WOLONG

Power your future

EMPORIUM ENERGY



Kinamatic II

Direct Current Motors

1 - 500 HP

Proven Rugged Design
Engineered to Last

Conservative engineering and excellence in manufacturing best defines Kinamatic™ motors. They are a result of over 100 years of DC motor experience utilizing superior design and quality control systems. As a leading motor provider, we offer comprehensive solutions supporting a large installed base of DC industrial motors. They are a reliable lifeline to driven equipment and are the backbone of user production and operations.

GE direct current motors from Wolong are engineered, tested, and proven to meet or exceed all applicable requirements and standards for constant torque applications.



Typical Industries and Applications

Steel	Rolling mill, coiler drive, winders
Paper	Wet end calendars, tension reels, driers, winders
Textiles	Weaving machinery
Plastics	Extrusion
Mining & Minerals	Undergound locomotives, conveyors, elevators
Material Handling	Conveyors, cranes, elevators
Recreation	Ski lift, shuttle, amusement park rides
Machine Tool	Metal lathe, veneer lathe, mills, saws
Power Generation	Emergency lube oil, sludge
Transit	Cooling fans, compressors
General Purpose	Miscellaneous constant torque applications









Technical Details

HP Range	1 - 500
Base Speed	1150RPM, 1750RPM
Armature Voltage	240V, 500V
Field Voltage	300/150, 240/120
Accessory Mounting	8.5" accessory mounting rabbet with accessory shaft extension
Agency Approvals	CSA
Altitude	3300 ft
Ambient	40°C
Balance/Vibration	Measured at top speed: Peak-to-Peak amplitude 0.0015”
Bearing Caps	Cast iron CD258AT-CD5010AY both DE and CE
Bearing Type	Antifriction ball, CDL182AT-CD2010AT: double shielded, CD258AT-CD5010AY: open
Coils	CD180AT - CD329AT random wound - dip and baked CD360AT - CD5010AY TREC® coils
Conduit Box	Fabricated steel, 360° rotatable, gasketed, oversized
Current Overload	Occasionally repeated loads of 150% of base speed full load current
Endbells	CD182AT-CD500AT: Cast Iron, CD5010AY: CE- cast iron, DE-fabricated steel
Frame Material	Rolled Steel
Frame Size	CD182AT-CD5010AY
Grease	Lithium soap based
Grease Fittings	Alemite
Ground	Bronze bolt in conduit box
Insulation Class	Class F
Insulation System	Armature Treatment: Radiant Heat Process (RHP)
Lifting Means	Two (2) welded lifting lugs
Mounting	F1, modifiable to F2
Nameplate	Stainless Steel
Paint	ANSI #49 grey, heavy duty enamel
Relubrication	CDL182AT-CD2110AT: pre-lubricated, CD258AT-CD5010AY zerk grease fittings
Service Factor	1.0
Temperature Rise	Class F @ rated load and rated base speed
Tests	Routine Test: Report available upon request and purchase order
Warranty	24 months from date of installation or 28 months from date of manufacture; whichever occurs

Features and Benefits

1. Bearings

Double shielded: 180AT - 2110AT

Open ball: 258AT - 5010AY

Regreasable features with easy access alemite fittings to help extend bearing life

2. Armature

Radiant heat process: 180AT - 500AT

Dip and bake process cures varnish, prevents voids, and protecting against moisture and contaminants.

Controlled glass banding stabilizes armature to withstand frequent starts, stops, and reversals.

Commutator risers are TIG welded to armature coils. This eliminates hazards of lead or tin contaminants.

3. Brush Rigging

Field proven design that requires no adjustment.

Heavy cast brush holders with quick release brush springs provide for easy maintenance.

Constant pressure springs stabilize brush contact to ensure proper commutation and improve brush wear.

4. Conduit Box

Easily accessible.

Over-sized fabricated steel box.

Rubber gasketed mounting and clam shell.

Bronze grounding lug.

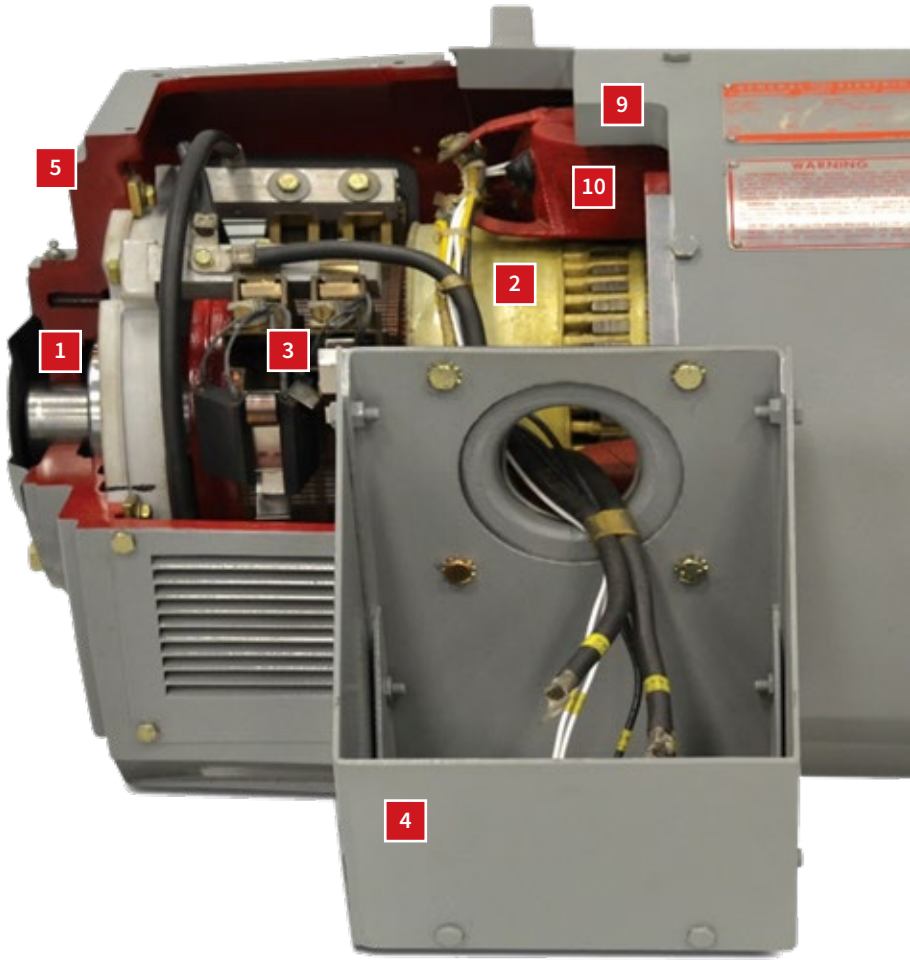
Rotatable 360 and F2 mounting capabilities make field adaptation easy in any application.

5. Accessory Mounting Face

Commutator end C-face

Shaft suitable for tachometer and speed limit switch.

Drilled and tapped mounting holes

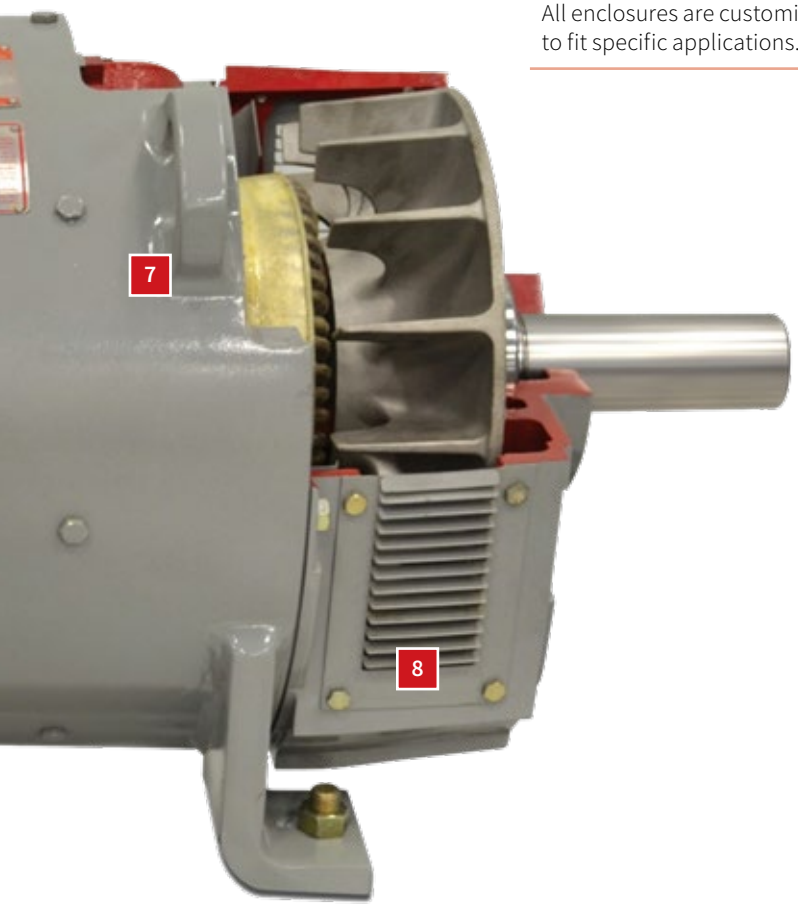


6. Insulation

Class F system with Class H components

Withstands effects of mechanical shock, vibratin and contamination.

Long life at rated loads.



7. Lifting Lugs

Welded into 210AT - 5010AY frames.

Cast-in end bell on 180AT frame.

Safer lifting system than a single eyebolt.

8. Enclosures

Drip Proof, Totally Enclosed, EXP

All enclosures are customizable to fit specific applications.

9. Frames

Round steel frames

Bored to provide precise seating of main and commutating poles

Precision rabbets for mounting of bearing brackets

10. Coils

Random Wound: 180AT - 329AT frames

Wrapped in mylar composite and fiberglass tapes.

Dip and bake process allows varnish to penetrate the windings.

TREC: 360AT - 5010AY frames

Tightly seals coils to the pole, resisting outside contamination, vibration, impact , and wear.

Excellent heat transfer extends motor life.

Engineered to withstand thermal expansion and contraction.

Optional Features

Blower Ventilation

Tachometer / Encoder

C-Face Mounting

Special Shaft Machining

Space Heater

Waterproof Conduit Box

Transparent Cover

Brake

Speed Limit Switch

Thermostats

Component Descriptions

Frames

Rugged magnetic ring frame construction of Kinamatic motors and heavy duty fabricated frames designed for optimum motor performance.

Bearings



Antifriction bearings permit mounting of standard 320AT and below frame sizes at any angle and 365AT - 5010AY frames mounted vertical shaft down. For easy maintenance, Kinamatic motors have antifriction bearings and removable bearing cartridges and caps.

Insulation

Kinamatic DC motors have Class F insulation containing a number of components rated Class H, unless otherwise specified. The insulation system employs many proprietary materials and processes developed specifically for highly challenging applications. This proven system provides long life at rated loads and also withstands the effects of mechanical shock, vibration, and contamination present in many severe environments.

TIG Welding

Low maintenance, trouble free commutator riser joints are provided by TIG (Tungsten Inert Gas) welding commutator risers to the armature coil. This strong copper-to-copper connection eliminates the use of material with low melting temperatures and helps to withstand overloads. TIG welding is also known for excellent mechanical strength and overload capacity, no tin or lead contaminants, and no throwing of solder



TREC® Field Coils

Tape Reinforced Encapsulated Construction (TREC) of main field coils and commutating field coils is a process which strengthens, seals, and bonds the coil to the pole to form a single unit that is highly resistant to contamination, vibration, impact, and wear. The TREC coil is engineered to be elastic enough to withstand expansion and contraction due to temperature differences. TREC coils are standard on 365AT - 5010AY frames.

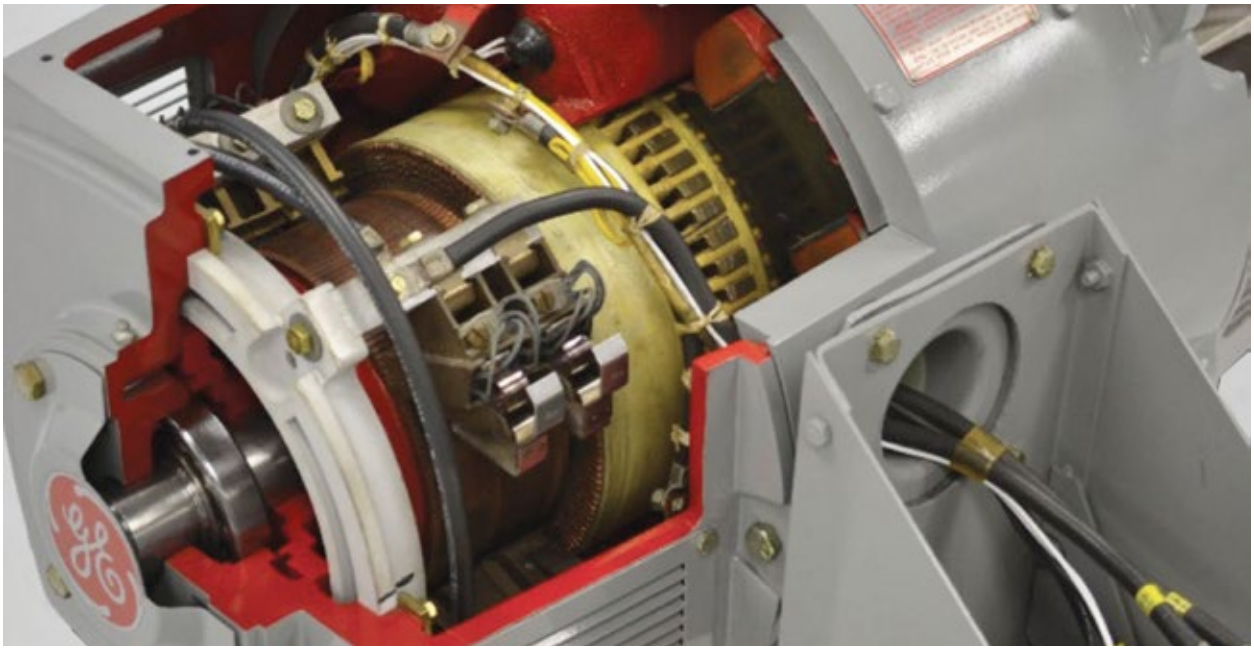
Armature Treatment

Radiant Heat Process (RHP) Armatures are in 180AT - 500AT frames. This involves treating armatures with a solventless polyester varnish in a horizontal position rotated under radiant electric heaters. After preheating, the armatures are dipped and rotated under heaters to cure the varnish. This process fills in the voids and locks the resin in place.

Vacuum Pressure Impregnation (VPI) Armatures are in 5010AY frames. These armatures are placed into a vacuum vessel that pulls air from the armature. Resin is then allowed into the vessel, and applied pressure forces the resin into the voids. The armature is then drained and baked. Two VPI cycles ensure an even varnish coating and an excellent heat transfer path while eliminating air pockets.

Motor Finish

Our standard paint is a machine tool ANSI #49 grey, heavy duty acrylic enamel over a water based primer. Polyurethane paint is available for waterproof motors.



NEMA/IEC DC Motor Enclosure Listing

NEMA Enclosures		IEC Enclosures	
Drip Proof		Protection	Cooling
DPFG	Drip proof fully guarded, self-ventilated	IP-22	IC-01
DPFG-SV	Drip proof fully guarded, separately ventilated	IP-22	IC-17
DPFG-BV	Drip proof fully guarded, blower ventilated	IP-22	IC-06
ESV	Enclosed separately ventilated, air duct in and out	IP-44	IC-37
SPFG	Splashproof fully guarded, self-ventilated	IP-23	IC-01
SPFG-SV	Splashproof fully guarded, separately ventilated	IP-23	IC-17
SPFG-BV	Splashproof fully guarded, blower ventilated	IP-23	IC-06
Totally-Enclosed		Protection	Cooling
TENV	Totally enclosed, non-ventilated	IP-44	IC-410
TEFC	Totally enclosed, fan cooled	IP-44	IC-411
TEAO	Totally enclosed, air-over-frame	IP-44	IC-416
TEAAC	Totally enclosed, Air-to-air cooled	IP-44	IC-666
TEWAC	Totally enclosed, Water-to-air cooled	IP-44	IC-86W
TENV-WP	Totally enclosed, non-ventilated, waterproof	IP-45/55*	IC-410
TEFC-WP	Totally enclosed, fan cooled, waterproof	IP-45/55*	IC-411
TEAO-WP	Totally enclosed, air-over-frame, waterproof	IP-45/55*	IC-416
Explosion Proof		Protection	Cooling
TENV-XP	Totally enclosed, non-ventilated, explosion proof	Not Defined	Not Defined
TEFC-XP	Totally enclosed, fan cooled, explosion proof	Not Defined	Not Defined
TEAO-XP	Totally enclosed, air-over-frame, explosion proof	Not Defined	Not Defined

* IP-45 while drain holes open; IP-55 with drain plugs installed (special maintenance required)
Enclosure codes are shown for reference and is only a guide. Consult factory for details.

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