

# Variable Flow Water Systems Design

## Agenda

09:15 Arrival – Registration / coffee / tea

**09:30 Session 1 - Introduction and General Principles**

- Defining a Variable Flow Water System
- Comparison of Constant Flow to Variable Flow
- Variable Flow System Energy Savings
- Pump and System Curves for Constant and Variable Flow

11:15 *Coffee / tea break (15 mins)*

**11:30 Session 2 - Design Process**

- Design Process Margins
- Diversity of Peak Module/Terminal Loads
- Thermal Load Diversity Factor
- Comparison of Pump Duty Constant Flow to Variable Flow
- Typical Terminal Water Flow/Output Characteristics (including examples)
- Pipe layouts

13:00 *Lunch (60 mins)*

**14:00 Session 3 - Hydraulic Stability**

- Pressure Diagram
- Pressure Distribution in a Variable Flow System
- Pump Control
- Pressure Differential Regulators/Pressure Independent Control Valves
- Bypasses

For more information about this course contact the training team:

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15:00      *Coffee / tea break (15 mins)*

**15:15      Session 4 - Other Issues**

- Typical Applications
- The Selection Process
- Retro Fitting

**16:30      Q & A**

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