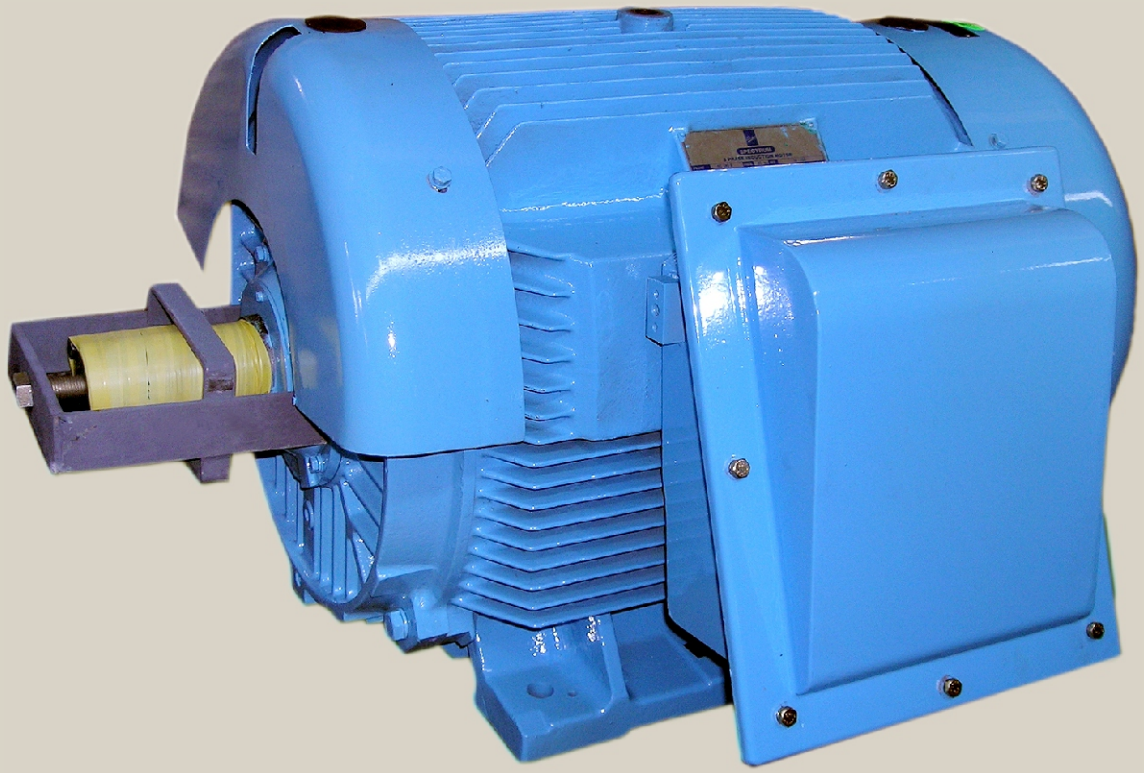
KIRLOSKAR ELECTRIC



ENERGY EFFICIENT EFF2 SPECTRUM SERIES 3 PHASE AC INDUCTION MOTORS

CE

SPECTRUM SERIES' is the new range of low Voltage Cage Motors from Kirloskar Electric. This series is the result of advanced engineering techniques and meets the exacting requirements of every industry for various applications. These motors are compact, reliable and robust; and embody the unrivalled experience of Kirloskar Electric in the Manufacture of electric motors for diverse applications for over Five decades.

APPLICATION

Spectrum motors are ideal for various industrial applications like Pumps, Compressors, Fans, Crushers Conveyors and are best suited for industrial environmental conditions.

SPECIFICATION

Spectrum motors are rated for continuous duty (S1) Altitudes up to 1000m and ambient temperature up to 50°C. Motors are suitable for 415V ± 10%, 50 Hz ± 5% and combined variation of ± 10%, 3 phase supply with IC411/IP55 protection, Insulation class 'F' &temperature rise to class 'B'. We can also supply motors with IC01/IP23 protection, voltage 220/380/440/460/480/ 660V & Frequency 25/50/60 Hz.

STANDARDS	IS	IEC	BS
Performance	325	34 - 1	EN 60034 - 1
Output & Dimension	1231 2223	72 - 1.2	4999 - 141 5000-10, 11
Degree of Protection	4691	34 - 5	EN 60034 - 5 4999 - 105
Method of Cooling	6362	34 - 6	EN 60034 - 6

FEATURES

Energy Saving

Spectrum series motors are energy efficient and are ideally suited for power intensive, process and other industries.

High Torque

Spectrum series motors have high starting and pullout torques and accelerate the load quickly.

Low Noise Levels

Spectrum series motors have noise level with 85 dB(A) at 1 metre and conform to IS:12065.

Low Vibration Levels

Spectrum series motors conform to IS:12075 for vibration level.

STATOR

The cast iron stator body is robust and shock resistant. Ribs on body are of variable pitch and variable heights so as to have more cooling surface area. The core is made from low loss, high permeability, varnish insulated, electrical grade cold rolled stamping steel.

ROTOR

The diecast aluminium rotor is designed to withstand the severe forces encountered during starting. Special copper brazed rotors are provided for high speed applications.

BEARINGS

Grease lubricated bearings of same size are used at DE and NDE and can be interchanged if called for.

ENDSHIELDS

Endshields on DE and NDE are identical and can be interchanged, if called for, minimizing the users inventory.

TERMINAL BOXES

Terminal boxes are larger in size with improved aesthetics, sufficient electrical clearances and are sealed against ingress of moisture and dust. Boxes for frames 250 and above are tested for through fault level of 43.7KA for 0.25 secs. Terminal Box can be rotatable 360^{0} in step of 90^{0}.

FINAL PRODUCT

Product being painted with DA Gray / RAL 5012 blue colour with good quality finish.

INVERTER APPLICATION

SPECTRUM series motors are suitable for power intensive and process industries wherein these motors are generally powered through inverters.

Spectrum series motors when powered through inverters gives the desired speed variation as demanded by the process, besides giving the benefit of conservation of energy to the user.

In the event of ventilation circuit failure or for certain applications calling for Totally enclosed Non-ventilated surface cooled (IC 410) motors, Spectrum series motors can deliver about 60 to 70% of rated power output.

ACCESSORIES

Anti condensation heaters and thermistors can be provided on request. Baffle will be provided at drive end 250 abv. Fr.

TESTS

Materials, components, and windings are subject to strict quality check during manufacture. Completed machines are subjected to tests in accordance with the specified standards, before despatch.

Please furnish following details while ordering :

- Application
- Mounting
- Amb. Temperature
- Supply Voltage & Frequency
- Load GD2
- Method of Coupling

BEARINGS SIZES

FRAME	POLES	BEARING	
		DE	NDE
180	2, 4, 6 & 8	6310	6310
200	2, 4, 6 & 8	6312	6212
225	2, 4, 6 & 8	6313	6313
250	2	NU 215	6215
250	4, 6 & 8	NU 314	6314
280	2	NU 215	6215
280	4, 6 & 8	NU 317	6317
315	2	NU 315	6315
315	4, 6 & 8	NU 319	6319

For IEC/BS frames

SHIPPING DETAILS

FRAME	BOX DIMENSION (Approx.)			NETT WT.	GROSS WT.
	LENGTH	WIDTH	HEIGHT	(Approx.)	(Approx.)
180 M	900	700	660	165	225
180 L	900	700	660	205	265
200 L	990	710	710	280	360
225 S	990	890	760	345	445
225 M	990	890	760	370	470
250 M	1090	990	840	530	680
280 S	1220	1100	915	740	910
280 M	1220	1100	915	875	1045
315 S	1350	1130	940	1100	1300
315 M	1350	1130	940	1200	1400
315 L	1350	1130	940	1340	1540

1. Applicable for single shaft extension motors
2. All dimensions are in mm and all weights in kgs.

PERFORMANCE CHART (IEC) FOR TEFV 3 PHASE CAGE MOTORS

415V ± 10%, 50 Hz ± 5%, COMBINED VARIATION ± 10% 50° AMBIENT, CLASS F INSULATION
IP 55/IC 411, TEMPERATURE RISE = 70K

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3000 SRPM 2POLE

Frame	Output (kW)	Rated Speed rpm	FLC A	LRC PU	LRT (PU)	POT (PU)	%SLIP at POT	Efficiency %			Power Factor			GD^2 Kgm^2	Stall Withstand Time. Sec	
								FL	3/4 FL	1/2 FL	FL	3/4 FL	1/2 FL		Cold	Hot
180 M	22	2945	37.5	6.5	1.8	2.5	10.0	91.0	90.0	88.0	0.90	0.88	0.86	0.40	20	15
200 L	30	2955	50.2	7.5	2.2	2.5	10.0	91.40	90.0	88.0	0.91	0.88	0.84	0.75	20	15
200 L	37	2955	61.5	7.5	2.2	2.5	10.0	92.0	90.0	88.0	0.91	0.90	0.83	0.85	20	15
225 M	45	2965	73.6	7.0	2.2	2.5	10.0	92.5	90.0	88.0	0.92	0.88	0.83	2.3	25	20
250 M	55	2964	91	6.0	1.6	2.8	7.5	93.0	93.0	90.0	0.90	0.88	0.80	3.3	30	20
280 S	75	2970	124	6.0	1.6	2.8	6.5	93.6	93.6	91.0	0.90	0.89	0.80	6.5	35	25
280 M	90	2968	148	6.0	1.6	2.8	6.0	93.9	93.9	91.5	0.90	0.88	0.80	7.4	35	25
315 S	110	2966	181	6.0	1.6	2.4	5.5	94.0	94.0	91.5	0.90	0.87	0.80	8.0	35	25
315 M	125	2967	204	6.0	1.8	2.6	5.5	94.50	94.5	92.0	0.90	0.88	0.80	9.0	35	25
315 M	135	2970	221	6.0	1.7	2.6	5.5	94.50	94.5	92.0	0.90	0.88	0.80	9.5	35	25
315 L	150	2974	243	6.0	2.0	2.8	5.5	94.50	94.5	93.0	0.91	0.90	0.85	12.0	35	25
315 L	160	2972	258	6.0	2.0	2.6	5.5	95.0	95.0	93.0	0.91	0.90	0.85	12.0	35	25
315 L	180**	2973	290	6.0	2.0	2.7	5.0	95.0	95.0	93.5	0.91	0.90	0.85	13.0	35	25

1500 SRPM 4 POLE

Frame	Output (kW)	Rated Speed rpm	FLC A	LRC PU	LRT (PU)	POT (PU)	%SLIP at POT	Efficiency %			Power Factor			GD^2 Kgm^2	Stall Withstand Time. Sec	
								FL	3/4 FL	1/2 FL	FL	3/4 FL	1/2 FL		Cold	Hot
180 M	18.5	1470	33	6.5	2.20	2.50	10.0	91.0	90.5	90.0	0.87	0.82	0.75	0.62	20	15
180 L	22	1470	38.5	6.5	2.10	2.50	10.0	91.5	91.0	90.0	0.87	0.83	0.75	0.72	20	15
200 L	30	1475	50.4	6.5	2.2	2.75	10.0	92.0	91.0	90.0	0.90	0.87	0.81	1.7	20	15
225 S	37	1475	62.2	7.5	2.30	2.50	10.0	92.0	91.5	90.0	0.90	0.86	0.77	2.3	25	20
225 M	45	1475	75.2	7.5	2.5	2.75	10.0	92.5	91.5	90.0	0.90	0.86	0.77	2.5	25	20
250 M	55	1478	94	6.0	2.0	2.50	7.5	93.5	93.5	92.0	0.87	0.84	0.76	4.4	40	25
280 S	75	1482	128	6.0	2.0	2.50	6.0	93.8	93.8	92.0	0.87	0.84	0.76	7.8	50	25
280 M	90	1482	151	6.0	2.0	2.50	6.5	94.2	94.2	92.5	0.88	0.86	0.80	9.5	50	25
315 S	110	1482	186	6.0	2.0	2.50	6.0	94.5	94.5	93.0	0.87	0.84	0.76	13.0	60	30
315 M	125	1484	211	6.0	2.0	2.50	5.5	94.7	94.7	93.0	0.87	0.85	0.80	14.0	60	30
315 M	135	1483	225	6.0	2.0	2.50	5.5	95.0	95.0	93.0	0.88	0.86	0.80	14.5	60	30
315 L	150	1484	250	6.0	2.0	2.50	5.5	95.0	95.0	93.0	0.88	0.86	0.81	16.5	60	30
315 L	160	1483	267	6.0	2.0	2.50	5.5	95.0	95.0	93.0	0.88	0.86	0.81	16.5	60	30
315 L	180**	1483	299	6.0	2.0	2.50	5.5	95.2	95.2	93.5	0.88	0.87	0.81	18.0	60	30
315 L	200	1484	332	6.0	2.0	2.50	5.5	95.2	95.2	93.0	0.88	0.86	0.80	22.0	60	30

1000 SRPM 6 POLE

Frame	Output (kW)	Rated Speed rpm	FLC A	LRC PU	LRT (PU)	POT (PU)	%SLIP at POT	Efficiency %			Power Factor			GD^2 Kgm^2	Stall Withstand Time. Sec	
								FL	3/4 FL	1/2 FL	FL	3/4 FL	1/2 FL		Cold	Hot
180 L	15	970	29	6.0	1.8	2.0	15.0	89.0	89.0	88.5	0.82	0.78	0.74	0.75	20	15
200 L	18.5	970	34	6.0	2.0	2.4	15.0	90.5	90.5	88.5	0.84	0.80	0.72	1.50	20	15
200 L	22	970	40.3	6.0	2.0	2.5	15.0	90.5	90.0	88.5	0.84	0.80	0.72	1.75	20	15
225 M	30	970	53.3	6.0	2.0	2.2	15.0	91.0	90.5	88.5	0.86	0.83	0.78	2.50	20	15
250 M	37	983	65	6.0	1.8	2.7	8.0	92.3	92.3	90.8	0.86	0.82	0.74	5.10	50	30
280 S	45	985	79	6.0	2.2	2.5	7.5	92.5	92.5	91.0	0.86	0.82	0.74	8.00	60	35
280 M	55	985	96	6.0	2.2	2.5	7.5	93.0	93.0	91.5	0.86	0.82	0.74	9.30	60	35
315 S	75	988	130	6.0	2.3	2.8	7.0	93.5	93.5	91.5	0.86	0.82	0.74	15.50	60	35
315 M	90	988	155	6.0	2.3	2.8	7.0	94.0	94.0	92.5	0.86	0.82	0.74	17.50	60	35
315 M	110	988	186	6.0	2.2	2.7	7.0	94.5	94.5	93.0	0.87	0.84	0.76	20.00	60	35
315 L	125	987	212	6.0	2.2	2.7	7.0	94.5	94.5	93.0	0.87	0.84	0.76	22.00	60	35
315 L	135**	988	229	6.0	2.2	2.5	7.0	94.5	94.5	93.0	0.87	0.84	0.76	23.50	60	35
315 L	150	987	257	6.0	2.0	2.5	7.0	94.5	94.5	93.0	0.86	0.83	0.75	27.00	50	30

750 SRPM 8 POLE

Frame	Output (kW)	Rated Speed rpm	FLC A	LRC PU	LRT (PU)	POT (PU)	%SLIP at POT	Efficiency %			Power Factor			GD^2 Kgm^2	Stall Withstand Time. Sec	
								FL	3/4 FL	1/2 FL	FL	3/4 FL	1/2 FL		Cold	Hot
180 L	11	725	23.5	6.0	1.8	2.0	20.0	88.0	88.0	87.0	0.74	0.68	0.57	0.75	20	15
200 L	15	730	30	6.0	1.8	2.0	20.0	89.0	89.0	88.0	0.78	0.74	0.64	1.65	20	15
225 L	18.5	735	37	6.0	1.8	2.0	20.0	90.0	90.0	88.0	0.78	0.74	0.64	2.3	20	15
225 M	22	735	44	6.0	1.8	2.0	20.0	90.0	90.0	88.0	0.78	0.74	0.64	2.5	20	15
250 M	30	736	59	5.5	1.7	2.5	8.5	91.5	90.5	87.0	0.78	0.70	0.58	5.8	80	40
280 S	37	738	73	6.0	2.0	2.4	7.5	92.0	91.0	88.0	0.77	0.70	0.57	9.5	80	40
280 M	45	740	89	6.0	2.0	2.5	7.5	92.0	91.0	88.0	0.77	0.70	0.57	11.5	80	40
315 S	55	740	106	6.0	2.0	2.5	6.5	92.5	91.5	88.5	0.78	0.72	0.60	15.5	90	50
315 M	75	740	152	6.0	2.0	2.5	7.0	92.8	92.3	89.0	0.74	0.67	0.56	18.5	90	50
315 L	90	740	182	6.0	2.1	2.5	7.0	93.0	92.80	89.0	0.75	0.68	0.57	23.5	90	50
315 L	110**	738	219	6.0	2.0	2.3	7.5	93.3	93.3	90.5	0.75	0.68	0.57	26.0	90	50

** Temperature rise = 80K
*** SRPM = Synchronous RPM

All performances subject to IEC34-1/IS:325 tolerance