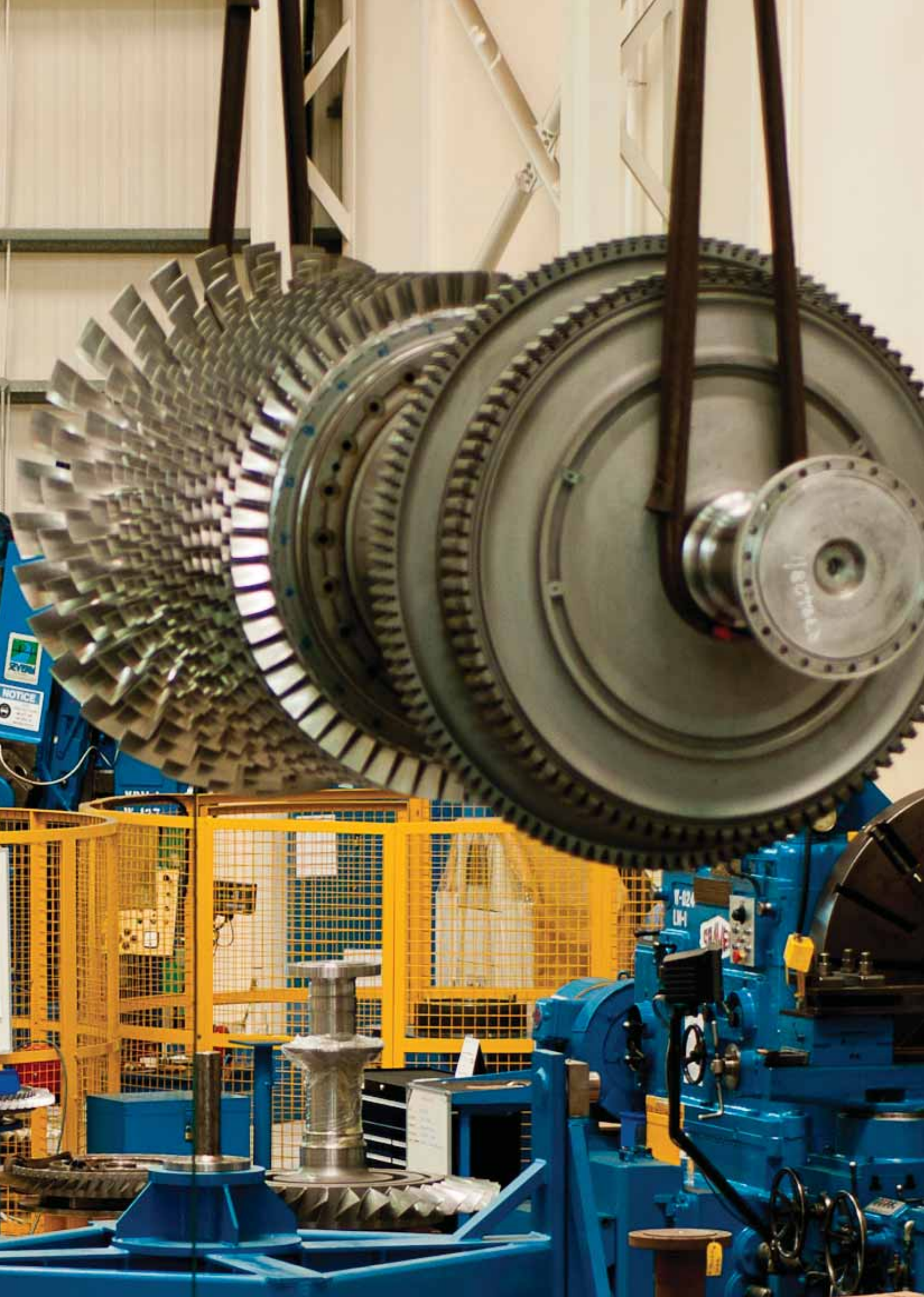


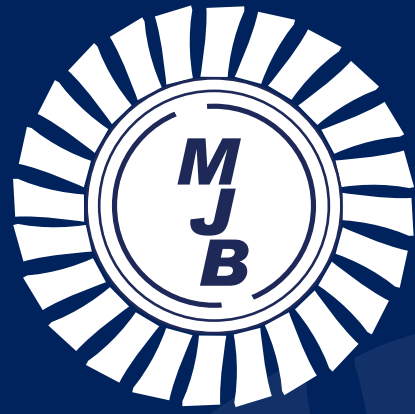
M J B
INTERNATIONAL
GAS TURBINE SERVICES

Delivering a world of **Turbine Solutions**

Gas turbines | Maintenance | Repairs | Spares | Panels
MJB International is an Al Masood Group Company

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Introduction

MJB International are total providers to owners and operators of industrial gas turbines throughout the world, offering an employee skill base that equates to over 2000 man years of OEM experience in industrial turbine maintenance solutions, with particular specialization in the frame range of turbines designed by GE and their former business and manufacturing associates.

Our business is founded on the strength of our technical and engineering capability, reinforced by our commitment to quality and customer satisfaction that is demonstrated by our accreditations ISO9001:2008; ISO 14001:2004 and OHSAS 18001:2007.

Facility

Our state-of-the-Art Workshop in Jebel Ali, Dubai now comprises of 8000 m² capacity. Equipment includes: 150 Tonne Overhead Traveling Gantry Crane, 12M Horizontal Lathe, 50 Tonne Dynamic Balance Machine for balancing larger rotating equipment, Vertical Boring machine for machining larger diameters and the unique Paragon Circular Geometry Inspection System for stacking rotors. Additionally, we now offer rotor pool and exchange membership for FS3, FS5, FS6, FS7 and FS9. This investment places MJB as No. 1 in the region, for component and rotor repair.

The facility is purpose built for complete re-manufacturing of gas turbines from GE type FS3-FS9 and stock will be carried to provide short term delivery of these turbines to the demanding market.

Gas Turbine Management

Our expanding infrastructure allows us to support our services internationally. We are in a unique position to offer both immediate advice and site assistance to industrial gas turbine users for all operational needs.



Services rendered include :

- Spares and replacement parts
- Component repair
- Component manufacture
- Aero derivative gas turbine services
- Field maintenance and engineering services
- Control system retrofits
- Power system training, rotor repair & overhaul
- Turbine blade repair and coatings
- Complete gas turbine refurbishment
- Engineering technology and support
- Compressor services

Gas Turbine Spares & Replacement Parts

MJBI maintains a substantial computerized inventory of spare parts for the General Electric design of heavy duty industrial gas turbine equipment, and also other OEM turbine manufacturers. The parts inventory policy is continually monitored to ensure that the majority of customers' spare part requirements are satisfied ex-stock for both scheduled and unscheduled maintenance.



Component Repair Services

MJB International offers access to the most comprehensive independent gas turbine repair service in the world. MJB International has extensive experience in repairing and refurbishing all component parts associated with gas turbine and related power equipment.

Repair Services include the refurbishment of all hot gas path components including nozzles, buckets, combustion liners, flow sleeves and transition pieces.

- Electron beam physical vapour deposition
- Platinum aluminide coatings
- Low pressure plasma spray coatings
- HVOF coatings
- CNC machining
- Pack cementation coatings
- Hot isostatic pressing
- Laser powder welding
- Induction welding
- Chamber welding



Gas Turbine Rotor Overhaul Services : Stripdown-Reblading- Rebuild-Balancing

- Pre-stripdown balance and inspection
- Rotor disassembly
- NDT facilities
- Individual blade and wheel coating
- Latest coating technologies
- Individual wheel balancing
- Rotor re-blade
- Rotor reassembly
- Rotor balance and run-outs
- Rotor storage containers
- Comprehensive customer report

Situated in modern air-conditioned premises with a floor space of over 8000 m² and with recently installed multiple rotor balancing equipment, MJB International offers a competitive alternative for gas turbine owners and operators.

Dedicated rotor overhaul engineers offering knowledgeable advice, experience of commercial operation, and an ex-stock supply of necessary components and rotating parts, ensure a committed response in returning users' equipment to commercial operation as fast as possible with appropriate documentation and reports.

Customers can also take advantage of MJB International's rotor exchange programme. We always have available sufficient new or refurbished components to assemble turbine and compressor rotors at short notice. Customers are invited to benefit from this service by working closely with MJB International and forward planning their overhaul schedules and material requirements. For cost-effective maintenance, customers may consider exchanging their operating rotor for a previously overhauled zero-hour rated rotor which can be pre-delivered to site awaiting the next overhaul commencement.



Field Support & Engineering Services

MJB International employs a wide range of experienced gas turbine field engineers, technical advisors, construction and logistics managers. MJB International provides our clients with expert personnel to undertake and deliver both on-site and remote engineering services, meeting their needs for planned and unplanned plant maintenance.



Field Support

Engineering Services Include:

- Turnkey Plant Overhaul
- Site Management
- Operation & Maintenance
- Control Systems
- Electrical Engineering
- Quality Assurance & Advice
- Fuel Conversions
- Technical Support
- Generator Overhauls
- Plant Commissioning
- Inspection & Plant Overhaul
- Field Refurbishment
- Total Maintenance Concepts
- Plant Upgrade & Improvement
- Control Retrofits
- Plant Relocation

Operation & Maintenance

All types of operation and maintenance projects for the power industry can be undertaken on a contract basis. MJB International brings significant technical and logistical advantages, where all of our individual support services are brought together to deliver a custom-made project package that meets scheduled contract availability and efficiency targets.

- Organisation & Planning
- Operational procedures
- Maintenance & preventive maintenance procedures
- Safety procedures, for both plant integrity, and health and safety
- Dispatch, distribution and inspection

Gas Turbine Refurbishment - total power generating package overhaul service

MJB International's customised workshop facility in Dubai, UAE is fully equipped to perform a complete gas turbine refurbishment service for GE type Frame 3, Frame 5, Frame 6, Frame 7 and Frame 9 gas turbines.

Our single-source facility offers services which include turbine engineering, component repair and replacement, new spare parts, rotor overhaul, gear-box replacement, generator inspection, turbine rewiring, instrumentation and control system upgrade, auxiliaries replacement and procurement of prefabricated inlet and exhaust systems.

In a similar manner to a major overhaul, each turbine can be overhauled to any specification required by a client. In many cases, gas turbines are available overhauled and ex-stock ready for onward sale to power generators. Customers can therefore expect a quality service and rapid turnaround time as turbines are returned to a zero-hour rated condition.

- Full "major" overhaul at MJB Jebel Ali repair facility
- Rotor refurbishment to zero-hour rated condition
- Availability of new and refurbished component parts
- Gear box inspection and overhaul
- Generator inspection, maintenance and overhaul
- Turbine Re-wiring
- Control Panel Upgrade
- Control Cab refurbishment or replacement
- Inlet and exhaust plenum engineering and procurement

Situated in modern air-conditioned premises, and with recently installed multiple-rotor balancing equipment, MJB International offers a competitive alternative to purchasing new gas turbines on extended lead times.

A resident core of field engineers and an ex-stock supply of rotating parts and components, ensure minimum response time in returning users equipment to service and commercial operation as fast as possible.



Sentinel C™

Advanced gas turbine control system : the Sentinel-C series of turbine control systems were designed specifically for the retrofit of heavy duty gas turbine controls; in particular, Speedtronic and LA families of turbine controllers. The control system was originally developed utilising the robust Allen Bradley PLC-5 family of processors, and has since been upgraded using the latest Allen Bradley PLC, Control Logix. This has been introduced to the Sentinel range, which gives a greater flexibility and faster response time to the overall system. Both processors perform the sequential logic and closed loop control function, which are necessary for gas turbine control.

Turbine control philosophy of the original system is maintained, and is easily adapted to site specific requirements.

System Features

- PLC5/Control Logix System Architecture
- Hot Backup PLC Redundancy
- Fuel Governor
- Auto Synchronisation & Power Monitor
- Gas Turbine Protection
- Automatic start-up, auxiliaries sequencing
- Combustion monitor

User Benefits

- Minimise GT downtime
- Increase availability
- Readily available spares-worldwide support
- SCADA interface, all parameters visible to operator
- Ease of maintenance/set up
- Networking capability
- Easy access and export of GT data



Control Panels



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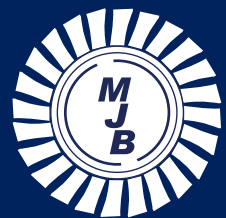
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