

## CRANE DUTY MOTORS





### FEATURES

- High pull out torque and low rotor inertia
- Suitable for various intermittent duties S3, S4, S5
- Impregnation with Class F thermosetting varnish
- Large slip ring unit
- Ample size terminal box
- Dynamic balancing to ensure lower vibration
- Metallic fans for wound rotor motors

### COMPLIES TO

- IS: 325 : Specification for 3 Phase Induction Motor
- IS: 6362 : Cooling
- IS: 4691 : Protection by Enclosure
- IS: 2253 : Construction and Mounting
- IS: 1231 : Dimensions
- IS: 12075 : Vibration Level
- IS: 12065 : Noise Level
- Motors also comply with IP55 specification

### WE CAN ALSO SUPPLY

- Higher number of starts per hour
- Customized Duty Cycle
- Supply voltages 220 / 400 / 440 / 660
- Supply frequency 60Hz
- Special mounting and shaft extension dimensions
- Thermistor and space heaters (for frame sizes 180 above)
- Matching of rotor data and major mounting dimensions to any imported / indigenous specifications
- Terminal Box, LHS / RHS from 71 to 225 frame for cage rotor motor. Top Box from 100 to 280 frame for wound rotor motor

### SPECIFICATIONS

- Voltage : 415V  $\pm$  10% - 3 Ph AC
- Frequency : 50 Hz  $\pm$  5%
- Combined Variation :  $\pm$  10%
- Insulation : F
- Duty : S3 / S4 / S5
- Starts / Hour : 6 / 150 / 300
- Over Speed : 2.5 times rated speed or 2000rpm whichever is less for 6 and 8 pole motors
- Factor of Inertia : 2
- Cyclic Duration Factor: 25, 40, 60, 100
- Mounting : IM 1001,1002,1003, and 1004
- Enclosure : IC 411
- Ambient : 50°C for all motors
- Terminal Box Position : RHS form DE for cage motors and Top for wound rotor motors

### WHEN YOU ORDER, PLEASE FURNISH

- KW / HP
- RPM
- Duty cycle
- Cycle Duration Factor
- Type of rotor
- Number of starts per hour
- Shaft Extension Required (Single Extn. / Double Extn.)
- Location of TB
- Method of starting and braking
- Pullout torque
- Load GD<sup>2</sup>
- Speed Control
- Starting torque
- Ambient temperature



### RATING CHART FOR CRANE DUTY CAGE MOTORS

FRAME	4 Pole (1500 SRPM)			FRAME	6 Pole (1000 SRPM)			FRAME	8 Pole (750 SRPM)		
	S3	S4 & S5			S3	S4 & S5			S3	S4 & S5	
	6s/h	150s/h	300s/h		6s/h	150s/h	300s/h		6s/h	150s/h	300s/h
PM71	0.55	0.55	0.55	PM71	0.37	0.37	0.37	PM90S	0.55	0.55	0.55
PM80	0.75	0.75	0.75	PM80	0.37	0.37	0.37	PM90L	0.75	0.75	0.75
PM80	1.1	1.1	1.1	PM80	0.55	0.55	0.55	PM100L	1.1	1.1	1.1
PM90S	1.5	1.5	1.5	PM80	0.75	0.75	0.75	PM100L	1.5	1.5	1.5
PM90L	2.2	2.2	2.2	PM90L	1.1	1.1	1.1	PM112M	2.2	2.2	2.2
PM100L	3.7	3.7	3.7	PM90L	1.5	1.5	1.5	PM132S	3.7	3.7	3.7
PM112M	5.5	5.5	5.5	PM100L	2.2	2.2	2.2	PM160M	5.5	5.5	5.5
PM132S	7.5	7.5	7.5	PM112M	3.7	3.7	3.7	PM160M	7.5	7.5	7.5
PM132M	9.3	9.3	9.3	PM132S	5.5	5.5	5.5	PM160L	9.3	9.3	9.3
PM160M	11	11	11	PM132M	7.5	7.5	7.5				
PM160M	15	15	15	PM160M	9.3	9.3	9.3				
PM160L	18.5	18.5	18	PM160L	11	11	11				
SC180L	22	22	22	SC160L	15	15	15				
SC200L	30	30	28	SC200L	18.5	18.5	18.5				
SC225S	37	37	-	SC200L	22	22	22				
SC225M	45	45	-	SC225M	30	30	28				

### RATING CHART FOR CRANE DUTY WOUND ROTOR MOTORS

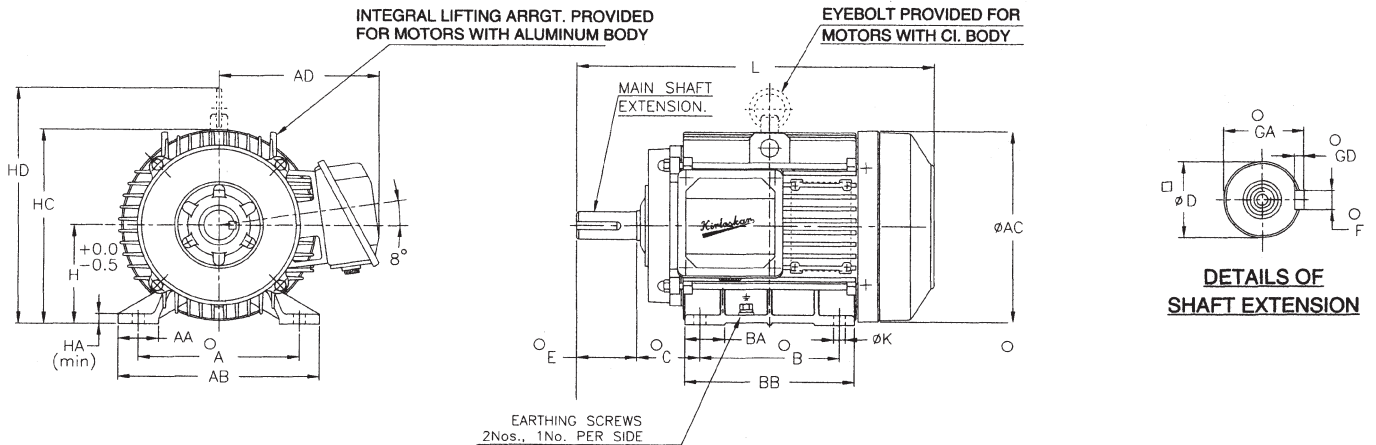
FRAME	6 Pole (1000 SRPM)			ROTOR	FRAME	8 Pole (750 SRPM)			ROTOR
	S3	S4 & S5		GD2		S3	S4 & S5		GD2
	6s/h	150s/h	300s/h	kg m <sup>2</sup>		6s/h	150s/h	300s/h	kg m <sup>2</sup>
ID100L	2	1.3	1	1.5					
ID112M	2.4	1.8	1.5	2.2					
ID132M	3	2.6	2.2	0.2	ID160M	5.2	4.8	-	0.56
ID132M	5	4.5	3.7	0.2	ID160L	7.5	6.7	-	0.65
ID160M	7.5	6.7	5.5	0.5	ID180L	11	9.3	7.5	0.87
ID160L	10.5	9.0	7.5	0.6	ID200L	15	13.5	11	2.40
ID180L	15	13.5	11	0.9	ID225M	22	19.5	16.5	3.30
ID200L	23	17.5	15	2.2	ID225M	28.5	24.5	20	4.50
ID225M	28.5	24.5	20	3.3	ID250M	33	27	22	5.7
ID225M	36	30.7	26	4.4	ID250M	37	30	26	6.0
ID250M	39.5	33.7	27	5.0	ID250M	41	34	29	6.0
ID250M	47	40	33.7	6.0	ID280S	50	41	35	13.0
ID280S	64.5	53.5	45	11.0	ID280M	63	52	45	15.0
ID280M	76	66.5	55	13.0					

#### NOTE

- s/h = Starts and Stops Per Hour
- SRPM = synchronous RPM
- For motors of any other rating, please contact us
- 4 pole (1500 RPM) wound rotor motors can also be supplied

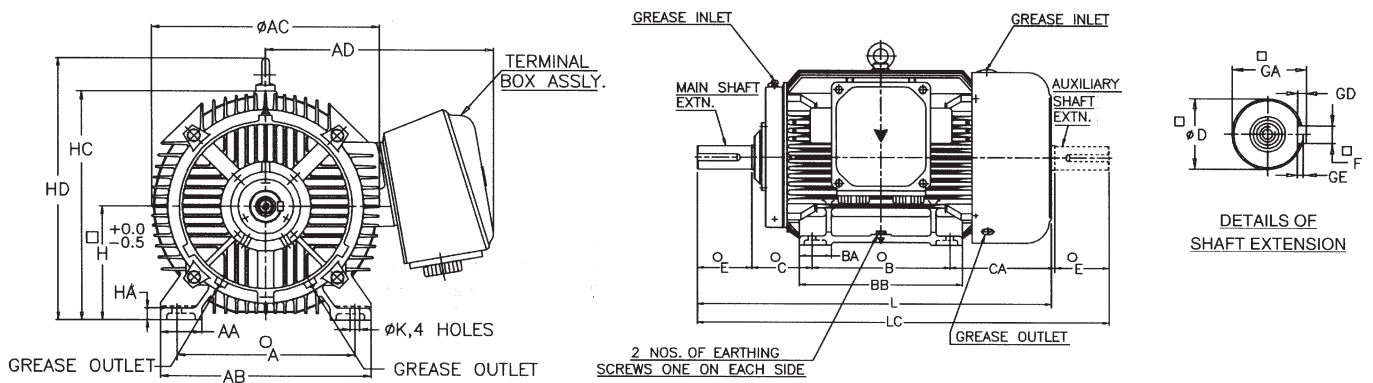


### CRANE DUTY CAGE MOTORS - FRAME PM 71 - 160



Sl. No.	Frame	A	B	C	ØD	E	F	H	ØK	L	AA	AB	ØAC	AD	BB	GA	GD	HA	HD	BA
1.	PM 71	112	90	45	14j6	30	5h9	71	7	233	25	137	140	115	106	16.0	5	8	140	28
2.	PM 80	125	100	50	19j6	40	6h9	80	10	270	30	155	156	128	120	21.5	6	10	158	30
3.	PM90 S	140	100	56	24j6	50	8h9	90	10	293	35	175	176	138	120	27.0	7	10	178	30
4.	PM 90 L		125												145					
5.	PM 100 L	160	140	63	28j6	60	8h9	100	12	360	40	200	193	152	170	31.0	7	10	197	40
6.	PM 112 M	190	140	70	28j6	60	8h9	112	12	385	40	230	218	170	180	41.0	8	12	262	40
7.	PM 132 S	216	140	89	38k6	80	10h9	132	12	442	40	256	260	190	180					
8.	PM 132 M		178												218					
9.	PM 160 M	254	210	108	42k6	110	12h9	160	15	596	60	314	310	250	270	45.0	8	14	315	60
10.	PM 160 L		254												314					

### CRANE DUTY CAGE MOTORS - FRAME SC 180 - 225

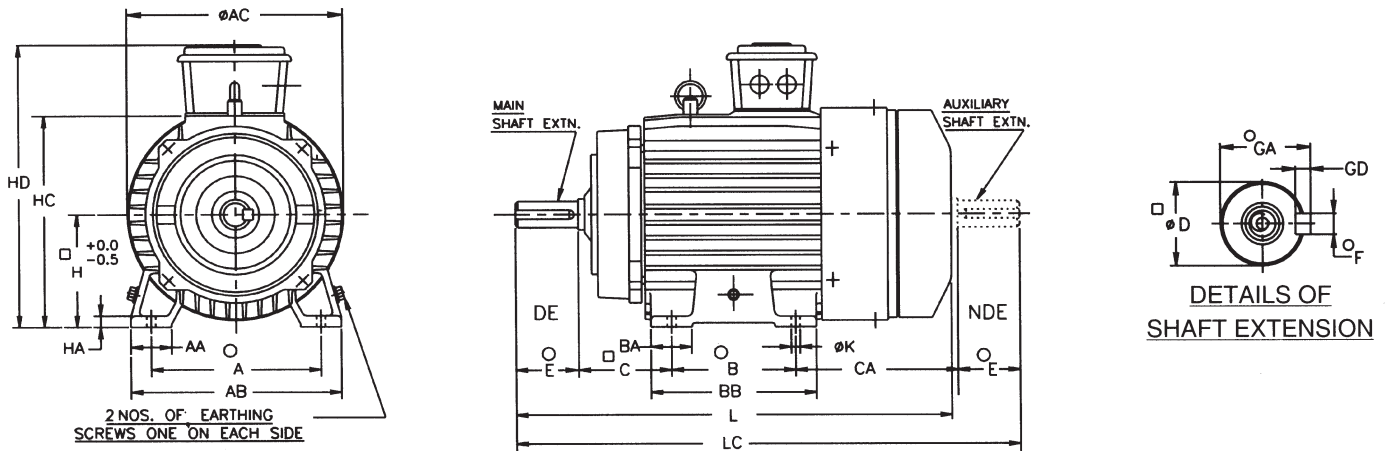


Sl. No.	FRAME	POLES	A	AA	AB	ØAC	AD	B	BA	BB	C	CA	D	E	F	GA	GD	GE	H	*HA	HC	HD	ØK	L	LC
1.	SC 180M	4, 6 & 8	279	64	330	381	357	241	64	292	121	205	48	110	14	51.5	9	5.5	180	27	362	415	15	679	787
2.	SC 180L	4, 6 & 8	279	64	330	381	357	279	64	330	121	205	48	110	14	51.5	9	5.5	180	27	362	415	15	717	825
3.	SC 200L	4, 6 & 8	318	90	390	431	380	305	80	355	133	225	55	110	16	59	10	6	200	34	410	495	19	775	883
4.	SC 225S	4, 6 & 8	356	76	444	490	408	286	70	331	149	253	60	140	18	64	11	7	225	34	463	544	19	830	968
5.	SC 225M	4, 6 & 8	356	76	444	490	408	311	70	356	149	253	60	140	18	64	11	7	225	34	463	544	19	855	993

All dimensions are in mm

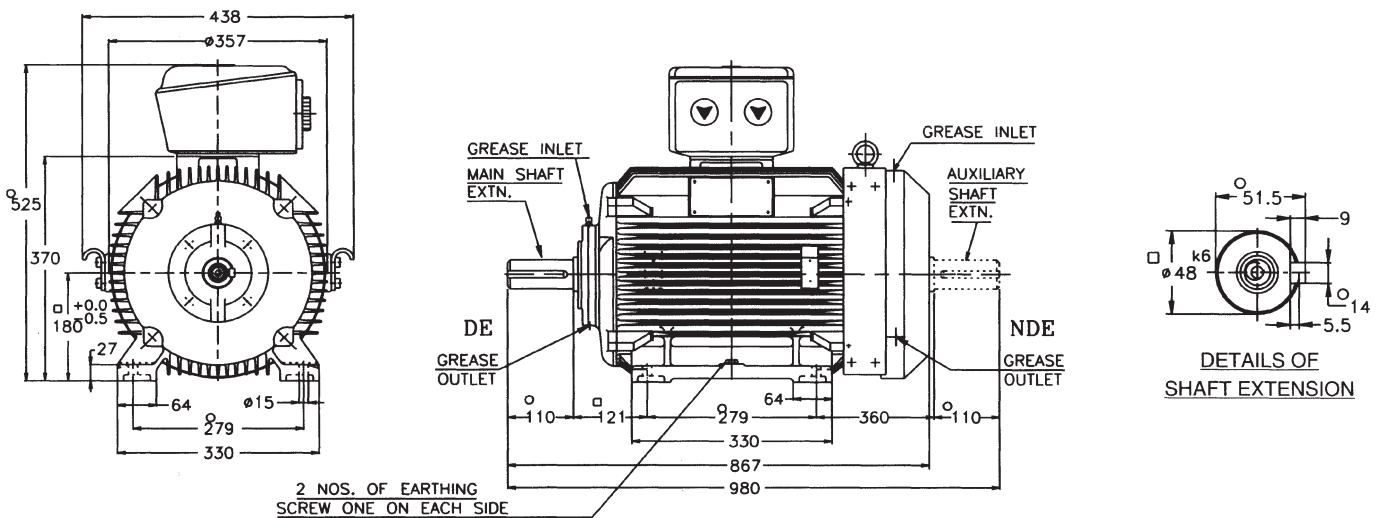


### CRANE DUTY WOUND ROTOR MOTORS - FRAME ID 100 - 160



Sl. No.	FRAME	A	B	C	CA	D	E	F	G	K	L	LC	AA	AB	AC	BB	HA	HD	GA	GD
1.	ID100L	160	140	63	216	28	60	8	100	12	476	536	40	200	188	170	10	255	31	7
2.	ID112M	190	140	70	235	28	60	8	112	12	500	560	40	230	214	180	10	280	31	7
3.	ID132M	216	178	89	288	38	80	10	132	12	635	715	40	256	264	218	17	320	41	8
4.	ID160M	254	210	108	330	42	110	12	160	15	765	868	60	314	318	270	25	410	45	8
5.	ID160L	254	254	108	330	42	110	12	160	15	810	912	60	314	318	314	25	410	45	8

### CRANE DUTY WOUND ROTOR MOTORS - FRAME ID 180 - 225

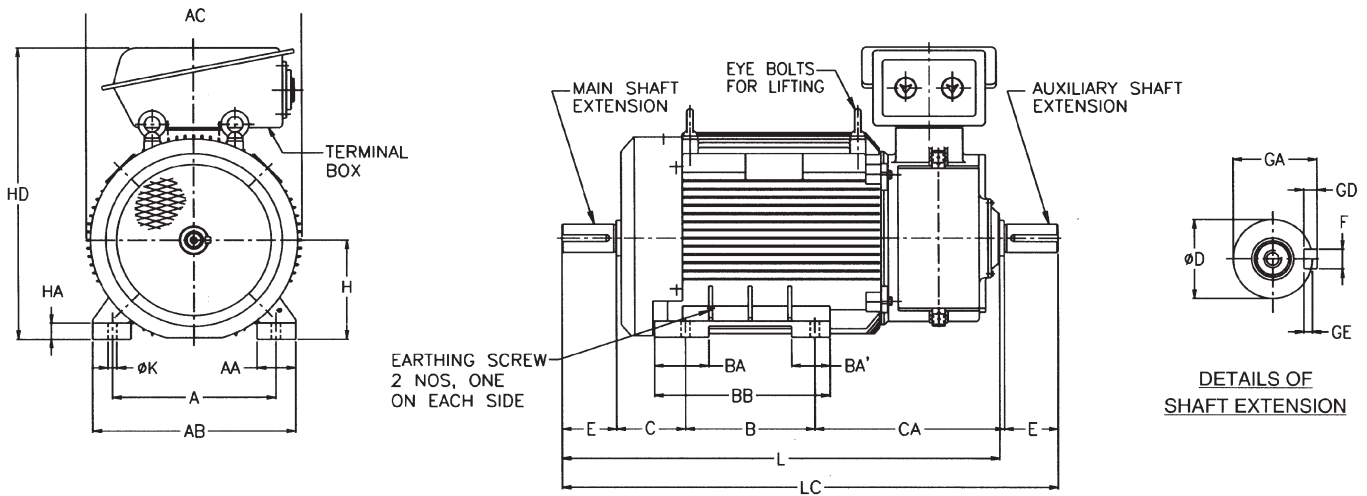


Sl. No.	FRAME	A	AA	AB	ØAC	B	BA	BB	C	CA	ØD	E	F	GA	GD	ACI	GE	H	HA	HC	HD	ØK	L	LC
1.	ID 180L MK II	279	64	330	358	279	64	330	121	360	48	110	14	51.5	9	440	5.5	180	27	370	525	15	867	980
2.	ID 200L MK II	318	90	390	434	305	80	355	133	400	55	110	16	59	10	-	6	200	34	420	526	19	945	1058
3.	ID 225M MK II	356	76	444	518	311	70	356	149	450	60	140	18	64	11	-	7	225	34	480	586	19	1047	1190

All dimensions are in mm



## CRANE DUTY WOUND ROTOR MOTORS - FRAME ID 250 - 280



Sl. No.	FRAME	A	B	C	D	E	F	GA	GD	GE	H	K	L	LC	AA	AB	BA	BA	BB	AC	CA	HA	HD
1.	ID250M	406	349	168	65	140	18	69	11	7	250	24	1190	1340	85	496	85	85	407	570	543	45	740
2.	ID280S	457	368	190	75	140	20	79.5	12	7.5	280	24	1235	1385	90	545	140	90	480	615	547	50	810
3.	ID280M	457	419	190	75	140	20	79.5	12	7.5	280	24	1285	1435	90	545	140	90	480	615	546	50	810

All dimension are in mm

### SHIPPING DETAILS

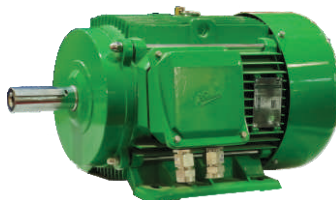
FRAME	LENGTH mm	WIDTH mm	HEIGHT mm	G. WEIGHT kg.
PM 71	320	240	215	8.0
PM 80	350	255	290	15.0
PM 90S/L	410	275	295	18/20
PM 100L	440	300	320	30
PM 112M	460	330	360	56
PM 132S/M	580	350	405	78/90
PM 160M/L	730	440	475	135/160
SC 180M	900	700	660	225
SC 180L	900	700	660	265
SC 200L	990	710	710	360
SC 225S	990	890	760	445
SC 225M	990	890	760	470

FRAME	LENGTH mm	WIDTH mm	HEIGHT mm	G. WEIGHT kg.
ID 100L	865	370	500	50
ID 112M	865	370	500	90
ID 132M	865	370	500	140
ID 160M	1070	440	600	177
ID 160L	1070	440	600	202
ID 180M	1160	510	725	280
ID 200N	1240	570	780	370
ID 225M	1320	650	835	485
ID 250M	1575	990	840	950
ID 280S	1730	815	1095	1150
ID 280M	1730	815	1095	1200

FLAME PROOF CRANE DUTY MOTORS



INCREASE SAFETY CRANE DUTY MOTORS



CRANE DUTY MOTORS WITH BRAKE

