

# ISA Tech Show & Expo 2010 - Morning of Education

## Flowmeter Primer Theory and Application of Flowmeters

**Tuesday, April 13, 2010**  
**8:00a.m. Registration**  
**8:30 a.m. - 11:30 a.m. EDT**  
**Marriott Inn**  
**1340 Millersport Hwy, Amherst NY,**

**\$20 for ISA members, \$30 for non-members.**

RSVP to [Joe Cipriani](mailto:joe.cipriani@burnscascade.com) at 716-512-3982

email at [cipriani@burnscascade.com](mailto:cipriani@burnscascade.com)

This seminar provides an introduction and overview of flow measurement as currently practice in measurement and control systems. Terminology, technology, and applications are covered in this concise presentation.

### You Will Cover:

- **Basic Flow:** Liquid Flow | Gas Flow | Fluid Properties | Reynolds Number | Volumetric/Mass Flow | Range, Repeatability, Accuracy
- **Differential Flow Meter**
- **Pressure Drop Devices (Primary Elements):** Orifices | Multiple Orifices | V-Cone | Wedge | Elbow | Laminar Flow Element | Venturi Element | Pitot Tube | Averaging Pitot Tubes | Flow Nozzles | Sonic Flow Nozzles
- **Mass Flow:** Coriolis | Thermal Flow Meters (Thermistor Type | Thermal Mass Capillary)
- **Variable Area Flow Meter:** Glass Tube Meters | Armored Variable Area Metes | Multiple Tube Meters | Float Designs | Purge Meters (Flow Regulators)
- **Mechanical Flow Meters:** Paddle Wheel | Helical Screw | Oval Gear | Wobble Disk | Turbine Meter | Rotary Piston | Wet Drum
- **Ultrasonic Flow Meter:** Single path | Multi -path | Transit Time | Doppler shift | Clamp-on
- **Others:** Vortex Shedding | Electromagnetic | Fluidic Flow Meter
- **Flow Meter Selection:** Know your Process | Select the appropriate size | Insertion Flow Meter | Buy the right Instrument
- **Installation Recommendation:** Piping | Maintenance | Process Parameters for FM Selection | Keep Current
- **Testing, Calibration & Proverbs**



Upon request, 3 PDH credits will be awarded for completion of this course.

## Fritz Purkert

**Friedrich Purkert MME, MCSE** was born in Graupen, Tchech Republic, and grew up in Esslingen Germany after the war. He was an Engineer for Flight Performance at Dornier GmbH, a Project Engineer for Ground Support Equipment at American Avitron, and a Sr. Development Associate Application Development at Praxair Inc. (32 years) retired. Over the span of his career, he has worked on Heat Treating Atmospheres, Electric Arc Furnace Burner Control Systems, Membrane Air Separation Systems, Gas/Liquid Mixer Systems, Glass Furnace Burner Systems, Copper Sulfate Reactors, Gas Mixing Systems, etc..

Fritz is a Life member of ISA. He currently holds the position of Chair of Standard and Practices in the ISA Niagara Frontier Section.