



Educational Services
Maximize Your Investment with
Well Trained Personnel



Asia Pacific Course Catalogue 2020
Lifecycle Services for Pressure Management





On-Site Training

In most cases workshop content can be tailored towards your specific plant, equipment, and/or conditions. One of our instructors will come to your venue anywhere in Asia-Pacific! It's affordable, effective, convenient, and much easier than you may have thought.

Professional Instructors

All Emerson instructors are chosen from among the finest exponents in their subject fields and are certified by our parent company located in Austin, Texas, USA. They are experienced, knowledgeable engineers with expertise in teaching techniques.

Experience Counts

Emerson Automation Solutions has extensive experience and expertise in running technical training courses that are practical and relevant to industry needs.

Our workshops are all comprehensive hands-on learning experiences with more than 50% practical sessions and demonstrations. We communicate well to ensure that workshop content and timing match the knowledge, skills, and abilities of the participants.

Your choice of location – On-site or at Emerson's Centers of Excellence

Training at Emerson's center of excellence offer opportunity to experience a wide range of products in dedicated service and manufacturing environment.

Training on-site offers opportunity schedule trainings at your location and minimize travel costs and incidentals.

Course Offerings

- Product Maintenance Training
- A list of PRM products maintenance Training Catalog available
- PRM Lifecycle Assets Management

ASK for comprehensive FREE proposal!

PRM – Training Calendar and Course Codes

| Asia Pacific Region Training Course List – Pressure Relief Valves | | | |
|--|-------------|---|----------|
| Course Name | Course Code | Location | Duration |
| Certification Program for Shop Technicians (ASME VIII - Direct Spring-Loaded Pressure Relief Valves) | PRV 001 | Singapore-Gul Workshop (Min 8-10 Pax) | 5 Days |
| Certification Program for Shop Technicians (ASME VIII - Pilot Operated Pressure Relief Valves) | PRV 002 | Singapore-Gul Workshop (Min- 8-10 Pax) | 5 Days |
| Certification Program for Field Service Engineer (ASME I - Boiler Safety Valves & Field Equipment) | PRV 003 | QingPu – PRV Plant (Min- 8-10 Pax) | 5 Days |
| Certification Program for LCS Proactive Growth Initiatives such as SWD, STO & Critical Site (Asset Management) | LCS 004 | LBP/ ASP Site with real time site-walk survey at critical sites | 3-5 Days |

| Asia Pacific Region Training Course List Industrial & Natural Gas Regulators | | | |
|--|-------------|---|------------|
| Course Name | Course Code | Location | Duration |
| Certification Program for Technicians and Field Engineers | IND REG 005 | Singapore-Gul Workshop (Min- 8-10 Pax) | 5 Days |
| Certification Program for Natural Gas Skid Applications | IND NGT 006 | Singapore-Gul Workshop (Min- 8-10 Pax) | 2 Days |
| Certification Program for Technicians and Field Engineers for Low-Pressure Tank Pressure Vacuum Relief Valves, Emergency Relief Vents and Flame Arresters | TM 007 | Singapore-Gul Workshop (Min- 8-10 Pax) | 4 Days |
| On-site Training On-site is available on Request at ASP facility | Any | Asia Pacific Region | Customized |

Certification Program for Shop Technicians

(ASME VIII - Direct Spring-Loaded Pressure Relief Valves)

Course Code:

PRV 001

Duration:

5 Days

Prerequisite:

6 months to 1 year of on-the-job experience as a service engineer or technician.

Description:

To provide a hands-on oriented training program developed for Service Technicians and Field Engineers to build competency in handling Safety Relieve Valve (SRV) servicing work and to instill independence and confidence to address basic to intermediate type of SRV maintenance needs.

Participants will undergo theoretical classroom session, practical workshop sessions, theory & practical test assessment in accordance the ASME boiler and pressure vessel codes with in-depth in maintenance , repair, setting and testing as required by the ASME Valve repair and Assembler program.

Products addressed in this course include:

- Crosby J Series including JOS-E, JBS-E, JLT-JOS, JLT-JBS-E & JOS-H products
- Crosby Omni 900 Series including 800, 900, 900BP products
- Anderson Greenwood 80 Series including 81P, 81 & 83 products

Training in each product listed includes instruction and hands on practice in the following areas.

Theory Session:

- Introduction to Overpressure
- Codes and Standards
- Product Overview
- Sizing and Applications
- Maintenance Philosophy and Quality Control workflow from incoming to outgoing

Practical Session:

- Identify (Initial Inspection)
- Disassembly
- Cleaning
- Components Maintenance & Inspection
- Restoration & Replacement Parts
- Lapping & Polishing
- Assembling
- Setting and Testing
- Prepare for Shipment
- Final Inspection
- Installation

Requirements for Completion (Levels of Proficiency):

- Score at least 80% (cumulative) on all module assessments
- Score at least 80% on final overall assessment
- Successfully complete all hands-on exercises

Certification Program for Shop Technicians (ASME VIII - Pilot Operated Pressure Relief Valves)

Course Code:

PRV 002

Duration:

5 Days

Prerequisite:

Completion of Certification Program for Shop Technicians (PRV001 ASME VIII - Direct Spring-Loaded Pressure Relief Valves).

Description:

To provide service technicians with Quality POSRV Operation, Repair and Maintenance Training for our range of Anderson Greenwood Pilot Operated Pressure Relief Valves.

Products addressed in this course include:

High Pressure POPRV

- AGCO 200 Series
- AGCO 400 Series
- AGCO 500 Series
- AGCO 700 Series

Low Pressure POPRV

- AGCO 93 Series
- AGCO 9300 Series

Note:

The course also includes information on the pilot accessories such as backflow preventers, exchanger, iso-dome etc.

Training in each product listed includes instruction and hands on practice in the following areas.

Theory Session:

- Introduction to Overpressure
- Codes and Standards
- Product Overview
- Sizing and Applications
- Maintenance Philosophy and Quality Control workflow from incoming to outgoing

Practical Session:

- Identify (Initial Inspection)
- Disassembly
- Cleaning
- Components Maintenance & Inspection
- Restoration & Replacement Parts
- Lapping & Polishing
- Assembling
- Setting and Testing
- Prepare for Shipment
- Final Inspection
- Installation

Requirements for Completion (Levels of Proficiency):

- Score at least 80% (cumulative) on all module assessments
- Score at least 80% on final overall assessment
- Successfully complete all hands-on exercises

Certification Program for Field Service Engineer (ASME I - Boiler Safety Valves & Field Equipment)

Course Code:

PRV 003

Duration:

5 Days

Prerequisite:

The participants must have 6 months experience following the certification with on-the-job experience in the service and Repair capabilities of PRVs.

Description:

To ensure that participants can assemble setting and testing a Steam, Air and Liquid valve as required by the Assembler program of the ASME Boiler and Pressure Vessel code section VIII at a customer site. To service valve on-site in a manner consistent with Anderson Greenwood, Crosby Engineering Procedures and Practices including the using of In-situ testing device for commissioning works.

Products addressed in this course include:

- H Series Boiler Safety Valves
- Preparation of Hydro-Testing at site
- In-situ testing device
- Reseating equipment

Training in each product listed includes instruction and hands on practice in the following areas.

Theory Session:

- Introduction to Overpressure
- Codes and Standards
- Product Overview
- Sizing and applications
- Maintenance Philosophy and Quality Control workflow from incoming to outgoing

Practical Session:

- Initial Inspection
- Disassembly
- Cleaning
- Component Inspection
- Restoration
- Assembly
- Testing & Troubleshooting
- Retrofitting and Conversions
- Documentation
- Installation Requirements

Requirements for Completion (Levels of Proficiency):

- Score at least 80% (cumulative) on all module assessments
- Score at least 80% on final overall assessment
- Successfully complete a hands-on test to ensure a participant's ability to calibrate and test a HCI Safety Valve and achieve acceptable operation under ASME section I codes requirements
- Participants in addition to the written test are required to successfully remove a Hydro-plug from a H Series Safety valve and prepare it for full pressure steam testing on a simulated boiler for Safety valve Relief cycle and blowdown as required by the ASME for Valve repair and Assembler program.

Certification Program for LCS Proactive Growth Initiatives such as SWD, STO & Critical Site (Asset Management)

Course Code:

LCS 004

Duration:

3 Days

Prerequisite:

The participants must be an Approved Local Business Partners for PRM products.

Objective:

To provide our Local Business Partner (LBP) and Authorized Service Provider with quality installation, operation and maintenance concept of Total Asset Management via a site walkdown strategy.

Description:

The site walkdown main objective is to optimize Lifecycle growth opportunities through systematic survey of the installed base asset via STO pursue or Pro-active LCS pursue using the PRM LCS capability suites available.

Workshop addressed in this course include:

- PRM Lifecycle program available
- Site walkdown Process
- Site Walkdown App
- PRM - Asset Management

Training in each product listed includes instruction and hands on practice in the following areas.

Theory Session :

- Roles and Workflow
- Basic Functionality
- Practicing in the App
- Creating a Walkdown
- Importing Tags
- Assigning a Walkdown
- Performing a Walkdown
- Access Walkdown (Edit, Reopen & Reports)
- Editing a Tag Number
- Reporting – Completed a Walkdown
- FAQs

Practical Session (Site Walkdown):

- LBP to schedule a real time site walkdown with a target account for the Trainers to demonstrate the competency of the training contents.
- **Success Factor:** Able to generate a value proposal to the customer that capture any of the LCS growth initiatives such as:
 - Operational Spare Management
 - Maintenance Contract
 - LTSA
 - Asset Management Program

Requirements for Completion (Levels of Proficiency):

- Successfully complete of a hands-on Site walkdown and submission of a value proposal professional report post walkdown.

Certification Program for Technicians and Field Engineers

Course Code:

IND-REG 005

Duration:

5 Days

Prerequisite:

The participants must be technicians or field engineers with 6 months to 1 year of on-the-job experience.

Description:

Participants are taught on the theory of operating principles of Regulators and follow by practical sessions on the dismantling, servicing, assembling and testing of various models of Industrial. Participants have gone through a series of assessments tests based on the theoretical topics covered and some practical tests assessments before they are being certified.

Products addressed in this course include:

- Direct operated Regulators includes process regulators e.g. 95, 98 & 627 series valves
- Pilot operated Regulators includes process regulators e.g. 1098, 63EG
- Tank Blanketing regulators includes Ace 95 & 1190/1290

Training in each product includes classroom instruction and hands-on work-bench practice with production valves.

Training topics covered includes:

- Fundamentals of Self operated and Pilot Operated Regulators
- Fundamentals of Back Pressure and Relief Regulators.
- Regulators Troubleshooting
- Introduction to Tank Safety Devices
- Conducting Site Walkdown Survey

Practical Sessions include:

- Identification of various types of Regulators
- Dismantling and Assembly of various types of regulators
- Testing and Troubleshooting of various types of Regulators
- Functional test and Settings of Regulators
- Tank safety product demonstration

Requirements for Certification:

- Score at least 80% (cumulative) on all module assessments
- Score at least 80% on final overall assessment

Certification Program for Natural Gas Skid Applications

Course Code:

IND NGT 006

Duration:

2 Days

Prerequisite:

Participants current designation must be technicians or field engineers and should have 6 to 12 months exposure to Natural Gas systems.

Description:

This module provides training on concepts on gas pressure regulation, custody transfer and gas conditioning. Students who complete this course will:

- Understand NG applications where Pressure Regulators are used
- Understand various NG skid installations
- Learn about associated NG conditioning requirements such as custody transfer, filtration, and heating

Learning Objective & Products covered:

- Pressure regulators (FL) in NGT, overpressure protection (OSE / BM5 / FEQ), sizing basics, installations, and applications.
- Gas conditioning design fundamentals
- Design principles and best practices
- Emerson NG conditioning capability
- Maintenance fundamentals about pressure regulators

Training in each product includes classroom instruction and hands-on work-bench practice with production valves.

Training topics covered includes:

- Fundamentals of Natural Gas Regulators
- Over Pressure Protection Devices
- Natural Gas Regulators Troubleshooting
- Introduction to skid system, testing and commissioning.

Practical Session (Site Walkdown):

- Identification, dismantling and testing of NG pressure regulators & SSV
- Testing and Troubleshooting of various types of NGT Regulators & SSV
- Functional test /set point setting of Regulators and SSV on a NG skid.

Requirements for Completion :

- Score at least 80% (cumulative) on all module assessments
- Score at least 80% on final overall assessment

Certification Program for Technicians and Field Engineers for Low-Pressure Tank Pressure Vacuum Relief Valves, Emergency Relief Vents and Flame Arresters

Course Code:

TM 007

Duration:

4 Days

Prerequisite:

3 - 6 months of on-the-job experience in the tank management products of service and repair facility.

Description:

Introduction to low-pressure (≤ 1 bar) vent/relief device design and flame arrester technology construction, including assembly, disassembly, repair, setting and testing of the tank management products.

Products addressed in this course include:

Weight-loaded valves such as

- 2010B/2020B Varec
- 850/950 Enardo
- 4020/4040 AG

Spring-loaded Valves and emergency relief vents design such as

- 860/960
- 4020/4040
- 2000/2100 and others

Flame Arrester design such as

- FVFA and ERQ
- EN-7
- IRQ
- DFA & EN-DFA

Training in each product includes classroom instruction and hands-on work-bench practice with production valves.

Classroom Session:

- Introduction to tank venting concepts and Technology
- Tank venting codes and standards
- Flame Arrester Technology including Flame propagation Theory
- Product overview
- Selection and sizing using basic methods as well as sizing tools
- Maintenance philosophy
- Quality control

Hands-On Session:

- Initial inspection
- Disassembly
- Cleaning
- Component inspection and evaluation
- Restoration – Parts replacements
- Re-assembly
- Setting verification
- Testing
- Documentation

Requirements for Certification:

- 95% attendance and completed all assessments test and practical tests

Registration Form

Name: _____ Department: _____
(Underline Family Name)

Company Name: _____ Title: _____

Mailing Address: _____ Email: _____
Building No. Street Unit

_____ *Country Postal Code*

_____ *Phone No. Fax No.*

| PARTICIPANT NAME | COURSE CODE | COURSE NAME | DATE OF COURSE |
|------------------|-------------|-------------|----------------|
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| | | | |
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Payment: Cheque Enclosed Telegraphic Transfer
 Purchase Order No.: _____

Invoice Address (if different from mailing address):

_____ *Building No. Street Unit*

_____ *Country Postal Code*

_____ *Phone No. Fax No.*

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Emerson Automation Solutions

Americas

T +1 800 558 5853
T +1 972 548 3574

Europe




T +39 051 419 0611

Asia Pacific

T +65 6770 8337

Middle East / Africa

T +971 4811 8100

-  WebAdmin.Regulators@Emerson.com
-  [Emerson.com](https://www.emerson.com)
-  [Facebook.com/EmersonAutomationSolutions](https://www.facebook.com/EmersonAutomationSolutions)
-  [LinkedIn.com/company/Emerson-Automation-Solutions](https://www.linkedin.com/company/Emerson-Automation-Solutions)
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