COURSE OVERVIEW ME0382
Couplings & Shaft Alignment Techniques

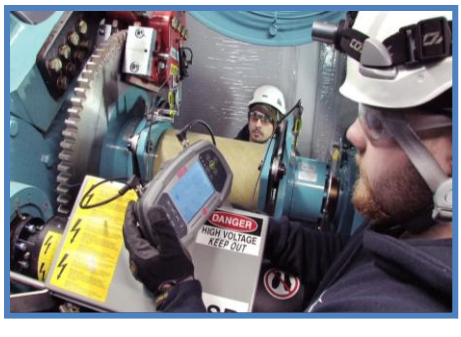
Course Title
Couplings & Shaft Alignment Techniques

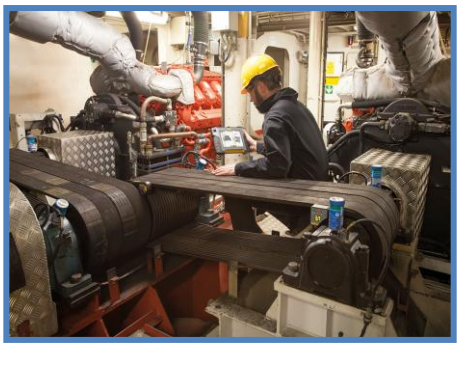
Course Date/Venue
Session 1: May 03-07, 2026/Crowne Meeting Room, Crowne Plaza Al Khobar, Al Khobar, KSA
Session 2: September 20-24,2025/Tamra Meeting Room, Al Bandar Rotana Creek, Dubai UAE

Course Reference
ME0382

Course Duration
Five days/3.0 CEUs/30 PDHs

Course Description





This practical and highly-interactive course includes practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.

This course is designed to provide participants with a detailed and up-to-date overview of couplings and shaft alignment. It covers the types, application and operation of couplings including its classification and rigid characteristics; the parameters of couplings for pumps, compressors and turbines; the advantages and disadvantages of different types of couplings; the installation, maintenance and troubleshooting of couplings; the installation best practices, safety issues the coupling inspection in operation; and vibration monitoring and analysis, preventive maintenance, condition monitoring, failure prevention and troubleshooting.

During this interactive course, participants will learn the shaft alignment basics including the need for shaft alignment, shaft misalignment effects and misalignment types; the measuring techniques and rim and face alignment method; the alignment measurement methods; the effect of misalignment on bearings and seals; the vibration monitoring results as indication of misalignment; the effect of misalignment on seals of pumps and compressors; and the leakage control and prevention.

Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain an in-depth knowledge on couplings and shaft alignment
- Discuss the types, application and operation of couplings including its classification and rigid characteristics
- Select the parameters of couplings for pumps, compressors and turbines
- Discuss the advantages and disadvantages of different types of couplings
- Install, maintain and troubleshoot couplings covering the installation best practices and safety issues as well as the coupling inspection in operation
- Carryout vibration monitoring and analysis, preventive maintenance, condition monitoring, failure prevention and troubleshooting
- Explain the shaft alignment basics including the need for shaft alignment, shaft misalignment effects and misalignment types
- Use the measuring techniques and rim and face alignment method
- Employ the alignment measurement methods consisting of reverse dial methodology, misalignment correction, thermal growth determination, laser optic technique and misalignment detected by vibration monitoring
- Discuss the effect of misalignment on bearings and seals including vibration monitoring results as indication of misalignment
- Explain the effect of misalignment on seals of pumps and compressors as well as carryout leakage control and prevention

Exclusive Smart Training Kit - H-STK®

*Participants of this course will receive the exclusive "Haward Smart Training Kit" (**H-STK®**). The **H-STK®** consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.*

Who Should Attend

This course provides an overview of all significant aspects and considerations of couplings and shaft alignment for engineers and maintenance planners involved in machine's condition monitoring, professionals dealing with the operation and maintenance of rotating equipment, maintenance technicians who are in charge of correcting the machinery problems, new technicians who wish to improve knowledge and skills as well as all those involved in condition monitoring and vibration analysis.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations:-

- British Accreditation Council (BAC)

  Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

- The International Accreditors for Continuing Education and Training (IACET - USA)

  Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

  Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

  Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

Course Fee

US$ 5,500 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:

Mr. Pete Du Plessis (**Barend Petrus du Plessis**) is a **Senior Management & Financial Consultant** with over **40 years** of extensive experience. His expertise lies extensively in the areas of **Financial Accounting** Management, **Financial** Analysis & Reporting, **Cash Flow & Business Finance**, Financial **Accounting Principles**, **Accounting & Cost Control**, **Budgeting & Forecasting** Skills, Effective **Budgeting & Cost Control**, Effective **Business & Performance Leadership**, **Leadership & Business** Management, **Developing Personal Resilience**, **Role Modelling & Development**, **Business Etiquette & Protocol**, Enhancing Personal Impact through **Emotional Intelligence**, **Communication & Presentation** Skills, **Influencing** Skills, **Training & Designing** a Training Plan, Executive **Coaching**, **Mentoring & Team Building**, **Coaching & Counselling**, **Contract** Management & Negotiation, **Risk** Management, **Supply Chain** Management, **Supplier** & **Contractors'** Management, **Tendering** & **Supplier** Selection, **Contractors Agreements & SLAs**, **Commercial** Management, Effective **Commercial Negotiation** Skills, International Oil & Gas **Commercial Contracts** & **Negotiation**, **Business Process** Development & Optimization, **Business Continuity** Planning, Service Provider Performance & Monitoring, **Business Continuity**, **Situational Analysis** Fundamentals, **SWOT** Analysis, **Gap** Analysis, **Change** Management, Human Resource Management (**HRM**), Human Resource Development (**HRD**), **HR** Business Development, **HR** Practices & Strategy, **Behaviour Based Interviewing & Recruitment**, **Learning & Development**, **Project** Management, **Document** Management, **Record** Management, **Contract** Management, **Negotiation** Management, **Risk** Management, Production & Inventory Management, Warehousing, Purchasing & Marketing Management, Work Engineering & Advanced Production Techniques, Production Logistics, Fleet Management, Stores & Stock Control, Human Resources & Industrial Relations Management, Quality Assurance & Control, Operations Management, Project Management, and Strategic Planning& Management. Previously, he was the **Quality Manager** of **Benteler Automotive**, where he was responsible for implementing, controlling and managing quality and technical department processes and systems and mobilizing the quality control department, procedures and quality management system.

During his career life, Mr. Plessis has worked with several prestigious companies occupying numerous challenging managerial and technical positions such as being the **Training & Development Manager**, **Finance Manager**, **Operations Manager & Trainer**, **Technical Trainer**, **Quality Manager**, **Supplier Manager**, **Logistics & Purchasing Manager**, **Contract & Commercial Manager**, **Production & Material Planning Manager**, **Project Manager**, **Engineering Manager & Trainer**, **Metrologist**, **Consultant**, **Quality Control Inspector**, **Fitter & Machinist**, **Apprentice Fitter** and **Part-time Instructor**. All throughout his career, he has mastered and specialized in the application of project management, warehouse & inventory control, value chain analysis, logistics & strategic planning, process flow analysis, business process evaluation & re-engineering, master-plan development, capacity planning and site space-planning & development.

Mr. Plessis has a **Master's Management Diploma** and a **Bachelor's** degree with **Honours** in **Industrial Engineering** & **Management**. Further, he has gained **Diploma** in **Quality Management** as well as in **Production Management**. He is also a **Certified Assessor** & **Moderator** with the Manufacturing, Engineering & Related Services Education and Training Authority (MERSETA), a **Certified Trainer/Assessor** by the **Institute of Leadership & Management** (**ILM**) and a **Certified Instructor/Trainer** by the APICS.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	**PRE-TEST**
0830 – 0930	**Couplings - Types, Application & Operation** Classification & Application of Couplings • Characteristics of Rigid Couplings
0930 – 0945	Break
0945 - 1100	**Couplings - Types, Application & Operation (cont'd)** Characteristics of Flexible Couplings
1100 – 1230	**Couplings - Types, Application & Operation (cont'd)** Selection of Parameters of Couplings for Pumps & Compressors and Turbines
1230 – 1245	Break
1245 – 1420	**Couplings - Types, Application & Operation (cont'd)** Advantages & Disadvantages of Different Types
1420 – 1430	**Recap**
1430	Lunch & End of Day One

Day 2

0730 – 0930	**Couplings - Installation, Maintenance & Troubleshooting** Installation Best Practices & Safety Issues • Coupling Inspection in Operation
0930 – 0945	Break
0945 – 1100	**Couplings - Installation, Maintenance & Troubleshooting (cont'd)** Vibration Monitoring and Analysis
1100 – 1230	**Couplings - Installation, Maintenance & Troubleshooting (cont'd)** Preventive Maintenance & Condition Monitoring
1230 – 1245	Break
1245 – 1420	**Couplings - Installation, Maintenance & Troubleshooting (cont'd)** Failure Prevention & Troubleshooting
1420 – 1430	**Recap**
1430	Lunch & End of Day Two

Day 3

0730 – 0930	**Shaft Alignment Basics** Need for Shaft Alignment • Effects of Shaft Misalignment
0930 – 0945	Break
0945 – 1100	**Shaft Alignment Basics (cont'd)** Types of Misalignment: Offset and Angularity
1100 – 1230	**Shaft Alignment Basics (cont'd)** Measuring Techniques
1230 – 1245	Break
1245 – 1420	**Shaft Alignment Basics (cont'd)** Rim and Face Alignment Method: TIR Determination
1420 – 1430	**Recap**
1430	Lunch & End of Day Three

Day 4

0730 – 0930	***Alignment Measurement Methods*** *Reverse Dial Methodology • Correcting Misalignment: Foundation and Soft Foot*
0930 – 0945	*Break*
0945 – 1100	***Alignment Measurement Methods (cont'd)*** *Thermal Growth Determination*
1100 – 1230	***Alignment Measurement Methods (cont'd)*** *Laser Optic Technique*
1230 – 1245	*Break*
1245 – 1420	***Alignment Measurement Methods (cont'd)*** *Misalignment Detected by Vibration Monitoring*
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0930	***Effect of Misalignment on Bearings & Seals*** *Effect of Misalignment of Bearings*
0930 – 0945	*Break*
0945 – 1100	***Effect of Misalignment on Bearings & Seals (cont'd)*** *Vibration Monitoring Results as Indication of Misalignment*
1100 – 1230	***Effect of Misalignment on Bearings & Seals (cont'd)*** *Effect of Misalignment on Seals of Pumps and Compressors*
1230 – 1245	*Break*
1245 – 1345	***Effect of Misalignment on Bearings & Seals (cont'd)*** *Leakage Control & Prevention*
1345 – 1400	***Course Conclusion***
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Simulator (Hands-on Practical Sessions)

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the state-of-the-art simulator "iLearnVibration".

iLearnVibration Simulator

Course Coordinator

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