

Agenda

Presented by George Walters III, PE, CPD

Pumping and Piping Systems Day One

Thursday, March 11, 2021 | 11:00 am - 2:15 pm CST (including a 15-min. break)

Introduction to Pumps: Operations, Principles and Calculations

Operation of centrifugal pumps

- Introduction, terms, definitions
- Centrifugal pump construction, components, impeller, motor, volute
- Incompressible fluid, pumping equations
- Closed system, open system, parallel and series pumping applications

Reviewing hydraulic principles and calculations

- Fixture units and GPM
- Friction losses/allowable pressure drop
- Static pressure vs. dynamic pressure
- Equivalent lengths

Design Standards and Codes

IPC – International Plumbing Code – state amendments NFPA

UFC – Unified Facilities Criteria (military requirements)

WBDG – Whole Building Design Guide

AHJ – Authority Having Jurisdiction

The interpreter of the Code, Plumbing Inspector, Fire Marshall

LEED – Leadership in Energy and Environmental Design

USGBC

Pumping and Piping Systems Day Two

Friday, March 12, 2021 | 11:00 am - 2:15 pm CST (including a 15-min. break)

Piping System Components, Materials and Calculations

Piping system components and materials

- Copper vs. plastics, galvanized steel and stainless steel
 - When, where, why
- BFP, PRV, meters
- Valves, ball valves, gate valves, butterfly valves, flow balancing valves

Making basic system calculations

- Pipe sizing
- Friction loss calculation
- Pump sizing

Handling Pump and Piping System Problems

Booster pumps

Circulating pumps, chilled water, hydronic heating, domestic hot water

Fire pumps

Pumping and Piping Systems

Online - Thurs., March 11 and Fri., March 12, 2021

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Learning Objectives

You'll be able to:

Discuss centrifugal pump components and construction.

Define friction losses and allowable pressure drop.

Review hydraulic principles and calculations.

Compare piping materials, including copper, plastics, galvanized steel and stainless steel.

Identify ball valves, gate valves, butterfly valves and flow-balancing valves.

Make basic system calculations for pipe sizing, pump sizing and friction loss.

Address pump and piping system problems.



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HalfMoon Education Online Learning

Pumping and Piping Systems

Live, Interactive Webinar Series

Thursday, March 11 and Friday, March 12, 2021



Explore the operation of centrifugal pumps

Review hydraulic principles and calculations

Learn about design standards and codes, including the IPC, UFC and WBDG

Discuss piping system components, including valves and meters

Compare materials, including metals and plastics

Handle pump and piping system problems

Continuing Education Credits

Professional Engineers

6.0 PDHs in all States



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Faculty

George Walters III, PE, CPD *Mechanical Engineer at BMH Engineering LLC*
Mr. Walters is a professional engineer and is certified in plumbing design through the American Society of Plumbing Engineers. His responsibilities overlap into the professional engineering areas of civil engineering, mechanical engineering, chemical engineering, fire protection engineering, and process engineering. He performs calculations, sizes equipment, and prepares plumbing design and construction documents. Mr. Walters is a member of the Atlanta Chapter of the American Society of Plumbing Engineers (ASPE). He earned his B.S. degree in Mechanical Engineering from Georgia Tech.

Webinar Information

Day One: Thursday, March 11, 2021
11:00 am - 2:15 pm CST (including a 15-min. break)

Day Two: Friday, March 12, 2021
11:00 am - 2:15 pm CST (including a 15-min. break)
(please log into the webinar 15 - 30 minutes before start time)

Tuition
\$289 for individual registration
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Additional Learning

Handling Ethical Issues in Construction Contracting
- Tues., Feb. 16, 2021 | 9:00-10:00 am CST

Construction Cost Estimating
- Fri., Feb. 19, 2021 | 7:30 am-3:30 pm CST

Open Channel Hydraulics and Design
- Fri., Feb. 19, 2021 | 8:30 am-4:30 pm CST

International Existing Building Code
- Mon., Feb. 22, 2021 | 8:30 am-5:00 pm CST

Passive House: Planning and Design
- Tues., Feb. 23, 2021 | 8:30 am-4:30 pm CST

Deep Foundations and Excavations
- Tues., Feb. 23, 2021 | 9:00 am-5:00 pm CST

Current Issues in Schoolyard Landscape Architecture
- Tues., Feb. 23, 2021 | 11:00 am-2:30 pm CST
- Wed., Feb. 24, 2021 | 11:00 am-2:30 pm CST

International Residential Code 2021
- Wed., Feb. 24, 2021 | 10:00 am-2:30 pm CST
- Thurs., Feb. 25, 2021 | 10:00 am-12:00 pm CST

Shallow Foundation Design, Construction and Repair
- Wed., Feb. 24, 2021 | 11:00 am-2:15 pm CST
- Thurs., Feb. 25, 2021 | 11:00 am-2:15 pm CST

Complying with Fire Protection & Building Codes
- Thurs., Feb. 25, 2021 | 8:00 am-4:00 pm CST

Construction Scheduling and Cost Control
- Thurs., Feb. 25, 2021 | 9:30 am-2:00 pm CST
- Fri., Feb. 26, 2021 | 9:30 am-2:00 pm CST

International Building Code 2021
- Fri., Feb. 26, 2021 | 9:00 am-5:00 pm CST

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Registration

Pumping and Piping Systems
Live, Interactive Webinar Series - Thursday, March 11 and Friday, March 12, 2021

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