



ASSOCIATION OF
CONSULTING ENGINEERS

ACES-TROX Training: Equipment for ACMV Systems

TROX[®] ACADEMY

7 x Lessons: 4 May 2023 to 15 June 2023

Duration: 1.5 hours per Lesson 8.00 pm to 9.30 pm

Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6	Lesson 7
4 May (Thu)	11 May (Thu)	18 May (Thu)	25 May (Thu)	1 June (Thu)	8 June (Thu)	15 June (Thu)

Mode of Delivery:	Online via Zoom Meeting
CPD:	PDU to be confirmed STU (M&E) to be confirmed
Fee:	\$120 for ACES Member \$150 for M&E RE/RTO \$200 for Non-member

Register in advance for this meeting:
<https://us02web.zoom.us/join/register/tZUIcOCorDooH9a75FSIyIOFp8e9540ILO6N>



After registering, you will receive a confirmation email containing information about joining the meeting

COURSE OBJECTIVES

1. To provide training programs (on-line) for graduates and practicing engineers in the ACMV industry who need to either extend or update their knowledge on a particular subject(s) in accordance with current developments in the industry.
2. The training programs are designed to cater for the needs of young graduates, practicing technicians and engineers to provide a better understanding of certain fundamentals as listed in this series of courses.
3. To provide joint training programs with recognised engineering and/or training institutions in the Asia Pacific region.
4. The course is designed to be a flexible, to allow the potential participants to choose either to sign up for the entire series of lessons in the 'Fundamentals' module or select the relevant subject(s) of interest as required.
5. The contents for each lesson is given below as a guide to show what can be expected in the training under each subject.
6. The presentation for each lesson is expected to take 1 hour and 30 minutes including tests and assignments to be completed by the participants and assessed by the trainer. Each participant is also expected to complete five test questions and at least two discussions of their choice, which they can select from a list of five discussion questions.

CERTIFICATION

- **E-Certificate of Attendance** will be issued to participant with at least 75% attendance.

TRAINING PROGRAMMES:

8.00 to 9.30 pm	Topics covered
4 May 2023 (Thu)	<p>Lesson 1 – Air Terminal Devices Contents:</p> <ul style="list-style-type: none"> • Type of Air Terminal Devices • Application • Performance Rating and Standards • Selection • Accessories • Installation • Air Flow Measurement and Balancing
11 May 2023 (Thu)	<p>Lesson 2 - Noise Attenuators & Weather Louvres Content:</p> <ul style="list-style-type: none"> • Types of Attenuators • In-line Duct Attenuators • Cross-talk Attenuators • Acoustic Louvres • Specifications and Selection Guidelines for Attenuators • External Weather Louvres • Specifications and Selection Guidelines for Weather Louvres • Installation Guideline and Examples
18 May 2023 (Thu)	<p>Lesson 3 - Ventilation Dampers Content:</p> <ul style="list-style-type: none"> • Types of Ventilation Damper • Damper Characteristic Curves • Damper Performance Ratings • Damper Operation • Damper Features and Specifications • Damper Selection Guidelines • Actuator Selection and Accessories
25 May 2023 (Thu)	<p>Lesson 4 – Fire & Smoke Dampers Content:</p> <ul style="list-style-type: none"> • What is a Fire Damper? • What is a Smoke Damper? • Types of Fire Damper; Smoke Damper and Combination Fire & Smoke Damper • Selection and Application of Fire Dampers and Smoke Dampers • Installation Guidelines for Fire and Smoke Dampers • Standards relating to Fire dampers and Smoke Dampers
1 June 2023 (Thu)	<p>Lesson 5 – VAV Terminal Units and Accessories Content:</p> <ul style="list-style-type: none"> • Types of VAV Terminal Units <ul style="list-style-type: none"> ○ Single Duct VAV Terminal Units ○ Dual Duct VAV Terminal Units ○ Series Fan VAV Terminal Units ○ Parallel Fan VAV Terminal Units ○ Induction Type VAV Terminal Units

	<ul style="list-style-type: none"> • Accessories <ul style="list-style-type: none"> ○ Air Re-heaters ○ Relays, Contactors and Current Valves ○ Thermal Cut-out Switch ○ Pressure Differential Sensor or Flow Switch ○ Temperature Sensors ○ VAV Controllers
8 June 2023 (Thu)	<p>Lesson 6 - Air Filtration Contents:</p> <ul style="list-style-type: none"> • Importance of Air Filtration • Filter Media; Air Filter Standards and Testing Methods • How Do Air Filters Work? • Types of Air Filtration Equipment. <ul style="list-style-type: none"> ○ Filter elements. ○ Safe change units. ○ Air terminal filter units. ○ Air Purifier units. • Selection, Application, Operation and Maintenance of Air Filters
15 June 2023 (Thu)	<p>Lesson 7 - Air Handling Units Contents:</p> <ul style="list-style-type: none"> • Purpose of an Air Handling Unit • Design and Construction of Air Handling Units • Supply and Exhaust Fans • Ventilation Dampers • Air Filtration • Cooling and Heating • Humidification and Dehumidification • Heat Recovery

TRAINER



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Academic Qualifications:

BSc Degree in Building Services Engineering (Northumbria University, UK), 1987.
Diploma in Acoustic and Noise Control (Institute of Acoustics, UK), 1989.
Certificate in Quality Management (Institute of Quality Assurance, UK), 1989.
Master of Business Administration (Maastricht School of Management, Netherlands), 2009

Kenneth is a qualified Chartered Building Services Engineer with more than 30 years working experience in the building services industry. After completion of his first degree, he started his career in the UK as a M & E Design Consultant for a period of 10 years before he returned to Malaysia in 1997.

Upon his return, he joint TROX Malaysia Sdn. Bhd., a multi-national manufacturer of air-conditioning components and systems. He is responsible for product research and development, product testing and certification and technical support and training.