

COMPRESSED AIR SYSTEMS – OPERATION, MAINTENANCE AND SAFETY COURSE

Training Dates:	As per schedule	Training Venue:	Kuala Lumpur, Malaysia.
Basic Fee:	RM3,450.00 + SST per participant (this includes course materials, meals, refreshment and attendance certificate)		

DURATION

21 hours (Three (3) days)

TARGET GROUP

- Plant and maintenance engineers
- Facility engineer and technical staff
- Production engineer and supervisor
- Sale and application engineer and technician
- Technical services executives and personnel
- Plant and maintenance technicians and foremen

TARGETED INDUSTRY/INDUSTRIES

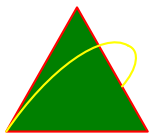
Oil & Gas, Petrochemicals, Power Plant, Renewal Energy Plant, Co-Generation Plant, Palm Oil Mills and Refineries, Plywood Industries, and all industries that using compressed air systems and mechanical driven.

CERTIFICATION

N/A

COURSE OVERVIEW

Compressed air generation and distribution systems are used in many types of industrial applications. Good understanding in basic principle, operation and maintenance of compressed air systems are essential for optimal compressed air performance. This course is aimed to enhance the participant's understanding on the basic principle and operation of compressed air generation and distribution systems, enhance skill in maintenance and troubleshooting toward cost saving, safety and healthy working environment, include Acts and Regulations. Participants are exposed to the latest information on practical aspects of basic pneumatics and extensive discussion on maintenance and troubleshooting.



COURSE OBJECTIVE

- To provide participants with the basic principles, technical knowledge on recent practices in compressed air systems
- Fundamental and selection of air compressors, air treatment and filtration, compressed air distribution systems and associated equipments
- To improve skill in operation and maintenance of compressed air equipments
- To highlight the safety aspects and requirement of acts and regulations in relation to compressors and pressure vessels
- To develop self confidence towards the correct decision making in troubleshooting of compressed air systems
- Practical of compressed air systems (optional for in-house programme)

COURSE OUTCOMES

At the end of the course, the delegates will be able to:-

- Explain on technical specification for compressed air systems
- Select air compressor for its applications
- Operate and manage air compressor and compressed air equipment
- Conduct maintenance and troubleshooting of compressed air equipment
- Aware on the safety aspects and requirement of acts and regulations in relation to compressors and pressure vessels

TRAINING METHODOLOGY

- Lecture
- Classroom discussions
- Short video presentation
- Case study

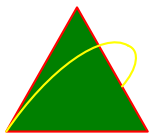
COURSE CONTENTS

Module 1: Generation of Compressed Air and Its Applications

- What is compressed air?
- Effect of pressure and temperature
- Air quality requirement
- Humidity, condensation and moisture removal
- Applications of compressed air

Module 2: Compressed Air Systems: Equipment and Symbols

- Integration of equipment
- Construction and interpretation of symbols
- Compressors and intake filter
- Intercooler and after-cooler
- Air receiver and fittings
- Dryer
- Main line filter and separator
- FRL unit



Module 3: Air Compressor, Intercooler and After-Cooler

- Type, construction and range of selection
- Working principle and operation
- Service and maintenance
- Troubleshooting
- Recent trend – oil free and oil flooded compressors technology

Module 4: Air Compressors for Heavy Duty Engineering Applications

- Type of heavy-duty duty and applications
- Type and selection of compressors
- Working principle and operation
- Installation of piping and hoses
- Service and maintenance
- Troubleshooting

Module 5: Treatment and Storage of Compressed Air (Filter, Separator, Dryer, Air Receiver)

- Requirement for appropriate compressed air quality
- Types and construction
- Working principle
- Operation and maintenance
- Troubleshooting

Module 6: Piping and Distribution of Compressed Air

- Types of piping network
- Piping material, connection and colour coding
- Drain and separator
- Effective installation of FRL unit
- Maintenance and troubleshooting

Module 7: Installation, Maintenance and Inspection

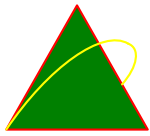
- Installation for operation and maintenance
- Routine and annual (mandatory) inspections
- Management of plant room and housekeeping
- Awareness for cost saving

Module 8: Safety and Requirement of Malaysia Acts and Regulations

- Safety aspects
- Hazardous environment
- Registration of equipment (pressure vessel)
- Renewal of PMT with DOSH (JKKP)

Module 9: Plant Visit (For In-House Program)

- Demonstration and inspection of actual pneumatic systems
- Consultation on the existing pneumatic system in the plant
- Discussion on the existing maintenance program



ABOUT THE INSTRUCTOR

Profesor Madya Ir. Ts. Yahaya bin Ramli, graduated with Masters of Science in Fluid Power Systems from University of Bath, United Kingdom and is both a Registered Professional Engineer (Mechanical) with Board of Engineers Malaysia (BEM) and a Corporate Member of The Institution of Engineers, Malaysia (IEM). He is a Professional Technologist (Ts) registered with Malaysia Board of Techologist (MBOT) and Qualified Instructor with Trainer The Trainers (TTT) registered with HRDCorp.

He has extensive field experience with several companies such as Felda Berhad (Plant Superintendent), Petronas Gas Berhad (Project Management Executive and Production Supervisor) and Sobena Offshore Inc (Assistant Plant Manager). Currently, he is an Associate Professor in University of Technology Malaysia (UTM), Skudai at Faculty of Mechanical Engineering and he did a lot of research in thermo fluids technology.

He also active delivering the technical courses such as; pump technology, compressor systems, boiler and steam systems, valve maintenance, compressed air system and etc.