



IEC PERFORMANCE DATA SHEET IEC Efficiency Level IE3

Catalog #: **IJA290L-4-24-B34**

HP	kW	Voltage	L.R. Amps	Efficiency	Power Factor	Service Factor	Frame	Design
2,00	1,49	230 / 460	19,81	86,5%	0,77	1,15	90L	N

60 Hz								
FLA							Is/In	F.L. RPM
208	230	333	460	575	796	990		
/	5,65	/	2,83	/	/	/	7	1734

50 Hz								
FLA						Efficiency	Is/In	F.L. RPM
190	380	400	415	660	725			
6,84	3,42	3,25	3,13	/	/	85,3%	7,0	1445

Wgt. Lbs	PH	Duty	Insul. Class	Ambient Temp.	Elevation	Temp. Rise° C
39,6	3	S1	H	40°C	1000 M	30

% Efficiency		% Power Factor		Torque			Protector Type	Winding Resist. Ω
					60Hz	50Hz		
Full Load:	86,5%	Full Load:	0,77	FLT ft.lbs	6,06	7,27	-	-
3/4 Load:	83,0%	3/4 Load:	0,65	LRT %	230	230		
1/2 Load:	75,3%	1/2 Load:	0,50	BDT %	230	230		

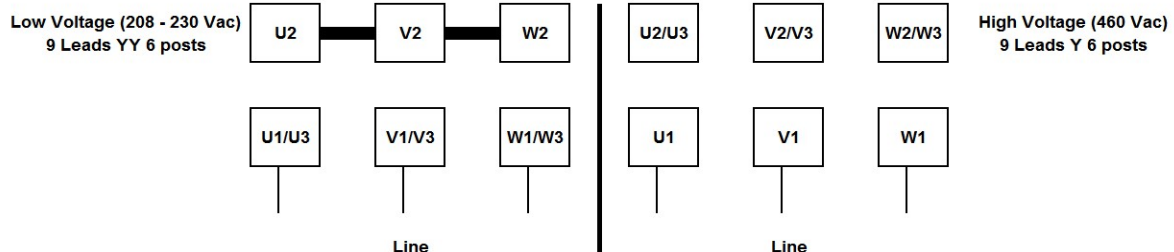
Rotor Inertia Wk2 Lb-Ft2	Max Load Inertia Wk2 Lb-Ft2	Shaft Material	Frame Material	DE Bracket Type	ODE Bracket Type	Mounting	Enclosure	Protection
-	-	Standard	Aluminum	Standard	Standard	B34	TEFC	IP55

Ball Bearings		Grease	Mount Type	Orientation	Cold Start (Secs)	Paint
DE	ODE					
6205ZZ-C3	6205ZZ-C3	Sealed Bearings	Rigid	Horizontal	15	Red

Inverter Duty. Motor meets MG1 parts 31.4.4.2	Constant Torque Range	Variable Torque Range
	10:1	20:1

WIRING CONNECTION DIAGRAM : B

IEC Frames 56 - 100L, Dual Voltage
208 - 230 / 460 VAC, 6 posts, 9 leads, YY / Y Connection

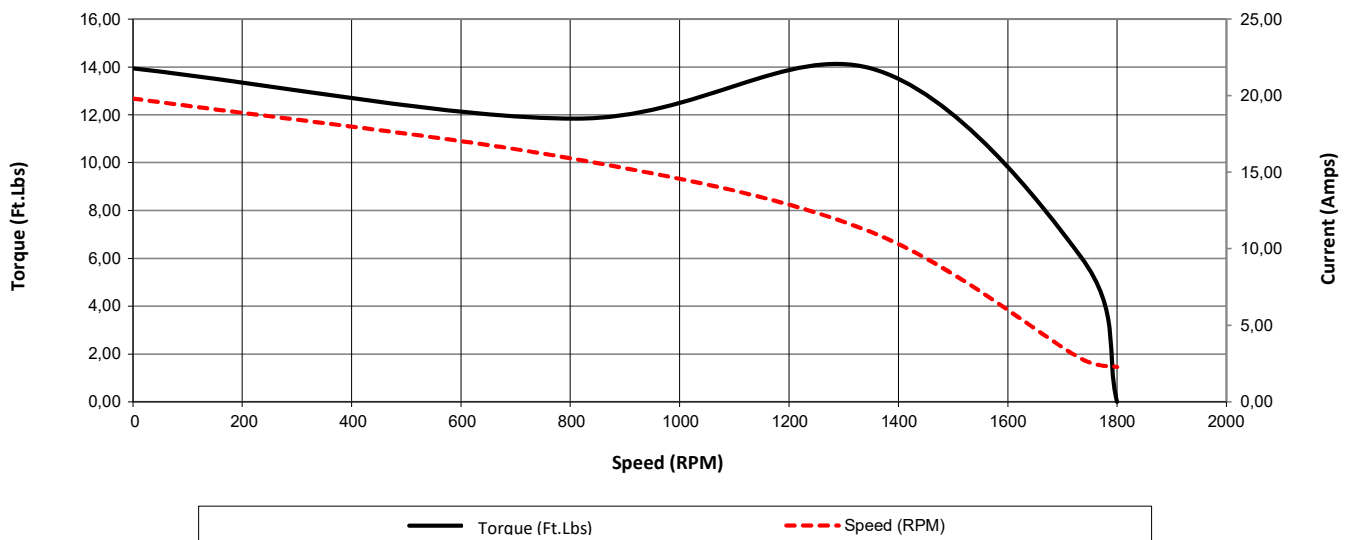


Date: **25 janvier, 2024**
 Customer: _____
 Contact: _____
 Submittee: **J.C. Lavallée**

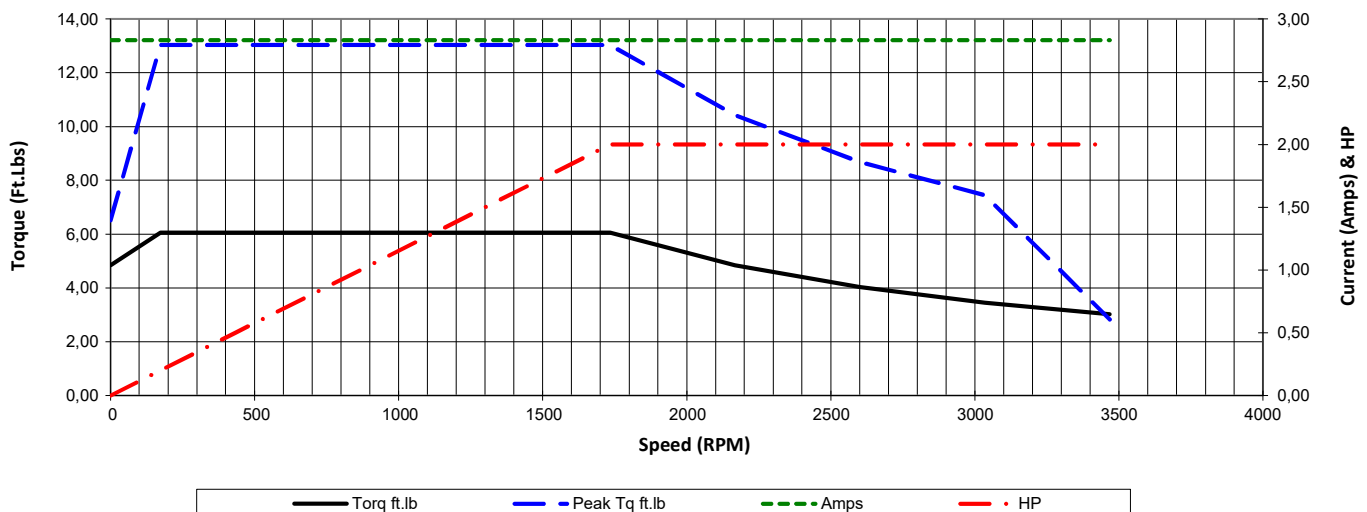
Catalogue #: **IJA290L-4-24-B34**

IEC Efficiency Level IE3											
HP	Kw	VAC	RPM	Enclosure	Frame	Frequency	Design	Poles	LR Is/In	Insulation Class	Temp. Rise °C
2,00	1,49	230 / 460	1734	TEFC	90L	60	N	4	7	H	30
	0Hz	6Hz	15Hz	30Hz	45Hz	60Hz	75Hz	90Hz	105Hz	120Hz	
Amps	2,83	2,83	2,83	2,83	2,83	2,83	2,83	2,83	2,83	2,83	2,83
RPM	0	173	434	867	1301	1734	2168	2601	3035	3468	
Torq ft.lb	4,85	6,06	6,06	6,06	6,06	6,06	4,85	4,04	3,46	3,03	
Peak Tq ft.lb	6,51	13,02	13,02	13,02	13,02	13,02	10,42	8,68	7,44	2,83	
HP	0,00	0,20	0,50	1,00	1,50	2,00	2,00	2,00	2,00	2,00	
	Locked Rotor	Pull-Up	Breakdown	Rated Load	Idle	Duty	S. F.	Ambient	Elevation	dBA @ 1M	
Speed (RPM)	0	810	1350	1734	1800	S1	1,15	40°C	3,300 ft	-	
Current (Amps)	19,81	15,85	11,09	2,83	2,29	VFD Rating: Meets MG1 parts 31.4.4.2					
Torque (ft.lbs)	13,93	11,84	13,93	6,06	0,0	CT :	10:1	VT :	20:1		

Motor Speed Data



Motor Torque Capability vs RPM



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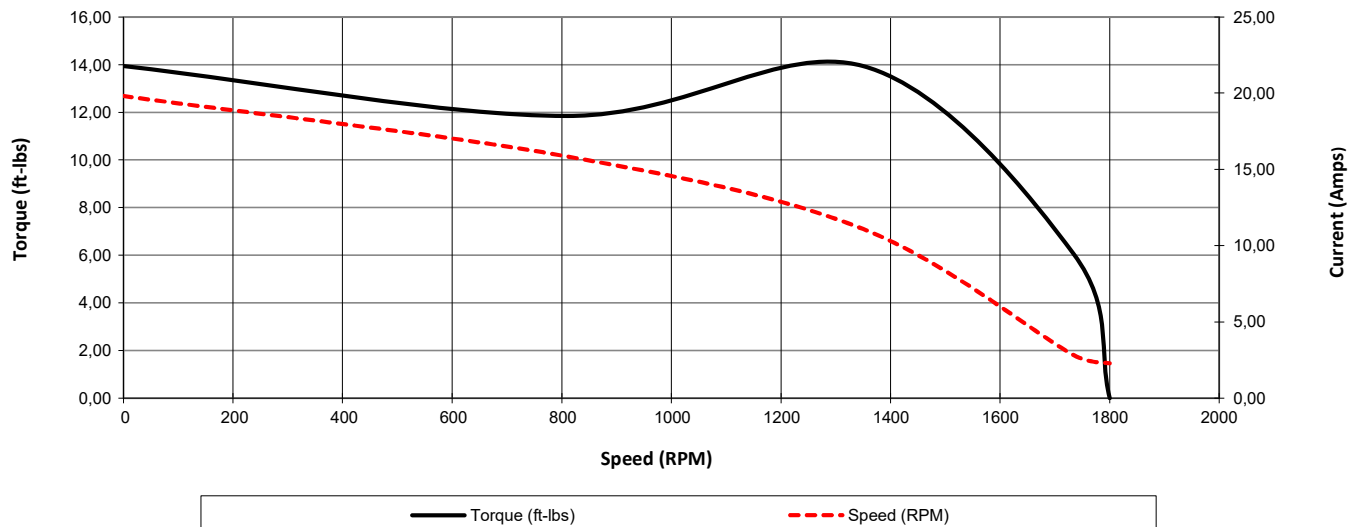
Catalogue #: **IJA290L-4-24-B34**

IEC Efficiency Level IE3											
HP	Kw	VAC	RPM	Enclosure	Frame	Frequency	Design	Poles	LR Is/In	Insulation Class	Temp. Rise °C
2,00	1,49	230 / 460	1734	TEFC	90L	60	N	4	7	H	30

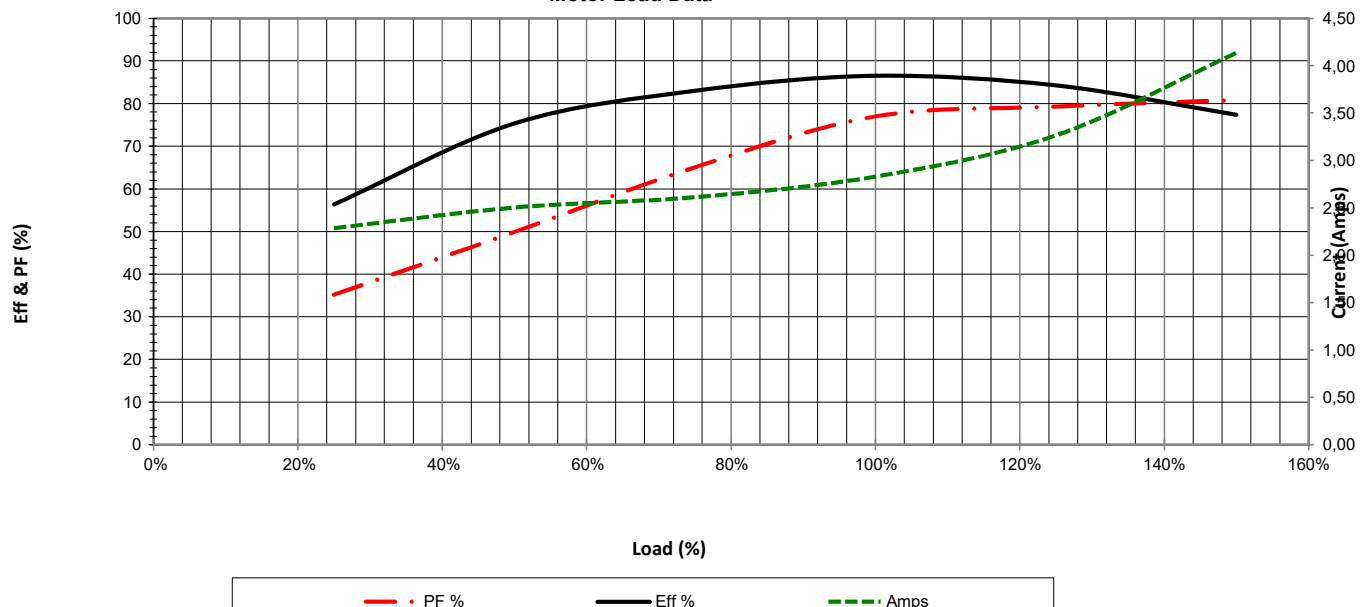
Load %	0%	25%	50%	75%	100%	125%	150%
Amps	2,29	2,29	2,50	2,61	2,83	3,27	4,14
Torq ft/lbs	0	1,47	2,97	4,50	6,06	7,90	10,14
RPM	0	1784	1767	1751	1734	1663	1554
Eff %	0	56,4	75,3	83,0	86,5	84,3	77,4
PF %	0	35,2	49,9	65,1	77,0	79,3	80,9

	Locked Rotor	Pull-Up	Breakdown	Rated Load	Idle	Duty	S. F.	Ambient	Elevation	dBA @ 1M
Speed (RPM)	0	810	1350	1734	1800	S1	1,15	40°C	3,300 ft	-
Current (Amps)	19,81	15,85	11,09	2,83	2,29	VFD Rating: Meets MG1 parts 31.4.4.2				
Torque (ft-lbs)	13,93	11,84	13,93	6,06	0,0	CT :	10:1	VT :	20:1	

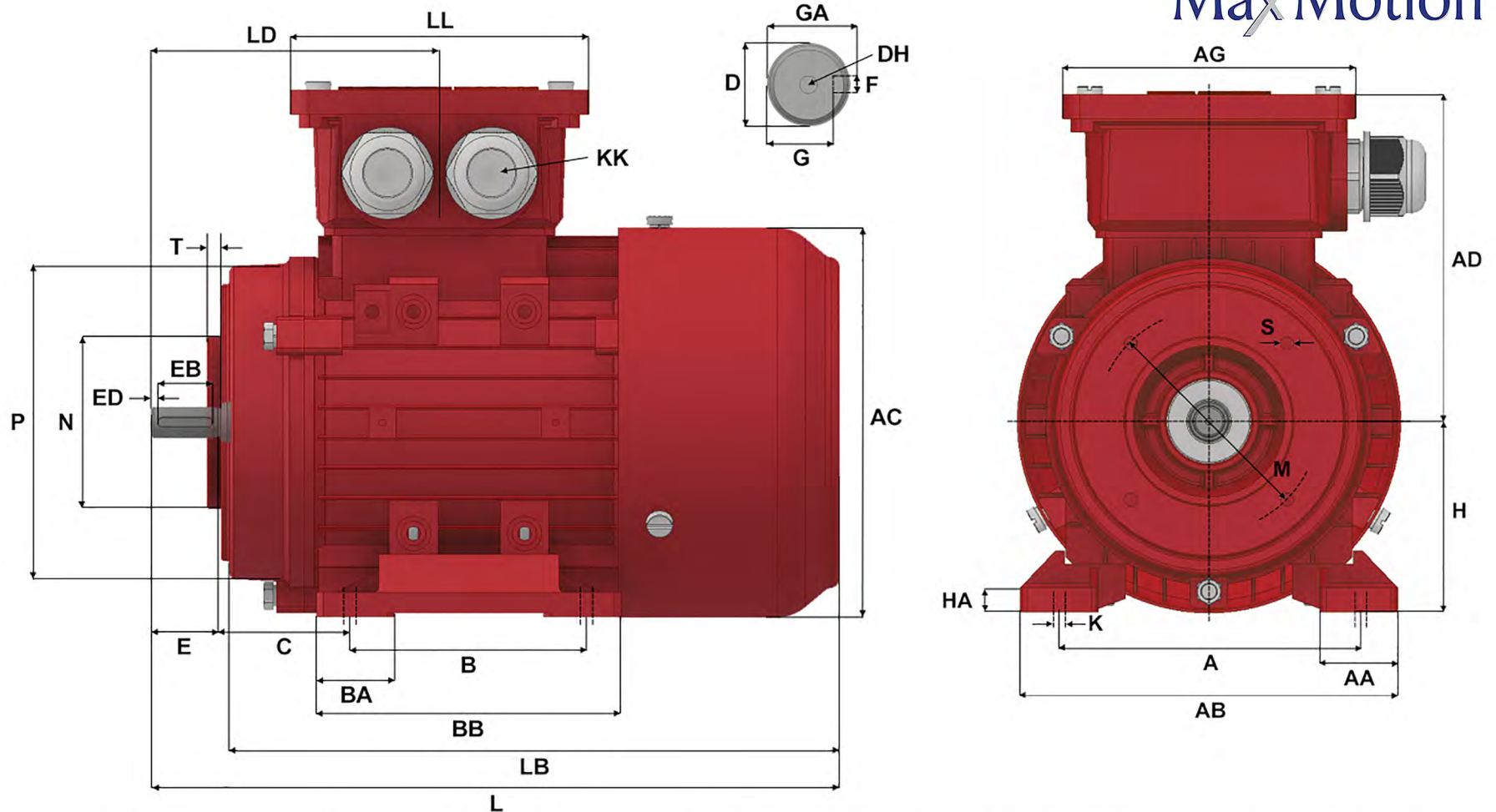
Motor Speed Data



Motor Load Data



MaxMotion



Version: 1JLEM			Revised: 14-02-2023			HP	RPM	FRAME	ENCLOSURE	IJA290L-4-B34A		
Customer is responsible in determining that Max Motion product will fit/perform suitably in the intended application						2	1800	90L	TEFC			
A	B	C	D	E	F	G	H	K	L	M	N	P
140	125	56	24	50	8	20	90	10 X 14	340	115	95	140
S	T	AA	AB	AC	AD	AG	BA	BB	DH	EB	ED	GA
M8	3	37	173	165	138	109	32.5	125	M8 X 19	40	5	27
HA	KK (1)	KK (2)	KK (3)	LB	LD	LL						
10	M20 X 1.5	3/4" NPT	-	290	136	109						

METRIC IE1 & IE3 ALUMINUM & CAST IRON MOTORS

IEC DESIGN, WITH NEMA B TORQUE CURVES

TEFC TOTALLY ENCLOSED FAN COOLED



Applications:

General purpose use on conveyors, compressors, pumps, fans, blowers and other industrial and process machinery. Motors can be locally modified to match special electrical designs such as 2 speed or any non-standard connection requirements. Special mechanical requirements such as shafts or flanges can be fabricated in 3-4 days.

Features:

Design - IEC Standard 60034-1 for energy efficiency, rotating electrical machines part 2-1, compliant with efficiency standards covered by NEMA, CSA, CEMEP, COPANT, AS, NZS, JIS and GB.

Agency Listings and Standard - IEC, IEEE, CSA, CSAus, CE, NEMA, DOE, NRCan

Service Factor - 1.15 @ 60Hz and 1.0 @ 50Hz without derating power

Electrical Supply - At 60Hz, standard voltages are: 230 / 460 VAC: Fractional to 30HP, 460 / 796 VAC: 30HP to 300HP, 333 / 575 VAC: Fractional to 5.5HP, 575 / 990 VAC: 5.5HP to 300HP

At 50Hz, standard voltages are: 190 -220 / 380 - 415 VAC: Fractional to 30HP,

380 - 415 / 660 - 725 VAC: 30HP to 300HP

*Custom voltages available on request i.e. 690V

Windings - Highest quality Enamel coated magnet wire. VPI with 2 stage dip and bake.

Insulation - Non hygroscopic Class H with Class B temperature rise

Voltage and Frequency Variation - $\pm 10\%$ on 2 rated voltage points, $\pm 5\%$ on frequency per regulation en 60204-1

Bearings - SKF single row deep groove ball bearings, frame sizes 132+ have re-greasing capabilities.

*Special bearings are available on request.

Earthing Terminals - 1 in the terminal box and 1 on body of the motor.

Bearing Lubricant - For regreasable bearings, our standard is Polyrex EM (- 29°C to 177°C temperature range)

Enclosure Protection - Standard is IP55, others such as IP56, IP65 available on request

Frame Construction - Frames 56-160 are pressured die cast aluminum with base that can be removed/applied to accommodate F0, F1, F2 terminal box positions. Frames 180-355 are cast iron construction with F0 terminal box position.

Conduit Box - Large square cast aluminum terminal box designed to meet NEC space requirements. Can be rotated in 90 degree increments. Equipped with both NPT and PG plugs. Wiring diagram is embossed on the back of the cover. Inside you will find clearly marked stud type terminal blocks and leads identified in IEC format. Frames 132+ come equipped with extra gland for PTC connection.

Inverter Duty - Suitable for Inverter Duty applications, at all voltages for speed ranges of 10:1 constant torque and 20:1 variable torque. Meets NEMA MG-1 Part 31.4.4.2 criteria.

Nameplate - Oversized painted aluminum nameplate with 60Hz and 50Hz performance specifications along with multiple approval ratings.

Drain Hole - Cast iron frames, located in center bottom of casting.

Fan Cover - Rolled steel on all frame sizes, cast iron available on request

Warranty - 3 years from the date of manufacture



HP	KW	FL RPM	VOLTS	FRAME	CAT NO.	CONSTRUCTION	NOM EFF.	F.L. AMPS	WT (Lbs)	DE BRG	ODE BRG	"L" dimension (inch)
50	37.3	3550	460/796	200	IJC200L2-2-47	Cast Iron	93	56.10/32.40	567.6	6312-C3	6312-C3	746
		3550	575/990	200	IJC200L2-2-59	Cast Iron	93	44.90/26.10	567.6	6312-C3	6312-C3	746
		1780	460/796	225	IJC225S-4-47	Cast Iron	94.5	57.10/33	727	6313-C3	6313-C3	780
		1780	575/990	225	IJC225S-4-59	Cast Iron	94.5	45.70/26.60	727	6313-C3	6313-C3	780
		1180	460/796	250	IJC250M-6-47	Cast Iron	94.1	58.80/34	874.5	6313-C3	6313-C3	900
		1180	575/990	250	IJC250M-6-59	Cast Iron	94.4	47.04/27.30	874.5	6313-C3	6313-C3	900
60	44.76	3555	460/796	225	IJC225M-2-47	Cast Iron	93.6	67/38.70	716	6313-C3	6313-C3	780
		3555	575/990	225	IJC225M-2-59	Cast Iron	93.6	53.60/31.20	716	6313-C3	6313-C3	780
		1780	460/796	225	IJC225M-4-47	Cast Iron	95	69.10/39.90	797	6313-C3	6313-C3	810
		1780	575/990	225	IJC225M-4-59	Cast Iron	95	55.30/32.10	797	6313-C3	6313-C3	810
		1180	460/796	250	IJC280S-6-47	Cast Iron	93.7	70.30/40.60	1107	6317-C3	6317-C3	982
		1180	575/990	250	IJC280S-6-59	Cast Iron	93.7	56.24/32.60	1107	6317-C3	6317-C3	982
75	55.95	3560	460/796	250	IJC250M-2-47	Cast Iron	93.6	81.90/47.40	910.7	6314-C3	6314-C3	900
		3560	575/990	250	IJC250M-2-59	Cast Iron	93.6	65.60/38.10	910.7	6314-C3	6314-C3	900
		1780	460/796	250	IJC250M-4-47	Cast Iron	95.4	84.10/48.60	979	6314-C3	6314-C3	900
		1780	575/990	250	IJC250M-4-59	Cast Iron	95.4	67.30/39.10	979	6314-C3	6314-C3	900
		1180	460/796	280	IJC280M-6-47	Cast Iron	94.5	85.90/49.60	1263.5	6317-C3	6317-C3	1033
		1180	575/990	280	IJC280M-6-59	Cast Iron	94.5	68.72/39.80	1263.5	6317-C3	6317-C3	1033
100	74.6	3570	460/796	280	IJC280S-2-47	Cast Iron	94.1	111/64.20	1203.9	6314-C3	6314-C3	982
		3570	575/990	280	IJC280S-2-59	Cast Iron	94.1	88.90/51.60	1203.9	6314-C3	6314-C3	982
		1780	460/796	280	IJC280S4-4-47	Cast Iron	95.4	112/64.80	1292	6317-C3	6317-C3	982
		1780	575/990	280	IJC280S4-4-59	Cast Iron	95.4	89.70/52.10	1292	6317-C3	6317-C3	982
		1180	460/796	315	IJC315S-6-47	Cast Iron	95	117/67.60	1858.8	NU319	6319-C3	1208
		1180	575/990	315	IJC315S-6-59	Cast Iron	95	93.60/54.60	1858.8	NU319	6319-C3	1208
125	93.25	3570	460/796	280	IJC280M-2-47	Cast Iron	95	134/77.40	1304.6	6314-C3	6314-C3	1033
		3570	575/990	280	IJC280M-2-59	Cast Iron	95	106/61.40	1304.6	6314-C3	6314-C3	1033
		1785	460/796	280	IJC280M-4-47	Cast Iron	95.4	136/78.60	1409	6317-C3	6317-C3	1033
		1785	575/990	280	IJC280M-4-59	Cast Iron	95.4	108.80/63.20	1409	6317-C3	6317-C3	1033
		1185	460/796	315	IJC315M-6-47	Cast Iron	95	140/80.90	2074.9	NU319	6319-C3	1318
		1185	575/990	315	IJC315M-6-59	Cast Iron	95	112/65	2074.9	NU319	6319-C3	1318
150	111.9	3575	460/796	315	IJC315S-2-47	Cast Iron	95	161/93	1977.9	6317-C3	6317-C3	1178
		3575	575/990	315	IJC315S-2-59	Cast Iron	95	128.80/74.8	1977.9	6317-C3	6317-C3	1178
		1785	460/796	315	IJC315S-4-47	Cast Iron	95.8	164/94.80	2070.5	NU319	6319-C3	1208
		1785	575/990	315	IJC315S-4-59	Cast Iron	95.8	131.20/76	2070.5	NU319	6319-C3	1208
		1185	460/796	315	IJC315L1-6-47	Cast Iron	95.8	168/97.10	2242.5	NU319	6319-C3	1318
		1185	575/990	315	IJC315L1-6-59	Cast Iron	95.8	134.40/77.70	2242.5	NU319	6319-C3	1318
180	134.28	3575	460/796	315	IJC315M-2-47	Cast Iron	95.4	193/111.50	2268.9	6317-C3	6317-C3	1288
		3575	575/990	315	IJC315M-2-59	Cast Iron	95.4	154.40/89.32	2268.9	6317-C3	6317-C3	1288
		1785	460/796	315	IJC315M-4-47	Cast Iron	96.2	196/113.3	2277.7	NU319	6319-C3	1318
		1785	575/990	315	IJC315M-4-59	Cast Iron	96.2	156.80/91.10	2277.7	NU319	6319-C3	1318
		1185	460/796	315	IJC315L2-6-47	Cast Iron	86.5	201/116.20	2471.8	NU319	6319-C3	1318
		1185	575/990	315	IJC315L2-6-59	Cast Iron	86.5	160.80/93.40	2471.8	NU319	6319-C3	1318
200	149.2	3575	460/796	315	IJC315L1-2-47	Cast Iron	95.4	234/135.20	2352.7	6317-C3	6317-C3	1288
		3575	575/990	315	IJC315L1-2-59	Cast Iron	95.4	187.20/108.50	2352.7	6317-C3	6317-C3	1288
		1785	460/796	315	IJC315L1-4-47	Cast Iron	96.2	237/137	2482.8	NU319	6319-C3	1318
		1785	575/990	315	IJC315L1-4-59	Cast Iron	96.2	189.60/110.20	2482.8	NU319	6319-C3	1318
270	201.42	3575	460/796	315	IJC315L2-2-47	Cast Iron	95.8	288/166.50	2632.77	6317-C3	6317-C3	1288
		3575	575/990	315	IJC315L2-2-59	Cast Iron	95.8	230/40/133.40	2632.77	6317-C3	6317-C3	1288
		1788	460/796	315	IJC315L2-4-47	Cast Iron	96.2	297/171.60	2729.8	6317-C3	6317-C3	1318
		1788	575/990	315	IJC315L2-4-59	Cast Iron	96.2	237.60/138	2729.8	6317-C3	6317-C3	1318
340	250.00	1785	575/990	355M	IJC355M-4-59	Cast Iron	96.2	290/168	3630	NU322	6322C3	1524



Our oversized aluminium nameplate allows for quick reference to both 60 and 50Hz performance values spread across a wide voltage range. Multiple approval ratings provides locally compliant motors ready for export to over 28 global regions. The Max Motion IEC line is designed to meet or exceed all IEC 34 and 72 electrical standards while satisfying NEMA MG1 Part 31.4.4.2 for VFD inverter fed applications.



Heat has long been the great adversary for motor longevity. We address this concern logically by the use of a class H insulation system throughout the motor windings and leads. All of our motors exceed the criteria critical for optimal operation in 10:1 Constant Torque and 20:1 Variable Torque applications. This hybrid platform meets both IEC Design N and NEMA Design B Torque characteristics.



A large, square, cast aluminium T-box has been designed to meet NEC space requirements. Equipped with NPT and PG plugs, it can be rotated in 90 degree increments and boasts a wiring diagram embossed on to the back of the cover. There are no plastic cost outs here! Inside are clearly marked, stud type terminal blocks and leads marked in the proper IEC format.



Knowing that over 57% of motor failures occur due to bearings, it's understood that bearings play an essential role in a motor's life cycle. This is why we use over-sized SKF Explorer Deep Groove Ball Bearings in our motors, as standard. We went the extra mile to include re-greasing capabilities from frame sizes 132 to 355. In conjunction with the Class H insulation system, you get a cool running motor which gives us the ability to offer our customers a full 3 year warranty.



Frame sizes 56 – 160 are of lightweight aluminium construction, with removable base and flexible multi-orientation capability (F1, F2, F3). With an ultra-smooth and elongated fin design, heat is dissipated quickly. Cast iron frames are available from sizes 180 – 500 and offers the same fin design as with aluminium units. Rolled steel fan covers are standard on all frames and special cast iron fan covers can be furnished upon request.



MaxMotion

MEP INC

Ontario, Western
Canada, Newfound-
land, Labrador and USA

2831 Bristol Circle Unit 3
Oakville, ON L6H 6X5
Tel: 905-829-1020
Toll free: 877-812-7788
Email: information@mep.ca

Quebec and Maritimes

10500 Boul. du Golf
Anjou, QC H1J 2Y7
Tel: 514-352-1229
Toll free: 888-668-3877
Email: info@mep.ca

