

# DC Machines

IEC Frames 80 to 160 (Small)  
0.37 to 60 kW



INTEGRATED ELECTRIC CO. PVT.LTD  
Bangalore, India

Established in 1982, Integrated Electric (IE) manufactures high quality electrical rotating machines and drives in a wide range and variety. Its product basket includes DC Motors between 0.37 and 2500kW, AC Motors between 0.12 and 630kW, AC Drives between 0.5 and 300kW, AC Generators between 7.5 and 320 and DC and AC Variable Speed Diesel Generator Sets.

IE's small motor range extends from 0.37kW to 60kW and is produced in IEC frame 80 to 160.

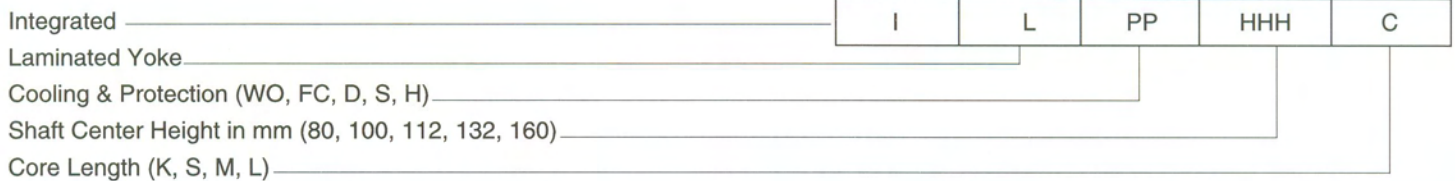
The motors are prime movers in a variety of variable speed applications in Printing & Packaging Industries, Plastic Industries, Test Rigs, Cement Plants, Material Handling, Chemical & Synthetic Industries, Concast Equipment, Paper Mills, Tube Mills, Wire Rod Mills, Process Lines for Cold Rolled Sheets, Hot Strip Mill Auxiliaries, Cable Wire Drawing Equipment, Tyre Machines and Machine Tools.

Salient features include:

- Laminated Yoke Construction
- Conform to BS5000, IS4722 & IEC60034 standards
- Class H insulation scheme with temperature rise restricted to Class F
- Sparkless commutation in all standard designs
- Skewed rotors for low noise levels
- Vacuum Impregnation for high reliability

There is a dedicated manufacturing facility available for the manufacture of these machines. Commutators, Coil Winding and Body Machining activities are all performed in-house. The company has been ISO 9001 certified since 1998 and spares no effort to ensure that a high level of quality is maintained. The process of continuous improvement permeates throughout the organization and results in our delivering better value to the customer year after year.

## FRAME DESIGNATION



## COOLING AND PROTECTION TYPES

WO Internal Fan Cooled	FC ForceCooled	D Duct Ventilated		S Surface Cooled	N Air to Air Heat Exchanger
Open Type	Open Type	Open Type	Totally enclosed	Totally enclosed	Totally enclosed
IP 23	IP 23	IP 23	IP 44/54/55	IP 44/54/55	IP 44/54/55
IC 01	IC 06	IC 17	IC 37	IC 0041	IC 0666

## MOUNTING

B3	B5	B35	V1
Foot Mounted	Flange Mounted	Foot Cum Flange	Vertical Mounting Shaft Downwards

## DERATION CHART

Temp	<=1000m	>1000m <1500m	>1500m <2000m
25	1.10	1.00	1.00
30	1.00	1.00	1.00
35	1.00	1.00	0.96
40	1.00	0.96	0.90
45	0.96	0.90	0.85
50	0.90	0.85	0.80
55	0.86	0.80	0.77
60	0.80	0.77	0.74

## RATINGS

Frame	Ratings at 1500 rpm (kW)				Maximum Armature Current (amps)	Maximum Field Power(watts)				GD <sup>2</sup> kgm2	Weight kg (IC06)
	IC 06	IC 01	IC 0041	IC 0666		IC 06	IC 01	IC 0041	IC 0666		
080K	-	0.37	0.18	-	16.0	-	68	18	-	0.008	21
080S	-	0.75	0.37	-	16.0	-	90	28	-	0.015	28
080M	1.70	1.00	0.50	-	16.0	220	110	55	-	0.023	43
080L	2.20	1.5	0.75	-	16.0	235	120	60	-	0.030	50
100S	3.70	1.80	1.02	-	32.0	365	150	90	-	0.070	60
100M	5.60	2.5	1.25	-	32.0	420	190	150	-	0.100	70
100L	7.60	3.00	1.50	-	32.0	480	216	120	-	0.135	90
112S	9.3	3.00	-	-	40.0	330	150	-	-	0.160	100
112M	11.0	3.60	-	-	40.0	400	180	-	-	0.200	120
112L	15.00	5.00	2.00	-	40.0	490	220	120	-	0.260	150
132S	18.75	-	3.00	-	70.0	550	-	130	-	0.430	170
132M	22.00	-	3.70	-	70.0	600	-	150	-	0.520	180
132L	25.00	-	4.5	-	70.0	680	-	170	-	0.610	220
160K	30.00	-	5.6	11.00	150.0	1000	-	250	500	0.690	240
160S	45.00	-	7.5	15.00	150.0	1150	-	275	650	0.900	290
160M	50.00	-	8.5	20.00	150.0	1320	-	330	700	1.170	330
160L	60.00	-	9.3	25.00	150.0	1610	-	400	800	1.450	370

Ratings are at an ambient of 40° C and altitude of 1000m above mean sea level

Refer to the deration chart for ambient and altitude deration

Armature Voltage: 0.37kW to 3.7kW – 180 volts  
2.2kW to 60kW – 440 volts.

Field Voltage: 220 volts

Rating specified above are available at the specified voltages and speeds only.

Please contact our marketing department for information on field weakening and special requirements.

### FORCE COOLING SPECIFICATIONS ILFC(IC06)

Frame	AC Motor Details (kW/HP/Pole)	Air qty* (m <sup>3</sup> /sec)	Air Pressure* (mm WG)
80	0.12/0.16/2P	0.05	60
100	0.12/0.16/2P	0.10	75
112 <sup>+</sup>	0.37/0.50/2P	0.12	80
132	0.37/0.50/2P	0.20	90
160	0.37/0.50/2P	0.40	100

### BEARINGS

Frame	DE	NDE
80	6205 C3 2Z	6203 C3 2Z
100	6307 C3 2Z	6306 C3 2Z
112	6207 C3 2Z	6207 C3 2Z
132	6310 C3 2Z	6307 C3 2Z
160	6313 C3 2Z	6309 C3 2Z

\*At the exit of force cooling unit

### OPTIONAL ACCESSORIES

Frame	Mounting Flange	Double Shaft Extension	T.G Mounting	Filter	Thermister	Thermitech Relay
	B35/V1					
80	✓	✓	✓	✓	x	x
100	✓	✓	✓	✓	x	x
112	✓	✓	✓	✓	✓	✓
132	✓	✓	✓	✓	✓	✓
160	✓	✓	✓	✓	✓	✓