

Faculty of  
Occupational  
Hygiene



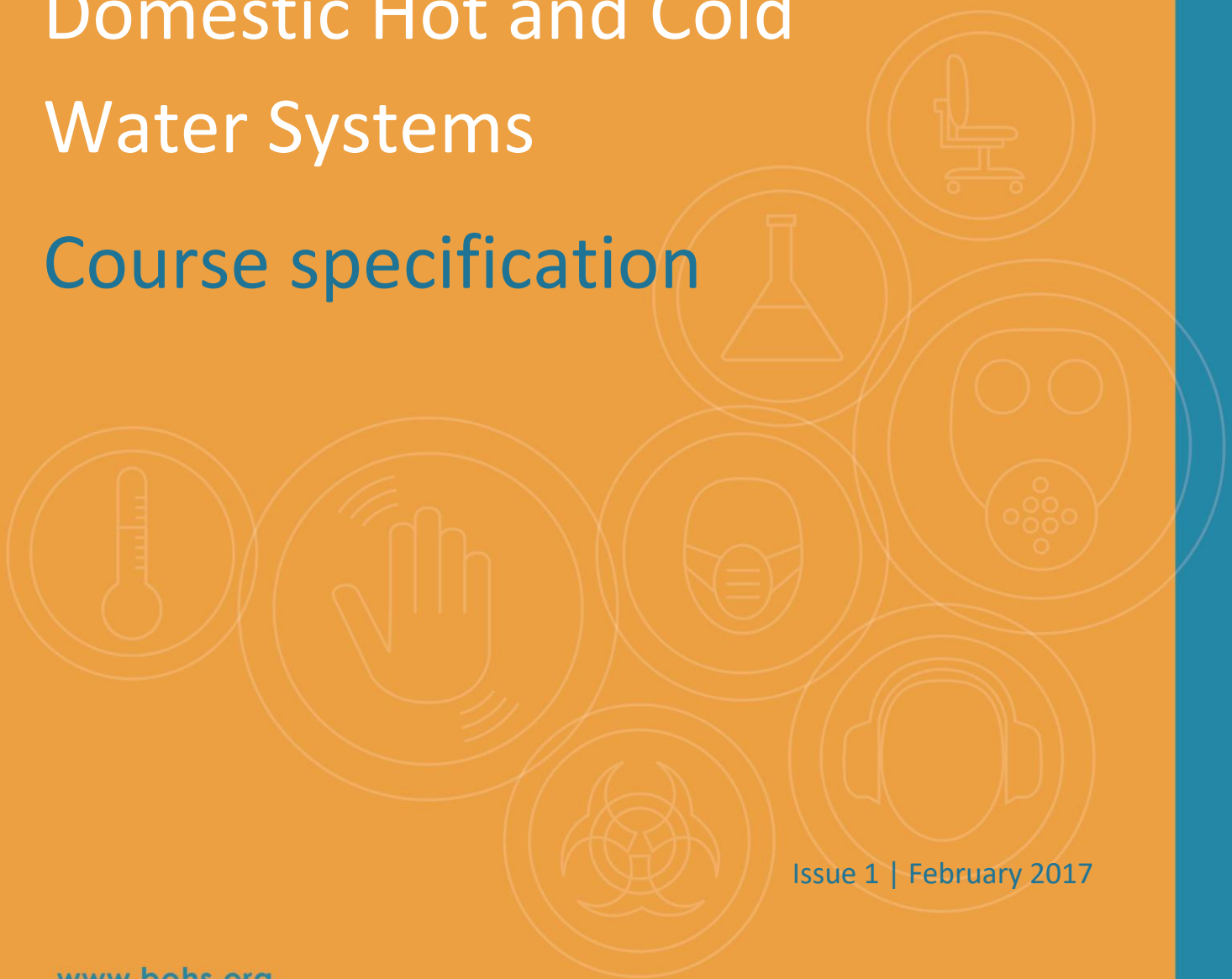
WE'RE SETTING  
THE STANDARDS

The industry standard for qualifications  
and courses in worker health protection

**P900 Foundation Course**

# Control of Legionella in Domestic Hot and Cold Water Systems

## Course specification



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[www.bohs.org](http://www.bohs.org)

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## Section 1

### About BOHS

#### **BOHS - The Chartered Society for Worker Health Protection**

BOHS is the Chartered Society for Worker Health Protection. Our vision is to create a healthy working environment for everyone by preventing exposure to hazardous substances in the workplace.

Founded in 1953, we have developed over the last 60 years into a highly respected and influential body on workplace health issues, working closely with organisations in the UK and overseas to promote our vision. We are a registered charity, professional society and a member of the International Occupational Hygiene Association, which is recognised as a non-government organisation by the International Labour Organisation (ILO) and the World Health Organization (WHO).

We were awarded a Royal Charter in 2013 in recognition of our pre-eminent role in protecting worker health.

BOHS is a membership organisation, open to anyone who has an interest in workplace health issues, and we have over 1,800 members in 57 countries.

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#### **BOHS courses and qualifications – the quality choice**

We are the leading awarding body in our field. Our UK courses and qualifications are recognised and respected by independent agencies such as the Health and Safety Executive (HSE) and the United Kingdom Accreditation Service (UKAS), and further afield by industry and employers worldwide. Over 60,000 people have taken one of our qualifications through our network of training providers.

Our courses and qualifications are overseen by a team of highly experienced professionals, who are dedicated to developing the competence and career opportunities for the many thousands of people that play a key role in protecting worker health; in diverse fields such as asbestos, legionella and control technologies.

Information about all our courses and qualifications is available on our website:  
[www.bohs.org/qualifications-training/bohs-qualifications/](http://www.bohs.org/qualifications-training/bohs-qualifications/)

## Section 2

### P900 at a glance

#### What is the objective?

To provide candidates with a foundation level of knowledge on identifying and controlling legionella risk, in order to undertake the testing and monitoring of hot and cold water systems in domestic buildings.

#### Who is it for?

Anyone who is training to become a water testing operative or technician.

#### What are the entry requirements?

There are no pre-requisites for candidates to take this course.

#### What are the main subject areas?

- Legionella and health risks.
- Legislation and guidance.
- Types of domestic hot and cold water systems.
- Precautionary measures for legionella control.
- Sampling, testing and monitoring regimes.
- Maintenance, disinfection and cleaning.
- Record keeping.

#### How long does it take?

Normally one day.

#### What level is it?

Level 3 in the BOHS qualifications framework.

#### How do candidates pass it?

Candidates must pass a 30 minute multiple-choice examination within 12 months.

## Section 3

### Background to the course

BOHS has provided Proficiency qualifications in the UK for over 15 years, working closely with globally recognised bodies such as the HSE to set educational standards and to spread best practice. In that time, around 2,000 candidates have taken a BOHS legionella examination.

BOHS is designing a new suite of Foundation level courses, which give candidates the basic understanding of a subject so that they can either progress in a specific career or take a BOHS proficiency qualification.

*P900 - Control of Legionella in Domestic Hot and Cold Water Systems* gives candidates a foundation level of knowledge on the health risks of legionella, and how to test and monitor for it in domestic hot and cold water systems. It gives candidates the pre-requisite knowledge required to progress onto Level 4 Proficiency qualifications for legionella, to become water system technicians and operators.

## Section 4

### Key features of the course

#### Objective

To enable the candidates to identify the risks posed by legionella bacteria and understand how to manage the risks in domestic water systems, to a standard which minimises the risk of exposure and ill health.

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#### Target audience

This course is suitable for anyone who:

- Is training to become a water systems operative or technician.
  - Requires a foundation level of understanding in order to take a Level 4 Proficiency qualification (e.g. P901).
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#### Entry requirements

There are no pre-requisites for this course.

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#### Level

The level of a course or qualification indicates the relative complexity and depth of knowledge and skills required to complete the course or qualification.

This course is set at Level 3 in the BOHS qualifications framework.

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#### Fees

The examination fee for each candidate is published on the BOHS website:

[www.bohs.org/qualifications-training/examination-fees/](http://www.bohs.org/qualifications-training/examination-fees/)

## Section 5

### Delivering the course

#### Teaching and learning time

The P900 course normally runs over one day and includes at least six hours of teaching.

The course can be delivered more flexibly, such as an evening or part day course, but should still include six hours of teaching.

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#### Tutors

The course should be taught by tutors who are experienced and qualified legionella practitioners. As a guide, tutors will typically have:

- At least three years' experience in working with legionella;
- A recognised legionella qualification or a professional occupational hygiene qualification.

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#### Teaching resources

Training providers must have the following facilities and equipment:

- Drawings and photographs of relevant installations, water sampling and test equipment.

## Section 6

### Syllabus

The course is structured into seven sections, each with an indicative time allocation:

Section		Time allocation
1	Legionella and health risks	10%
2	Legislation and guidance	10%
3	Types of domestic hot and cold water systems	20%
4	Precautionary measures for legionella control	15%
5	Sampling, testing and monitoring regimes	15%
6	Maintenance, disinfection and cleaning	15%
7	Record keeping	15%

**Note:** Reference is made in this syllabus to HSE guidance and other documentation. These may not be the most up-to-date relevant publications from HSE/other sources and are intended as guidance for candidates only.

### Educational objectives

Candidates will understand the health risks associated with legionella bacteria, and good practice for controlling risks and maintaining hot and cold water systems in domestic properties.

#### 1 Legionella and health risks (10%)

- 1.0.1 Conditions that allow legionella bacteria to proliferate in water systems. Effects of temperature, stagnation, presence of biofilms, etc.
- 1.0.2 Health risk from exposure to water aerosols containing legionella bacteria.
- 1.0.3 Vulnerability of certain at risk individuals to legionella.
- 1.0.4 Types of diseases, symptoms and health effects caused by legionella bacteria.

#### 2 Legislation and guidance [10%]

- 2.0.1 Acts of Parliament, Health and Safety at Work act.



2.0.2 Approved Codes of Practice, HSE guidance notes and British Standards. Other industry accepted good practice sources of information.

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### **3 Types of domestic hot and cold water systems [20%]**

3.0.1 Overview of the different types of domestic hot and cold water systems and fittings in buildings.

3.0.2 Overview of operation and inspection requirements for hot and cold water systems.

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### **4 Precautionary measures for legionella control [15%]**

4.0.1 Overview of water treatment and control programmes.

4.0.2 Overview of the requirements for the implementation of precautionary measures for the control of legionella bacteria in domestic hot and cold water systems.

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### **5 Sampling, testing and monitoring regimes [15%]**

5.0.1 British Standards for hot and cold water sampling and testing.

5.0.2 Techniques for the sampling and inspection of water storage vessels.

5.0.3 Temperature measurements for hot and cold water systems.

5.0.4 Requirements for microbiological analysis.

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### **6 Maintenance, disinfection and cleaning [15%]**

6.0.1 Overview of cleaning and maintenance regimes for domestic hot and cold water systems.

6.0.2 The principles involved in cleaning regimes for hot and cold water system plant, appliances and fittings. Definition of 'disinfection'.

6.0.3 Overview of special considerations for healthcare and care homes with susceptible 'at risk' individuals.

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## **7 Record keeping [15%]**

7.0.1 Regulatory requirements for record keeping.

7.0.2 Water services log book for the recording of water system inspections, maintenance tasks, temperatures, water quality monitoring and corrective actions.

## Section 7

### References and further reading

1. BS 7592 (2008), Sampling for Legionella bacteria in water systems - Code of practice, BSI
2. BS 8580 (2010), Water quality - Risk assessments for Legionella control Code of practice, BSI
3. Health Technical Memorandum 04-01 (May 2016), Safe water in healthcare premises, Department of Health
4. HSE Legionella website: <http://www.hse.gov.uk/legionnaires/>
5. HSG274 (2014), Legionnaires' disease - Part 2: The control of legionella bacteria in hot and cold water systems, HSE
6. INDG458 (2012), Legionnaires' disease: A brief guide for dutyholders, HSE
7. L8 (2013), Legionnaires' disease - The control of legionella bacteria in water systems ACOP (Fourth Edition), HSE

HSE guidance is reviewed and revised periodically. Training providers should check that the publications listed above are the current versions.

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### Useful websites

All the Health and Safety Executive (HSE) publications listed above are available as free downloads from the HSE website: [www.hse.gov.uk/](http://www.hse.gov.uk/)

## Section 8

### Completing the course

Candidates are required to pass one multiple-choice examination to complete the course.

#### Multiple-choice examination

The examination usually takes place at the end of the course. It enables candidates to demonstrate that they have understood the course content.

The examination is comprised of 20 multiple-choice questions, to be answered in 30 minutes. For each question, candidates will choose one of four possible answers. The questions are a mix of text and diagram-based questions.

The pass mark is 75%.

The questions are worth 1 mark each. Candidates will be awarded 1 mark for a correct answer, and 0 marks for an incorrect answer. Candidates should attempt all questions as no marks are deducted for incorrect answers.

The examination covers sections 1 to 7 of the syllabus content, in proportion to the time allocation given for each section. This gives a mark allocation as follows:

Section		Number of questions (% of syllabus)	
1	Legionella and health risks	2	(10%)
2	Legislation and guidance	2	(10%)
3	Types of domestic hot and cold water systems	4	(20%)
4	Precautionary measures for legionella control	3	(15%)
5	Sampling, testing and monitoring regimes	3	(15%)
6	Maintenance, disinfection and cleaning	3	(15%)
7	Record keeping	3	(15%)

The sections are clearly marked in the examination paper.

The assessment is a closed-book examination, which means that candidates are not permitted to have access to any materials.

## Invigilation

The examination is invigilated by the training provider, to help ensure that all candidates demonstrate their true level of attainment.

## Marking and results

All examination papers are marked by BOHS.

Candidates receive their results in writing from BOHS. The results are reported as pass or fail plus a percentage.

Training providers are sent a list of results for all candidates on a course.

## Feedback

Candidates receive feedback on their examination performance. For example, the feedback for an examination in which a candidate scored 60% would be shown as follows:

Syllabus Area		Result	
1	Legionella and health risks	0/2	(0%)
2	Legislation and guidance	2/2	(100%)
3	Types of domestic hot and cold water systems	4/4	(100%)
4	Precautionary measures for legionella control	3/3	(100%)
5	Sampling, testing and monitoring regimes	1/3	(33%)
6	Maintenance, disinfection and cleaning	2/3	(66%)
7	Record keeping	0/3	(0%)
<b>Total</b>		<b>12/20</b>	<b>60%</b>

Training providers receive feedback on the performance of all candidates.

Written Exam performance against syllabus		Number of candidates in each scoring band	
		0-74%	75-100%
P900 Written Exam	1: Legionella and health risks	1	6
P900 Written Exam	2: Legislation and guidance	1	6
P900 Written Exam	3: Types of domestic hot and cold water systems	3	4
P900 Written Exam	4: Precautionary measures for legionella control	1	6
P900 Written Exam	5: Sampling, testing and monitoring regimes	1	6
P900 Written Exam	6: Maintenance, disinfection and cleaning	1	6
P900 Written Exam	7: Record keeping	1	6

### **Resits**

Candidates may re-sit the examination, but must pass within 12 months of the original sitting.

### **Certification**

Candidates who pass the course will receive a certificate of successful course completion.

## Section 9

### Quality assurance

#### Internal quality assurance

Training providers must operate an internal quality assurance system which evaluates and improves the delivery of the course.

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#### External quality assurance

BOHS undertakes desk-based reviews of documents, including teaching materials, and conducts surveys of candidates. We also reserve the right to make unannounced visits to training providers to ensure that the examinations are conducted in line with our requirements.

## Section 10

### Offering the course

#### Approved training providers

Please complete and return the 'Application to Offer Additional Qualifications' form to [qualifications@bohs.org](mailto:qualifications@bohs.org). The form is available on the BOHS website.

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#### New training providers

Please send an email to [qualifications@bohs.org](mailto:qualifications@bohs.org) expressing your interest in offering the course, and we will advise you about the approvals process.



## Section 11

### Other courses and qualifications

Candidates who complete this course may wish to progress onto *P901 - Management and Control of Building Hot and Cold Water Services*.

For more information on our courses and qualifications, please visit <http://www.bohs.org/qualifications-training/bohs-qualifications> .

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Information in this course specification is correct at the time of issue, but may be subject to change.

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