



Practical Training Course

Instrumentation & Process Control

Entry Level : 3 days

Intermediate Level : 4 Days

Advance Level : 5 days

This Training course emphasize on:

- Giving participants an overview, understanding and hands-on experience.
- Build on the basic knowledge and provide hands on start up commissioning.
- Design to teach Skills for selecting, maintaining, calibrating and troubleshooting of instruments.



You will learn :

- ✓ Latest technological advances in process monitoring, control and automation.
- ✓ Understanding of control system in plant.
- ✓ Improve plant productivity.

Specially Design to Provide :

- ✓ Understanding of automation control & process characteristics.
- ✓ Determine application of various type of measurement devices & control equipment.
- ✓ Determine relevant industry codes, standards, documents and guidelines to apply. i.e. Palm oil, oleo-chemical industries.
- ✓ Practical knowledge about instrumentation & Control valves.
- ✓ How to install process equipment correctly.
- ✓ How to troubleshoot instrumentation systems and control valves.
- ✓ To correctly select and size control valves for industrial use.
- ✓ Correct maintenance procedures.
- ✓ Establishing & documentation calibration procedures
- ✓ Troubleshooting of equipment.

Who should Attend :

- ✓ Managers, Engineers
- ✓ Non Instrument related personnel
- ✓ Mechanical & Process Technicians
- ✓ Chemical & process Trainee Engineer
- ✓ All personnel involved in the design, selection, operating, maintenance, troubleshooting, repair operations.
- ✓ All maintenance, engineering operations personnel involved in improving reliability, conditioning monitoring and maintainability of process equipment and systems.

Contact us for a Free Proposal:

Schmierer SEA SDN. BHD.

Pressure - Temperature – Diaphragm Seals -Calibration – Maintenance – Diaphragm Seal Filling
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Entry Level: 3 Days	
Day 1	
1 Introduction	<ul style="list-style-type: none"> Basic concepts in Instrumentation & control Overview of Pressure, levels, temperatures and flows Control Valves
2 Introduction to Instrumentation & Process Control	<ul style="list-style-type: none"> Process Measurements Evaluation & Control Examples of Drawings
3 Introduction to Process Control & loops	<ul style="list-style-type: none"> Block diagrams Process controller
4 Process Characteristics	<ul style="list-style-type: none"> Theoretical concepts of Physical systems Electrical, liquid thermal
Day 2	
1 Pressure Measurements	<ul style="list-style-type: none"> Gauge and absolutes Manometer Pneumatic or mechanical Pressure Sensor & Transmitter Pressure Engineering units
2 Level Measurements	<ul style="list-style-type: none"> Gauge glass level measurement Electrical & Electronic level sensor Remote display level indicator Level Engineering units
3 Temperature Measurements	<ul style="list-style-type: none"> Temperature Gauges Types of Sensors Temperature Engineering Units
Day 3	
1 Flow Measurement	<ul style="list-style-type: none"> Types of flow techniques Flow Engineering units
2 Analytical Measurement	<ul style="list-style-type: none"> Conductivity, pH, Do and humidity measurement Gas Analysis Measurement applications
3 Final Control Elements	<ul style="list-style-type: none"> Control Valve Pump Control Agitator Louver Control Inverter

Intermediate Level: 3 Days	
Day 1	
1 Introduction of Instrumentation	<ul style="list-style-type: none"> Process Measurement Process Control
2 Understanding of PID	<ul style="list-style-type: none"> Instrument symbols
3 Electrical, Electronic & Pneumatic	<ul style="list-style-type: none"> Types of equipment Engineering units
4 Engineering Unit	<ul style="list-style-type: none"> Types unit for Flow, Pressure, Temperature, Level and Analytical Conversion of units
Day 2	
1 Pressure Measurements	<ul style="list-style-type: none"> Manometer Gauge Pressure Absolute Pressure
2 Level Measurements	<ul style="list-style-type: none"> Differential Pressure DP Buoyancy Ultrasonic Radar Capacitance Tank Gauging Bypass Level Gauge
3 Temperature Measurements	<ul style="list-style-type: none"> Gauges Sensors
Day 3	
1 Flow Measurement Principal of Flow Measurement	<ul style="list-style-type: none"> Variable Area Vortex Magnetic Turbine Positive Displacement/Gear Coriolis Orifice/Pitot Tube/Anubar Ultrasonic Open Channel Flow Measurement
2 Analytical Measurement	<ul style="list-style-type: none"> pH Conductivity Dissolved Oxygen Humidity Gas Analyzer
3 Final Control Elements	<ul style="list-style-type: none"> Control Valve Relief Valve Test Bench for Control & Relief Valve

Advance Level: 5 Days	
Day 1 : Theory	
1 Introduction to Calibration	<ul style="list-style-type: none"> Definitions Purpose of Calibration Type of Calibrators
2 Type of Calibration	<ul style="list-style-type: none"> Wet / Dry Online / Offline Laboratory / On site
3 Terms	<ul style="list-style-type: none"> Accuracy Repeatability Linearity Uncertainty Traceability Records ZERO adjustments
4 Calibration Procedures	
Day 2: Practical	
1 Introduction to Control Valve	<ul style="list-style-type: none"> Terminology, Codes & Standard Valve Actuator Valve Bodies Valve Trims Valve Features Valve Selection Valve Application Valve sizing Valve testing & Maintenance
2 Calibration of Control Valve	<ul style="list-style-type: none"> Simulation of Signals Overhaul / Service
3 Sizing	
Day 3: Practical Level Instrument	
	<ul style="list-style-type: none"> Application & Selection Maintenance & Repair Calibration
Day 4: Practical Flow & Temperature Instrument	
	<ul style="list-style-type: none"> Application & Selection Maintenance & Repair Calibration
Day 5: Practical Pressure & Analytical	
	<ul style="list-style-type: none"> Application & Selection Maintenance & Repair Calibration

IPC Customer Reference



TENAGA NASIONAL BERHAD
 +Sultan Iskandar Power Station,
 Pasir Gudang
 +Power Station Gelugor, P.Pinang



YTL POWER
 IPP, Pasir gudang



CAHYA MATA SARAWAK

CMS Clinker Sdn Bhd
 A Sarawak's sole clinker manufacturer and trader. Owned by CMS Cement Sdn Bhd, which is part of the Cahya Mata Sarawak Group of companies



Engineering and Technological University



Western Digital
 US based hard disk drive (HDD) manufacturer



a subsidiary of **mt sc**



CABOT

Cabot (Malaysia) Sdn Bhd A company that serving the carbon black needs of tire, industrial rubber manufacturers in Malaysia and Asia Pacific markets.



Esterol Sdn Bhd

Food emulsifiers Manufacturer, subsidiary of Kerry Group plc.



POLIMAS



Institut Latihan Perindustrian, Kepala Batas



RIKEVITA (MALAYSIA) SDN BHD

The first overseas plant of **RIKEN VITAMIN of Japan**



IOI GROUP

IOI Edible Oils Sdn Bhd
IOI Bio Energy Sdn Bhd



Norsechem (Sabah) Sdn. Bhd



KERTIH TERMINALS
 Leading tank terminal company for **PETRONAS** Petrochemical Integrated Complex



Ranhill

An oil and gas production, infrastructure investment, power plant design & engineering & industrial water treatment company



JIMAH O & M SDN BHD
 IPP Port Dickson, Negeri Sembilan



Produce of beer & Stout include Tiger and Heineken brand



Cyctec Industries
 US-based specialty chemicals manufacturer



CHEMICAL COMPANY OF MALAYSIA



Kemaman Bitumen Company Sdn Bhd
 operating an oil refinery in Kemaman, Terengganu, primarily to produce bitumen and other oil products



PETRONAS GAS BERHAD



Sarawak Shell Berhad



Continental Tyres
 A wholly owned subsidiary of Continental AG & 4th largest tyre manufacturer worldwide



Technip
 take it further. is a world leader in project management, engineering and construction for the energy industry.



Palm Oleo Rawang Sdn Bhd
 a leading global player in oleochemical industry, producing a wide range of vegetable oil-based.



A member of **UEM Group**

Kualiti Alam-Seremban
 The Trusted Partner in Environmental Solutions



Dupont Danisco
 Specialty for Bioprotein Food Industry

Southern Acids (M) Berhad

Oleochemical producer and a Southern Group of companies.



MNFSB is a subsidiary fertilizer company of **NAFAS (Pertubuhan Peladang Kebangsaan)**



Royal Australian Air force



Lynas CORPORATION LTD



Emery
 One of the world's largest Oleochemicals producer with a worldwide distribution.



Enriching lives through innovation

Huntsman Pigments



Malayan Sugar Manufacturing Co Bhd

incorporated with the mission to set up a sugar refinery in Malaysia.



B. Braun Medical Industries Sdn Bhd
 a worldwide company that supplying surgical, pharmaceutical and healthcare management products.



M3ENERGY FPSO Perintis

Oil & Gas Exploration and Production services Company