



Smart Solutions.
Strong Relationships.

CG Solutions for Water Industry


Apex Series
a green solution



- Energy Efficient Induction Motors
- Efficiency Class IE2
As per IEC 60034-30:2008
- Compliant with WIMES 3.03,
Issue 5, March 2010



AVANTHA
GROUP COMPANY



Crompton Greaves (CG) is part of the US\$ 4 bn Avantha Group, a conglomerate with an impressive global footprint. Since its inception CG has been synonymous with electricity.

The company has retained its leadership position in the management and application of electrical energy.

Today, Crompton Greaves is one of the largest private sector enterprises. It has diversified extensively and is engaged in designing, manufacturing and marketing technologically advanced electrical product and services related to power generation, transmission and distribution, besides executing turnkey projects. The company is customer-centric in its focus and is the single largest source for a wide variety of electrical equipments and products.

CG employs more than 10000 people in 21 countries. With several international acquisitions. Crompton Greaves is fast emerging as a first choice global supplier for high quality equipment through its three business groups viz;

Power System: Transformer, Switchgear, Power Quality. Engineering Projects.

Industrial Systems: Motors, Alternators, Drives, Railway Signaling, Stampings.

Consumer Products: Fans, Appliances, Lighting, Integrated Security Solutions & Home Automation, Pumps



AVANTHA
GROUP COMPANY

As one of the leading engineering corporation, CG provides end-to-end solutions, helping its customers to use electrical power efficiently and to increase industrial productivity with sustainability. CG was established in 1937 in India, and since then the company has retained its leadership position in management and application of electrical energy.

CG is leading manufacturer of electric motors & offers solutions, which benefit a wide range of customers, our products are used in almost every industrial application including general manufacturing, petrochemicals, food processing, pharmaceuticals where they drive fans, pumps, compressors, conveyors, lifts and cranes, among other things.

Our core competency lies in our products conforming to the international quality standards. We make continuous efforts to bring out the latest, most advanced product into market-place. We continuously add new services, features, and introduce new solutions so as to ensure complete customer satisfaction.

Solutions for Water industry:

CG Apex IE-2 & IE-3 are designed to fulfill the requirement of water and waste water treatment applications, and comply to the requirement of WIMES Specification 3.03 Issue 5, March 2010.

CG Apex series aluminum range covers AC squirrel cage induction motors with output from 0.75kW to 7.50kW in aluminum frames GD 80 to GD132M. CG Apex series, cast iron range covers AC squirrel cage induction motor with output from 0.75kW to 250 kW in 2, 4, 6 pole configurations, they are specially designed to fulfill the requirement of WIMES 3.03, issue 5 March 2010 i.e. Lower life time costs due to lower operational costs. It gives the benefits by providing guaranteed energy saving, higher levels of productivity, and extended lifetime operation with minimum maintenance.

CG Apex series motors for WIMES meet the requirement of higher efficiency level defined in IEC 60034:30-2008 the new harmonized international efficiency standards for three phase induction motors.

Benefits of CG Apex IE-2 & IE-3 motors for WIMES:

High efficiency low running cost:

CG Apex series motors are designed to operate with high efficiency throughout its life. With low maintenance, high performance, lesser downtime in continuous duty. They are well suited to fulfill the requirement of water industry especially for utilities.

CG apex series motors for WIMES are designed to give higher efficiencies level as defined by IEC 60034-30:2008 thereby giving guaranteed energy savings and reduced payback on investment.

Excellent aesthetics:

CG apex series motors for WIMES is aesthetically good, rugged & durable and designed in such a way to provide user with flexibility in the position of main terminal box; on top as standard or on left or right hand side of the motor as an option. In aluminum range motors (up to 7.5 kW) By simply changing the position of the feet, user is able to convert right, left or top terminal box position and by changing the standard end shield user can change it for flange and face version.

Low vibration and low noise:

CG Apex series motors for WIMES are designed to operate with less noise & vibration, also comply to IEC 60034-9:2007 & IEC 60034-14:2007; it gives high torque with smooth acceleration throughout the life of the motor, these features make CG motors the most preferred choice for water industry, CG Apex IE-2 & IE-3 motors comply to the requirement of WIMES 3.03 issue 5, clause 5.3.

Inverter Duty application:

CG Apex series motors for WIMES are suitable for inverter duty applications*, our insulation system provides key benefit of increasing the dielectric resistance of the motor windings, enabling operation with variable frequency drives.

For protecting the motors from shaft currents a phenomenon which is generally observed in frames IEC 315 S/M and above, CG recommend/provide insulated bearing for VFD compatible motors.

As per the requirement of WIMES 3.03 issue 5, clause 6.13.7, we provide insulated bearing from frame IEC 280 S/M and above.

*For further details contact CG sales



Other design features offered as per requirement of WIMES 3.03, issue 5, March 2010

Frames:

Frames (cast iron range) are constructed using high grade cast iron, ribbed externally to ensure maximum heat dissipation. All components are machined on CNC ensuring concentricity and correct alignment the windings and working parts are completely enclosed and air is forced over the stator body by fan, mounted on the shaft and protected by a cowl. The feet are integrally cast with the body. This ensures sturdiness and resistance to vibrations. Frame dimension comply to the requirement of WIMES 30.3 issue 5, clause 6.1

Cooling system:

CG Apex series motors are specially design to achieve improved air flow over the motor frames and to maintain low operational temperature and assuring extended life of the motor. CG Apex series motors for WIMES comes up with improved aerodynamics that provide effective air flow and minimizing losses due to the recirculation of air between the fan and fan cover. Our standard apex series product comply to the requirement of WIMES 30.3 issue 5, clause 6.4.2

Shaft and Bearings:

The shaft is of high grade steel and of appropriate diameter to withstand the bending and torsional stresses. All shafts are ultrasonically tested for any minor flaw in the material. Shafts are machined to extreme fine limits to ensure fit and interchangeability of bearings. The motors are provided with single shaft extension, and comply to the general requirement of WIMES 30.3 issue 5, clause 6.1

Terminal box

Terminal box is provided with IP55 degree of protection. Box can rotate through 360 degree in steps of 90 degree to give cable entry from any of four positions. TB are designed in such a way that provide more space for proper termination of cable inside terminal box.



Apex series motors (GD, NG, ND Frames)

Range	
Output	0.75 kW to 250 kW
Frames	GD 80 TO GD 132
	NG80 to NG132M
	ND160M to ND355LX
Poles	2,4,6



Specification		
	Standard Product	Option
Frame sizes	80 to 355	-
Enclosure	IP55	IP66
Mounting option	Foot (B3), AL range in multi mount, CI with integral feet	Flange (B5), Face (B14) - upto 132 Frame
Terminal box position	Top	Left hand side (LHS), right hand side (RHS)
Voltage	3 kW and below: 400 A	380 A
	4 kW and above: 400 Δ	380 Δ Others on request up to 690V
Frequency	50 Hz	60 Hz
Cooling	IC411	IC410
Lubrication	Frame 80 to 225 double-shielded bearings	-
	Frame 250 to 355 online Greasing	
Insulation	Class F	Class H
Temperature rise	Class B	Class F
Paint colour	Gentian blue (RAL 5010)	On request
Fan cover	Steel	-
Thermal protection	-	80 to 355 frame
Anti condensation heaters	280 to 355 frame	432 to 250 frame
Inverter Duty (with derate)	Variable Torque - 10:1,	
	Constant Torque - 2:1 (for frame 80 to 132)	Alternative speed range
Ambient temperature	- 20°C to + 50°C	Higher than 50°C; Less than -20°C
DC brake	-	80 to 200 frame
Altitude	≤ 1000m	Higher than 1000 m

The above specification and options give a brief summary of features available for the Apex cast iron range.
For a full listing of optional features, please contact CG sales



PERFORMANCE DATA FOR ALUMINIUM MOTORS

Efficiency values complying to IE2 class of IEC 60034-30:2008

CG PRODUCT CODE	RATED POWER		FRAME	FULL LOAD CURRENT			FL SPEED RPM	FLT kg.m	EFFICIENCY			POWER FACTOR			D.O.L STARTING		PULLOUT %FLT	GD ² kg.m ²
	kW	hp		380V	400V	415V			FL	3/4L	1/2L	FL	3/4L	1/2L	%FLA	%FLT		

2 POLE - 3000 Synchronous rpm

0.75EG2	0.75	1.00	GD80M	1.69	1.61	1.55	2820	0.3	77.40	76.50	74.00	0.87	0.83	0.77	600	175	225	0.004
1.10EG2	1.10	1.50	GD80M	2.58	2.45	2.37	2870	0.4	79.60	78.50	77.00	0.81	0.75	0.62	650	250	300	0.007
1.50EG2	1.50	2.00	GD90S	3.22	3.06	2.95	2840	0.5	81.30	80.50	79.00	0.87	0.82	0.70	650	250	300	0.007
2.20EG2	2.20	3.00	GD90L	5.02	4.77	4.60	2850	0.8	83.20	82.50	80.50	0.80	0.73	0.65	650	250	300	0.008
3.00EG2	3.00	4.00	GD100L	6.2	5.9	5.7	2880	1.0	84.60	84.00	82.00	0.86	0.80	0.72	700	250	300	0.031
3.70EG2	3.70	5.00	GD100L	7.5	7.1	6.9	2880	1.3	85.50	85.00	83.00	0.88	0.83	0.72	700	250	300	0.022
4.00EG2	4.00	5.50	GD112M	7.9	7.5	7.3	2850	1.4	85.80	85.00	83.00	0.89	0.85	0.78	650	250	300	0.033
5.50EG2	5.50	7.50	GD132S	10.7	10.2	9.9	2885	1.9	87.00	86.50	85.00	0.89	0.85	0.78	650	250	300	0.076
7.50EG2	7.50	10.00	GD132S	14.5	13.8	13.3	2885	2.5	88.10	87.50	86.00	0.89	0.85	0.78	650	250	300	0.090

4 POLE - 1500 Synchronous rpm

0.75EG4	0.75	1.00	GD80M	1.85	1.76	1.70	1390	0.5	79.80	79.50	77.00	0.77	0.70	0.56	500	225	275	0.012
1.10EG4	1.10	1.50	GD90S	2.63	2.50	2.41	1400	0.8	81.40	81.00	79.00	0.78	0.75	0.65	600	225	275	0.017
1.50EG4	1.50	2.00	GD90L	3.93	3.74	3.60	1435	1.0	82.80	82.50	80.00	0.70	0.60	0.50	600	275	325	0.023
2.20EG4	2.20	3.00	GD100L	5.0	4.7	4.6	1425	1.5	84.30	83.50	81.00	0.79	0.71	0.57	600	200	275	0.059
3.00EG4	3.00	4.00	GD100L	7.4	7.0	6.8	1430	2.0	85.50	85.00	83.00	0.72	0.63	0.50	650	225	275	0.065
3.70EG4	3.70	5.00	GD112M	7.9	7.5	7.3	1430	2.5	86.30	86.00	84.00	0.82	0.76	0.64	600	225	275	0.052
4.00EG4	4.00	5.50	GD112M	8.3	7.9	7.7	1430	2.7	86.60	86.00	84.00	0.84	0.80	0.70	600	200	275	0.074
5.50EG4	5.50	7.50	GD132S	12.2	11.6	11.2	1450	3.7	87.70	87.00	85.00	0.78	0.70	0.55	600	225	275	0.138
7.50EG4	7.50	10.00	GD132M	16.0	15.2	14.7	1450	5.0	88.70	88.00	86.00	0.80	0.73	0.60	600	225	275	0.191

6 POLE - 1000 Synchronous rpm

0.75EG6	0.75	1.00	GD90S	2.21	2.10	2.02	940	0.78	75.90	75.50	74.00	0.68	0.59	0.46	500	200	250	0.017
1.10EG6	1.10	1.50	GD90L	3.10	2.95	2.84	935	1.15	78.10	77.50	76.00	0.69	0.60	0.47	500	180	250	0.023
1.50EG6	1.50	2.00	GD100L	4.3	4.1	4.0	940	1.55	79.80	79.50	77.00	0.65	0.59	0.48	500	200	250	0.074
2.20EG6	2.20	3.00	GD112M	6.1	5.8	5.6	945	2.27	81.80	80.00	78.00	0.66	0.56	0.43	500	180	250	0.069
3.00EG6	3.00	4.00	GD132S	7.9	7.5	7.3	955	3.06	83.30	83.00	81.50	0.69	0.62	0.50	600	225	275	0.182
3.70EG6	3.70	5.00	GD132S	9.2	8.8	8.5	950	3.79	84.30	84.00	82.00	0.72	0.65	0.55	650	200	250	0.185
4.00EG6	4.00	5.50	GD132M	10.4	9.8	9.5	955	4.08	84.60	84.20	82.00	0.69	0.60	0.50	600	200	250	0.208

* Tolerances are applicable as per IEC 60034-1 : 2010

Full load current indicated are given for respective voltage designs

PERFORMANCE DATA FOR CAST IRON MOTORS

Efficiency values complying to IE2 class of IEC 60034-30-2008

CG	PRODUCT CODE	RATED POWER		FRAME	FULL LOAD CURRENT			FL SPEED RPM	FLT kg.m	EFFICIENCY			POWER FACTOR			D.O.L STARTING		PULLOUT POT %FLT	GD ² kg.m ²
		kW	hp		In		FL			3/4L	1/2L	FL	3/4L	1/2L	SSC %FLA	S TT %FLT			
					380V	400V											415V		
2 Pole - 3000 Synchronous rpm																			
	0.75E2	0.75	1.00	NG80M	1.69	1.61	1.55	2820	0.3	77.40	76.50	74.00	0.87	0.83	0.77	600	175	225	0.004
	1.10E2	1.10	1.50	NG80M	2.58	2.45	2.37	2870	0.4	79.60	78.50	77.00	0.81	0.75	0.62	650	250	300	0.007
	1.50E2	1.50	2.00	NG90S	3.22	3.06	2.95	2840	0.5	81.30	80.50	79.00	0.87	0.82	0.70	650	250	300	0.007
	2.20E2	2.20	3.00	NG90L	5.02	4.77	4.60	2850	0.8	83.20	82.50	80.50	0.80	0.73	0.65	650	250	300	0.008
	3.00E2	3.00	4.00	NG100L	6.2	5.9	5.7	2880	1.0	84.60	84.00	82.00	0.86	0.80	0.72	700	250	300	0.031
	3.70E2	3.70	5.00	NG100L	7.5	7.1	6.9	2875	1.3	85.50	85.50	84.00	0.88	0.83	0.75	650	300	350	0.022
	4.00E2	4.00	5.50	NG112M	7.9	7.5	7.3	2850	1.4	85.80	85.00	83.00	0.89	0.85	0.78	650	250	300?	0.033
	5.50E2	5.50	7.50	NG132S	10.7	10.2	9.9	2885	1.9	87.00	86.50	85.00	0.89	0.85	0.78	650	250	300	0.076
	7.50E2	7.50	10.00	NG132S	14.5	13.8	13.3	2885	2.5	88.10	87.50	86.00	0.89	0.85	0.78	650	250	300	0.090
	9.3E2	9.30	12.50	ND160M	18	17	17	2930	3.1	88.90	88.80	87.50	0.88	0.85	0.78	700	250	300	0.13
	11E2	11	15	ND160M	21	20	19	2920	4	89.40	89.40	88.00	0.90	0.87	0.84	600	200	250	0.13
	15E2	15	20	ND160M	29	27	26	2925	5	90.30	90.30	89.00	0.88	0.85	0.78	700	200	250	0.17
	18.5E2	18.5	25	ND160L	36	34	33	2920	6	90.90	90.90	89.50	0.90	0.88	0.84	700	250	300	0.21
	22E2	22	30	ND180M	44	41	40	2930	7	91.30	91.30	90.00	0.86	0.84	0.80	600	200	250	0.44
	30E2	30	40	ND200L	57	54	52	2950	10	92.00	92.00	91.00	0.87	0.86	0.85	600	150	225	0.80
	37E2	37	50	ND200L	69	66	63	2950	12	92.50	92.50	91.00	0.88	0.85	0.81	600	150	200	0.89
	45E2	45	60	ND225M	84	79	77	2960	15	92.90	92.90	91.50	0.88	0.88	0.82	700	250	300	1.87
	55E2	55	75	ND250M	95	91	87	2955	18	93.20	93.20	92.00	0.94	0.92	0.88	700	200	250	2.79
	75E2	75	100	ND280S	135	128	124	2960	25	93.80	93.80	92.00	0.90	0.88	0.85	700	200	250	7.14
	90E2	90	120	ND280M	158	150	145	2975	29	94.10	9410	93.00	0.92	0.88	0.82	700	200	250	8.18
	110E2	110	150	ND315S	191	181	174	2965	36	94.30	94.00	93.00	0.92	0.90	0.88	700	225	250	6.63
	132E2	132	175	ND315M	228	217	209	2968	43	94.60	94.60	94.00	0.92	0.90	0.88	700	225	275	7.97
	160E2	160	212	ND315L	276	262	252	2975	52	94.80	94.80	93.50	0.93	0.89	0.83	700	175	225	13.90
	180E2	180	241	ND315L	310	295	284	2975	59	94.80	94.80	93.50	0.93	0.89	0.83	700	225	275	1390
	200E2	200	268	ND315LX	344	327	315	2975?	65	95.00	95.00	94.00	0.93	0.89	0.83	700	225	270	16.40
	225E2	225	300	ND355LX	387	368	354	2975	74	95.00	95.00	94.00	0.93	0.89	0.84	700	150	225	18.40
	250E2	250	335	ND355LX	430	408	394	2980	82	95.00	95.00	94.00	0.93	0.89	0.84	700	175	225	27.70

* Tolerances are applicable as per IEC 60034-1 : 2010

Full load current indicated are given for respective voltage designs

PERFORMANCE DATA FOR CAST IRON MOTORS

Efficiency values complying to IE2 class of IEC 60034-30-2008

CG PRODUCT CODE	RATED POWER		FRAME	FULL LOAD CURRENT			FL SPEED RPM	FLT kg.m	EFFICIENCY			POWER FACTOR			D.O.L STARTING		PULLOUT POT %FLT	GD ² kg.m ²
	kW	hp		380V	In				FL	3/4L	1/2L	FL	3/4L	1/2L	SSC %FLA	S TT %FLT		
					400V	415V												
4 Pole - 1500 Synchronous rpm																		
0.75E4	0.75	1.00	NG80M	1.85	1.76	1.70	1390	0.5	79.80	79.50	77.00	0.77	0.70	0.56	500	225	275	0.012
1.10E4	1.10	1.50	NG90S	2.63	2.50	2.41	1400	0.8	81.40	81.00	79.00	0.78	0.75	0.65	600	225	275	0.017
1.50E4	1.50	2.00	NG90L	3.93	3.74	3.60	1435	1.0	82.80	82.50	80.00	0.70	0.60	0.50	600	275	325	0.023
2.20E4	2.20	3.00	NG100L	5.0	4.7	4.6	1450	1.5	84.30	84.30	83.00	0.72	0.64	0.50	650	250	300	0.059
3.00E4	3.00	4.00	NG100L	7.4	7.0	6.8	1430	2.0	85.50	85.00	83.00	0.72	0.63	0.50	650	225	275	0.065
3.70E4	3.70	5.00	NG112M	7.9	7.5	7.3	1430	2.5	86.30	86.00	84.00	0.82	0.76	0.64	600	225	275	0.052
4.00E4	4.00	5.50	NG112M	8.3	7.9	7.7	1430	2.7	86.60	86.00	84.00	0.84	0.80	0.70	600	200	275	0.074
5.50E4	5.50	7.50	NG132S	12.2	11.6	11.2	1450	3.7	87.70	87.70	85.50	0.78	0.70	0.55	600	225	275	0.138
7.50E4	7.50	10.00	NG132M	16.0	15.2	14.7	1450	5.0	88.70	88.00	86.00	0.80	0.73	0.60	600	225	275	0.191
9.3E4	9.30	12.50	ND160M	19	18	17	1470	6.2	89.40	89.40	88.10	0.85	0.81	0.70	600	225	275	0.31
11E4	11	15	ND160M	24	23	22	1460	7	89.80	89.80	88.50	0.78	0.73	0.63	600	200	250	0.36
15E4	15	20	ND160L	29	28	27	1465	10	90.60	90.60	89.50	0.86	0.81	0.71	650	250	275	0.47
18.5E4	18.5	25	ND180M	37	35	34	1475	12	91.20	91.20	90.00	0.86	0.80	0.72	600	200	275	0.81
22E4	22	30	ND180L	42	40	39	1470	15	91.60	91.60	91.00	0.86	0.83	0.76	550	175	225	0.95
30E4	30	40	ND200L	59	56	54	1475	20	92.30	92.30	92.00	0.84	0.82	0.74	550	150	225	1.62
37E4	37	50	ND225S	77	73	70	1470	25	92.70	92.70	92.00	0.79	0.76	0.70	600	180	250	2.64
45E4	45	60	ND225M	88	84	81	1475	30	93.10	93.10	92.00	0.83	0.80	0.75	600	200	250	3.13
55E4	55	75	ND250MX	106	101	97	1480	36	93.50	93.50	93.00	0.84	0.79	0.72	700	225	275	3.45
75E4	75	100	ND280S	138	131	126	1480	49	94.00	94.00	92.50	0.88	0.86	0.81	700	225	275	7.21
90E4	90	120	ND280M	165	157	151	1480	59	94.20	94.20	94.00	0.89	0.86	0.80	700	250	300	8.26
110E4	110	150	ND315S	197	187	180	1485	72	94.50	94.50	94.00	0.90	0.88	0.84	600	200	250	11.62
132E4	132	175	ND315M	235	224	215	1485	87	94.70	94.70	94.00	0.90	0.88	0.84	650	225	275	13.98
160E4	160	212	ND315LX	285	270	261	1488	105	94.90	94.90	94.10	0.91	0.89	0.85	650	200	250	24.97
180E4	180	241	ND315LX	320	304	293	1485	118	94.90	94.90	94.10	0.90	0.89	0.85	650	200	250	24.97
200E4	200	268	ND315LX	355	337	325	1489	131	95.10	95.10	94.00	0.90	0.88	0.84	700	200	250	25.00
225E4	225	300	ND355LX	399	379	366	1488	147	95.10	95.10	94.00	0.90	0.88	0.84	650	150	225	28.00
250E4	250	335	ND355LX	444	422	406	1488	163	95.10	94.90	94.00	0.90	0.88	0.84	600	150	225	29.60

* Tolerances are applicable as per IEC 60034-1 : 2010

Full load current indicated are given for respective voltage designs

PERFORMANCE DATA FOR CAST IRON MOTORS

Efficiency values complying to IE2 class of IEC 60034-30-2008

CG PRODUCT CODE	RATED POWER		FRAME	FULL LOAD CURRENT			FL SPEED RPM	FLT kg.m	EFFICIENCY			POWER FACTOR			D.O.L STARTING		PULLOUT %FLT	GD ² kg.m ²
	kW	hp		380V	400V	415V			FL	3/4L	1/2L	FL	3/4L	1/2L	SSC %FLA	S TT %FLT		
6 Pole - 1000 Synchronous rpm																		
0.75E6	0.75	1.00	NG90S	2.21	2.10	2.02	940	0.78	75.90	75.50	74.00	0.68	0.59	0.46	500	200	250	0.017
1.10E6	1.10	1.50	NG90L	3.10	2.95	2.84	935	1.15	78.10	77.50	76.00	0.69	0.60	0.47	500	180	250	0.023
1.50E6	1.50	2.00	NG100L	4.3	4.1	4.0	940	1.55	79.80	79.50	77.00	0.65	0.59	0.48	500	200	250	0.074
2.20E6	2.20	3.00	NG112M	6.1	5.8	5.6	945	2.27	81.80	80.00	78.00	0.66	0.56	0.43	500	180	250	0.069
3.00E6	3.00	4.00	NG132S	7.9	7.5	7.3	955	3.06	83.30	83.00	81.50	0.69	0.62	0.50	600	225	275	0.182
3.70E6	3.70	5.00	NG132S	9.2	8.8	8.5	950	3.79	84.30	84.30	82.00	0.73	0.68	0.59	600	250	275	0.185
4.00E6	4.00	5.50	NG132M	10.4	9.8	9.5	955	4.08	84.60	84.20	82.00	0.69	0.60	0.50	600	200	250	0.208
5.50E6	5.50	7.50	ND160M	12	11	11	975	5.5	86.00	86.00	85.50	0.80	0.76	0.68	500	250	225	0.40
7.50E6	7.50	10.00	ND160M	16	15	14	975	7.5	87.20	87.00	85.00	0.82	0.76	0.64	600	225	250	0.46
9.3E6	9.30	12.50	ND160M	20	19	18	970	9.3	88.10	88.10	85.60	0.80	0.75	0.65	500	175	225	0.59
11E6	11	15	ND160L	24	23	22	975	11	88.70	88.50	86.00	0.79	0.72	0.62	600	175	225	0.64
15E6	15	20	ND180L	31	30	29	980	15	89.70	89.70	88.00	0.78	0.71	0.58	600	225	250	1.16
18.5E6	18.5	25	ND200L	37	35	33	975	18	90.40	90.40	89.00	0.83	0.78	0.69	600	200	250	1.69
22E6	22	30	ND200L	44	42	41	975	22	90.90	90.90	90.00	0.83	0.78	0.68	600	200	250	2.04
30E6	30	40	ND225M	58	56	54	980	30	91.70	91.70	91.28	0.85	0.81	0.73	600	200	250	3.61
37E6	37	50	ND250MX	73	69	66	980	37	92.20	92.20	91.50	0.84	0.80	0.72	600	200	250	4.82
45E6	45	60	ND280S	87	82	79	985	44	92.70	92.70	92.60	0.85	0.81	0.76	600	200	250	8.01
55E6	55	75	ND280M	109	104	100	985	55	93.10	93.10	92.80	0.85	0.81	0.73	650	200	250	9.89
75E6	75	100	ND315S	147	139	134	988	74	93.70	93.70	93.50	0.84	0.80	0.70	600	200	250	14.12
90E6	90	120	ND315M	173	165	159	987	89	94.00	94.00	93.50	0.84	0.80	0.70	600	200	250	17.00
110E6	110	150	ND315M	209	198	191	988	109	94.30	94.30	93.00	0.85	0.80	0.73	600	200	250	18.98
132E6	132	175	ND315L	247	234	226	989	130	94.60	94.60	94.00	0.87	0.85	0.78	600	175	225	29.85
160E6	160	212	ND315LX	298	283	273	990	158	94.80	94.80	92.00	0.86	0.82	0.74	600	200	250	29.85
180E6	180	240	ND355L	339	322	310	989	177	94.90	94.90	94.00	0.86	0.82	0.74	650	175	225	29.90
200E6	200	268	ND355LX	376	357	345	990	197	95.00	95.00	94.00	0.86	0.80	0.70	600	120	200	30.00
225E6	225	300	ND355LX	428	407	392	990	221	95.00	95.00	93.50	0.84	0.79	0.70	500	130	225	31.70
250E6	250	335	ND355LX	476	452	436	990	246	95.00	95.00	92.60	0.84	0.80	0.72	650	140	200	32.50

* Tolerance are applicable as per IEC 60034-1:2010

Full load current indicated are given for respective voltage designs

NOTE : As the design and manufacture of Crompton Greaves electrical equipment are subject to constant improvement, the product supplied may differ in some details from the specifications and illustrations given in this booklet.

For more details, contact CG Sales.

Contact Details - International

CG Power Solutions UK Limited,

Concepts House,3
Watchgate, Newby Road
Industrial Estate, Hazel
Grove, SK7 5DB, United
Kingdom
T: + 44845 634 11 33

CG Drives & Automation

Mörsaregatan 12
SE-250 24 Helsingborg
Sweden
Phone : + 46 42 169900
Fax : + 46 42 169949

CG Drives & Automation

Goethestraße 6
D-38855 Wernigerode
Germany
Phone : + 49 (0) 3943-92050
Fax : + 49 (0) 3943-92055

CG Drives & Automation

Polakkers 5
5531 NX Bladel
The Netherlands
Phone : + 31 (0) 497 389 222
Fax : + 31 (0) 497 389 275

CG Electric Systems Hungary Zrt.

Rotating Machine Business Unit,
H-1095 Budapest,
Mariassy Utca 7.
Phone : + 36 14836600
Fax : + 36 14836862

CG Drives & Automation

200 North Shore Drive
Miami Beach, FL 33141
USA
Phone : + 1305 573 0605
Fax : + 1305 573 0160

CG Drives & Automation

Rm 912, Silver Centre
1388 North Shanxi Road
Putuo District
Shanghai
China 200060
Phone : + 86 21 6149 8346
Fax : + 86 21 6440 1637

CG Sales Networks France S.A

Sevice Commercial - Paris,
41, Boulevard Vauban,
78 280 GUYANCOURT,
FRANCE
Phone : (+33) 01 34 52 10 80
Fax : (+33) 01 34 52 27 30

CG INTERNATIONAL DIVISION

Jagruti Building, 2nd Floor, Kanjurmarg(E),
Mumbai - 400 042
Maharashtra (India)
Phone : 022 6755 8944



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