

oe<sup>L</sup> group



Experience. Expertise. Excellence

# Introduction

Osborne Engineering Ltd (OEL) was founded in 1984, specialising in the manufacture and repair of all types of white metal components. OEL's attention to detail and manufacturing excellence ensures exceptional quality and accuracy. Our dedicated customer support and after sales services provide added value.

**With facilities in the UK, Poland, UAE & US, OEL operates across five continents, working with Original Equipment Manufacturers (OEMs), Service Companies and End Users in the Oil, Gas, Petrochemical and Power Generation industries.**

Osborne Engineering Ltd's facilities includes a design & engineering department, extensive CNC machine shop, dedicated repair cell, and state-of-the-art training facility. OEL has obtained a reputation for assisting our clients by meeting urgent demands for our services arising from plant breakdown and/or other emergency situations.

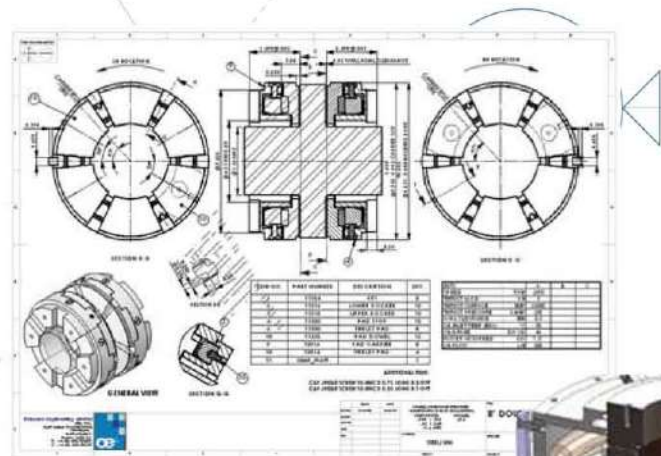
With the acquisition of Turbo Power Services in 2004 ([www.turbopowerservices.com](http://www.turbopowerservices.com)) OEL was able to enhance its gas turbine and fuel system product portfolio.

Osborne Training Services ([www.osbornetrainingservices.com](http://www.osbornetrainingservices.com)) was formed in 2007 to enhance and expand the delivery of OEL's training services, delivering training excellence to the oil, gas, petrochemical & power generation industries.



# Bearing Technology

Osborne Engineering use cutting edge technology and decades of experience to Design & Manufacture quality fluid film thrust and journal bearings.



OEL's flexible manufacturing facility allows us to offer custom/ bespoke designs as well as our own range of bearings designed for Oil Gas and Power Generation Industries.

OEL's knowledge is reflected in its experience with all types of rotating machinery:

- ▶ Compressors
- ▶ Fans
- ▶ Gearboxes
- ▶ Turbines
- ▶ Generators
- ▶ Motors
- ▶ Pumps

Capabilities include:

- ▶ Journal Bearings
- ▶ Thrust Bearings
- ▶ Hydrogen and Oil Seals
- ▶ Vertical Bearings

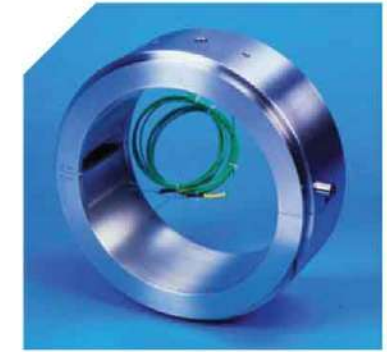
OEL possess the three key requirements to manufacturing a reliable bearing system:

- ▶ Capability in metallurgical casting technology
- ▶ Knowledge of tribology and metal systems
- ▶ The availability to control hydrodynamic oil films

In the manufacture of our components we only use virgin white metal and check the bond interface with ultrasound to ISO 4386-1. We employ techniques regarded as the best for the spin casting of bearing materials and have spin casting machine capabilities up to 1600mm.

OEL bearing range includes:

- ▶ OEL equalised bearings
- ▶ OEL compact equalising bearings
- ▶ OEL journal pad assembly
- ▶ OEL equalised bearings J, B & E style bearings
- ▶ OEL vertical bearing range



# Bearing Support and Service

OEL are dedicated to providing a superior aftermarket service optimising the performance of our clients' machines. OEL's Total Shaft approach to our business means we offer a total bearing & associated component management package.



## Repair

With over 20 Years experience OEL is able to offer more than the standard rebabbiting service:

- ▶ Dedicated repair teams in UK, Poland & UAE.
- ▶ Over 20 year experience.
- ▶ Centrifugal Spin Cast Technology
- ▶ Supported by qualified design engineers using latest 3D modelling software
- ▶ Quality Assurance ISO Certified
- ▶ Official OEM Vendor
- ▶ Added Value - Weekly Progress Reports/ Pre-Repair Reports/ Certificates of Conformance
- ▶ Reliable deliveries supported by finite planning system overhauls.

## Bearing Stock Management

OEL strive to provide its customers with one-stop-shop for bearing requirements. This unique service provides our customers with a complete bearing management system,

- ▶ Identifying data gaps.
- ▶ Identifying Risk Areas.
- ▶ Minimising duplication.
- ▶ Reducing Stock Levels.
- ▶ Streamlining Unscheduled shutdown lead-times.
- ▶ Reducing Overhaul/ Shut-Down Costs

Our Support team is dedicated to reducing lead-times, minimising machine downtime, improving machine efficiency and optimising bearing stock. Maintaining communication with customers and continuous improvement are essential for the success of this.

## Field Service

OEL Have 3 Service Centres, serving 5 continents, allowing us to provide expert field service anywhere in the world. Our experienced field engineers offer on-site consultancy, alignment, monitoring and when possible, bearing repair. In most situations bearings will be dis-assembled, packed and shipped to our closest Service Centre.

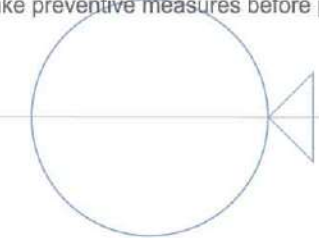
## Alignment and Condition Monitoring Services

The OEL group of companies can offer total shaft solutions, from bearing manufacture, installation to associated alignment and condition monitoring services. With this service OEL are able to work with our client to roll out full shaft and bearing inspection schedules over 1 - 10 year cycles advising on all tribology related issues:

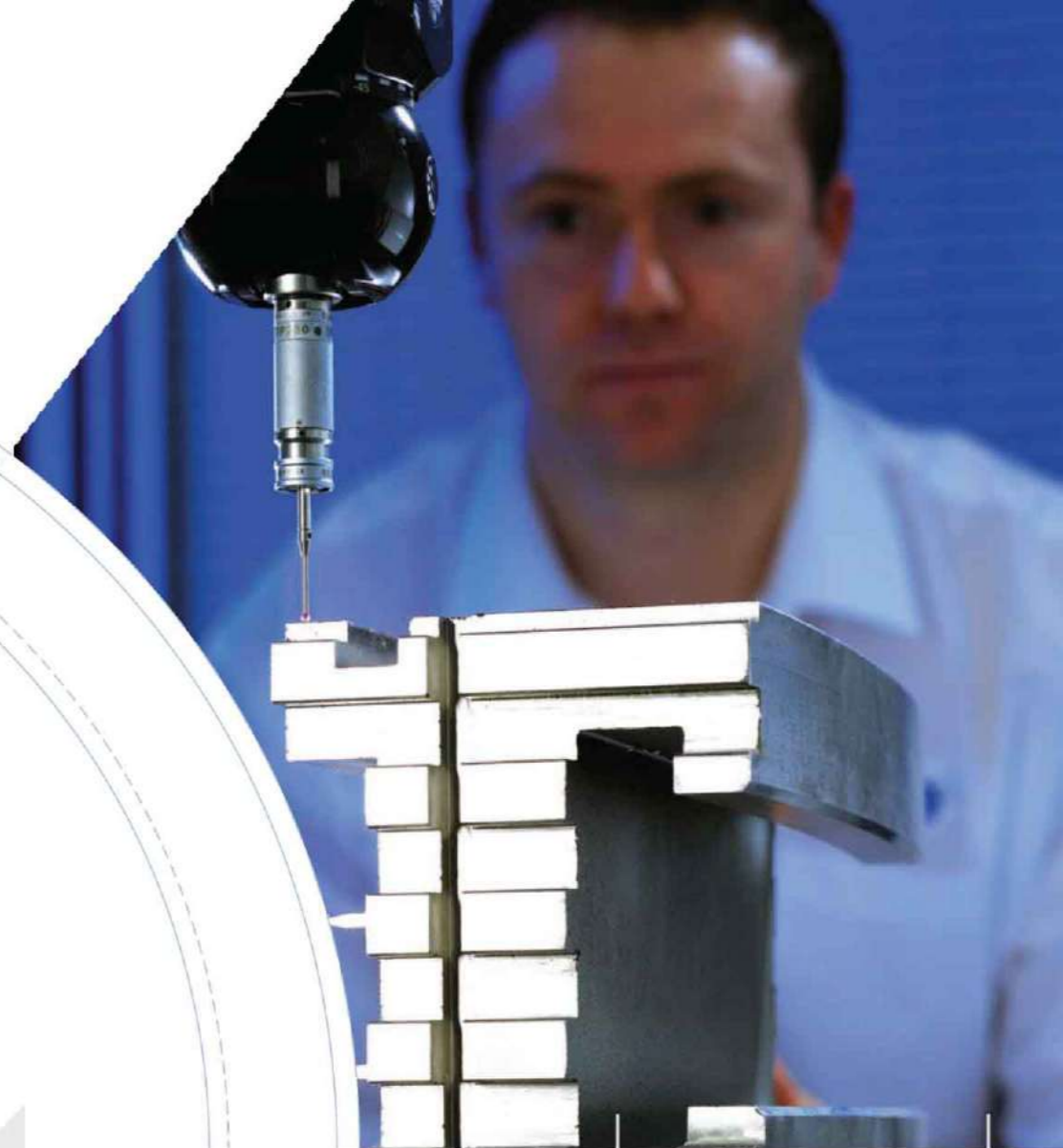
- ▶ Vibration Diagnosis of Rotating Machines
- ▶ On-Line Diagnosis and Condition Monitoring
- ▶ Gas & Steam Turbine Laser Alignment
- ▶ Asset management and Reliability Management

## Troubleshooting

OEL's staff are available 24/7 to assist with clients order progress, design queries and bearing identification and analysis. Our team of skilled Engineers and Designers can help to react to problems and take preventive measures before problems arise.



# Engineering and Design



Through its state of the art Engineering and Design department OEL can offer;

- ▶ Component Evaluation
- ▶ Material analysis & Upgrade
- ▶ Design Generation
- ▶ Design Validation
- ▶ Development of manufacturer models and drawings
- ▶ Quality Assurance

OEL offer a full spectrum of engineering services, from engineering assistance to the OEMs with new designs, to supporting the end users in the field with existing equipment.

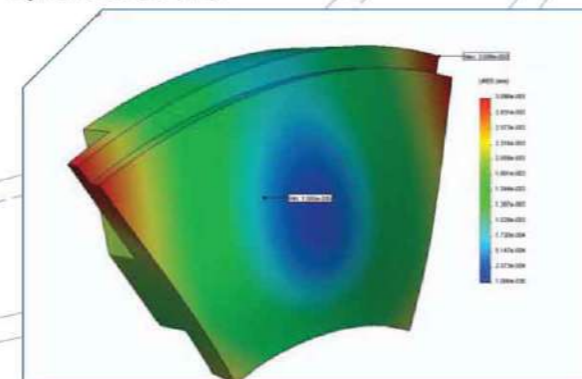
OEL's dedicated design engineers, use the latest in 3D CAD systems, finite element analysis and bearing performance predicted software.

The 3D modelling software is used to produce 3D models, from which CNC machine code and 2 dimensional manufacturing drawings are produced.

Being equipped with a CNC coordinate measuring machine (CMM), enables extremely accurate measurements to be taken during re-engineering of existing components. Components can be re-engineered to an exact duplicate of a machine part or if required, modified for improved performance characteristics.

Osborne Engineering offer design services for bearings and other related rotating equipment components. We have the ability to accurately evaluate designs with the use of in-house bearing design and analysis software, allowing calculation of the following:

- ▶ Oil film thickness & outlet temperatures
- ▶ Optimal clearance and ellipticity ratio
- ▶ Power loss
- ▶ Dynamic coefficients



In its Metrology Laboratory OEL can conduct hardness & surface finish tests, as well as prepares samples for analysis and microscopy. Close links with Northumbria University, means OEL can utilise many design resources including XRF material analysis to accurately evaluate material compositions.

## Shaft/ Rotating Equipment Accessories

OEL's proactive approach to its business means it stays one step ahead of the competition. Using its design and engineering expertise and vast experience, OEL, reacting to client and market demands, have added new products to complement the existing bearings range including:

- ▶ Oil Deflectors
- ▶ Seal Sets
- ▶ Repair Kits

2 6



# Quality

Quality has always formed a cornerstone of our company policy.

All our activities are subject to procedures derived from the processes stipulated by the ISO and are fully documented in our Quality Management System.

During 1986 we became one of the very first engineering companies in the UK to achieve ISO 9000 certification.

In 2003 OEL successfully migrated our quality system to the new ISO 9000 2000 standard and have used this opportunity to review and revise all of our processes and procedures. Our quality assurance department is staffed with an inspection team who are trained and certified in the relevant NDT disciplines.

All new or repaired components are subject to a quality plan and are dispatched with a certificate of conformity. Custom inspection and testing plans can be incorporated to meet the most exacting of standards.

**Our Quality assurance and Quality control procedures include:**

- ▶ Incoming job inspection (repair)
- ▶ Staged/ process inspection
- ▶ Surface finish testing
- ▶ Ultrasonic Inspection
- ▶ Non-Destructive Testing
- ▶ Final Inspection
- ▶ Certification of conformity





## Discover a world of excellence

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### 24 Hour Helpline

## 08444 171 689

Calls cost 5p per minute, calls from  
outside of the UK or from a mobile  
network may vary.