

ELECTRIC MOTOR REPAIR



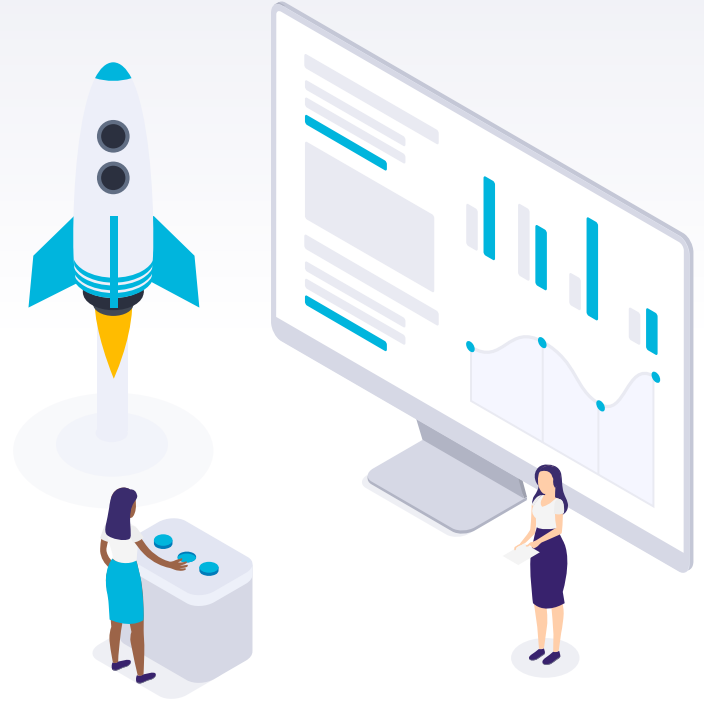
Introduction



- ▶ Sebagai bagian dari pengembangan kapabilitas layanan, **PT. Maju Mandiri Utama (MMU)** menyediakan **jasa perbaikan, overhaul, dan pemeliharaan Electric Motor** untuk berbagai aplikasi industri, khususnya di sektor minyak dan gas. Layanan ini mencakup **rewinding stator dan rotor** sesuai standar teknis, **dynamic dan static balancing, shaft alignment**, serta **pengujian performa motor** seperti pengukuran tahanan isolasi, polarisation index (PI), surge test, no-load dan load test guna memastikan keandalan, efisiensi, dan keselamatan operasi peralatan.
- ▶ Selain itu, MMU juga menyediakan **jasa perbaikan dan pemeliharaan Transformator**, baik transformator distribusi maupun transformator daya. Ruang lingkup pekerjaan meliputi **pengujian kelistrikan** (insulation resistance, winding resistance, ratio test, dan DGA), **perbaikan mekanik** pada winding, bushing, serta sistem pendingin, **oil treatment dan oil purification** untuk meningkatkan kualitas minyak isolasi, hingga **commissioning dan recommissioning** guna memastikan transformator siap beroperasi secara optimal dan sesuai dengan standar keselamatan serta regulasi yang berlaku.

Seluruh Proses pekerjaan Perbaikan Electric Motor mengacu kepada Standar EASA (Electrical Apparatus Service Association) yaitu Standar dalam perbaikan Peralatan Listrik yang berputar.

Flow Process Repair



Incoming

- ▶ **Record Data Name Plate** (Brand, Hp, Volt, Amp, Frame, Serial Number)
- ▶ **Record Visual Check** (Kondisi End Shield, Body Stator, Fan Cover, Fan Blade)
- ▶ **Record Accessories** (Hub, Pulley, Gear, Eyebolt, Box Heater, Base Vibration, Terminal Connection Box,)



3-PHASE INDUCTION MOTOR			
HP	kW	TYPE	
		FRAME	
VOLTS		PHASE 3	KVA CODE
AMPS		A.M.B. °C	INS. CL.
Hz		S.F.	RATING CONT.
RPM		BEARINGS	
NOM EFF		MIN. EFF	DESIGN
SERIAL NO.		WEIGHT	
TECO MOTOR COMPANY ROUND ROBIN, TAIWAN			

► Inspection & Dismantle

► Electrical Inspect

- Insulation Resistance Test
- Winding Resistance Test
- Heater Check
- Cleaning Stator & Drying Oven

► Mechanical Inspect

- Housing Bearing Clearance Check
- Journal Bearing Clearance Check
- Rotor Shaft Key Way
- Remove Bearing
- Cleaning Part



Failure

▶ Electrical Failure

- Winding Shorted
- Winding Spark
- Winding Over Heat
- Winding Burn Out



▶ Mechanical Failure

- Housing Bearing Over Clearance
- Journal Bearing Less Clearance
- Rotor Shaft Key Way Broken
- Bearing Damage
- DII



Repair

► Rewinding

- Stripping End Coil
- Furnace Oven
- Pull Out Winding
- Stripping Cleaning
- Core Lamination Test
- Drying Oven
- Red Oxide
- Install Nomex
- Insert Coil
- Connecting
- Winding Resistance Test
- Variac Test,
- Varnishing
- Drying Oven



Repair

- ▶ Rebushing (Re-Sleeve Housing Bearing)
- ▶ Metalizing (Tambah Daging)
- ▶ Fan Blade Replace
- ▶ Rekondisi Shaft Posisi Key Way
- ▶ Rekondisi Baut Patah
- ▶ Rekondisi Lubang Baut Dol
- ▶ Balancing



Reassembly & Final Test

- ▶ Install Bearing
- ▶ Install End Shield DE (Drive End) & NDE (Non Drive End)
- ▶ Install Fan Blade
- ▶ Insulation Resistance Test
- ▶ Winding Resistance Test
- ▶ Test No Load
- ▶ Painting
- ▶ **READY LINE**



THANKS!

Any questions?

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