AETERNA

Precision Engineering for **Motion Systems**

Designers & Manufacturers of
Motors • Gearboxes • Drives



#startupindia

DIPP85210

MAKE IN INDIA

AETERNA

Innovating Motion • Powering Industry

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Our Motors



1. IE3 Premium Efficiency Motors

IE3 Motors designed and Manufactured by us reduces energy losses by 15-20% compared to IE2 motors. Saves substantial amount of energy when used for continuous and high load operations. Cast iron/MS or Aluminum motor body provided as per requirement.

2. IE4 Super Premium Efficiency Motors

IE4 motors designed and manufactured by us achieved upto 95% efficiency and consumes 2-5% less energy compared to IE3 motors. This ensures payback within 1.5-2 years due to reduced heat loss and energy charges. These motors are ideal for continuous duty application like pumps, fans and compressors.

3. IE5 "Ultra-Premium" Efficiency Motors

IE5 designed by us expected to reach 95-97% efficiency ensuring lowest operating cost and offer faster payback period. These motors are generally Synchronous Reluctance Motor (Syn-RM) or Permanent Magnet Motor upto 450kW capacity..



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Key Features of Our Products

Engineered for Performance. Built for Reliability.

- **All motors** are designed at the **knee point of the B-H curve,** ensuring optimal magnetic performance and superior efficiency.
- **Electrical laminations** use **High-grade silicon steel** (M-36 /M-43/M-45/M-47) for minimal core losses.
- **Class 'H' copper** winding wire (**Dual Coated Ester Amide,** IS: 13730 compliant) ensures high thermal endurance.
- **Complete Class 'H' insulation system** for enhanced durability and long service life.
- **High-quality Teflon connection cables** for reliable electrical connectivity.
- **Aluminum cooling fans** for efficient heat dissipation and **improved motor life.**
- Designed for **415V ±10%, 50 Hz ±5% A.C. supply,** as per IS: 325-standards.

Our Maintenance & Reconditioning Services

Complete End-to-End Electrical Machine Restoration

Core Reconditioning Services:

- **Replacement** of damaged motor bodies.
- **Replacement** of end shields (brackets)
- **Replacement** of burnt laminations (stamping)
- **Replacement** of damaged or broken shafts.

Manufacturing Capabilities:

All components are manufactured using:

- **Fabricated designs** (custom-engineered solutions)
- **CI / Steel / Aluminum castings** (pattern-based), followed by
  - Precision machining
  - Accurate fitment & assembly

Additional Services:

- **Reconditioning** of worn-out shafts & housings
- **Re-metallizing** (where required)
- **High-precision machining**
- **Dynamic balancing** (for vibration-free operation)
- **Repair & reconditioning of insulation-failed** motors
  - Includes Stator / Rotor rewinding

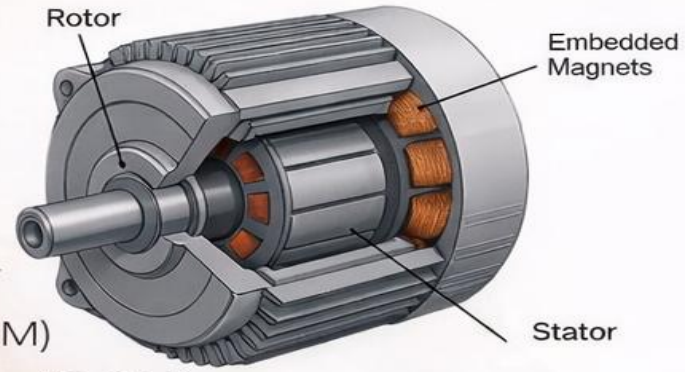
- **Repair & reconditioning** of insulation-failed motors
  - Includes Stator / Rotor rewinding

Our Products

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- **DC Motor** (upto 100 HP)
- Multispeed / Roller Table Motor
- Vibrator Motor
- Thruster Motor
- Brake Motor
- Squirrel Cage Latch Motor
- VVVF Motor / Special Motor
- Commutators and Slipring
- Carbon Brush & Carbon Brush Holder
- Synchronous Reluctance Motors (SynRM)
- Permanent Magnet Synchronous Motor (PMSM)
- Permanent magnet assisted synchronous reluctance motor (PMA-SynRM)
- Liquid Cooled Motors
- **Crane Duty Slipring Motor (upto 200 HP)**

Interior Permanent Magnet (IPM) Motor







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Design & Development



We Provide

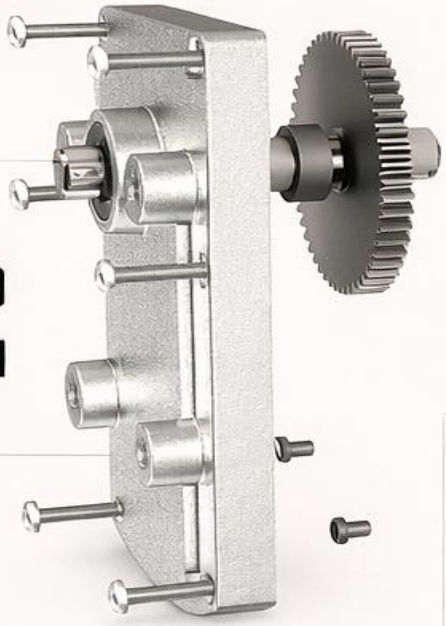
* Detailed computerized drawing/document
* 3D CAD Drawings
* Assembly Drawing in STEP Format
* Efficiency curves, Thermal maps, Materials details

With our in-house capabilities, we are able to

* Design, develop and manufacture any standard, non-standard as well as substitution of imported motor customized to suit existing shape, size and electrical properties
* Reduction of size of electrical motors maintaining its electrical properties
* Enhancing capacity of existing motor maintaining its size.

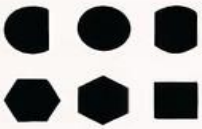


Our Gearbox



Metal shaft

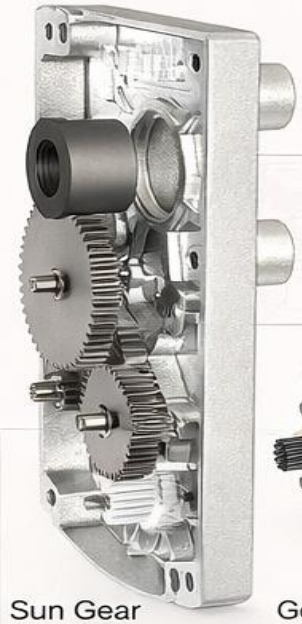
shape selection



Shell

Metal shell

Plastic shell



can be choose bevel wheel / spur gear

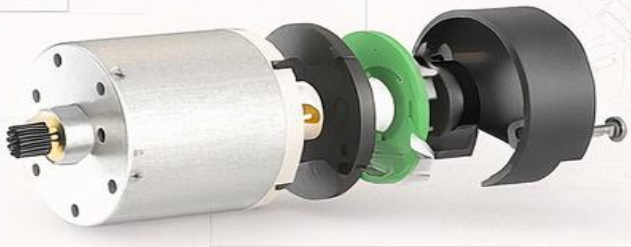
Sun Gear

Plastic Gear

powder metallurgy

Metal processing

Encoder



Gear box series



Motor

brush

brushless

stepper



Design & Development :

- **Helical Gearbox**
- **Spur Gearbox**
- **Planetary Gearbox**
- **Bevel Gearbox**
- **Worm Gearbox**

Design upto 99.2% efficient light weight with advanced material & Heat treatment for Longer Life with specialised cooling pump for longer life.

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Our EV Drive Train



EV MOTOR



96.2%

- Peak 300 kw
- Max Torque 501 Nm
- Motor Size 297 mm x 311 mm (A4 Size Paper)

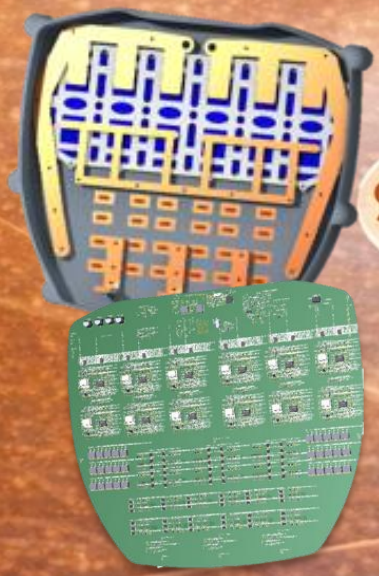
EV GEARBOX

- Designed for 300 kw motor
- Continuous torque 267 Nm
- Hollow shaft for lighter weight
- Spline Coupling



99.2%

MOTOR CONTROLLER



98.5%

- Peak 300 kw Liquid cooled
- 3 Level Topology
- Paralleling of SIC-MOSFET for Higher efficiency
- Multi-Core Processor

MSME
UDYAM-WB-10-0130263

AETERNA

GST
19AAVCA5037D1ZH

Product Catalogue 2026

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