



Water Regs UK

RPZ tester course learning objectives and assessments

Introduction

The RPZ AIM published on the Water Regs UK website requires RPZ valves to be tested by a competent RPZ tester at regular intervals, set by the local water undertaker.

For the purposes of the RPZ AIM an RPZ tester is considered to be competent if they hold a current recognised qualification in RPZ valve commissioning and compliance testing issued by a RPZ training provider recognised by the local water undertaker.

To be considered as current qualifications shall be revalidated at least every 5 years.

Scope of Qualification

This document sets out the minimum training and assessment requirements for knowledge and practical competencies in RPZ valve commissioning and periodic compliance testing required for a course to be recognised by those water undertakers approving the RPZ AIM published on the Water Regs UK website.

The scope does include the replacement of an existing RPZ valve, providing it is an identical make and model i.e. like for like, but not replacement with one which is not identical unless this has been authorised by the local water undertaker.

This industry qualification may also be suitable for learners who are not seeking approved contractor sector status but want to enhance their own knowledge of commissioning and compliance testing of RPZ valves.

About Water Regs UK

Water Regs UK Ltd. is a subscription company set up by water undertakers to raise awareness of and compliance with the Water Supply (Water Fittings) Regulations 1999 (England and Wales), the Water Supply (Water Fittings) Regulations (Northern Ireland) 2009 and the Water Supply (Water Fittings) (Scotland) Byelaws 2014, referred to in this document as Regulations/Byelaws.

Water Regs UK works closely with 30 water undertakers across the UK. It also administers and develops the Water Industry Approved Plumbers Scheme (WIAPS) on behalf of 18 water undertakers.

Water Regs UK have produced this document in collaboration with water undertakers as a guide for training and awarding organisations. It provides the minimum standard learners must achieve to demonstrate knowledge and practical competencies of the RPZ AIM, and Regulations/Byelaws to achieve the industry qualification in the commissioning and periodic compliance testing of RPZ valves.

It also provides a basis to fulfil one of the entry requirements to join WIAPS and SNIPEF RPZ Valve Testing sectors.

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1. Training requirements

Upon completion of the training the learner should be able to demonstrate by assessment that the learning outcomes are achieved in both knowledge based and by practical demonstration.

It is the responsibility of the training organisation to determine an appropriate method of delivery and of the provision of training notes, handouts etc. covering all training content.

It is suggested that training may take the format of an electronic presentation, by self-learning notes, practical demonstration rigs or photographs. It is also suggested that prior to attending the training course and undertaking the assessment, distant learning material may be provided (digital or physical formats).

Provisions should be made for any learner with specific learning needs that are appropriate and shall not offer them unfair advantage or disadvantage compared with other learners.

Knowledge based training can be either tutor led, or a combination of self-study and tutor led training. Practical training shall be tutor led.

The minimum number of learning hours recommended for each learner is detailed in Table 1. Where self-study is not included within the training, tutor led training should be a minimum of 14 hours.

Tutors should ensure learners have completed sufficient study time to reach the required level to undertake the assessments. The total learning hours excludes assessments.

Table 1 Minimum recommended study hours

Type of learning:	Minimum number of hours:
Self-study	4 hours (where self-study packs provided)
Tutor led training (knowledge and practical)	14 hours

Current guidance on RPZ specific information and the Regulations/Byelaws, which includes helpful check lists, guidance booklets and information leaflets, is available on the Water Regs UK website www.waterregsuk.co.uk.

Whilst remote learning is encouraged to be offered, both the knowledge and practical assessment must be undertaken on site with an invigilator in attendance.

A pass mark must be achieved in the Knowledge Based Assessment (see 2.3 Knowledge based assessment); and competence shown in the Practical Assessments (see 3.2 Practical assessment) for the qualification to be awarded and recognised. However, where a learner does not pass either knowledge based assessment or practical assessment at the first attempt, the failed element can be retaken individually.

2.1 Knowledge based Learning Outcomes

The learning outcomes in Annexes 1 and 2 are the minimum levels of required knowledge and understanding: Annex 1 Knowledge of Regulations/Byelaws, and Annex 2 Knowledge of the RPZ AIM.

The learner should have knowledge and understanding in these areas, with each learning outcome covered at least twice during the training.

As part of the qualification accreditation process, training and awarding organisations need to provide copies of all training materials, including handouts, PowerPoint presentations and online learning materials relating to the knowledge-based learning.

2.2 Evidencing learning outcomes within training and assessment

Each learning outcome should be covered at least twice separately within the training. References to each of the outcomes could be located within the training manual/materials, presentation or practical training.

The coverage of the assessment question bank should reflect the learning outcomes, see Annex 3. This can be demonstrated using the matrix in Table 2 below. Each question should be matched against the most relevant learning outcome, which it relates to, so that it appears only once.

Table 2 Matrix of learning outcome locations within the training materials and question bank coverage

Learning Outcome: Note: 2 location examples are required:			Training Location 1 e.g. self-learning, handout etc.	Training Location 2 e.g. assisted learning, presentation materials etc.	Location 3 Question Bank see Annex 3
Part A					
A1	Part I: Preliminary & Application	A1.1			
A2	Part II: Requirements for installation and water fittings	A2.1			
		A2.2			
		A2.3			
A3	Part III: Enforcement and penalties	A3.1			
A4	Schedule 1: Fluid categories	A4.1			
		A4.2			
A5	Schedule 2: materials and substances in contact with wholesome water	A5.1			
A6	Schedule 2: Prevention of cross connection to unwholesome water	A6.1			
A7	Schedule 2: Backflow prevention	A7.1			
		A7.2			
A8	Other legislation surrounding working on site	A8.1			
A9	How to become an Approved Contractor	A9.1			
		A9.2			
Part B					
B1	Section 1: Introduction	B1.1			
		B1.2			
		B1.3			
		B1.4			
		B1.5			
		B1.6			
B2	Section 2: Notification	B2.1			
		B2.2			
		B2.3			
		B2.4			
		B2.5			
		B2.6			
		B2.7			
		B2.8			
		B2.9			
		B2.10			
		B2.11			

Learning Outcome: Note: 2 location examples are required:			Training Location 1 e.g. self- learning, handout etc.	Training Location 2 e.g. assisted learning, presentation materials etc.	Location 3 Question Bank see Annex 3
B3	Section 3: Testing: General	B2.12			
		B3.1			
		B3.2			
		B3.3			
		B3.4			
		B3.5			
		B3.6			
		B3.7			
		B3.8			
		B3.9			
		B3.10			
		B3.11			
		B3.12			
		B3.13			
	Section 3: Testing: Commissioning test	B3.14			
		B3.15			
		B3.16			
		B3.17			
		B3.18			
		B3.19			
		B3.20			
	Section 3: Testing: Compliance test	B3.21			
		B3.22			
		B3.23			
		B3.24			
		B3.25			
		B3.26			
		B3.27			
		B3.28			
		B3.29			
		B3.30			
		B3.31			
B4	Section 4: RPZ AIM Certification & Reporting	B4.1			
		B4.2			
		B4.3			
		B4.4			
		B4.5			
		B4.6			
		B4.7			
		B4.8			
		B4.9			
		B4.10			
		B4.11			
		B4.12			

2.3 Knowledge based assessment

Requirement

The knowledge based (theory) assessment shall be closed book and can include multiple choice or open questions (written) or a mixture of both.

The maximum time allocated for multiple choice questions shall be 2 minutes per question, excluding any additional learning needs adjustments. An appropriate time shall be given for any open questions.

To achieve a pass mark the learner, on their first attempt, must answer all section 1 'core' questions correctly i.e. achieve 100%; and 66% of section 2 'non-core' questions i.e. 2 out of 3 questions, as set out in Annex 3.

In the event of a learner failing to achieve a pass in both parts of the theory assessment, they will need to retake the complete knowledge assessment (i.e. both core and non-core) on a separate date.

When a learner retakes an assessment, they must be given a distinctly different paper from the first paper they took.

The knowledge based assessment must be undertaken on site with an invigilator in attendance.

Assessment room question paper requirement

Where printed question papers are used there needs to be a mix of papers within any one assessment room to ensure the lack of predictability is maintained. E.g. learners sitting adjacent have different papers, questions or distractors in different orders that reduces the likelihood of plagiarism or cheating.

As a minimum there must be three distinctly different papers drawing from a suitable bank of questions, see Annex 3. The question bank should contain a minimum of three times the number of questions required for a single paper.

Where a digital assessment tool is used (e.g. computer based in-centre or remote online), the same level of weighting and randomisation of questions must be demonstrated.

Number and weighting of questions

The assessment (e.g. question paper) must include a minimum of 24 questions distributed across each section as detailed in Annex 3. The distribution of questions in each question paper must also satisfy the required weighting given in Annex 3.

With different pass criteria for 'core' and 'non-core' questions, it is recommended these are within different sections or as a separate assessment (question paper) to ensure the learner is aware of the different expected pass criteria.

Question type

Questions can be multiple-choice questions with one correct answer or be open (written) questions.

Core questions should be designed to test the fundamental knowledge that the learner would be expected to know to test, certify and report as specified in the RPZ AIM and the learning outcomes in Annex 2 sections B3 testing and B4 certifying and reporting.

Non-core questions must be designed to test a learner's knowledge of the learning outcomes in Annex 2 sections B1 Introduction and B2 Notification.

As part of the qualification accreditation process, questions will be evaluated to ensure the learning outcomes are met and are suitable for use, such as for testing core knowledge.

Assessment strategy, question bank and coverage

As part of the qualification accreditation process, training and awarding organisations need to provide:

- 1) An assessment strategy,
- 2) Matrix showing coverage of learning outcomes against assessment questions,
- 3) Question bank matrix, and
- 4) The delivery methodology for practical training (see 3.1 below)

3) Assessment strategy – must show the proposed strategies for:

- testing knowledge based requirements and include sample question papers (or digital alternatives); exam room requirements; use of question papers and resits where learners fail to achieve a pass.
- assessing learners' practical skills and capabilities as detailed in 3.2 below.

2) Learning outcome/Question matrix – must show the relationship between assessment questions and learning outcomes (see section 2.1), to demonstrate the breadth of coverage/scope of knowledge which is to be tested. One question may cover more than one learning outcome. The minimum information to be covered:

- Learning outcome (e.g. reference number)
- Minimum requirement of the learning outcome
- Whether the question covers the learning outcome
- Number of questions that cover each learning outcome

3) Question bank matrix – must be of sufficient size to meet the minimum requirements of learning outcomes and assessment room paper requirement. The following examples in Table 3 shows the minimum information to be covered:

- Question bank reference number
- Question text
- Correct multiple choice answer and distractors; or the model answer to open (written) questions (including key words) where used.
- Location within the knowledge based training package where it is covered

Table 3 Example of question bank matrix

Question bank reference number	Paper question used			Question text	Correct multiple choice answer and distractors; or model answer to written question (including key words)	Location within knowledge based training package where covered
	1	2	3			
Q1	x		x			
Q2		x	x			
Q3 etc.	x	x				

3.1 Practical training

The purpose of the practical training is to cover the installation, maintenance, commissioning and compliance testing of RPZ valves in line with the RPZ AIM. If practical providing examples of real-life situations which may hinder or prevent testing.

The learning outcomes in Annex 4 are the minimum levels of required knowledge, understanding and practical skills learners will need to demonstrate through a practical assessment which is detailed in Section 3.2 and Annex 5.

Equipment requirements

For practical training, there should be a sufficient range of different types and size of RPZ valve assemblies available and from different manufacturers. These must include the two variants of the permitted downstream check valves (No. 2) (i.e. a check valve greater than 7 kPa (0.07 bar) and Type EB – greater than 0.5 kPa (0.005 bar)).

All valves are to be fully operational and those used for fault finding so arranged/adapted that key components have natural faults or be induced to simulate the symptoms found in the field.

There should be available a sufficient number of valves to enable effective training, and as a minimum one valve assembly and test equipment per learner.

Some valves should also be installed correctly and some incorrectly for visual inspection purposes (excluding height requirements).

Note: Training organisations need to ensure that the requirements of notification and obtained consent are satisfied for their training installations including all RPZ valves. All water fittings must satisfy the requirements of Regulation/Byelaw 4 at the time of installation.

For the purpose of practical training and assessment, RPZ test kits should be available to meet learner preferences, e.g. analogue or digital gauges with 3 or 5 point connection. All test equipment must satisfy the requirements of Water Undertakers RPZ AIM and water undertakers' minimum specification published on Water Regs UK website. This applies to test equipment provided by trainers or learners own equipment. However, learners can use their own RPZ test kits providing they can demonstrate they are suitable and calibrated.

As part of the qualification accreditation process, training and awarding organisations must provide:

- evidence of how the practical training will be delivered (this could include handouts, notes, worksheets etc to cover each of the learning outcomes)
- photographs of their training area
- the number and types of valves available,
- the number and types of test equipment
- the maximum number of learners to be trained in any one course.

3.2 Practical assessment

The purpose of the practical assessment is to cover the RPZ AIM commissioning procedure and compliance field tests for RPZ valves. The Assessment outcomes in Annex 5 are the minimum levels of required practical skills and competency learners need to demonstrate during the practical assessment.

As part of the qualification accreditation process, training and awarding organisations must provide evidence of how the assessment will be undertaken; this could include process diagrams, marking sheets/guidance etc. to cover each of the assessment outcomes.

Requirement

Learners need to successfully demonstrate competence and show understanding in all parts of the Assessment requirements (Annex 5) to be awarded a pass.

The Practical assessment must be undertaken on site with an invigilator in attendance.

As part of the qualification accreditation process, training and awarding organisations must provide within the assessment strategy (see section 2.3 above) a section on the practical assessment.

This practical assessment strategy should include:

- details how the practical assessment is to be undertaken
- how RPZ valve assembly's key component faults will be achieved
- how the randomisation of faults between learners' assessments will be made
- assessment marking strategy

Equipment requirements

For practical assessment, there should be a sufficient range of different types and size of RPZ valve assemblies available and from different manufacturers, which must include the two variants of the permitted downstream check valves (No. 2) (i.e. check valve greater than 7 kPa (0.07 bar) and Type EB – greater than 0.5 kPa (0.005 bar)).

All RPZ valves are to be fully operational and or so arranged/adapted that key components have natural faults or be induced to simulate the symptoms found in the field.

There should be available a sufficient number of valves to enable effective assessment.

Some valves should also be installed correctly and some incorrectly for visual inspection purposes (excluding height requirements).

4. Post Assessment

Awarding the Qualification

A pass mark must be achieved in the Knowledge Based Assessment (see 2.3 Knowledge based assessment) and full competence shown in the Practical Assessments (see 3.2 Practical assessment) for the qualification to be awarded and recognised. However, where a learner does not pass either knowledge based assessment or practical assessment at the first attempt, the failed element can be retaken individually.

Gaining RPZ valve tester recognition

On completion of the training and assessment, successful learners must understand that attaining this qualification alone does not entitle them to claim approved contractor status. To achieve approved contractors' status, they will need to apply and be accepted onto one of the approved contractor schemes recognised by WaterSafe (subject to the conditions of that scheme).

Successful learners should be advised that for the purpose recognition and membership of an approved contractor scheme, the qualification will be required to be re-validated every 5 years.

5. Quality assurance and certification

There is an expectation that training and awarding organisations will have policies and procedures in place for the delivery, assessment and verification for this qualification to be recognised. These should include:

- Assessment condition requirements,
- Supervision of assessment conditions, learners and control mechanisms,
- Internal/external assessment verification,
- Quality assurance processes (including third party centres where appropriate),
- Learner appeal and complaint mechanism.

Water Regs UK reserves the right to audit training and awarding organisations.

Details of the awarding body for certification and evidence of the certificates to be issued will be required. Certificates awarded for completing this qualification must include the date of issue and the following wording:

This certificate is not evidence of Approved Contractor Status. Membership status can be confirmed by contacting the relevant Approved Contractors Scheme

LEARNING OUTCOMES AND ASSESSMENTS

Annex 1: Knowledge of the Regulations/Byelaws Learning Outcomes: Not Assessed

The learner will be able to:		Explanatory Notes
No	Outcome	
Part I: Preliminary & Application		
A1.1	Understand terminology used within the Regulations/Byelaws.	<i>The following must be covered:</i> <i>what a water undertaker (including an inset water undertaker (NAV) within an incumbent water company's area) and water supply licensee is.</i> <i>what an approved contractor is</i> <i>for the purpose of AIM the person responsible for the plumbing installation may be the owner, occupier, or water bill payer</i>
Part II: Requirements for installation and water fittings		
A2.1	Understand Regulation/Byelaw 3, the requirements and restrictions on the installation of water fittings and where a water fitting is or is likely to contravene the regulations.	<i>The following must be covered with the focus on contamination and waste as relates to RPZ valves:</i> <i>waste</i> <i>misuse</i> <i>undue consumption</i> <i>contamination</i> <i>erroneous measurement</i>
A2.2	Understand Regulation/Byelaw 4, the requirements for water fittings.	<i>The following must be covered:</i> <i>compliance with regulation/byelaw 4 and location of Reg 4 guidance</i> <i>quality and standard of water fittings, including BS EN 12729</i> <i>suitability of water fittings, including BS 6920 and hot water use</i> <i>how to find evidence of compliance such as directories of certified RPZ valves (e.g. BSI, KIWA, NSF, WRAS etc.) and manufacturer's technical literature</i>

The learner will be able to:		Explanatory Notes
No	Outcome	
A2.3	Understand notification requirements for any person proposing to install a water fitting.	<i>The following must be covered:</i> • <i>who should serve notice</i> • <i>to whom notice should be served</i> • <i>what should be included in the notification</i> • <i>consent from the water undertaker</i> • <i>conditions of consent (consent still means compliance with the Regulations/Byelaws)</i> • <i>examples of notifiable work including those in the table and differences between each country's requirements with specific emphasise on 1, 2, 3(also see below), and 4(g). Note: in the case of 4(g) water industry approved contractor schemes require notification</i> • <i>Material change of use definition in regulation 1</i>
Part III: Enforcement and penalties		
A3.1	Understand who enforces the Regulations/Byelaws.	
Schedule 1: Fluid categories		
A4.1	Understand the five fluid categories.	<i>The following must be covered:</i> • <i>the different fluid categories</i> • <i>the different ratings for backflow arrangements and devices</i> • <i>an RPZ valve can only be used as point of use backflow protection if the downstream risk has been categorised by the local water undertaker as fluid category 4 or lower</i>
A4.2	Understand the seriousness of each fluid category and examples of each.	<i>The following examples must be covered as fluid category 5 risks therefore an RPZ valve is not a suitable form of point of use backflow protection. Also, must not be directly connected to mains water supplies</i> • <i>water reuse systems e.g. rainwater and grey water</i> • <i>any fluid not supplied by a water undertaker, such as boreholes and spring supplies</i>

The learner will be able to:		Explanatory Notes
No	Outcome	
Schedule 2: Materials and substances in contact with wholesome water		
A5.1	Understand the requirements for commonly used terms of installed water fittings.	<i>The following must be covered:</i> • <i>water tightness</i> • <i>suitability of fittings to withstand pressure</i> • <i>prevention from damage by freezing and other causes</i> • <i>supporting pipework</i> • <i>location of water fittings in the context of the AIM only</i>
Schedule 2: Prevention of cross connection to unwholesome water		
A6.1	Understand the requirements for identifying an unwholesome water system so that it is readily distinguishable from a wholesome system.	<i>The following must be covered:</i> • <i>Methods for labelling in accordance with BS 1710</i>
Schedule 2: Backflow prevention		
A7.1	Understand the terms relating to backflow.	<i>The following must be covered:</i> • <i>backflow and the two types, back siphonage and backpressure</i> • <i>upstream</i> • <i>downstream</i> • <i>air gap</i> • <i>air gap to drain</i>
A7.2	Understand the terms, when and where 'wholesite' and 'zone' protection may be required.	<i>The following must be covered:</i> • <i>how these are different to 'point of use' protection</i> • <i>make reference to learning outcome A2.3 notification and consent requirements made by the water undertaker must be followed</i>

The learner will be able to:		Explanatory Notes
No	Outcome	
Other legislation surrounding working on site		
A8.1	Understand general health & safety responsibilities of working on site	<i>The following must be covered:</i> <i>It is the testers responsibility to</i> • <i>obtain permission to isolate supplies and conduct testing</i> • <i>comply with any specific site restrictions or limitations, examples include but not limited to are:</i> ○ <i>using test equipment</i> ○ <i>handling or other risks associated with the downstream fluids</i> ○ <i>waste discharging requirements</i>
How to become an Approved Contractor		
A9.1	The learner should understand the scope in attaining this qualification and next steps to attain Approved Contractor status.	<i>The following must be covered:</i> • <i>it is a recognised qualification in commissioning and compliance testing of RPZ valves</i> • <i>its scope does include the replacement of an existing RPZ valve providing it is an identical make and model but not replacement with one which is not identical unless this has been authorised by the local water undertaker.</i> • <i>completing this course alone does not make them approved</i> • <i>how to apply to become an Approved Contractor</i> • <i>the different sectors within schemes and limitations of their scope including the need to notify the installation of RPZ valves</i> • <i>certification issued by anyone attaining this qualification, including those joining a RPZ sector scheme is not a certificate of compliance</i> <i>Information to be included within handouts or other take away training materials</i>
A9.2	Free to access and up-to-date guidance on water fittings regulations/byelaws is provided on the Water Regs UK website.	<i>Information to be included within handouts or other take away training materials</i>

Annex 2: Knowledge of the RPZ AIM Learning Outcomes

The learner will be able to:	Explanatory Notes
RPZ AIM Introduction	
B1.1 Understand the RPZ AIM's legal status under Regulations/Byelaws and the minimum requirements to demonstrate RPZ valve assembly is operating as required by water undertakers.	
B1.2 Understand the RPZ AIM covers installations up to fluid category 4	
B1.3 Understand the RPZ AIM sets minimum requirements for the installation, commissioning, periodic testing which demonstrate RPZ valve assemblies are operating as intended.	
B1.4 Understand the RPZ AIM's primary focus is providing appropriate backflow prevention from contamination and waste of water.	
B1.5 Understand the difference between operational discharge of water and a waste of water.	
B1.6 Understand the RPZ AIM includes a glossary	

The learner will be able to:	Explanatory Notes
RPZ AIM Notification	
B2.1 Understand it is a legal requirement to notify water undertaker's before proposed installation work	<i>Also refer to learning outcomes A2.3 and A9.1</i>
B2.2 Understand failure to notify may result in legal action being taken	
B2.3 Understand the requirement to notify a minimum of 10 working days before work starts	
B2.4 Understand the minimum information required to complete a notification	
B2.5 Understand failure to provide all information will delay granting of consent	
B2.6 Understand water undertaker's consent can be granted or withheld	
B2.7 Understand water undertaker's consent is subject to conditions being applied	<i>The following conditions must be covered:</i> • <i>Periodic testing</i> • <i>Test dates, these are set by the water undertaker and relate to the original date of consent, which can only be changed with the agreement of the local water undertaker.</i> • <i>Restriction on valve (discharges – buffer)</i>

The learner will be able to:	Explanatory Notes
B2.8 Understand water undertaker's consent may be or may not be granted for particular circumstances	
B2.9 Understand a RPZ valve shall never be installed, commissioned or used without water undertaker's consent being granted	
B2.10 Understand failure to follow water undertaker's conditions may result in legal action being taken	<i>The following must be covered:</i> • <i>Failure to comply may result in the disconnection, removal, or alternative backflow protection being required</i> • <i>Any reconnection shall only be with the agreement of the local water undertaker</i>
B2.11 Understand water undertakers have 10 working days to respond to a notification.	<i>The following must be covered:</i> • <i>the response received may be</i> ○ <i>grant consent (with conditions)</i> ○ <i>withhold consent</i> ○ <i>acknowledge receipt of the notice subject to further clarifications or information (temporary withholding consent)</i> • <i>the local water undertaker has 10 working days to respond. Consent to install RPZ valves will always be conditional</i>
B2.12 Understand the recommendations in using test record cards, its location and information.	<i>The following must be covered:</i> <i>Test record cards to be:</i> • <i>located adjacent to or attached to the</i> • <i>information presented (RPZ AIM section 2)</i>

The learner will be able to:	Explanatory Notes
RPZ AIM Testing	
B3.1 General Understand how an RPZ valve works	<i>The following must be covered</i> • <i>how the key components work collectively to prevent backflow</i>
B3.2 Understand all commissioning and compliance testing is only permitted to be undertaken by a competent RPZ tester	
B3.3 Understand suitability requirements for test equipment	<i>The following must be covered:</i> • <i>suitable for the RPZ valve (e.g. compatible with check valve 2)</i> • <i>suitable for system/installation (e.g. fluid temperature)</i> • <i>is calibrated</i>
B3.4 Understand requirements that define suitable test equipment	<i>The following must be covered:</i> <i>Test equipment (kits) mean:</i> • <i>a differential pressure gauge</i> • <i>is capable of recording all of the required differential measurements</i> • <i>is able to test all components</i> • <i>has a unique serial number</i> • <i>is able to undergo calibration</i> • <i>has an accuracy tolerance in kPa (not % FSD - full scale deflection) is:</i> ○ <i>mechanical gauge ± 1.378 kPa</i> ○ <i>digital gauge ± 1.0 kPa</i> • <i>smallest marked divisions on gauge are:</i> ○ <i>1.0 kPa (or equivalent), or</i> ○ <i>0.5 kPa (or equivalent) if used to test a valve where check valve 2 is to BS EN 13959</i>

The learner will be able to:	Explanatory Notes
B3.5 Understand requirements for calibration certification of test equipment.	<i>The following must be covered:</i> <i>Calibration certificate means:</i> • <i>the test equipment has been calibrated by a calibration service accredited by UKAS. A list of calibration services is published by Water Regs UK. If using a service not listed the sector scheme or, if not a scheme member, the local water undertaker, will carry out checks to verify acceptability.</i> • <i>undertaken annually or more frequent if specified by manufacturer</i> • <i>reports calibration findings:</i> ○ <i>as a minimum the pressure differentials at 0.5, 7.0, 14.0, 34.0 kPa or equivalent . Unless a gauge records zero when being calibrated at 0.5 kPa. If this happens it must also record the calibration findings at +1 kPa or equivalent and if this is again zero a further reading at the next increment, which must be no greater than +1.5 kPa or equivalent.</i> ○ <i>If a calibration certificate records a zero when being calibrated at 0.5 kPa the RPZ tester should advise their scheme or if recognised on a site specific basis the local water undertaker.</i> ○ <i>records real values within the permitted tolerance for that type of gauge</i>
B3.6 Understand the responsibilities required of RPZ testers and their test equipment.	<i>The following must be covered:</i> <i>RPZ testers responsible to:</i> • <i>confirm with the calibration service what corrections need to be applied.</i> • <i>apply corrections to the test results in reports</i> • <i>ensure test kits are differential gauges and:</i> ○ <i>meet RPZ AIM criteria by 1 July 2026</i> ○ <i>test reports using test equipment not meeting the criteria will not be accepted.</i> • <i>Understand restrictions of results acquired from non-differential gauge test equipment, in that:</i> ○ <i>results from single U tube manometers are no longer acceptable.</i> ○ <i>the acceptable method if using U tube manometers (i.e. TCS 1111.13 or BS EN 12729 clause 9.5.2).</i> ○ <i>U tube results not accepted after 1 Jan 2026.</i>

The learner will be able to:	Explanatory Notes
B3.7 Understand the requirements leading to water undertaker recognition as an RPZ tester	<i>The following must be covered:</i> <i>RPZ tester recognition means:</i> • <i>holding a qualification recognised by the water undertaker (site specific basis), or</i> • <i>hold a qualification and membership of a scheme recognised by the water undertaker, and</i> • <i>their current recognised qualification is less than 5 years old (based on date indicated on Certificate)</i> • <i>Recognition is also conditional on complying with clauses B3.3 - B3.6</i>
B3.8 Understand how to maintain RPZ tester competency through qualification revalidation	<i>The following must be covered:</i> • <i>Testers shall maintain their competency beyond their initial training</i> • <i>Qualification revalidation methods include refresher training or full tester training recognised by the water undertaker</i> • <i>the repercussions of failure to revalidate or pass revalidation training</i>
B3.9 Understand the requirements and restrictions applying to new RPZ valves. the relocation and replacement of existing RPZ valves	<i>The following must be covered:</i> <i>New RPZ valves to satisfy:</i> • <i>on-site commissioning procedure, and</i> • <i>compliance testing</i> • <i>What a tester does if a valve needs to be replaced with a non-identical valve (B3.29)</i> • <i>the physical relocation of RPZ valves is outside the scope of this qualification.</i>
B3.10 Understand requirements when flushing and disinfection is required to be undertaken.	<i>The following must be covered:</i> • <i>Disinfection of RPZ valves is required when they have been repaired/maintained/replaced/relocated</i> • <i>Flushing of systems following repair/maintenance/replacement/relocation</i>

The learner will be able to:	Explanatory Notes
B3.11 Understand requirements that all new installations are to be brought into service in a controlled manner confirming key components are functioning.	<i>The following must be covered:</i> • <i>Key component functions are:</i> ○ <i>upstream and downstream servicing valves shut off the water supply</i> ○ <i>the complete assembly is free of air</i> ○ <i>the check valves close tight when there is no flow</i> ○ <i>the relief valve will open when the upstream pressure is relieved</i> ○ <i>the relief valve closes tight when the upstream pressure is restored</i>
B3.12 Understand appropriate commissioning and compliance test procedures are only those recognised by the water undertaker or detailed in the RPZ AIM.	<i>The following must be covered:</i> • <i>water undertakers not listed within the RPZ AIM Introduction, should be consulted to confirm which commissioning and compliance test procedures are acceptable.</i>
B3.13 Understand the differences between commissioning and compliance testing and when they should be carried out.	
B3.14 Commissioning test Understand the commissioning procedure is in 3 parts: 1) Consent and suitability 2) Visual inspection 3) Component testing (see parts 1-3 below) And the requirements when to record and report a commissioning test failure.	<i>The following must be covered:</i> • <i>failure to meet any part of commissioning procedure (consent, suitability, inspection or component testing) to be recorded as a test failure</i> • <i>follow reporting requirements Section 5 of RPZ AIM.</i>

The learner will be able to:	Explanatory Notes
B3.15 Understand the consent and suitability requirements 1) Consent and suitability – the RPZ tester must: - confirm water undertaker's consent for the RPZ valve to be tested has been granted - understand and confirm all conditions are applied.	<i>Refer to A2.2 and B2.1 - 2.11</i>
B3.16 Understand the visual inspection requirements (2a) Visual inspection – the RPZ tester shall check the RPZ valve assembly: is installed in accordance with the height and clearance requirements of Section 2 of RPZ AIM	<i>Understand the minimum RPZ valve assembly height and clearance requirements in all directions. The following clearances must be covered:</i> <i>RPZ AIM Figures 1 & 2</i> <i>relief valve:</i> <i>discharge readily visible</i> <i>minimum 300 mm clearance below,</i> <i>air break to drain to EN 1717, or</i> <i>Type AA or AB air gaps</i> <i>valve operation</i>
B3.17 Understand the visual inspection requirements (2b) Visual inspection – the RPZ tester shall check the RPZ valve assembly: is installed in accordance with the access requirements of Section 2 of RPZ AIM	<i>Understand the requirements to enable free access to RPZ valve assembly (except for the closure of secure cabinet doors and lids). The following must be covered:</i> <i>cabinet drainage</i> <i>insulation</i>
B3.18 Understand the visual inspection requirements (2c) Visual inspection – the RPZ tester shall check the RPZ valve assembly: all the required RPZ assembly components are installed in the correct order and location in accordance with the requirements of Section 2 of RPZ AIM	<i>Understand RPZ assembly component and making up an RPZ assembly and their location. The following must be covered:</i> <i>servicing valves</i> <i>strainers – omission requires consent from the local water undertaker (can be incorporated within the valve)</i> <i>proximity of components within an RPZ assembly – RPZ AIM Figure 3 (i.e. within the same space or room EN 1717)</i>

The learner will be able to:	Explanatory Notes
B3.19 Understand the visual inspection requirements (2d) Visual inspection – the RPZ tester shall check the RPZ valve assembly: • is installed in accordance with the RPZ assembly installation requirements of Section 2 of RPZ AIM	<i>Understand RPZ assembly installation restrictions. The following must be covered:</i> • <i>orientation is horizontal</i> • <i>vertical or inclined orientation only where the valve is specifically designed for</i> • <i>relief valve discharge is downwards</i> • <i>height (accessibility) of valve (≤ 1.5 m)</i> • <i>height >1.5 m requires consent from the local water undertaker</i> • <i>access for testing and maintenance</i>
B3.20 Understand the visual inspection requirements (2e) Visual inspection – the RPZ tester shall check the RPZ valve assembly: • is leak free and watertight • strainer's function including the removal of any debris	
B3.21 Compliance test Understand the component testing requirements 2) Component testing – means: • testing is under normal operating conditions • 4 consecutive cycles of component testing are completed and meet all “acceptance criteria”	<i>The following must be covered:</i> <i>Normal operating conditions includes the system pressure or water temperature passing through the RPZ valve assembly</i>
B3.22 Understand the component testing methodology: • the downstream servicing valve is closed throughout the test • the procedure and acceptance criteria for one cycle • where the RPZ valve assembly satisfies all requirements, the RPZ valve assembly is ○ refilled and checked there are no leaks	<i>The following must be covered:</i> <i>One cycle of the component testing procedure consists of:</i> • <i>fill RPZ valve assembly, purge all air and isolate (upstream and downstream)</i> • <i>confirm with the loss of upstream pressure, the relief valve opens and evacuates all fluid from the intermediate zone</i> • <i>confirm the presence of water in the downstream zone test point when opened</i> <i>See RPZ AIM “Commissioning procedure” section clauses 4.4 to 5</i>

The learner will be able to:	Explanatory Notes
○ upstream and downstream servicing valves are isolated ○ not put into service until “Compliance testing procedure” in the RPZ AIM is successfully competed	
B3.23 Understand compliance testing is an on-site safety check to validate backflow protection is being maintained and there is no wasting of water.	
B3.24 Understand the components to be verified are: • upstream and downstream check valves close watertight at low pressure • adequate pressure differential is maintained between upstream and downstream pressure zones • relief valve is operating correctly	
B3.25 Understand the commissioning procedure is in 3 parts: 1) Verifying commissioning 2) Visual inspection 3) Component testing (see parts 1-3 below) And requirements when to record and report a compliance test failure.	<i>The following must be covered:</i> • <i>failure to meet any part of compliance testing procedure (commissioning, inspection or component testing) to be recorded as a test failure</i> • <i>follow reporting requirements Section 5 of RPZ AIM.</i>
B3.26 Understand the verify commissioning requirements 1) Verifying commissioning– the RPZ tester must: confirm the RPZ valve has satisfactorily completed the commissioning procedure.	<i>The following must be covered:</i> • <i>failure to meet any part of compliance procedure (consent, suitability, inspection or component testing) to be recorded as a test failure</i> <i>follow reporting requirements Section 5 of RPZ AIM</i>

The learner will be able to:	Explanatory Notes
B3.27 Understand the visual inspection requirements 2) Visual inspection– the RPZ tester shall check the RPZ valve assembly: • is installed to requirements of Section 2 to RPZ AIM • is leak free and watertight • strainer's function including the removal of any debris	<i>Refer to B3.16 - 3.20</i>
B3.28 Understand the component testing requirements Component testing – means • testing is under normal operating conditions • downstream servicing valve closed throughout the test • RPZ test equipment connected to appropriate test ports • the test procedure and acceptance criteria	<i>The following must be covered:</i> • <i>Normal operating conditions include the system pressure or water temperature passing through the RPZ valve assembly</i> • <i>component testing procedure consists of:</i> ○ <i>fill RPZ valve assembly, purge all air and isolate downstream</i> ○ <i>verify upstream check valve differential pressure (> 34kPa)</i> ○ <i>verify downstream check valve differential pressure (> 7 kPa or 0.5 kPa if conforming to BS EN 13959)</i> ○ <i>verify relief valve:</i> ▪ <i>is watertight when not in operation</i> ▪ <i>does not discharge during pressure fluctuations of ± 10 kPa</i> ▪ <i>maintains pressure differential (> 14 kPa) between upstream and intermediate zones at point of opening</i> ○ <i>calculate pressure fluctuation is accommodated (e.g. buffer is ≥ 20 kPa)</i> <i>see RPZ AIM "Compliance testing procedure" section clauses 3.3 to 3.6</i>
B3.29 Understand the requirements when an existing in-service RPZ valve is replaced	<i>The following must be covered:</i> <i>The tester must contact the local water undertaker before an RPZ valve is:</i> • <i>replaced with a non-identical valve i.e. one which is not like for like</i> • <i>details of replacement valves must be recorded in the test report form</i>

The learner will be able to:	Explanatory Notes
B3.30 Understand the circumstances when an existing in-service RPZ valve assembly requires to: • have commissioning and compliance testing procedures undertaken • be brought back into service	<i>The following must be covered:</i> • <i>the circumstances included are where the assembly has been</i> ○ <i>dismantled in anyway (e.g. following maintenance of an integral strainer)</i> ○ <i>replaced or had components replaced</i> ○ <i>relocated – including RPZ valve assemblies forming part of portable equipment or routinely moved, either within or between premises and reconnected (e.g. a cement batching plant or attached to a standpipe).</i> ○ <i>only when RPZ valve assemblies satisfactory complete testing are they permitted to be brought back into service</i>
B3.31 Understand all in service RPZ valves must be tested by the due date set by the local water undertaker.	
RPZ AIM Certification & Reporting	
B4.1 Understand that only competent RPZ testers are permitted to certify test reports for RPZ valve assembly commissioning or compliance testing.	
B4.2 Understand the periodic on-site compliance test due date requirements, be at least annually or as required by the local water undertaker. The test due date is set by the local water undertaker refer to the consent later or test reminder for confirmation.	<i>The following must be covered:</i> • <i>periodic compliance testing is due annually, unless otherwise specified by the local water undertaker</i> • <i>the test date (day and month) is fixed to repeat by the specified period (e.g. annually, six monthly etc.)</i> • <i>the next test due date is not 12 months from the date of the last test report.</i> • <i>test due date changes can only be by agreement with the local water undertaker</i> • <i>tests shall be completed by the test due date, which can only be set by the local water undertaker</i> • <i>compliance testing can be undertaken up to 30 days prior to and on the test due date – for the results to be considered valid by the water undertaker.</i>

The learner will be able to:	Explanatory Notes
B4.3 Understand the requirements for a certified test report to be accepted by the local water undertaker	<i>The following must be covered:</i> • <i>test reports shall:</i> ○ <i>be provided with all minimum information detailed in RPZ AIM section 4</i> ○ <i>be in a format acceptable to the local water undertaker</i> • <i>copy provided to the person responsible for the RPZ valve</i>
B4.4 Understand the timescales water undertakers require, to be considered valid, in receiving completed and certified reports	<i>The following must be covered:</i> • <i>receipt of certified reports for</i> ○ <i>commissioning must be received within 10 working days of completion of the commissioning procedure following installation, repair, dismantling or relocation.</i> ○ <i>compliance testing must be received within 10 working days of completion of the compliance testing procedure following completion of a repair, dismantling or relocation.</i>
B4.5 Understand a test certificate is separate and different to a certificate of compliance	
B4.6 Understand the requirements in record keeping.	<i>The following must be covered:</i> • <i>customer responsible and must keep maintenance and test records (minimum of 5 years – recommended for life of valve)</i> • <i>RPZ testers must retain records of all testing they have undertaken</i> • <i>local water undertaker may require copies of maintenance and test records to be produced upon request.</i>
B4.7 Understand failing to provide the minimum information will invalidate the test report	

The learner will be able to:	Explanatory Notes
B4.8 Understand the minimum information requirements for a test report	<i>The following must be covered:</i> • <i>about the tester</i> ○ <i>name; contact details; signature; tester's scheme name</i> • <i>about the premises where RPZ valve is installed</i> ○ <i>responsible person's name; contact details, email etc.; phone number; address</i> • <i>about the installation</i> ○ <i>RPZ valve location; system description; installation consent; installed to consent requirements; date of installation; last test date</i> • <i>about the RPZ valve</i> ○ <i>make; model; size; serial number</i> • <i>about the testing</i> ○ <i>test due date; date of test; test results and observations; reason for test</i> • <i>about the test equipment</i> ○ <i>make; model; serial number; calibration date; confirm suitability for system being tested</i> <i>see RPZ AIM Section 4 Certification</i>
B4.9 Understand requirements for a test report to be considered valid	<i>The following must be covered:</i> • <i>be certified by a competent RPZ Valve tester</i> • <i>provide the minimum required level of information.</i> • <i>be signed and dated by the RPZ tester who completed the testing</i> • <i>be received by the water undertaker within 10 working days of:</i> ○ <i>commissioning of the RPZ valve unless reporting a test failure.</i> ○ <i>compliance test being completed unless reporting a test failure</i> • <i>satisfy all conditions of consent relating to compliance testing</i>
B4.10 Understand the requirements: • which will invalidate a test report test report retention by RPZ testers	<i>The following must be covered:</i> • <i>water undertaker to receive a test report within 10 working days – unless reporting a failure</i> • <i>RPZ valve tester to retain a copy of all test reports issued</i>

The learner will be able to:	Explanatory Notes
B4.11 Understand the required time scales relating to reporting commissioning procedure failures	<i>The following must be covered:</i> <i>Action on failure shall:</i> • <i>require the tester to notify the local water undertaker within 24 hours</i> • <i>ensure the RPZ valve assembly remains isolated until all actions required by the local water undertaker have been carried out</i> • <i>require the RPZ tester to notify the person responsible of the actions required by the local water undertaker</i>
B4.12 Understand the required time scales relating to reporting compliance procedure failures	<i>The following must be covered:</i> <i>Action on failure where:</i> • <i>the RPZ valve assembly fails the test but is repaired and satisfactorily retested immediately:</i> ○ <i>be returned into service</i> ○ <i>report of test failure and successful retest (may be acceptable to be included on a single test report)</i> ○ <i>details of the repairs undertaken or any suspected contributing factors</i> ○ <i>report to the local water undertaker within 24 hours</i> • <i>the RPZ valve assembly fails the test but is not able to be repaired immediately:</i> ○ <i>RPZ valve assembly remains isolated</i> ○ <i>shall notify the local water undertaker immediately</i> ○ <i>provide the nature of the failure</i> ○ <i>await confirmation by local water undertaker on what action is to be taken</i> <i>the RPZ tester shall notify the person responsible of the actions required by the local water undertaker</i>

Annex 3 Knowledge Assessment

Section coverage	Number of topics	Section 1 core	Section 2 non-core
		Pass 100%	Pass no more than one incorrect answer
		Number of questions	
<u>Regulations/ Byelaws</u>		Assessment not required	
A1.1 - 9.2	14		
<u>RPZ AIM:</u>			
B1.1 – 1.6 Introduction (B1.6 not to be included in the assessment)	5	0	1
B2.1 – 2.12 Notification	12	0	2
B3.1 – 3.30 Testing General B3.1 - B3.13 Commissioning procedure B3.14 – B3.20 Compliance procedure B3.21 – B3.31	13 7 11	7 3 5	
B4.1 4.12 Certification & reporting	12	6	
Total within each paper		21	3

Annex 4: Practical Learning Outcomes

The learner will be able to:		Explanatory Notes	Evidence Provided	
No	Outcome			
C1	General			
	C1.1	Understanding how an RPZ valve works	<i>The following must be covered:</i> • how the key components work collectively to prevent backflow	
	C1.2	Awareness and use of different test equipment	<i>The following must be covered:</i> • a variety of currently available test equipment • minimum RPZ AIM requirements for test equipment • handouts showing test equipment and testing methodology (i.e. Digital and/or analogue 3 / 5 valve kits.)	
	C1.3	Hygiene of tools, test equipment, RPZ valves and systems	<i>The following must be covered:</i> • the need for clean tools and test equipment • disinfection and flushing where necessary	
C2	Review, consent and inspection			
	C2.1	Confirm consent to install granted (Example letters provided in the document pack)	<i>The following must be covered:</i> • reviewing simulated consent letters • identify conditions of consent, test dates, installation requirements etc. • checking conditions have been met	
	C2.2	Review commissioning and previous compliance test reports to identify inconsistencies, trends and potential for failure. (Example reports provided in the document pack)	<i>The following must be covered:</i> • reviewing previous commissioning / compliance test reports • identify potential trends, previous repairs and if a potential for failure • check for inconsistencies including cross referencing of serial number	
	C2.3	Confirm test equipment compliance, calibration and suitability	<i>The following must be covered:</i> • identify suitability of test equipment for the installation (gauge indicator, pressure, temperature etc.)	

The learner will be able to:			Explanatory Notes	Evidence Provided
No	Outcome			
			- identify validity of the calibration certificate, test kit serial number etc. - identify validity of UKAS accreditation - apply any correction values from the calibration certificate Notes: See industry RPZ test equipment information	
	C2.4	Visual inspection – Regulation/Byelaw 4 compliance, suitably for the circumstances and installation compliance	The following must be covered: - how to access information to confirm Regulation / Byelaw 4 compliance (approvals etc.) - check suitable for the installation (temperature, orientation etc.) - inspect conformity to RPZ AIM Section 2 Installation requirements Notes: Have a range of RPZ valves available installed correctly and incorrectly etc.	
C3	Commissioning Procedure			
	C3.1	Demonstrate a successful commissioning procedure (on fault free RPZ valve)	The following must be covered: - minimum component testing and number of test cycles - RPZ AIM Section 3 Testing: Commissioning procedure clauses 3 to 5	
	C3.2	Completion of commissioning test reports (Example test report forms provided in the document pack)	The following must be covered: - minimum information requirements RPZ AIM Section 4 Certification - format acceptable to water undertaker - delivery timescales to water undertaker (i.e. 10 working days)	
C4	Compliance Testing Procedure			
	C4.1	Demonstrate a successful compliance test (on fault free RPZ valve)	The following must be covered: - components to be tested - satisfactory threshold values for each component (differentials, opening etc.) - RPZ AIM Section 3 Testing: Compliance testing procedure clauses 2 to 3	

The learner will be able to:			Explanatory Notes	Evidence Provided
No	Outcome			
	C4.2	Completion of compliance test reports (<i>Example test report forms provided in the document pack</i>)	<i>The following must be covered:</i> <i>minimum information requirements RPZ AIM Section 4 Certification</i> <i>format acceptable to water undertaker</i> <i>delivery timescales to water undertaker (i.e. 10 working days)</i>	
C5	Practical skills, fault identification and repair of RPZ valves			
	C5.1	During a commissioning procedure the detection, identification, rectification and reporting of common commissioning faults	<i>The following must be covered:</i> <i>Common faults found during commissioning should include:</i> <i>relief valve operation, failure to open</i> <i>water fails to appear in test point 3 (e.g. CV2 failure or downstream servicing valve closure failure)</i> <i>reporting failure timescales to water undertaker and onsite person responsible, RPZ AIM Section 5 Reporting (i.e. within 24 hours)</i>	
	C5.2	During a compliance testing procedure, the detection, identification, rectification and reporting of component faults and root cause of failures	<i>The following must be covered:</i> <i>Common faults found during compliance testing should include:</i> <i>CV1, CV2, relief valve, strainer, defective servicing valves, air break to drain and low differentials</i> <i>reporting failure timescales to water undertaker and onsite person responsible, RPZ AIM Section 5 Reporting (i.e. immediately or within 24 hours as appropriate)</i> <i>Notes: Component faults can be natural or induced to simulate the symptoms found in the field.</i>	
	C5.3	Demonstrate practical repair and maintenance skills	<i>The following must be covered:</i> <i>RPZ valve disassembling, the replacement and repair of all key components.</i>	

Annex 5: Practical Assessment

The learner will be able to demonstrate:			Assessment criteria
No	Outcome		
D1	How a RPZ valve works		
	D1.1	Explain how a RPZ value works	<i>Learners should be able to:</i> <i>Demonstrate how the key components work collectively to prevent backflow</i>
D2	Consent and visual inspection		
	D2.1	Confirmation consent to install granted	<i>Learners should be able to:</i> <i>verify consent has been granted, and</i> <i>identify all associated conditions and confirm whether they have been met.</i>
	D2.2	Review commissioning and previous compliance test reports identifying inconsistencies, trends and potential for failure	<i>Learners should be able to:</i> <i>verify existence and suitability of commission/previous test reports including any inconsistencies including cross referencing of serial number</i> <i>identify any potential trends from previous repairs / failures (e.g. from compliance test reports)</i>
	D2.3	Visual inspection – Regulation/Byelaw 4 compliance, suitably for the circumstances and installation compliance	<i>Learners should be able to:</i> <i>know how to confirm regulation/byelaw 4 compliance</i> <i>demonstrate competence that the installation complies with RPZ AIM Section 2 Installation</i> <i>demonstrate knowledge of what the valve is supplying (using consent letter and previous compliance test reports)</i>
	D2.4	Tools and test equipment selection	<i>Learners should be able to:</i> <i>demonstrate competence in the selection and suitability of test equipment (e.g. testing environment, pressure, hot/cold water use),</i> <i>identify the presence of a valid calibration certificate, (e.g. date, test kit serial number etc.)</i> <i>correctly identify the correction values which are to be applied to the readings gained during compliance testing</i>

The learner will be able to demonstrate:			Assessment criteria
No	Outcome		
	D2.5	Tools, test equipment and installation hygiene	<i>Learners should be able to:</i> • demonstrate that tools are clean, flushed and disinfected before use • demonstrate how RPZ valves are disinfected before installation • Describe how flushing would be carried out
D3	Commissioning		
	D3.1	Commission an RPZ valve	<i>Learners should be able to:</i> • successfully undertake a commissioning procedure on a single RPZ valve that satisfies RPZ AIM Section 3 Testing: Commissioning procedure clauses 3 to 5 • verify its operational status (e.g. in need of repair or compliance testing etc.)
	D3.2	Detection identification, rectification and reporting of common faults found during commissioning procedure	<i>Learners should be able to:</i> • describe common faults that would prevent the successful commissioning of an RPZ valve • describe the reporting failure requirements and timescales to the water undertaker, onsite person responsible for the RPZ valve etc. that satisfies RPZ AIM Section 5 Reporting <i>Response to be recorded as part of the assessment.</i> <i>Notes: Common faults include relief valve operation, CV2 failure or downstream servicing valve failure.</i>
	D3.3	Completion of commissioning report in accordance with RPZ AIM Section 4 Certification <i>(Example report forms provided in the document pack)</i>	<i>Learners should be able to:</i> • complete the commissioning report providing the minimum information requirements that satisfies RPZ AIM Section 4 Certification <i>Note: The report can be either the commissioning elements within a combined commissioning and compliance testing report; or a separate commissioning report.</i>
D4	Compliance testing		
	D4.1	Compliance Test an RPZ Valve (parts a to c below):	

The learner will be able to demonstrate:			Assessment criteria
No	Outcome		
	D4.1a	(a) Confirm authorisation to work	Learners should be able to: describe how permission should be obtained to isolate the supply and undertake testing Response to be recorded as part of the assessment.
	D4.1b	(b) The detection, identification, rectification and reporting of one random common fault using the compliance testing procedure. The random fault should be on one of the key components i.e. CV1, CV2 or the relief valve	Learners should be able to: - utilise the RPZ AIM compliance testing procedure and diagnose at least one fault (natural or induced) on a single RPZ valve - repair or verbally describe the procedure to rectify/repair the fault - explain the procedure that needs to be undertaken before a compliance test can be repeated (e.g. valve disassembled, disinfection where necessary repeat the commissioning procedure) - explain the procedure in reporting failures to water undertaker and onsite person responsible for the RPZ valve that satisfies RPZ AIM Section 5 Reporting Response to be recorded as part of the assessment.
	D4.1c	(c) Complete a compliance testing procedure on fault free RPZ valve	Following the fault being rectified (or on an alternative RPZ valve) learners should be able to: - successfully undertake the compliance testing procedure on a single RPZ valve. - identify and record the operational status of all components including the values for differential and opening pressures that satisfies RPZ AIM Section 3 Testing: compliance testing procedure clauses 2 to 3. Notes: An additional commissioning test will not be required for the purposes of assessment.
D5	Certification		
	5.1	Completion of compliance report in accordance with RPZ AIM Section 4 Certification (Example report forms provided in the document pack)	Learners should be able to: - complete a test report with the minimum information requirements including any faults found that satisfies RPZ AIM Section 4 Certification. - accurately apply the correction factors (from the test kit Calibration Certificate identified in D2.4) to the recorded values for each component. (i.e. values for differential and opening pressures) - confirm the status of the RPZ valve and whether it is operating satisfactorily and continues to provide backflow protection or not - describe the timescales for submitting commissioning and compliance reports to the water undertaker that satisfies RPZ AIM Section 5 Reporting.

The learner will be able to demonstrate:			Assessment criteria
No	Outcome		
			<i>Response to be recorded as part of the assessment.</i> <i>Notes: The report can be either the compliance testing elements within a combined commissioning and compliance Testing report as used in D3.3; or a separate compliance Testing report.</i>