



Smart solutions.
Strong relationships.

WE PUT ALL OUR ENERGY INTO SAVING YOURS!

INDUSTRIAL PRODUCTS

MOTORS
UPTO 25 MW

GENERATORS
UPTO 70 MVA

DRIVES
UPTO 3 MW





CG Power and Industrial Solutions Ltd. is a pioneer in modern technology in electrical field which offers complete solutions for generation, transmission and distribution of energy by supplying globally recognized high-tech products delivering elevated efficiency and robustness. Since its inception, CG Power and Industrial Solutions Ltd. has been synonymous with electricity. In 1875, a Crompton 'dynamo' powered the world's very first electricity-lit house in Colchester, U.K. CG Power and Industrial Solutions Ltd. India operations were established in 1937, and since then the company has retained its leadership position in the management and application of electrical energy.

CG Power and Industrial Solutions Ltd. Industrial Systems is engaged in the business of power conversion equipment. The power conversion equipments include a wide spectrum of Medium and Low Voltage Rotating Machines, Drives, Stampings, Railway Transportation and Signaling products. Industrial Systems is focused globally with a strong market presence in Europe and market leadership position in many segments in India. It caters to the global markets through its manufacturing facilities located across Europe as well as India.

Low Voltage Rotating Machines



CG Power and Industrial Solutions Ltd. offers a wide range of low voltage motors (rotating machines). The range includes safe and hazardous area motors, energy efficient motors as well as motors for special applications like brake motor, re-rolling mill, cement mill, oil-well pump etc. Our range also includes DC Motors and Traction motors. Our motors are available in various standards and customized configurations to respond to the exacting demands of the industry.

In our continuous effort, to bring out the latest, most advanced product into market-place we continuously add many new services, features and introduce new innovative solutions so as to ensure complete customer satisfaction.

Millennium Series / Maestro Series



These motors are predominantly used for general purpose applications in MS Rolled powder coated body construction. These are available in NEMA 42, 48, 56, IEC 90 and 100S frame with foot and flange mounting arrangements. Customized mounting can be provided on request.

The highly efficient double capacitor designs in this series are suitable for any application requiring high starting torques are suitable for almost any application requiring higher starting torques such as Atta Chakki, Domestic Flour Mill, Tower Hoist, Air Compressor, Thresher.

Voltage	220 Volts or 110 Volts, 50 or 60 Hz
Power	50 Watts to 2250 Watts
Pole	2 Pole / 4 Pole / 6 Pole
Frame	NEMA 42 & 48 (50 Watts to 370 Watts) NEMA 56 (187 Watts to 1100 Watts) IEC 100S (700 Watts to 2250 Watts)
Mounting	B3, B5, B14



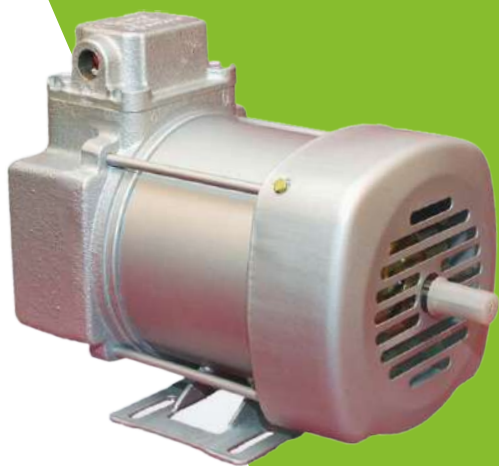
Explosion Proof Series



These motors are exclusively designed for safety against accidental Ignition or Explosions and for continuous flawless operation in explosive or inflammable atmosphere that prevails in petrol and diesel dispensing pumps, chemical factories, petrochemical industries, fertilizer and solvent extraction plants, refineries, liquor bottling plants and paints & varnish works etc. CG's Explosion proof motors are robust, highly reliable and efficient with ATEX, Bureau of Indian Standards (BIS) and (CCOE) Chief Controller of Explosives Certifications.

Voltage	220 Volts or 110 Volts, 50 or 60 Hz
Power	370 Watts to 750 Watts
Pole	4 Pole
Frame	Custom Frame
Mounting	B3

Other polarity/mounting on request.



Rhino Series



Cast Iron Frame Motors are most popular general purpose motors in India. The robust, highly reliable designs are suitable for operation for a wide range of applications such as Coupled Pump, Pulveriser, Rice Huller, Garage Compressor, Thresher, Floor Polisher. These motors can run for years without any trouble. These are offered in IEC (Metric) 80 to 132 Frame in Totally Enclosed Fan Cooled Construction.

Voltage	220 Volts or 110 Volts, 50 or 60 Hz
Power	750 Watts to 5500 Watts
Pole	2 Pole / 4 Pole
Frame	IEC 80 Frame to 160 Frame
Mounting	B3, B5, B14

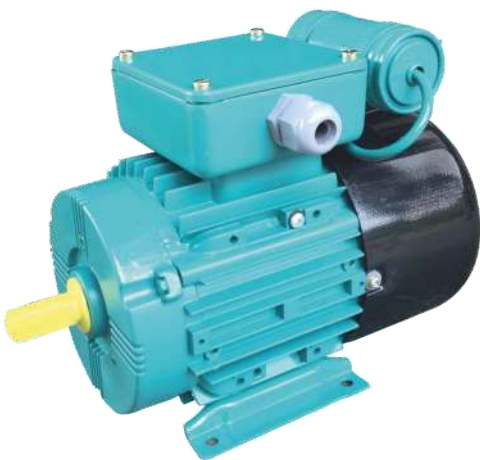


ELITE SERIES

eLiTE SERIES

IEC metric Frame single phase motors in aluminium diecast body construction. These motors cater to the needs of the global customer for light weight and efficient motors with improved ventilation and are available in IP44 & IP55 enclosures. These motors are suited for applications such as Exhaust Fans, Air Curtains, Bench Drilling M/c, Hydraulic Pumps, Paint Mixing M/c, Dryers.

Voltage	220 Volts or 110 Volts, 50 or 60 Hz
Power	125 Watts to 2250 Watts
Pole	2 Pole / 4 Pole / 6 Pole
Frame	IEC 63 Frame to 132 Frame
Mounting	B3, B5, B14

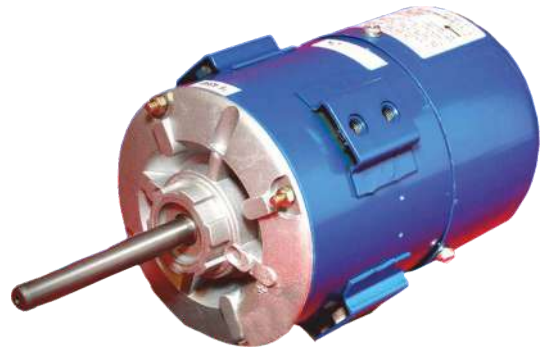


AHU Series



Air handling is the major area where highly reliable and efficient motors are required. CG has got a variety of motors in different electrical starting arrangements and constructions to suit customer requirements. These are basically in rolled steel powder coated body with permanent split capacitor (PSC) or 3 Phase types. Thermal protection is optional provided against requirement. Mostly used in Air Curtain, Chiller Unit, Condenser Unit, Exhaust Fan, Fan Coil Unit, Blowers etc.

Voltage	220 Volts or 110 Volts, 50 or 60 Hz
Power	22 Watts to 750 Watts
Pole	2 Pole / 4 Pole / 6 Pole
Frame	Optional - NEMA 42, 48, Custom
Mounting	Custom



Sheetal Series



Optimized design of CI body motors for robust, rigid, light & compact construction with better electrical performance. Sheetal Series will cater to the needs of rural, suburban customers for CI Body motors and is available in 0.5HP-3HP in IEC 80-112 Frames. This series has an elegant design with flexible terminal box mounting & is thermally protected.



Voltage	220 Volts or 110 Volts, 50 or 60 Hz
Power	370 Watts to 2250 Watts
Pole	2 Pole / 4 Pole
Frame	IEC 80 Frame to 112 Frame
Mounting	B3

Super Premium Efficiency Motor

IE4 Apex series motor is a next generation of green solution. It complies with new efficiency requirements of IEC60034-1:2014-03 with highest efficiency and lowest payback period. Our super premium efficiency motor delivers highest efficiency ever which ensures even lower payback period over the lifecycle of motor. By maximizing the output especially in continuous duty applications, due to energy efficiency, Apex series IE4 motor offers a way to curb energy consumption without limiting your growth and hence reduces CO2 emissions.

IE 4 - Conventional Apex Series motor	IE 4 - LSPM Technology motor
Output	0.55 kW to 110 kW
Poles	2 / 4 / 6
Frames	80 to 315
Voltage	415V, Other on request
Mounting	Foot , Other on request

APEX Series

Energy Efficient
Series Motors



Maintaining the completeness of the world's environment is the responsibility of everyone. With our company's history tracing back to 1937, we have taken this responsibility seriously and have developed the green products, an integrated system of products with the environment and user-safety in mind. Apex IE2 and IE3 series is yet another green initiative to save the energy and hence environment .



Range	Aluminium Frames (Upto 132 Frame)	Cast Iron Frames
Output Range	0.75 kW to 7.50 kW	0.75 kW to 375 kW
Frame	IEC 80 to 132	IEC 160 to 400
Pole	2 / 4 / 6	2 / 4 / 6
Mounting	Foot / Flange / Face other on request	Foot / Flange / Face other on request
Voltage	415 V, Other on request	415 V, Other on request

*8 pole motors are available on request
As per new requirements of IS 12615:2011/IEC60034-30

Crusher Duty Motor

To meet all demanding requirements of crushing industry, CG has designed crusher duty motors. Our crusher series is designed with safety factor 5 and built with a special grade of casting and shaft which provides higher durability and great resistance to impact.

Crusher Duty Motor

Output	0.55 kW to 600 kW
Poles	4 / 6 / 8
Frames	80 to 450
Voltage	415V, Other on request
Mounting	Foot Other on request



UL Motor For Fire Pump



CG offers UL motors in both IEC CG has designed UL motor especially for fire duty applications which complies with the requirements of UL 1004-1 and UL 1004-5. It is engineered for environment which demands more ventilation. It is available in IE1, IE2 and NEMA motors.

UL Motor

Output	0.55 kW to 375 kW
Poles	2 / 4 / 6 / 8
Frames	IEC- 90S to 355LX NEMA- 143T to 580T
Voltage	415V, Other on request
Mounting	Foot , Other on request

Premium Range For Other Markets

- MEPS (Australia / NZ)
- NEMA (North America)

CG offers NEMA Epact / Premium Motors as per NEMA MG 1, CSA C 22.2 No. 100 and UL 1004. These motors are most energy efficient and meet Premium efficiency standards. These motors are also listed in DOE and ESA.



	MEPS	NEMA
Output	1 HP to 250 HP	1 HP to 100 HP
Poles	2 / 4 / 6 / 8	2 / 4 / 6
Frames	NG80 to ND 315 LX	143T to 405T
Voltage	200 / 400 upto 3 kW 400 / 690 above 4 kW	208 / 230 / 460 V - 50 HZ 575 / 60 HZ
Mounting	Foot, Flange, Face	Foot, Flange

Smoke Extraction Motor

CG Smoke extraction motors are designed for stringent operating conditions during fire / high temperature ambient conditions. Smoke extraction motor ensures the air circulation in closed environment. Our smoke extraction motor complies with latest standard BS EN 12101-3:2015.

Smoke extraction motor is a dual function motor.

- 1) S1 Duty (In normal conditions)
- 2) S2 Duty (In case of fire)
- 3) 300 °C for two hours

Smoke Extraction Motor

Output	0.75 kW to 37 kW
Poles	2 / 4 / 6 / 8
Frames	80 to 200
Voltage	415V, Other on request
Mounting	Foot Other on request



Agnita Series

Ex 'd', Ex 'e', Ex 'n'
Hazardous Area Motors



CG offers wide range of flame proof protection Ex 'd', increased safety Ex 'e' and non sparking Ex 'n' motors suitable for hazardous area. These motors are designed to suit the ignitable atmospheres present in hazardous locations such as Zone1 and 2 or Class1 Div 1 and 2. These motors are suitable for various temperature classes & gas groups. These motors are licensed by BASEEFA for ATEX, CSA for IEC, Ex Div 2 and DGMS / CCOE.

As per new requirements of IS 12615:2011/IEC60034-30

Cast Iron frames	ex 'e' & ex 'n'	ex 'd'
Output Range	0.37 kW to 550 kW	0.37kw to 600kw
Frame	IEC 80 to 400	
Pole	2 / 4 / 6 / 8	
Mounting	Foot / Flange	
Voltage	415 V, Other on request	
Gas	Group I, IIA, IIB, IIC	
Temp. Class	T4	

Approved by Baseefa / ATEX / ICE Ex / PESO / DGMS



NDW Series

Slipring Motors

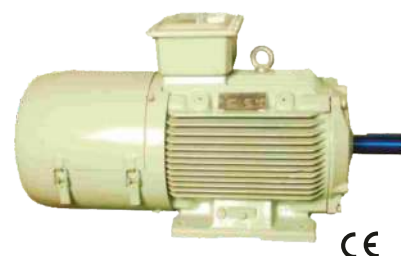
CG offers low voltage slip ring electric motor in both TEFC (IP55) and drip proof (IP23) construction. These motors are designed with new slip ring and brush gear arrangement for trouble free operations and long lasting brush life. Slip ring is moulded in epoxy-based insulation with excellent stability at high temperature. It complies with IPSS standards to meet the requirements of steel plants.

Slip Ring Motors	
Output Range	0.37 kW to 450 kW
Frame	IEC 112 to 450
Pole	4 / 6 / 8 Other on request
Mounting	Foot / Flange
Voltage	415 V, Other on request

Also available in SPDP Construction

Prabal Series

Crane Duty Motors



Prabal Series squirrel cage/slip ring crane duty motors are specially designed for service on cranes and hoists. They can also be used for similar application such as material handling equipments, and cranes of all type. These motors can serve as auxiliary motors in rolling mills or where ever intermittent duty drives are required.

These are duty type rated motors developing high starting torque with low starting current. The motors are suitable for frequent start/stop and reversals. Also rapid acceleration is achieved by high pull out torque/rotor inertia ratio.

Range	Squirrel Cage	Slip Ring
Output Range	0.37 kW to 630 kW	0.37 kW to 450 kW
Frame	IEC 80 to 450	IEC 112 to 450
Pole	4 / 6 / 8 Other on request	4 / 6 / 8 Other on request
Mounting	Foot / Flange	Foot / Flange
Voltage	415 V, Other on request	415 V, Other on request

ND Series (Squirrel Cage)

Power Behind The Drive



IEC metric frame three phase AC induction motors in cast iron construction. These motors cater to the needs of the global industrial customer. These motors are used in almost every industrial application including general manufacturing, petrochemicals, food processing, pharmaceuticals where they drive fans, pumps, compressors, conveyors, lifts and cranes amongst other things.

Output Range	0.37 kW to 630 kW
Frame	IEC 80 to 700
Pole	2 / 4 / 6 / 8 / 10 Other on request
Mounting	Foot / Flange
Voltage	415 V, 690 V

Brake Motor

Kibosh Series



CG offers the most reliable range brake motors with highly competitive delivery time. Kibosh brake motors are designed to serve various braking applications like crane, hoists, rolling mills, wind mills, elevators etc.

Range	Aluminium Frame	Cast Iron Frame
Output Range	0.55 kW to 7.5 kW	0.55 kW to 45 kW
Frame	80 - 132	80 - 200
Pole	4 / 6 / 8	4 / 6 / 8
Mounting	Foot / Flange	Foot / Flange
Voltage	415 V	415 V

Large Rotating Machines



Large Rotating Machines offers a wide range of High Voltage Motors from 2 to 24 Poles up to 25 MW range in various enclosures like Closed Air Circuit Water Cooled (CACW), Closed Air Circuit Air Cooled (CACA), Totally Enclosed Tube Ventilated Motors (TETV), Screen Protected Drip Proof (SPDP), Totally Enclosed Fan Cooled (TEFC) to meet various industrial requirements of any specific application. We offer both Squirrel Cage (TPC & FTC Range) and Slip Ring (TPR & FTA Range) motors in horizontal (IMB3), vertical (IMV1) and inclined (IMB5, IMV5) mounting options to suit every customer requirement. Built in accordance with IEC 60034-1 / IS 325 standards, customized, energy efficient and intelligent motors are offered for various applications in IP23 & IP55 enclosures.

Large Rotating Machine's design excellence made its products qualified for IECEx and ATEX approval for serving world wide oil and gas sector with its wide range of Ex-n, Gr-IIC upto 12 MW/ 11KV, Ex-e, Gr IIC, upto 12MW/ 3.3KV and Ex-e, Gr- IIA +IIB, upto 12MW/ 11KV along with Indian certification of FLP motors upto 1750KW, 710 Frame, 6.6KV voltage range to serve India and other Asian countries.



Squirrel Cage & Slip Ring Induction Motors in CACW enclosure (IC8A1W7)

CG offers Closed Air Circuit Water Cooled (IC8A1W7) as per IEC 60034. Squirrel cage motors are suitable for VFD operations. These motors are widely used in all Industries for various applications like pump, fan, blower, crusher, conveyor, pulper, feeder etc.

Range	Squirrel Cage	Slip Ring
Voltage	upto 13.8 kV	upto 13.8 kV
Power	upto 25000 kW	upto 25000 KW
Pole	2 Pole to 24 Pole	4 Pole to 24 Pole
Frame	355 - 1250	355 - 1250
Series	UW, FR	
Mounting	B3, V1, B35	

Ratings for other polarity & frame sizes can be engineered suiting to specific application requirements.

Squirrel Cage & Slip Ring Induction Motors in CACA enclosure (IC6A1A1 & IC6A1A6)

CG covers the most popular enclosure i.e. Closed Air Circuit Air method of cooling (IC6A1A1 & IC6A1A6) as per IEC 60034 for Slip ring and Squirrel motors. Squirrel cage motors are also suitable for VFD operation. These motors are widely used in all Industries for various applications like pump, fan, blower, crusher, conveyor, pulper, feeder mills, kiln etc. applications



Range	Squirrel Cage	Slip Ring
Voltage	upto 13.8 kV	upto 13.8 kV
Power	upto 25000 kW	upto 25000 kW
Pole	2 Pole to 24 Pole	4 Pole to 24 Pole
Frame	355 - 1250	355 - 1250
Series	TP, FT	
Mounting	B3, V1, B35	

Ratings for other polarity & frame sizes can be engineered suiting to specific application requirements.

Squirrel Cage & Slip Ring Induction Motors in SPDP enclosure (IC0A1)

CG Large Re-Rolling Mill Duty slip ring induction motors (KMR series) are used to drive re-rolling mill for rolling hot steel billets into rods, flat bars, rails, channels, angles, sheets etc. under arduous conditions of widely fluctuating loads & sudden overloads which last for few seconds. Screen protected drip proof (IC0A1) UDC / UDR series is suitable for operation in clean atmosphere specially pump & fan applications. SPDP motor offers higher kW in lower frame.

Range	Squirrel Cage	Slip Ring
Voltage	upto 13.8 kV	upto 13.8 kV
Power	upto 25000 kW	upto 12000 kW
Pole	2 Pole to 20 Pole	4 Pole to 24 Pole
Frame	355 - 1250	355 - 1250
Series	KMR, UD, FH, FW	
Mounting	B3, V1, B35	

Ratings for other polarity & frame sizes can be engineered suiting to specific application requirements.



Squirrel Cage & Slip Ring Induction Motors in TETV enclosure (IC5A1A1)

Totally Enclosed Tube Ventilated (IC5A1A1) motors are most suitable in highly dusty, humid & polluted atmosphere for use in industries such as cement, steel, tyre, rubber, paper, refineries, petrochemicals, fertilizers, power generation plant, mines etc. The dimensions are generally as per IEC 60072. A or IS: 8223. Motors are with double ended radial ventilation with low noise, low loss internal fan for uniform temperature gradient.

These motors occupy lesser overall volume compared to CACA enclosure and hence are preferred at locations where space constraint exists.



Range	Squirrel Cage	Slip Ring
Voltage	upto 13.8 kV	upto 13.8 kV
Power	upto 5000 kW	upto 4000 kW
Pole	2 Pole to 20 Pole	4 Pole to 20 Pole
Frame	450 - 1120	450 - 1120
Series	TV	
Mounting	B3, V1, B35	

Ratings for other polarity & frame sizes can be engineered suiting to specific application requirements.

NG[®] series motors belongs to a family of energy efficient, TEFC (IC4A1A1), state of art, squirrel cage induction motors. The new series of motors have high efficiency with almost flat efficiency curve from 60% to 100% loading. Additionally, the motors have desirable features of low noise & low vibrations.

Range

Voltage	upto 11 kV
Power	upto 2000 kW
Pole	2 Pole to 12 Pole
Frame	315 to 630
Mounting	B3, V1, B35

Ratings for other polarity & frame sizes can be engineered suiting to specific application requirements.



Motors For Hazardous Area



CG offers a wide range of motors for use in Hazardous area in CACA, TEFC, TETV & CACW enclosures. These motors are widely used in petrochemical complexes, refineries, chemical, fertilizer, oil & gas and various other industries wherein inflammable gases are likely to be present. The motors are specially designed to meet requirement of IEC: 60079-7 (for Ex-e motors), IEC: 60079-15 (for Ex-n motors), IEC: 60079-2 (for Ex-p motors) & IEC: 60079-1 (for Ex-d motors). Ex 'e' & Ex 'n' motors are IEC - Ex, ATEX approved.



Range	Ex (e) Increased Safety	
	Ex (n) Non Sparking	
	Ex (p) Pressurised	Ex(d) Flame Proof
Voltage	upto 13.8 kV	upto 11 kV
Power	upto 12000 kW	2000 kW
Pole	2 Pole to 20 Pole	2 Pole to 8 Pole
Frame	315 to 1120	355 to 900
Mounting	B3, V1	B3, V1

Ratings for other polarity, Voltage grade & frame sizes can be engineered suiting to specific application requirements.

Nuclear Sector Application Motor

- High Efficiency
- Low Noise & Vibration
- Better Power Factor
- Improved Power to weight ratio

The Nuclear Sector Inside Dome motors are the latest addition in CGs HT motor portfolio. These are high efficiency, low noise & low vibration motors with lower weight as compared to its contemporaries. These motors are specially designed suitable for a wide variety of demanding applications Inside Dome. The motors have been developed using state-of-the-art analytical simulation techniques using rigorous.



Area Rotor Type	Inside Dome, SCR
Power	upto 6 MW
Frame	355 - 900
Pole	2 to 20 Pole
Voltage	Upto 6.6 kV
Mounting	B3, V1
Enclosure / cooling	IC6A1A1, IC8A1W7, IC6A1A6

Ratings for other polarity & frame sizes can be engineered suiting to specific application requirements.



Industrial Duty DC Motors



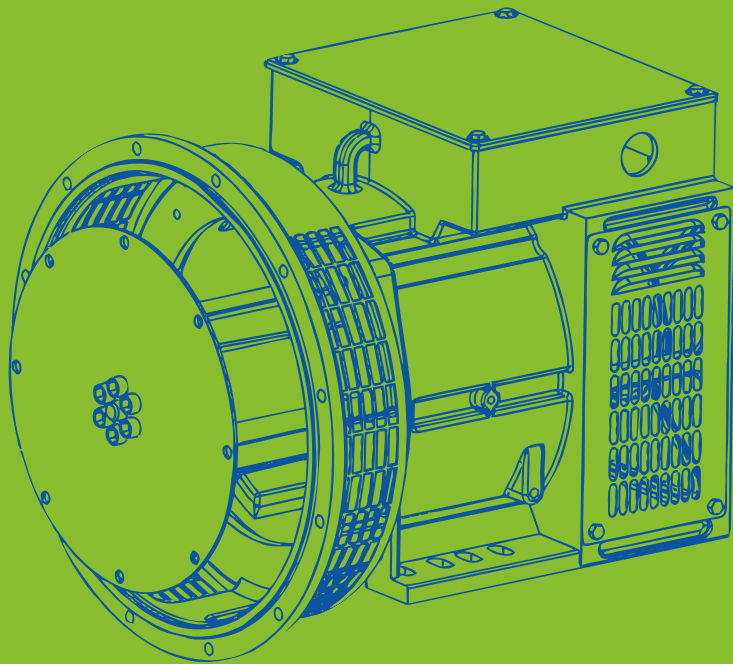
CG offers a wide range of DC machines which are compact & robust, thus offer higher power to weight ratio. The range includes blower cooled, CACA, and CACW in IP22, IP23, IP54 & IP55 protection. Critical items are manufactured in-house under stringent quality control & are proven as six sigma products. Machines are with compensated windings to withstand high short time overloads under field weakening conditions. Motors are with skewed rotor construction which ensures low noise, low weight & GD^2 for swift mechanical response. Large size bearings & moulded design commutator ensures longer & trouble free operation. Motor conforms to IEC: 60034-1, BS: 5000 Part 99 & IS:4722.

Frame	100 to 710
power	2.2 kW to 2000 kW
Mounting	B3 (other on request)
Armature	Voltage 400 V to 800 V

Motors with other voltage levels & speed range can also be offered, engineered to specific requirements.

Generators / Alternators

CG Power and Industrial Solutions Ltd. offers a wide range of AC & DC generators (alternators), both brushless and slip ring type. Our single phase alternators are designed to meet the customer requirements in remote as well as urban areas for uninterrupted power supply. Our AC Brushless generators incorporate advanced European technology and are designed for optimum performance. Our compact Slip Ring alternators are popular in agro industries. We also offer laminated yoke DC Generators up to 2000 kW.



Generators

CG offers wide product range for your power generation needs. We offer standard rating as well as highly customised machines, which meet your power requirement.

LV Alternators

CG AC Generators are state-of-the-art, self-excited, self-regulated and dependable source of power. These generators incorporate advanced European Technology and are designed for optimum performance using high-end software solutions. LV alternators are widely used in agricultural application to telecom application, railway application to marine application, where they help to supply uninterrupted power supply.

Slip Ring

	Single Phase	Three Phase
Range	5 kVA to 20 KVA	5 kVA to 82.5 KVA
Frame	IEC 132 to 200	IEC 132 to 200
UPF	5 kVA to 15 KVA	
Voltage	240 V	415 V

Brushless

	Single Phase	Three Phase
Range	5 kVA to 63 KVA	5kVA to 2250 KVA
Frame	IEC 132 to 200	IEC 132 to 450
Voltage	240 V	415 V / 575 V



Slipring Alternator
(Ustad Series)



Brushless AC Alternators

Synchronous Generator

CG has 125 years of experience in design & development of synchronous generators with state of art manufacturing facility in India & Hungary. CG has acquired GANZ Electric, inventor of generators in 1903, in 2006. CG has number of successful installations across the globe. These generators are highly efficient & reliable. Engineering is done using product life cycle management (PLM) tools & techniques to build reliability and validated through analysis tools. The manufacturing facility is automated to reduce the manufacturing lead time.

Synchronous generators are used Hydro, Steam, & Gas turbine, Diesel & Gas Engine, & Test bed applications. We offer them in either cylindrical or salient pole construction based on the application/requirement of the customer.

Parameters	Range
Rating	1 MVA - 70 MVA
Frequency	50 Hz - 200 Hz
Voltage	415 V - 15 KV
Polarity	2-40 Pole
Mounting	B3, V1
Ambient	20 to 50
Altitude	upto 4000 meter
Type of Avr	Analogue / Digital
Degree of Protection	IP 23, IP 55 IP 23
Type of Cooling	IC 0A1, IC6A1A1, IC8A1W7
Insulation Class	Class F/ Class H
Type of Insulation	VPI / Resin Rich
Type of Excitation	Brushless / Static



Wind Turbine Generators

The renewable energy business is experiencing phenomenal worldwide growth driven by declining costs of generation, growing electricity demand and mounting environmental concerns, particularly over climate change. CG with keen interest in renewable energy has developed technology of generators that can be used in wind mills. These generators are custom made based on the specification. CG currently offers wind turbine generators with following technologies.

- Doubly Fed Induction Generators (DFIG)
- Permanent Magnet generators (PMG)

Parameters	Range
Rating	upto 3 MW
Frequency	50 / 60 Hz
Voltage	upto 690 V
Ambient	(-) 20° to 50 °C

CG Drives & Automation

CGPISL being market leader in motors had aspiration to give a complete solution to its customer and thus offering peace of mind. To fulfil this, CGPISL acquired Emotron, a Sweden based technological company in 2011 and established CG Drives & Automation (D&A) as an identity. Emotron was not only a technology leader in Europe but also a pioneer in AC Drive technology worldwide with an existence of more than 40 years. EMOTRON was the first one to introduce PWM technology in AC drives in the year 1976 and introduced DTC technology in AC Drives in year 1998.

With this acquisition CG-D&A offers Low voltage AC drives, soft starters, shaft power monitor, solar drives with “EMOTRON” as a brand name well accepted by Indian as well as rest of the world customers.

CG-D&A has its own in-house capability for R&D in India as well as in Germany. CG-D&A has its state of art Engineering centres in Germany and The Netherlands. CG-D&A has two manufacturing facility, one in India and another in Sweden to cater the world market. Both facilities are CE as well as UL certified and supply directly to the world.

CG-D&A India not only offers standard modules but has full capability of providing engineering solution to the Industry. CG-D&A has credentials with large organizations like NPCIL, SAIL, TATA, NTPC, ONGC, IOCL and many more. We are approved at major consultants like EIL, Mecon, Thyssen Krupp and many more.

CG-D&A offers all services through its vast network of authorised service centres and competent regional service engineers.

CG-D&A offers peace of mind to its customer by providing complete solution under one umbrella which includes Drive solution with motor.

CG Emotron's expertise covers engineering, design, supply and commissioning of drive solutions for industries like power generation, water/wastewater, process industries, mining, infrastructure, and machine builders. We also offer standard and customised drive panel solutions to our customers. We have authorised service centres and repair centres spread across India, Europe and Middle-east for quick and fast troubleshooting support. We have one of the strongest distribution network pan India.

CG Emotron is an ISO 9001:2008, ISO 14001:2004 & BS OHSAS 18001:2007 Company.



Emotron VFX 2.0 Drives

Full control with precision

The Emotron VFX 2.0 variable speed drive optimizes your processes and prevents damage and downtime. The combination of direct torque control, accurate speed control and efficient vector braking makes it the ideal solution for all dynamic applications such as cranes, crushers, mills, mixers and centrifuges.

Range

0.75 kW to 3000 kW

Supply

400V/525V/690V

Three phase



Emotron FDU 2.0 Drives

Full control and optimized operation

Emotron FDU helps you save energy and draw maximum efficiency from your processes. Emotron FDU with modular concept allows cost optimization and is a perfect choice for tailor made requirements.

Range

0.75 kW to 3000 kW

Supply

400V/525V/690V

Three phase



Emotron TSA - Soft Starter

Starts, stops and protects

Emotron TSA softstarters take motor control to a new level. Soft torque starting, intelligent load monitoring bypass contactor and smart stops are all included and accompanied by a robust and compact design.

Range

5.5 kW to 1800 kW

Supply

400V/525V/690V

Three phase



Emotron MSF 2.0 Softstarters

More than just a soft start

Whilst traditional softstarters handle the most common start challenges, Emotron MSF 2.0 offers a lot more. Start and stop sequences are optimized. Advanced braking techniques increase productivity. Built-in monitor functionality protects your process from inefficiency, damage and downtime. Easy installation and set-up save time and money.

Range

7.5 kW to 1600 kW

Supply

400V/525V/690V

Three phase

Emotron VSS Drives

Small yet powerful

EMOTRON VSS is a multipurpose AC drive which is packed with features to meet applications requirements. VSS is cost effective, easy to install, easy to use drive for the single phase supply system in challenging industrial environment. VSS series meets user's need and runs variety of applications like packaging, wood working, pumps, blowers, mixtures and other machineries.

Range

0.4kW to 2.2kW

Supply

220V

Single Phase



Emotron VSB/VSU Drives

Dynamic drives for small AC motors

Although small in size, our Emotron VSB/VSU AC drive is equipped with several advanced features. It offers great flexibility in all senses. Functionality is easily adapted to your specific application requirements. The compact format offers flexible installation and the user-friendly set-up will have your system up and running in no time.

Range

VSB - 0.75 kW to 3.7 kW

VSU - 0.75 kW to 18.5 kW

Supply

400V

Three phase

Suraj Emotron VSR Drives

Efficient and user-friendly operation for solar pumping

Emotron VSR series drives offer reliable, cost-efficient and user-friendly operation. The Emotron VSR series has been specially developed for solar water pumping. Built-in self adaptive high accuracy maximum power point tracking (MPPT) algorithm of VSR ensures maximum water flow output. The compatibility of VSR with AC as well as DC input gives user the flexibility to optimize the operation and improve reliability of operation.

Range

0.4 kW to 2.2 kW / 0.75 kW to 7.5 kW

Supply

AC220V and DC310V / AC 380V&DC 540V

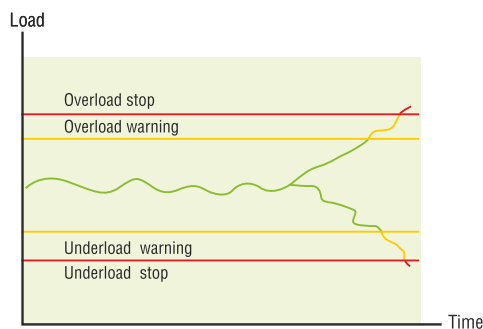
Single phase / Three phase



Emotron M20 Shaft Power Monitor

Your shield against overloads and damage

Emotron M20 shaft power monitor helps you save time and money. It protects your pumps and other equipment against damage and detects process inefficiency. Early warnings allow you to take preventive action. Unique features include measuring shaft power output and using the motor as a sensor. The result is reduced maintenance and installation costs, extended equipment lifetime and increased reliability.



Emotron M20 shaft power monitor protects your equipment and process against damage and downtime. Early warnings and stops allow preventive action.

Railway Products

CG Power and Industrial Solutions Ltd. is pioneer in Indian Railway Rolling Stock & Signaling business and offers the most comprehensive rail transportation & signaling portfolio in India. We are the leading manufacturer of all kinds of traction motors, alternators, related control equipments, Traction electronics & signaling equipment.

More than 4000 CG Power and Industrial Solutions Ltd. supplied traction machines are running in Indian railways, driving the most complex railway network in the world.

In the past 22 years, CG Power and Industrial Solutions Ltd. has undergone a dramatic transformation in terms of the product portfolio and capabilities. With engineering & design excellence, we have a strong presence globally, and is the number one preferred source for Indian Railways.



Rolling Stock Electrical Equipment



Traction Motor Type 6 FRA 6068
for 6000 HP Electric Locomotive



Traction Alternator C1022TA
for 1600 HP DEMU



Traction Motor Type C1015 for
4500 HP Diesel Locomotive



3 Phase Traction
Motor Type C1016TM for
1600 HP DEMU



Traction Alternator Type
C1014TA for 4500 HP Diesel Locomotive

For Diesel Locomotives	upto 4500HP
For Electric Locomotives	upto 6000HP
For 3 Phase DEMU & DETC	upto 1600HP
For AC EMU & MEMU	25KV

CG offers wide range Rolling Stock Equipment for AC Locomotives, Diesel Electric Locomotives & EMU/ DEMU/MEMU to Indian Railway. Application product range include Traction Motors / Alternators, Control Panel, Power Converter, Auxiliary Converter & Control Electronics.

Locomotive Transformers



7775 kVA, 25 kV, 1Ph Transformer is used in WAP-5 and WAP-7 three phase locomotive. This locomotive is used in important passenger trains including 'Rajdhani Express' and 'Shatabdi Express'. The transformer is with Aluminum Tank. The windings are made with high temperature class 'Nomex' insulation. The transformer is mounted in the under slung area of the locomotive.

6531 KVA, 25 kV, 1Ph Transformer is used in WAG-9 three phase locomotives. This locomotive is used to pull goods wagons. The transformer is with Aluminum tank. The windings are made with high temperature class 'Nomex' insulation.

IGBT based Traction Converters

2x3000 kVA traction converter for WAG 9/WAP7/WAP5, 3 phase electrical locomotives of 6000 hp with input from loco transformer, comprising active front end rectifier & Inverter to control traction motors

Features:

Bi-directional, modular design, housed in stainless steel /mild steel fabrication panels.

Axle Control (one inverter to each traction motor), independent motor control for better tractive effort, Water Cooled.

Efficient Slip Slide Control

Enhanced Redundancy

Stand alone computer cards

Improved performance & Efficiency



IGBT based Traction Converters

Control Electronics

Vehicle control system comprises microprocessor based vehicle control unit and controls the vehicle operation, based on the signals measured and commands received from the loco pilot.

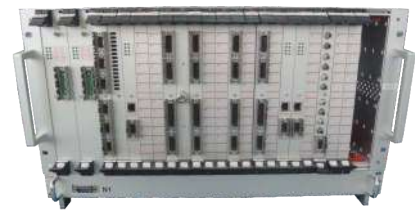
Features:

High performance microprocessor based modular systems

Main function is monitoring, controlling, recording, supervising train variables

Extensive fault diagnostics

Modular and enhanced redundancy



Train Control Management System (TCMS) for WAP 5, WAP 7 & WAG 9



130 KVA Aux Converter

Auxiliary Converter is used in WAG 9/WAP7/WAP5 3 phase electric locomotive for variable frequency and fixed frequency drives used for auxiliary machines like blowers, pump, compressor and battery charger.

Input power is processed through a converter stage to provide a stable and controlled DC bus voltage. The regulated output of AC inverter handles different AC loads with varying voltage, frequency and power.

Features:

Modular design, housed in stainless steel /mild steel fabrication. IP 54/65 construction, forced air cooling using extrusion heat sinks, IGBT switching devices are used with Thyristors, power diodes, Magnetics.

Optic fiber communication for electrical noise immunity.

Control using state of the art DSPs or microcontrollers.

3-Phase Traction System for Diesel Electric Multiple Units (DEMU)

DEMU is self powered train, used for faster movement of passengers for sub-urban transport system. With recent introduction of 3-phase drive system, it gives faster acceleration & braking, better efficiency and low maintenance. Electrical System used in 3-phase drive DEMU has virtually no maintenance and has very high availability. 3-phasedrive electrics, designed & developed by CG are in service of Indian Railways (IR), comprises of Traction Alternator, Power Rectifier, Traction Converter, TCMS and Traction Motors are part of propulsion equipment and are powered by Diesel Engine. CG is one of the two suppliers' established for DEMU 3-phase drive traction system for Indian Railways.



Railway Signalling Relays

CG was the first to introduce 'Q' series metal to carbon plug-in-relay in collaboration with Westing House UK for Indian Railways.

Range

Neutral Line Relay: QN1, QNA1, QS3, QNN1, QNNA1, QNA1K, QN1K

Biased Relay : QBA1, QBBA1, QBCA1

Track Relay : QT2, QTA1, QTA2

Lamp Proving Relay: QECX 61, QECX 51, QECX 52,

Special Relay : QL1, QNHX1, QNHXC1, QNNS1, QECX 53, QUCX 1

Specifications : BRS & IRS



Data Logger For Railway Signalling

Technical Data

Digital Input	From 512 up to 4096 in steps of 64
Analog Input	From 32 up to 64
Tele Command Outputs	8
Display	4 Line Alpha-numeric LCD display
Networking	Up to 32 nos data loggers in Multi drop / point to point configuration
Input Voltages	24V DC + 20%, - 10%

Energy Saving BLDC(Sensorless) Fan

Energy saving Carriage fan for Railway Coaches to provide air-cooling inside passenger coaches. CG was first to introduce BLDC technology in carriage fan.

Technical Data

Sweep	400mm
Voltage range (DC)	90-140V
Power Input (Max.)	32W
Air Delivery (Min.)	60 m ³ /min
Starting Voltage	75V



Universal BLDC(Sensorless) Fan

Carriage fan for Railway Coaches to provide air-cooling inside passenger coaches. CG was first to introduce BLDC technology in carriage fan.

Technical Data

Sweep	450mm	400mm
Voltage range (AC/DC)	90-140V	90-140V
Power Input (Max.)	40W	32W
Air Delivery (Min.)	85 m ³ /min	60 m ³ /min
Starting Voltage	75V	75V



Point Machines

CG was the first to develop and introduce IRS type point machine with RDSO.

Trailability : Trailable & Non Trailable

Operating Voltage : 110V DC, 3Ph 380 VAC & single Ph 230 VAC

Strokes lengths : 143 mm, 220 mm & 175 mm

Type of Locking : Both Internal, & External



Stamping

Stamping Introduction

CG Power and Industrial Solutions Ltd., the pioneer and leader in the Electrical Industry for last seven decades, manufactures its own requirement of Stamping & Laminations for the entire range of Electric Motors, Alternators, Fans, Pumps and Chokes. Our Stampings Division is fully equipped with the latest High Speed Blanking lines, 'H' frame high tonnage presses and CNC precision notching machines. We are also equipped with ultra modern heat treatment facility having continuous roller hearth furnace with exothermic gas as protective atmosphere. We also have our own ultra modern captive Tool Room facility. All this, coupled with professional experience and manufacturing technology, has enabled us to manufacture high quality Stampings, now available to meet the Stamping & Lamination need of the industries as well.

Stamping Product Range

- All types of Electrical Motor & Alternator Stampings, Stator/Rotor Auto Stitched, Stator Riveted/Cleated and Rotor Die Cast as per customer requirements.
 - All types of Choke Laminations.
 - All types of Fan, Mixer, Submersible and Mono-block Pumps, Windmill, Hydro/Turbo Generator Stampings.
 - Any other types of precision Stampings as per specific customer requirements including manufacturing of tooling for the same.
-



Tool Design & Tool Room

Our Tool Room is equipped with more than forty precision machines, Prominent among them are:

- Swiss make CNC wire cut Electric Discharge Machines having capacity up to 400x700mm co-ordinate travel.
 - Jig Boring Machine with digital read-out having capacity up to 1120x710 mm coordinate travel.
 - Jig Grinder with planetary and slot grinding attachments and optical rotary table.
 - NC Milling and Boring Machine.
 - VMC with FANUC control having capacity up to 2000x800 mm co-ordinate travel.
 - Precision Surface Grinder having capacity up to 1500x700 mm with accessories like diaform attachment and sine table for grinding accurate profiles.
 - CMM & Profile projector for checking of slot profile.
-



Manufacturing Facilities

Our state-of-the-art manufacturing facilities include the latest machinery such as:

- High Speed Blanking presses up to 300 ton capacity running at 250 strokes per minute with progression dies and auto-feeders.
- Schuler CNC Notching Machine with 16 ton capacity for circular & segmental Stampings, 399-1250 mm diameter for circular Stampings, and 300-4500 mm diameter for segmental Stampings.
- Precision Notching Machines up to 16 ton capacity with facility of skip notching and skew punching.
- Large Mechanical presses up to 500 ton capacity with auto-feeders up to 1200 mm.
- Fully operational double loop camber free slitting line with capacity to cut 1200 mm width coil & weight of 7 Mt.

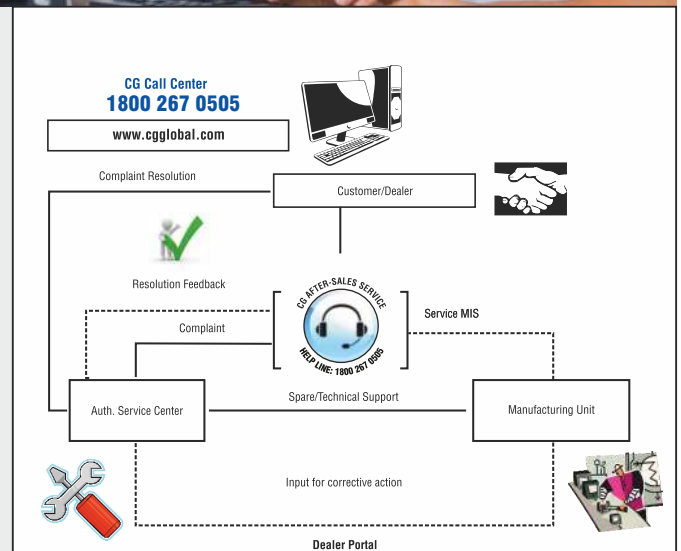
SERVICE PLUS PERFORMANCE

Customer Service A Responsiveness



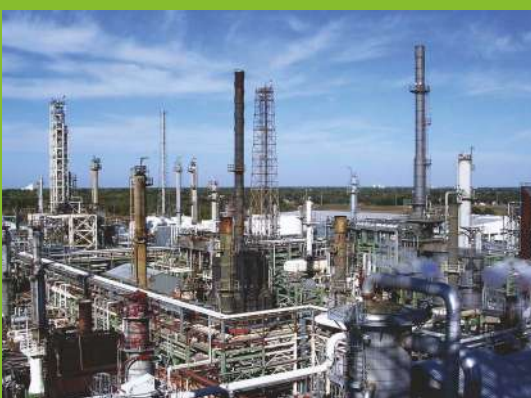
Leveraging After Sales Service

- Repair & Refurbishment.
- Spares Supply / Management.
- Diagnostic Services & Conditional Monitoring.
- Annual Maintenance Contract (AMC).
- Training.



- Response in 24 hours - service backed by wide trained more than 250 authorised service contractors and 18 service stations.
- Availability of CG Power and Industrial Solutions Ltd. genuine spares at service dealers outlets.
- Service facility at Europe, Africa, Middle East, South East Asia Regions.

Industries We Serve





Manufacturing Locations:

LT Motors

A-6/2, MIDC Industrial Area,
Ahmednagar 414 111
Maharashtra
T: +91 241 662 6150/220

LT Motors

B-108/109, MIDC Industrial Area,
Ahmednagar 414 111
Maharashtra
T: +91 241 662 6150/220

LT Motors

S/14-15,
Colvale Industrial Estate,
Colvale, Bardez 403 513, Goa
T: +91 0832 301 4000

Commercial Motors

Plot No. 196-198,
Kundaim Industrial Estate,
Ponda 403 115, Goa
T: +91 0832 398 3210

Drives & Automation – India

Plot No. 9, MPAKVN,
Phase – 2,
New Industrial Area,
Mandideep 462046 (M.P.),
T: +91 7480 426 404/440/441

Regional Offices

East

50 Chowringhee Road,
Kolkata 700 071
West Bengal
T: +91 33 3295 4472

West

1st Floor,
Kanjur Marg East
Mumbai 400042
T: +91 22 6755 8000

North

6th Floor, Vatika City Point,
M.G. Road, Guragon-122002
Haryana
T: +91 124 439 2000

South

No.3, Dr. MGR Salai,
Nungambakkam,
Chennai 600 034
T : +91 44 4224 7500