

2013 ISA Water/Wastewater and Automatic Controls Symposium

Crowne Plaza Orlando-Universal Hotel.....Orlando, Florida, USA.....August 6 to 8, 2013
Presented by the ISA Water/Wastewater Industries Division – www.isawwsymposium.com
Technical co-sponsors: WEF Automation and Info Tech Committee and the Florida AWWA Section



August 6, 2013 – Optional Short Course

Flow Meter Selection and Sizing *Industrial Flow Measurement Overview* ISA Course EI10C. Version 3.1

Course Description

Length: 1 day

Date: Tuesday, August 6, 2013

CEU Credits: 0.7

Course Hours: 8:00 am - 3:30 pm, lunch included

Price: \$495 for ISA Members, \$630 List

Description:

Applications of modern flow measurement systems are presented. Flowmeter accuracy, performance, sizing, specification, selection, and installation considerations are covered. Focus is on productivity improvement, cost efficiencies of measurement and control, and whether, when, and how to use the technologies looking at measuring flow, the effect of fluid properties and engineering practices required to optimize flowmeter performance. The course includes practical examples of flow meter selection and problem solutions, with emphasis on basic principles or alternative technologies based on class preference.

You will be able to:

- Describe principles of operation on specific flowmeter technologies
- Apply flowmeters in process applications
- Understand the effect of changing process conditions
- Understand installation requirements and recommended practices
- Evaluate flow instrument performance
- Specify and select the appropriate flowmeter for your applications
- Solve typical flowmeter problems
- Understand calibration methods and the effect of errors on meter performance
- Size flow elements for specific applications

You will cover:

- **Engineering Practices:** fluid flow and physical properties
- **Technology section covering the following types of flowmeters:**
- **Differential Pressure Flowmeters:** Orifice Plate Flowmeters | Other Technologies

- **Magnetic Flowmeters:** Construction | Operating Constraints
- **Mass Flowmeters:** Coriolis Mass Flowmeters
- **Oscillatory Flowmeters:** Fluidic | Vortex Shedding
- **Positive Displacement Flowmeters:** Helical Gear | Nutating Disc | Other Technologies
- **Ultrasonic Flowmeters:** Principles of Operation | Installation Considerations
- **Insertion Flowmeters:** Available Technologies | Operating Constraints
- **Flowmeter Selection:** Types | Selection Criteria; Installation practices and maintenance issues

About the Instructor



Jerry Gerlich has more than 32 years of experience in process control and petrochemical instrumentation. His background includes troubleshooting, maintenance, the repair and calibration of control systems and custody transfer equipment, as well as engineering plant change and project packages. He holds a B.S. from Southwest Texas State University, and is currently the Staff Instrument Specialist for the HOVENSA Refinery in St. Croix (U.S. Virgin Islands). He also has to his credit many years as an educator, teaching since 1983.

Jerry is a Senior Member of the ISA.

Course Schedule

DAY	Topics, Exercises, Etc.	
A.M.	Seminar Introductions Pre Instructional Survey Section 1: Flow Meter Considerations Section 2: General Installation Section 3: Flow Meter Performance Section 4: Meter Types - Differential Pressure - Magnetic, Mass, Oscillatory	0.25 hours 0.50 hours 0.50 hours 0.50 hours 1.25 hours 0.75 hours
P.M.	Section 4 (cont'd) - Positive Displacement, Target, Turbine - Ultrasonic, Weirs & Flumes, Smart Control Valves Section 5: Selection and Closure Post Instructional Survey Final Seminar Evaluation	1.25 hours 1.25 hours 0.50 hours 0.25 hours

7 hours = 0.7 CEU's