



**honeyman**  
TRAINING



# Water Systems

Pharmaceutical

# Pharmaceutical Water Systems Principles in Practice®

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**Barnard Castle, UK**  
**3 Day Training Course**



**18th - 20th April 2023**  
**3rd - 5th October 2023**



## Who Should Attend?

This course has been created for personnel involved in the design management and operation of pharmaceutical and biopharmaceutical water systems in the following disciplines:

- Engineering
- Quality Assurance
- Microbiology
- QC
- Production
- Operations

**This extremely popular Honeyman Pharmaceutical Water Systems training course is once more available as a face-to-face (in-person) group training.**

During the course there will be an opportunity for delegates to review pure water installations and to speak to peers and specialists about owning and managing these systems within the pharmaceutical regulatory environment. This shared experience will be invaluable to other pure water system owners and users, and for those planning to build new systems in the future.

## Course Objectives & Learning Outcomes

- Understand the different types of compendial water grades, their application and how they can be achieved
- Understand regulatory requirements, standards and expectations for pharmaceutical water systems
- Understand how to design and build water systems cost effectively
- Be able to write a valuable URS that eliminates ambiguity and provides a solid foundation for IQ/OQ and PQ validation
- Be able to validate and manage water systems cost effectively
- Be able to develop a strategy to monitor the quality of your water system
- Understand the phenomena of Rouge and how this can be managed
- Obtain a basic knowledge of microbiology and biofilm formation, and the impact on water systems
- Understand how GMP can be implemented at the start, your water system
- Be able to compare different strategies for generation, pre-treatment, storage and distribution of pharmaceutical grade water and select the most appropriate for your application
- Validation and Qualification including URS, DQ, IQ, OQ and PQ activities

# Course Programme

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Honeyman is renowned for industry leading GMP knowledge-transfer, lectures, consultancy and courses, delivered online and in-person.

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## **DAY ONE**

- Water Types, Specs Uses and Applications
- Purification Methods for Purified Water and Water for Injections (EP/USP)
- RO vs Distillation for WFI New EP Proposals
- The Purification Train and Pre-Treatments
- Storage and Distribution Systems

## **DAY TWO**

- GSK Site Tour of PW/WFI Systems
- Basic Microbiology of Water Systems
- Compendial Water Testing Requirements
- Biofilm and Control Strategies
- New Builds, the URS and Water Projects
- Workshop and Welding Demo
- Problems with Conventional Loops
- HydroGienic® Solution

## **DAY THREE**

- Rapid Methods of Microbial Monitoring
- Rouge in Pharmaceutical Water Systems
- Sampling techniques and demonstrations
- Validation of Pharmaceutical Water Systems
- System Qualification & Testing
- System Maintenance

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