5	88.0	0.62	0.74	0.81	22.3	
15	20	160M/L	9.94	7.4	2.7	3.0	0.1025	8	18	109	67.0	1470	88.0	88.5	89.0	0.64	0.76	0.82	29.7	
18.5	25	180M/L*	12.2	8.0	2.8	3.2	0.1566	6	13	156	64.0	1480	88.0	89.3	89.3	0.62	0.74	0.81	36.9	
22	30	180M/L*	14.5	8.0	2.8	3.2	0.1827	7	15	153	64.0	1480	89.0	89.9	89.9	0.65	0.77	0.83	42.6	
30	40	200M/L	19.7	7.0	2.5	2.7	0.2935	6	13	199	69.0	1480	90.0	90.7	90.7	0.66	0.78	0.83	57.5	
37	50	200M/L	24.5	7.0	2.3	2.5	0.3735	14	31	225	69.0	1470	90.0	91.0	91.5	0.73	0.82	0.86	67.9	
High-Output Design																				
0.25	0.33	63	0.180	5.0	2.5	2.5	0.0007	12	26	7.6	44.0	1380	55.0	61.0	61.5	0.45	0.55	0.67	0.876	
0.55	0.75	71	0.390	5.0	2.8	2.9	0.0009	19	42	10.4	43.0	1385	66.0	70.5	72.0	0.45	0.58	0.68	1.62	
1.1	1.5	80	0.770	5.0	2.3	2.3	0.0032	10	22	15.0	44.0	1385	68.0	72.0	75.0	0.55	0.70	0.81	2.61	
2.2	3	90S/L	1.52	5.8	2.7	2.5	0.0066	8	18	24.0	49.0	1410	78.0	79.0	80.0	0.57	0.71	0.80	4.96	
4	5.5	100L*	2.80	6.7	2.6	2.6	0.0105	7	15	34.0	53.0	1390	81.0	82.0	83.1	0.64	0.76	0.83	8.37	
5.5	7.5	112M*	3.75	6.5	2.1	2.6	0.0188	8	18	45.0	56.0	1430	85.0	85.0	84.7	0.67	0.76	0.81	11.6	
5.5	7.5	S132S	3.69	6.5	2.1	2.5	0.0349	6	13	43.2	60.0	1450	83.5	84.5	85.0	0.63				

IE1 - High Efficiency - 50 Hz ¹⁾

Output		380 V								415 V							
		Rated speed (rpm)	% of full load						Full load current In (A)	Rated speed (rpm)	% of full load						Full load current In (A)
			Efficiency			Power Factor					Efficiency			Power Factor			
kW	HP		50	75	100	50	75	100			50	75	100	50	75	100	
II Poles																	
0.12	0.16	2850	50.0	53.5	53.5	0.50	0.60	0.70	0.487	2875	50.0	53.5	53.5	0.45	0.55	0.62	0.503
0.18	0.25	2760	54.0	58.0	59.5	0.59	0.73	0.82	0.561	2810	49.2	55.0	58.0	0.51	0.62	0.73	0.591
0.25	0.33	2700	54.0	59.0	60.0	0.63	0.77	0.85	0.745	2765	50.0	55.5	59.5	0.53	0.67	0.76	0.769
0.37	0.5	2765	62.8	66.5	67.0	0.66	0.81	0.89	0.943	2800	60.0	65.5	67.0	0.55	0.70	0.81	0.948
0.55	0.75	2710	64.9	68.5	69.0	0.71	0.85	0.89	1.36	2775	61.6	68.5	69.0	0.61	0.76	0.85	1.30
0.75	1	2775	69.0	73.0	72.5	0.56	0.71	0.80	1.96	2825	63.0	70.5	72.5	0.46	0.60	0.72	2.00
1.1	1.5	2750	74.0	75.0	75.5	0.68	0.81	0.87	2.54	2810	71.0	74.5	75.5	0.56	0.71	0.81	2.50
1.5	2	2820	76.0	78.0	78.0	0.70	0.81	0.87	3.36	2855	74.0	78.0	78.0	0.57	0.71	0.80	3.34
2.2	3	2790	77.0	78.0	80.0	0.70	0.82	0.88	4.70	2820	77.0	78.0	80.0	0.57	0.72	0.82	4.58
3	4	2855	80.0	81.0	81.5	0.75	0.85	0.89	6.28	2880	80.0	81.0	82.0	0.64	0.77	0.84	6.06
4	5.5	2860	82.0	83.0	83.1	0.77	0.86	0.89	8.08	2885	80.0	82.5	83.1	0.66	0.78	0.85	7.72
5.5	7.5	2930	82.0	84.0	84.7	0.70	0.81	0.87	11.3	2945	80.0	83.0	84.7	0.57	0.70	0.79	11.4
7.5	10	2925	85.0	86.0	86.0	0.69	0.80	0.86	15.4	2940	83.0	85.0	86.0	0.57	0.71	0.80	15.2
9.2	12.5	2930	85.0	86.7	86.9	0.75	0.84	0.88	18.3	2945	84.0	86.0	86.7	0.61	0.75	0.82	18.0
11	15	2935	86.5	87.5	87.6	0.76	0.84	0.87	21.9	2945	84.2	86.8	87.6	0.62	0.75	0.82	21.3
15	20	2940	87.5	88.5	88.7	0.74	0.83	0.87	29.5	2950	85.0	87.5	88.7	0.61	0.74	0.81	29.0
18.5	25	2940	89.0	89.5	89.5	0.73	0.83	0.87	36.1	2950	87.0	89.5	89.5	0.61	0.73	0.80	35.9
22	30	2955	90.0	90.5	90.5	0.77	0.85	0.87	42.5	2965	89.0	90.5	90.5	0.66	0.77	0.82	41.2
30	40	2955	89.5	90.7	90.7	0.80	0.86	0.88	57.1	2965	89.5	90.7	90.7	0.68	0.78	0.84	54.8
37	50	2960	90.0	91.0	91.5	0.76	0.84	0.87	70.6	2965	88.0	91.0	91.5	0.66	0.77	0.83	67.8
High-Output Design																	
0.37	0.5	2685	62.0	65.0	65.0	0.65	0.78	0.87	0.994	2760	62.0	65.0	65.0	0.57	0.70	0.80	0.990
0.55	0.75	2785	69.0	70.5	71.0	0.65	0.79	0.88	1.25	2820	66.5	70.0	71.0	0.62	0.75	0.84	1.18
0.75	1	2765	70.0	72.5	72.5	0.68	0.81	0.88	1.79	2805	68.0	72.0	72.5	0.55	0.70	0.80	1.80
1.5	2	2750	76.0	77.0	77.5	0.75	0.85	0.89	3.35	2790	75.0	77.0	77.5	0.65	0.78	0.85	3.13
3	4	2800	80.0	81.0	81.5	0.61	0.74	0.81	6.90	2845	79.0	81.0	81.5	0.50	0.64	0.74	6.92
4	5.5	2875	82.0	82.4	83.1	0.67	0.80	0.86	8.50	2896	80.4	82.5	83.1	0.54	0.68	0.77	8.70
5.5	7.5	2860	85.0	85.0	85.5	0.82	0.88	0.90	10.9	2880	85.0	85.5	86.0	0.76	0.84	0.88	10.1
5.5	7.5	2930	82.0	84.0	84.7	0.70	0.81	0.87	11.3	2945	80.0	83.0	84.7	0.57	0.70	0.79	11.4
7.5	10	2850	85.5	86.0	86.0	0.66	0.79	0.85	15.4	2885	85.0	86.0	86.5	0.53	0.67	0.76	15.8
7.5	10	2925	85.0	86.0	86.0	0.69	0.80	0.86	15.4	2940	83.0	85.0	86.0	0.57	0.71	0.80	15.2
7.5	10	2925	85.0	86.0	86.0	0.69	0.80	0.86	15.4	2940	83.0	85.0	86.0	0.57	0.71	0.80	15.2
9.2	12.5	2935	84.2	86.6	86.9	0.77	0.85	0.88	18.3	2945	82.8	86.2	86.9	0.63	0.75	0.82	18.0
22	30	2925	89.0	89.5	90.0	0.77	0.85	0.88	42.2	2940	88.5	89.5	90.0	0.64	0.75	0.82	41.5
30	40	2955	91.2	91.9	91.9	0.73	0.82	0.86	57.7	2965	90.8	91.9	91.9	0.64	0.76	0.82	55.4
IV Poles																	
0.12	0.16	1400	45.0	50.0	52.0	0.44	0.55	0.66	0.531	1415	43.0	49.0	51.0	0.39	0.49	0.58	0.564
0.18	0.25	1350	46.0	54.0	58.0	0.54	0.67	0.76	0.620	1385	43.0	52.0	58.0	0.46	0.57	0.68	0.635
0.25	0.33	1340	57.3	58.9	61.5	0.55	0.68	0.75	0.823	1385	48.9	58.5	61.5	0.47	0.58	0.68	0.832
0.37	0.5	1345	58.0	62.0	66.0	0.52	0.67	0.78	1.09	1375	54.3	59.8	66.0	0.44	0.55	0.68	1.15
0.55	0.75	1400	68.0	70.0	70.0	0.61	0.75	0.83	1.44	1420	61.0	67.4	70.0	0.50	0.64	0.74	1.48
0.75	1	1410	64.0	71.0	72.1	0.61	0.75	0.84	1.88	1430	60.0	67.0	72.1	0.50	0.64	0.76	1.90
1.1	1.5	1430	72.0	75.0	75.5	0.62	0.75	0.83	2.67	1445	68.0	74.0	75.0	0.48	0.62	0.72	2.83
1.5	2	1430	76.0	77.5	77.2	0.65	0.78	0.86	3.43	1440	72.0	76.5	77.2	0.52	0.67	0.77	3.51
2.2	3	1410	79.0	80.0	80.0	0.66	0.77	0.83	5.03	1425	78.0	80.0	80.0	0.55	0.68	0.78	4.90
3	4	1410	80.0	81.0	81.5	0.64	0.77	0.84	6.66	1430	77.0	80.0	81.5	0.52	0.67	0.78	6.57
4	5.5	1430	82.9	83.1	83.1	0.68	0.79	0.85	8.50	1445	80.6	82.5	83.4	0.56	0.70	0.79	8.33
5.5	7.5	1445	84.5	85.0	85.0	0.70	0.81	0.86	11.4	1455	82.0	84.0	85.0	0.58	0.72	0.81	11.1
7.5	10	1450	85.5	86.0	86.0	0.71	0.82	0.87	15.2	1460	82.5	85.0	86.0	0.57	0.72	0.80	15.2
9.2	12.5	1465	86.0	87.0	87.0	0.70	0.82	0.85	18.9	1470	85.0	87.0	87.0	0.61	0.74	0.81	18.2
11	15	1465	86.5	87.0	87.6	0.68	0.79	0.83	23.0	1470	85.0	87.0	88.0	0.57	0.70	0.78	22.3
15	20	1465	88.0	88.5	89.0	0.70	0.80	0.85	30.1	1470	87.0	88.5	89.0	0.60	0.73	0.80	29.3
18.5	25	1475	88.5	89.3	89.3	0.68	0.79	0.84	37.5	1480	87.5	89.0	89.3	0.57	0.70	0.78	37.0
22	30	1475	89.0	89.9	89.9	0.71	0.81	0.85	43.7	1480	88.5	89.9	89.9	0.60	0.73	0.80	42.6
30	40	1475	90.0	90.7	90.7	0.72	0.82	0.86	58.4	1480	90.0	90.7	90.7	0.62	0.74	0.81	56.8
37	50	1465	90.0	91.0	91.5	0.77	0.84	0.87	70.6	1475	90.0	91.0	91.5	0.69	0.80	0.85	66.2
High-Output Design																	
0.25	0.33	1360	55.0	61.0	61.5	0.49	0.60	0.70	0.882	1385	50.0	58.0	61.5	0.40	0.48	0.57	0.992
0.55	0.75	1370	69.0	72.0	72.5	0.51	0.63	0.72	1.60	1400	62.0	68.0	71.0	0.42	0.53	0.64	1.68
1.1	1.5	1370	68.0	72.0	75.0	0.61	0.76	0.86	2.59	1400	68.0	72.0	75.0	0.50	0.65	0.76	2.68
2.2	3	1390	78.0	79.0	80.0	0.65	0.75	0.83	5.03	1420	78.0	79.0	80.0	0.53	0.66	0.76	5.03
4	5.5	1380	81.0	82.0	83.1	0.69	0.80	0.85	8.60	1400	81.0	82.0	83.1	0.60	0.73	0.81	8.27
5.5	7.5	1425	85.0	85.0	84.7	0.76	0.84	0.86	11.5	1435	83.0	85.0	84.7	0.59	0.71	0.76	11.9
5.5	7.5	1445	84.5	85.0	85.0	0.70	0.81	0.86	11.4	1455	82.0	84.0	85.0	0.58	0.72	0.81	11.1
9.2	12.5	1450	86.0	86.5	87.0	0.70	0.82	0.87	18.5	1455	84.5	86.0	87.0	0.59	0.73	0.82	17.9
18.5	25	1460	88.0	89.0	89.5	0.70	0.80	0.84	37.4	1465	87.0	89.0	89.5	0.58	0.71	0.79	36.4
30	40	1470	90.0	90.7	90.7	0.72	0.81	0.85	59.1	1475	90.0	90.7	90.7	0.62	0.74	0.80	57.5

Notes:

(1) Efficiency values are given according to IEC 60034-2-1. They are calculated according to indirect method, with stray load losses determined by measurement.

IE1 - High Efficiency - 50 Hz ¹⁾

Output		Frame	Full Load Torque (kgfm)	Locked Rotor Current I/In	Locked Rotor Torque T/In	Break-down Torque T _B /T _N	Inertia J (kgm2)	Allowable locked rotor time (s)		Weight (kg)	Sound dB(A)	400 V								Full load current In (A)
												Rated speed (rpm)	% of full load							
								Hot	Cold				Efficiency			Power Factor				
kW	HP												50	75	100	50	75	100		
VI Poles																				
0.12	0.16	63	0.130	3.0	2.0	1.9	0.0005	12	26	7.1	43.0	910	41.0	45.0	45.0	0.46	0.55	0.65	0.592	
0.18	0.25	71	0.200	3.5	1.8	2.4	0.0008	50	110	10.2	43.0	895	48.0	52.0	54.0	0.38	0.48	0.58	0.830	
0.25	0.33	71	0.270	3.5	2.2	2.2	0.0009	43	95	10.5	43.0	900	56.5	57.0	57.5	0.40	0.50	0.57	1.10	
0.37	0.5	80	0.390	3.8	1.7	1.7	0.0019	16	35	9.9	43.0	920	55.0	60.0	62.0	0.50	0.64	0.73	1.18	
0.55	0.75	80	0.580	4.0	1.8	1.8	0.0030	10	22	15.5	43.0	930	57.0	63.0	65.0	0.51	0.66	0.76	1.61	
0.75	1	90S/L	0.800	4.2	1.9	2.0	0.0045	16	35	16.4	45.0	910	66.0	69.0	70.0	0.53	0.66	0.76	1.89	
1.1	1.5	90S/L	1.16	4.8	2.2	2.1	0.0062	9	20	16.4	45.0	925	70.0	71.0	73.0	0.53	0.66	0.73	2.98	
1.5	2	100L	1.57	4.1	2.0	2.2	0.0090	17	37	21.5	44.0	930	72.0	75.5	75.5	0.51	0.65	0.73	3.93	
2.2	3	112M	2.28	5.5	2.2	2.3	0.0165	14	31	30.9	49.0	940	76.0	78.5	78.5	0.53	0.66	0.74	5.36	
3	4	S132S	3.06	5.3	2.0	2.2	0.0340	20	44	49.4	53.0	955	78.0	80.5	80.5	0.55	0.68	0.75	6.82	
4	5.5	132M	4.06	5.8	2.3	2.4	0.0446	19	42	47.8	53.0	960	80.0	81.5	82.0	0.54	0.66	0.74	9.27	
5.5	7.5	132M	5.58	6.4	2.2	2.8	0.0581	15	33	60.0	53.0	960	81.0	83.0	83.5	0.49	0.62	0.71	13.0	
7.5	10	160M/L	7.49	6.2	2.0	2.7	0.1051	6	13	95.2	57.0	975	83.5	84.7	84.7	0.57	0.70	0.79	16.2	
9.2	12.5	160M/L	9.24	6.1	2.0	2.6	0.1261	6	13	110	57.0	970	85.0	85.5	85.6	0.60	0.73	0.81	19.2	
11	15	160M/L	11.1	6.4	2.5	2.8	0.1541	9	20	108	57.0	970	86.5	87.0	87.0	0.60	0.73	0.80	22.8	
15	20	180M/L	14.9	8.4	2.5	3.7	0.2981	6	13	150	56.0	980	87.0	87.7	87.7	0.61	0.73	0.81	30.5	
18.5	25	200M/L	18.4	7.0	2.4	2.7	0.3335	8	18	200	58.0	980	88.0	88.6	88.6	0.66	0.77	0.82	36.8	
22	30	200M/L	21.9	7.8	3.0	3.2	0.4037	7	15	220	58.0	980	88.0	89.2	89.2	0.60	0.72	0.78	45.6	
High-Output Design																				
3	4	112M	3.11	6.3	2.6	2.6	0.0257	10	22	46.0	49.0	940	79.0	80.0	80.0	0.50	0.64	0.71	7.06	
3	4	132M	3.06	5.3	2.0	2.2	0.0340	20	44	49.4	53.0	955	78.0	80.5	80.5	0.55	0.68	0.75	6.82	
3	4	132S	3.06	5.3	2.0	2.2	0.0340	20	44	49.4	53.0	955	78.0	80.5	80.5	0.55	0.68	0.75	6.82	
VIII Poles																				
0.12	0.16	71	0.170	3.0	1.8	2.3	0.0008	50	110	10.5	41.0	670	36.3	39.7	39.7	0.40	0.45	0.51	0.855	
0.18	0.25	80	0.250	3.5	2.1	2.8	0.0021	15	33	13.0	42.0	695	33.0	40.0	42.0	0.48	0.55	0.60	1.03	
0.25	0.33	80	0.350	4.0	2.5	3.3	0.0028	20	44	14.2	42.0	695	44.0	47.5	47.5	0.40	0.48	0.56	1.36	
0.37	0.5	90S/L	0.510	4.0	1.8	2.5	0.0039	15	33	15.8	44.0	705	45.0	51.0	53.0	0.42	0.52	0.59	1.71	
0.55	0.75	90S/L	0.790	3.3	1.9	2.0	0.0056	25	55	22.0	44.0	675	58.0	60.0	60.0	0.43	0.56	0.66	2.00	
0.75	1	100L	1.02	4.5	2.3	2.8	0.0079	15	33	20.1	50.0	715	62.0	66.0	66.0	0.42	0.52	0.61	2.69	
1.1	1.5	100L	1.53	3.7	1.6	2.1	0.0118	24	53	28.5	50.0	700	69.0	69.5	70.0	0.44	0.56	0.65	3.49	
1.5	2	112M	2.06	5.0	2.1	2.3	0.0178	15	33	36.5	46.0	710	68.0	70.0	71.0	0.45	0.58	0.68	4.48	
2.2	3	S132S	3.02	5.5	2.0	2.4	0.0602	9	20	60.0	48.0	710	75.5	76.5	76.5	0.52	0.64	0.73	5.69	
3	4	132M	4.12	6.0	2.4	2.7	0.0728	8	18	66.0	48.0	710	76.5	77.5	77.5	0.52	0.64	0.72	7.76	
4	5.5	160M/L	5.34	5.2	2.0	2.9	0.0980	10	22	97.0	53.0	730	75.0	78.5	79.2	0.48	0.62	0.71	10.3	
5.5	7.5	160M/L	7.34	5.5	2.1	3.0	0.1191	8	18	97.3	53.0	730	78.0	80.5	81.4	0.48	0.62	0.71	13.7	
7.5	10	160M/L	10.0	5.7	2.5	3.2	0.1471	12	26	115	53.0	730	81.5	83.1	83.1	0.49	0.62	0.71	18.3	
9.2	12.5	180M/L	12.2	7.0	2.1	2.9	0.2308	8	18	120	51.0	735	84.0	84.5	84.5	0.56	0.70	0.78	20.1	
11	15	180M/L	14.6	7.4	2.4	3.1	0.2993	8	18	130	51.0	735	84.0	85.0	85.0	0.55	0.68	0.76	24.6	
15	20	200M/L	20.0	6.0	2.1	2.3	0.3692	15	33	150	56.0	730	86.5	87.5	87.5	0.56	0.68	0.75	33.0	
High-Output Design																				
2.2	3	132S	3.02	5.5	2.0	2.4	0.0602	9	20	60.0	48.0	710	75.5	76.5	76.5	0.52	0.64	0.73	5.69	
X Poles																				
0.12	0.16	80	0.210	2.3	2.2	2.4	0.0033	40	88	16.5	42.0	560	36.0	43.0	47.0	0.38	0.45	0.52	0.709	
0.18	0.25	90S/L	0.320	2.7	2.0	2.2	0.0049	33	73	20.0	43.0	555	37.0	44.0	48.0	0.39	0.47	0.54	1.00	
0.25	0.33	90S/L	0.440	2.9	2.1	2.2	0.0055	33	73	19.5	43.0	550	39.0	46.0	48.0	0.38	0.47	0.55	1.37	
0.37	0.5	100L	0.630	3.2	2.2	2.3	0.0110	43	95	31.5	50.0	570	43.0	50.0	53.0	0.27	0.34	0.40	2.52	
0.55	0.75	112M	0.940	4.1	2.3	2.4	0.0183	55	121	33.0	46.0	570	55.0	63.0	65.0	0.36	0.45	0.53	2.30	
0.75	1	S132S	1.26	5.7	2.1	2.8	0.0502	40	88	45.0	48.0	580	62.5	69.5	72.0	0.40	0.44	0.52	2.89	
1.1	1.5	132M	1.88	5.0	2.0	2.3	0.0592	42	92	56.0	48.0	570	70.0	74.0	75.0	0.42	0.54	0.63	3.36	
1.5	2	132M	2.56	5.3	2.0	2.3	0.0740	39	86	70.0	48.0	570	71.0	75.0	76.0	0.44	0.56	0.64	4.45	
High-Output Design																				
0.75	1	132S	1.26	5.7	2.1	2.8	0.0502	40	88	45.0	48.0	580	62.5	69.5	72.0	0.40	0.44	0.52	2.89	
1.1	1.5	132S	1.88	5.0	2.0	2.3	0.0592	42	92	56.0	48.0	570	70.0	74.0	75.0	0.42	0.54	0.63	3.36	
1.1	1.5	S132S	1.88	5.0	2.0	2.3	0.0592	42	92	56.0	48.0	570	70.0	74.0	75.0	0.42	0.54	0.63	3.36	
1.5	2	132S	2.56	5.3	2.0	2.3	0.0740	39	86	70.0	48.0	570	71.0	75.0	76.0	0.44	0.56	0.64	4.45	
XII Poles																				
0.12	0.16	90S/L	0.250	2.3	1.8	2.0	0.0049	51	112	14.5	43.0	475	26.0	32.0	37.0	0.35	0.40	0.46	1.02	
0.18	0.25	90S/L	0.380	2.3	2.0	2.1	0.0066	45	99	19.7	43.0	460	30.0	36.0	40.0	0.31	0.37	0.43	1.51	
0.25	0.33	100L	0.510	2.6	2.0	2.5	0.0110	80	176	26.5	50.0	475	37.0	45.0	49.0	0.27	0.32	0.38	1.94	
0.37	0.5	112M	0.770	3.0	2.0	2.3	0.0187	40	88	33.0	46.0	470	42.0	51.0	55.0	0.32	0.38	0.45	2.16	
0.55	0.75	S132S	1.12	4.1	2.3	2.6	0.0493	60	132	45.0	48.0	480	56.0	63.0	66.0	0.31	0.39	0.48	2.51	
0.75	1	132M	1.52	4.1	2.3	2.6	0.0592	50	110	56.0	48.0	480	56.0	63.0	66.0	0.31	0.40	0.48	3.42	
1.1	1.5	132M	2.26	4.4	2.3	2.5	0.0740	43	95	70.0	48.0	475	60.0	65.0	68.0	0.32	0.42	0.50	4.67	
High-Output Design																				
0.55	0.75	132S	1.12	4.1	2.3	2.6	0.0493	60	132	45.0	48.0	480	56.0	63.0	66.0	0.31	0.39	0.48	2.51	

IE1 - High Efficiency - 50 Hz ¹⁾

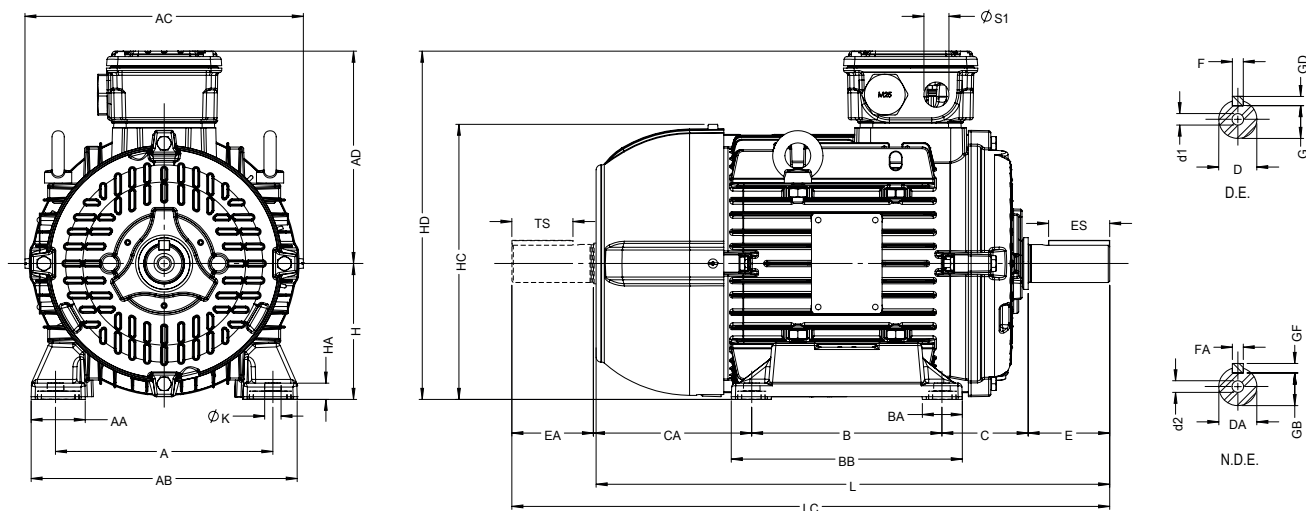
Output		380 V									415 V							
		Rated speed (rpm)	% of full load						Full load current In (A)	Rated speed (rpm)	% of full load						Full load current In (A)	
			Efficiency			Power Factor					Efficiency			Power Factor				
kW	HP		50	75	100	50	75	100			50	75	100	50	75	100		
VI Poles																		
0.12	0.16	910	43.0	45.0	45.0	0.49	0.60	0.70	0.579	915	38.0	45.0	45.0	0.44	0.53	0.62	0.598	
0.18	0.25	890	51.0	53.0	54.5	0.41	0.51	0.62	0.809	900	43.0	51.0	53.0	0.37	0.48	0.55	0.859	
0.25	0.33	890	56.5	57.0	57.5	0.44	0.55	0.61	1.08	905	56.5	57.0	57.5	0.37	0.46	0.54	1.12	
0.37	0.5	905	57.0	62.0	63.0	0.54	0.69	0.79	1.13	925	54.0	58.0	60.0	0.47	0.60	0.71	1.21	
0.55	0.75	920	59.0	63.8	66.0	0.55	0.70	0.77	1.64	935	55.0	62.0	64.0	0.48	0.62	0.71	1.68	
0.75	1	895	65.0	66.0	70.0	0.59	0.75	0.80	2.03	915	64.0	68.0	70.0	0.50	0.63	0.73	1.93	
1.1	1.5	915	71.0	72.0	73.0	0.58	0.73	0.78	2.94	930	69.0	70.0	73.0	0.48	0.61	0.68	3.08	
1.5	2	920	72.0	75.5	75.5	0.57	0.70	0.77	3.92	940	72.0	74.0	75.5	0.46	0.60	0.69	4.01	
2.2	3	930	77.0	78.5	78.5	0.58	0.70	0.76	5.52	950	74.0	78.5	78.5	0.50	0.63	0.72	5.28	
3	4	950	79.0	80.0	80.0	0.58	0.70	0.77	7.04	960	77.0	80.5	80.5	0.50	0.64	0.72	6.83	
4	5.5	960	80.0	82.0	82.0	0.58	0.73	0.78	9.50	965	78.0	81.0	82.0	0.52	0.64	0.72	9.21	
5.5	7.5	960	82.0	83.0	83.5	0.56	0.69	0.75	13.0	965	79.0	81.5	83.5	0.45	0.57	0.66	13.6	
7.5	10	970	84.0	84.7	84.7	0.61	0.74	0.81	16.6	980	82.5	84.7	84.7	0.53	0.67	0.76	16.2	
9.2	12.5	970	85.2	85.5	85.6	0.64	0.76	0.83	19.7	975	84.0	85.5	85.6	0.57	0.71	0.79	18.9	
11	15	965	86.5	87.0	87.0	0.64	0.76	0.82	23.4	975	86.0	87.0	87.0	0.56	0.70	0.78	22.6	
15	20	980	87.0	87.7	87.7	0.66	0.78	0.84	30.9	985	87.0	87.7	87.7	0.57	0.70	0.79	30.1	
18.5	25	975	88.0	88.6	88.6	0.70	0.80	0.84	37.8	980	88.0	88.6	88.6	0.62	0.74	0.80	36.3	
22	30	980	88.5	89.2	89.2	0.65	0.76	0.82	45.7	980	87.0	89.2	89.2	0.55	0.68	0.76	45.1	
High-Output Design																		
3	4	935	79.0	80.0	80.0	0.56	0.69	0.74	7.15	945	77.0	80.0	80.0	0.45	0.59	0.67	7.20	
3	4	950	79.0	80.0	80.0	0.58	0.70	0.77	7.04	960	77.0	80.5	80.5	0.50	0.64	0.72	6.83	
3	4	950	79.0	80.0	80.0	0.58	0.70	0.77	7.04	960	77.0	80.5	80.5	0.50	0.64	0.72	6.83	
VIII Poles																		
0.12	0.16	655	39.0	39.7	39.7	0.42	0.48	0.54	0.850	675	35.0	39.7	39.7	0.40	0.45	0.48	0.876	
0.18	0.25	690	35.0	40.0	42.0	0.50	0.58	0.64	1.02	700	30.0	40.0	42.0	0.48	0.53	0.59	1.01	
0.25	0.33	690	47.0	47.5	47.5	0.43	0.54	0.64	1.25	700	41.0	46.5	46.5	0.34	0.43	0.50	1.50	
0.37	0.5	700	50.0	52.0	53.0	0.45	0.55	0.63	1.68	705	44.0	50.0	52.0	0.42	0.50	0.54	1.83	
0.55	0.75	665	61.7	62.0	60.0	0.47	0.60	0.70	1.99	680	54.8	59.0	59.0	0.41	0.52	0.62	2.09	
0.75	1	710	65.0	66.0	66.0	0.45	0.57	0.65	2.66	715	60.0	66.0	66.0	0.40	0.50	0.58	2.73	
1.1	1.5	685	69.0	69.5	70.0	0.48	0.60	0.68	3.51	705	69.0	69.5	70.0	0.41	0.53	0.62	3.53	
1.5	2	705	69.0	70.0	71.0	0.50	0.63	0.72	4.46	715	65.0	70.0	71.0	0.42	0.54	0.64	4.59	
2.2	3	700	75.5	76.5	76.5	0.56	0.69	0.76	5.75	715	75.5	76.5	76.5	0.48	0.61	0.70	5.72	
3	4	705	76.5	77.5	77.5	0.55	0.68	0.75	7.84	710	76.5	77.5	77.5	0.48	0.61	0.70	7.69	
4	5.5	725	77.0	79.2	79.2	0.53	0.66	0.74	10.4	730	73.0	77.5	79.2	0.45	0.58	0.68	10.3	
5.5	7.5	730	79.0	81.0	81.4	0.54	0.67	0.74	13.9	735	76.0	80.0	81.4	0.45	0.58	0.68	13.8	
7.5	10	725	83.0	83.1	83.1	0.54	0.66	0.74	18.5	730	80.0	83.1	83.1	0.45	0.58	0.68	18.5	
9.2	12.5	730	84.0	84.5	84.5	0.61	0.73	0.80	20.7	735	84.0	84.5	84.5	0.53	0.66	0.75	20.2	
11	15	730	84.5	85.0	85.0	0.58	0.71	0.78	25.2	735	84.0	85.0	85.0	0.51	0.65	0.73	24.7	
15	20	730	87.0	87.5	87.5	0.61	0.72	0.77	33.8	730	86.0	87.5	87.5	0.52	0.65	0.72	33.1	
High-Output Design																		
2.2	3	700	75.5	76.5	76.5	0.56	0.69	0.76	5.75	715	75.5	76.5	76.5	0.48	0.61	0.70	5.72	
X Poles																		
0.12	0.16	555	38.0	45.0	48.0	0.39	0.47	0.54	0.703	560	33.0	40.0	44.0	0.37	0.44	0.50	0.759	
0.18	0.25	550	38.0	45.0	48.5	0.40	0.49	0.56	1.01	555	35.0	42.0	47.0	0.37	0.44	0.51	1.04	
0.25	0.33	545	40.0	47.0	49.5	0.39	0.49	0.58	1.32	555	36.0	44.0	47.0	0.37	0.45	0.52	1.42	
0.37	0.5	565	45.0	51.0	54.0	0.28	0.36	0.42	2.48	570	41.0	48.0	52.0	0.25	0.32	0.38	2.60	
0.55	0.75	565	56.5	64.0	65.5	0.38	0.48	0.56	2.28	570	53.5	61.5	64.5	0.34	0.42	0.50	2.37	
0.75	1	580	65.0	71.0	73.0	0.44	0.47	0.55	2.84	585	61.0	68.0	71.0	0.38	0.41	0.50	2.94	
1.1	1.5	570	72.0	75.0	75.5	0.46	0.58	0.66	3.35	575	68.0	73.0	74.5	0.40	0.51	0.60	3.42	
1.5	2	570	72.5	75.5	76.0	0.47	0.59	0.67	4.48	575	69.0	74.0	75.5	0.41	0.52	0.61	4.53	
High-Output Design																		
0.75	1	580	65.0	71.0	73.0	0.44	0.47	0.55	2.84	585	61.0	68.0	71.0	0.38	0.41	0.50	2.94	
1.1	1.5	570	72.0	75.0	75.5	0.46	0.58	0.66	3.35	575	68.0	73.0	74.5	0.40	0.51	0.60	3.42	
1.1	1.5	570	72.0	75.0	75.5	0.46	0.58	0.66	3.35	575	68.0	73.0	74.5	0.40	0.51	0.60	3.42	
1.5	2	570	72.5	75.5	76.0	0.47	0.59	0.67	4.48	575	69.0	74.0	75.5	0.41	0.52	0.61	4.53	
XII Poles																		
0.12	0.16	470	28.0	33.5	38.0	0.36	0.41	0.48	1.00	475	25.0	30.5	36.0	0.30	0.38	0.44	1.05	
0.18	0.25	455	32.0	38.0	41.5	0.35	0.42	0.48	1.37	460	28.0	34.0	38.5	0.30	0.36	0.42	1.55	
0.25	0.33	475	39.0	47.0	50.0	0.28	0.35	0.41	1.85	480	34.5	43.0	47.5	0.26	0.31	0.36	2.03	
0.37	0.5	465	44.5	53.0	56.5	0.33	0.40	0.48	2.07	470	40.0	49.0	54.0	0.30	0.36	0.42	2.27	
0.55	0.75	475	58.5	65.0	67.0	0.33	0.42	0.51	2.45	480	54.0	61.0	65.0	0.29	0.36	0.45	2.62	
0.75	1	475	59.0	65.0	67.5	0.33	0.43	0.51	3.31	480	54.0	61.5	65.0	0.29	0.37	0.45	3.57	
1.1	1.5	475	62.5	66.5	69.0	0.34	0.45	0.54	4.49	480	57.5	63.0	67.0	0.29	0.39	0.46	4.97	
High-Output Design																		
0.55	0.75	475	58.5	65.0	67.0	0.33	0.42	0.51	2.45	480	54.0	61.0	65.0	0.29	0.36	0.45	2.62	

Notes:

(1) Efficiency values are given according to IEC 60034-2-1. They are calculated according to indirect method, with stray load losses determined by measurement.

Mechanical Data

Foot Mounted Motors



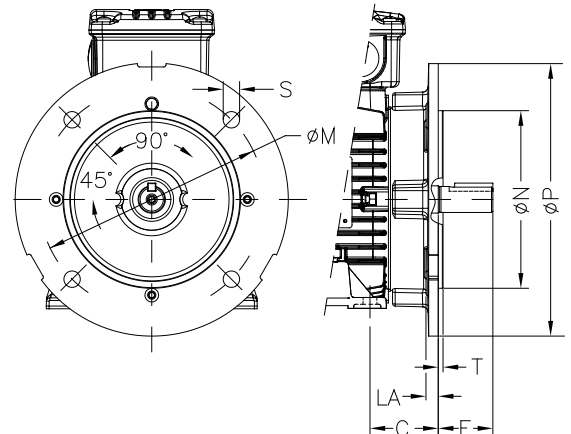
Frame	A	AA	AB	AC	AD	B	BA	BB	C	CA	Shaft Dimensions											
											D	E	ES	F	G	GD	DA	EA	TS	FA	GB	GF
63	100	19	116	125	119	80	23	95	40	78	11j6	23	14	4	8.5	4	9j6	20	12	3	7.2	3
71	112	28	134	141	127	90	24.5	108	45	88	14j6	30	18	5	11	5	11j6	23	14	4	8.5	4
80	125	32	155	159	136	100	28	124	50	93	19j6	40	28	6	15.5	6	14j6	30	18	5	11	5
90S/L	140	35	170	179	146		125	24	146	56	129 104	24j6	50	36	8	20	7	16j6	40		28	
100L	160	40	196	200	165	140		30	170	63	118	28j6	60	45		8		24	7	22j6	50	36
112M	190	46	220	223	184		50	70		128	38k6		80	63	10		33	8		28j6		60
S132S	216	44	248	270	212		40	89		150		89	188	38k6	80	63	10	33	8	28j6	60	45
132S	216	44	248	270	212		178	32		210	89	150	38k6		80	63	10	33	8	28j6	60	45
132M																						
160M/L	254	62	308	347	255	210	60	298	108	218	42k6	110	80	12	37	8	42k6	110	80	12	37	8
						254				174												
180M/L	279	68	350	306	274	241	49	322	121	238	48k6			14	42.5	9	48k6	110	80	14	42.5	9
						279				200												
200M/L	318	73	385	386	300	267	60	370	133	260	55m6	16	49	10	48k6	110	80	14	42.5	9		
						305				222												

Frame	H	HA	HC	HD	K	L	LC	S1	d1	d2	Bearings	
											D.E.	N.D.E.
63	63	6	124	182	6	216	241	2xM20x1.5	EM4	EM3	6201-ZZ	
71	71		139	198		248	276		DM5	EM4	6203-ZZ	6202-ZZ
80	80	8	157	216	10	276	313		DM6	DM4	6204-ZZ	6203-ZZ
90S/L	90	9	177	236		330	375	2xM25x1.5	DM8	DM6	6205-ZZ	6204-ZZ
100L	100	12	198	265		12	376		431	DM10	DM8	6206-ZZ
112M	112		235	296	393		448		6207-ZZ			6206-ZZ
S132S	132		274	344	452		519	DM12	DM10	6308-ZZ	6207-ZZ	
132S	132		274	344	490		557	DM12	DM10	6308-ZZ	6207-ZZ	
132M												
160M/L	160	18	313	414	14.5	634	756	2xM40x1.5	DM16	DM16	6309-ZZ-C3	6209-ZZ-C3
180M/L	180	20	354	454		694	820	2xM40x1.5			6311-ZZ-C3	6211-ZZ-C3
200M/L	200	25	393	500	18.5	758	880	2xM50x1.5	DM20	DM20	6312-ZZ-C3	6212-ZZ-C3

Flange mounted motors

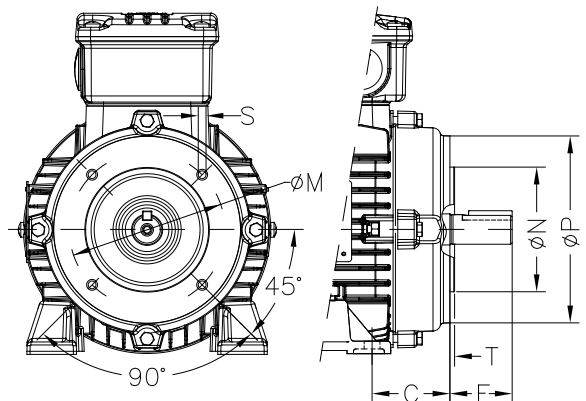
“FF” Flange

Frame	"FF" Flange Dimensions									N° of Holes	
	Flange	C	LA	M	N	P	T	S	a		
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		12			
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	FF-265	89	12	265	230	300	5	19			
160M/L	FF-300	108	18	300	250	350					
180M/L		121									
200M/L	FF-350	133		350	300	400					



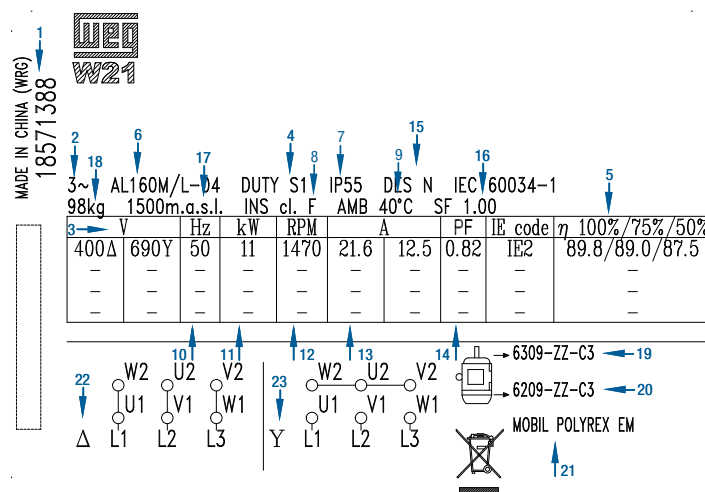
“C-DIN” Flange

Frame	"C" DIN Flange Dimensions							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		3	
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	C-200	89	165	130	200	M10		



Nameplate

The main nameplate and the secondary nameplate are made of AISI 304 stainless steel, and all information is printed on the nameplate by laser. The nameplate contains a lot of important useful information, such as serial number, output power, voltage, frequency, rated current, protection level, power factor, insulation level, bearing model, grease type and lubrication cycle, etc.



Details on nameplate

- Motor material number
- Three phase
- Rated voltage
- Duty
- Efficiency
- Frame size
- Protection degree
- Insulation class
- Ambient temperature
- Frequency
- Rated output
- Full load speed (rpm)
- Rated Current
- Power factor
- Design
- Service factor
- Altitude
- Weight
- DE bearing type
- NDE bearing type
- Bearing grease type
- Δ connection diagram
- Y connection diagram

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