



CIMSPA PROFESSIONAL STANDARD

Pool Plant Operative

(FULL STANDARD)

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ABOUT THIS STANDARD

This document is a CIMSPA Professional Standard (full version).

This full version of the standard is available to CIMSPA awarding organisation, skills development, higher education and further education partners.

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1. Overview

Professional Standard: Pool Plant Operative

This Professional Standard outlines the role and scope of a Pool Plant Operative and the essential knowledge and skills that are needed to meet the requirements of the sector minimum deployment standards.

This full version of this standard is available to CIMSPA awarding organisation, skills development, higher education and further education partners. It provides guidance for the development of educational products that will be endorsed by CIMSPA.

The Pool Plant Operative sits in the sport and physical activity sector as part of the leisure operations industry.

The agreed industry prerequisite to become a Pool Plant Operative is to have achieved a CIMSPA endorsed educational product that meets this Professional Standard.

Endorsed qualification logo

Qualifications that meet the requirements of this CIMSPA Professional Standard will display this official CIMSPA endorsement logo.



2. Scope of the Pool Plant Operative

The role of a Pool Plant Operative is to manage the pool plant and surrounding amenities. Ensuring a safe working environment is regularly maintained and all legal requirements are adhered to.

- The role of a Pool Plant Operative is utilised in the public and private sectors. Examples include, local authorities, schools, private pool owner(s), leisure trusts, facility management companies, holiday parks, NHS, hotels and hospitality.
- This role exists within the leisure operations industry and plays an important role in improving the standard of pool plant operations and ensuring the safety of bathers, staff, contractors and other persons in the pool environment.

3. CIMSPA membership eligibility

Graduates of this standard will meet the requirements to be a CIMSPA Practitioner member. They will:

UNDERSTAND

- How to manage the pool, plant and surrounding amenities. Ensuring the safe working environment is regularly maintained and all legal requirements are adhered to.

HAVE DEMONSTRATED

- Competence of managing the pool plant environment and ensuring full safe working conditions are adhered to.

Refer to the CIMSPA Professional Standards Matrix for a comprehensive overview as to how job roles relate to populations, environments and technical specialisms.

4. Summary of knowledge and skills

Pool Plant Operative

Topic	Knowledge and Understanding	Skills
Understanding the swimming pool industry	<ul style="list-style-type: none">• Understand the range and types of pools used in the leisure sector and how to manage the pool environment.	
Health and safety/legal requirements	<ul style="list-style-type: none">• How relevant industry legislation and organisational policies and procedures impact on a pool plant operatives day to day role and responsibilities.• How to maintain the quality of pool water through ensuring the management and implementation of key legislation, procedures and promotion of hygiene.	<ul style="list-style-type: none">• Adhere to relevant industry legislation and organisational policies and procedures.
Pool water testing	<ul style="list-style-type: none">• Understand the procedures for pool water testing and how to collect and analyse data.	<ul style="list-style-type: none">• Ability to carry out pool water tests and analyse results to decide on what action needs to be taken for acceptable and unacceptable results.
Pool plant operations	<ul style="list-style-type: none">• How to maintain good water quality and a safe working environment through understanding the design functions of the pool plants.• Know how to monitor the circulation, filtration and temperature of pools.	<ul style="list-style-type: none">• Demonstrate understanding of the correct procedures for undertaking appropriate pool plant maintenance and be able to apply within the work place.
Pool water quality	<ul style="list-style-type: none">• How to treat pool water to keep the pool environment safe and deal with contamination.	<ul style="list-style-type: none">• Ensure pool water is good quality and clean, by carrying out appropriate checks and taking appropriate corrective action.

5. Product development guidance

This section is aimed at organisations developing formal educational products mapping to this Professional Standard. The requirements should be considered in the development of all educational products seeking CIMSPA endorsement.

The CIMSPA Professional Development Board (PDB) has agreed any of the formal educational products listed in the table below can be developed for the role of Pool Plant Operative. Where evidence that all elements of the Professional Standard are included, CIMSPA endorsement can be sought.

Educational product	Mapping requirements	Professional Standard achieved on attainment?
Regulated vocational qualification	Fully mapped	YES
Apprenticeship programme	Fully mapped	NO
HE programme/modules	Fully mapped	NO

All formal educational products that are seeking CIMSPA endorsement must be submitted to CIMSPA and should include all elements outlined in the Professional Standard and assessed in line with the intention of the standard.

Education providers seeking CIMSPA endorsement for a product against this Professional Standard are asked to consider the following:

- a) They determine and justify the level of the product they have developed, in line with regulator guidance. To ensure parity, the level for all educational products that fully map to this Professional Standard should be the same.

The level assigned is determined by leading awarding organisations currently offering qualifications in the sector in which the role resides.

This is not a first-to-post exercise but one in which education providers are invited to submit their levelled units/full qualification for review as part of the CIMSPA endorsement process.

Once agreed by CIMSPA, all subsequent fully-mapped educational products must conform to the level set for this Professional Standard.

Level descriptors set out the generic knowledge and skills associated with the typical holder of a qualification at a given level and it should be ensured that educational products fully mapping to this Professional Standard are a 'best-fit' for the level assigned.

- b) They determine the total qualification time for the qualification/unit and outline the minimum requirements for practical assessment.

They stipulate practical assessment must be conducted, where practically possible, in a real-world environment. For example, 'on the job' or at work. For the role of Pool Plant Operative this could include: leisure centre or swimming pool.

Reasonable adjustments can be applied where specific circumstances make this unviable: e.g. failure of equipment.

- c) Their quality assurance meets the appropriate regulator's guidance, including: internal and external quality assurance, staffing requirements and assessment generation and evidence.

6. Learning and development requirements (LDRs)

The LDRs outline the key areas of learning and assessment that should be contained within any educational product seeking CIMSPA endorsement against a Professional Standard. There are 5 key areas of learning and development for the job role of Pool Plant Operative, of which all areas are interconnected and mandatory. The key areas are:

1. Understanding the swimming pool industry
2. Health and safety/legal requirements
3. Pool water testing
4. Pool plant operations
5. Pool water quality

N.B. Examples (e.g.) are given within the LDRs to provide an overview of the knowledge and skills most relevant to the role: It is not mandatory to assess learners against 100% of the examples provided, however, sufficient coverage to ensure occupational competence on achievement must be ensured. This will be reviewed as part of the CIMSPA endorsement process.

1. Understanding the swimming pool industry

Ref	Knowledge and understanding:	A Pool Plant Operative must:
K1.1	Types of facilities	<ul style="list-style-type: none">• Identify the range and types of pools used in the leisure sector including:<ul style="list-style-type: none">- Competition.- Fun.- Leisure.- Outdoor pool.- Diving pit.- Shallow water pool.- Spa.- Water feature.• Know the main purpose of the range and types of pools used in the leisure sector.
K1.2	Pool ownership	<ul style="list-style-type: none">• Understand the different types of pool ownership to include public and private sector, examples include:<ul style="list-style-type: none">- Local authorities.- Schools.- Private pool owner(s).- Leisure trusts.- Facility management companies.- Holiday parks.- NHS.- Football clubs.
K1.3	Pool water management	<ul style="list-style-type: none">• Understand the importance and factors that influence pool water management to include:<ul style="list-style-type: none">- Bather type.- Environmental.- Design.- Temperature.- Management structure.- Age of building.• Know the hazards associated with ineffective pool water treatment.
K1.4	Pool environment	<ul style="list-style-type: none">• Know the process of heating pool water.• Understand the principles involved in the heating and ventilating of the pool environment.

2. Health and safety/legal requirements

Ref	Knowledge and understanding:	A Pool Plant Operative must:
K2.1	Legal responsibilities	<ul style="list-style-type: none"> • Know the legal responsibilities for providing a safe environment. • Identify the pool plant operative's responsibilities to meet these legal requirements.
K2.2	Risks and hazards	<ul style="list-style-type: none"> • Understand the potential risks associated with storage and use of chemicals for the treatment of pool water and also the risks and hazards associated with operating pressurised mechanical systems. • Know the requirements for storage and handling of chemicals and know the risks involved with incorrect storage and handling of chemicals used to treat pool water. • Know the additional hazards commonly associated with spa pools and interactive water features.
K2.3	Legal and regulatory requirements	<ul style="list-style-type: none"> • Understand the key pieces of health and safety legislation and how these impact on safe working practices within a pool environment. • Know the importance of safe working practices to include: <ul style="list-style-type: none"> - Risk assessments. - Pool safety operating procedures. - Normal operating plan (NOP). - Emergency action plans (EAPs). - Safe systems of work. - Pool Technical Operating Procedures (PTOPs). - Control of Substances Hazardous to Health (COSHH).
Ref	Skills:	A Pool Plant Operative must:
S2.1	Report writing	<ul style="list-style-type: none"> • Complete accurate reports such as record keeping, maintenance and water testing logs, risk assessments, accidents, incidents and near misses.
S2.2	Safe working practices	<ul style="list-style-type: none"> • Demonstrate thorough working practices to ensure safe and smooth running of the pool environment.

3. Pool water testing

Ref	Knowledge and understanding:	A Pool Plant Operative must:
K3.1	Pool water testing equipment	<ul style="list-style-type: none">• Understand the different types of pool water testing equipment needed to ensure good quality pool water, including the use of comparators and/or photometers.
K3.2	Pool water testing procedures	<ul style="list-style-type: none">• Understand the procedures for pool water testing.• Understand the recommended frequency of pool water testing.
K3.3	Data collection and analysis	<ul style="list-style-type: none">• Understand the optimum range for pool water testing results.• Know how often the tests should be undertaken.• Know how long the results need to be kept for.• Understand when corrective action should be taken and when additional testing should occur.
K3.4	Chemical influence	<ul style="list-style-type: none">• Understand other chemical factors to be tested in swimming pools and recreational water systems.• Describe the objectives of acceptable water balance parameters.• Identify the ideal range, for example total alkalinity and calcium hardness.• Identify the guidance for total dissolved solids.

Ref	Skills:	A Pool Plant Operative must:
S3.1	Pool water testing procedures	<ul style="list-style-type: none">• Demonstrate the correct methods for carrying out pool water tests. These should include:<ul style="list-style-type: none">- Free chlorine.- Total chlorine.- Combined chlorine.- pH.- Other non-chlorine-based tests.- Calcium hardness.- Total dissolved solids.- Temperature.- Total alkalinity.
S3.2	Data collection and analysis	<ul style="list-style-type: none">• Interpret the results collated from the pool water tests and compare with optimum range and take appropriate action.• Record results in an appropriate format and in a timely manner.

4. Pool plant operations

Ref	Knowledge and understanding:	A Pool Plant Operative must:
K4.1	Water treatment equipment	<ul style="list-style-type: none">• Understand the direction of pool water flow and key features on a typical pool schematic diagram.• Understand the function of the main components of a pool plant to include:<ul style="list-style-type: none">- Filters.- Pumps.- Strainers.- Disinfection and pH control.- Automatic dosing units.- Main valves.- Flocculation/coagulation.• Know the different types of valves in a pool plant to include:<ul style="list-style-type: none">- Butterfly valve.- Ball valve.- Gate valve.- Multiport valves.- Non-return or check valves.
K4.2	System and pool design	<ul style="list-style-type: none">• Understand the factors to be considered when operating pool water treatment to include:<ul style="list-style-type: none">- Use.- Bathing load.- Operational daily maximum bather load.- Circulation rate.- Turnover.
K4.3	Water circulation	<ul style="list-style-type: none">• Know the systems for surface water removal (deck level, skimmers and overflow channels).• Know the function of a balance tank.• Understand why regular checks should be carried out on pool inlets and outlets.
K4.4	Water temperature	<ul style="list-style-type: none">• Know the recommended water temperature range for different pools.
K4.5	Water filtration	<ul style="list-style-type: none">• Understand the principles of pool water filtration and how to maintain the clarity of the water.• Know the different features of medium and high rate filters, parts of a filter and procedure involved in backwashing, including reason and recording.• Know the different filter systems, to include:<ul style="list-style-type: none">- Sand and glass media filters.- Pre-coat (DE) filters.- Cartridge filters.• Understand the importance of the coagulation/flocculation process.• Know the recommended dilution rate per bather.

Ref	Knowledge and understanding:	A Pool Plant Operative must:
K4.6	Disinfection of pool water	<ul style="list-style-type: none"> • Know the factors that influence the choice of residual disinfectant • Understand the different types of residual (primary) disinfection systems, to include: <ul style="list-style-type: none"> - Sodium hypochlorite. - Calcium hypochlorite. - Chlorine gas. - Electrochlorination (salt generation of sodium hypochlorite). - Chlorinated isocyanurates. - Bromochlorodimethylhydantoin. - Sodium bromide plus hypochlorite. • Understand the different types of non-residual (secondary) disinfection systems, to include: <ul style="list-style-type: none"> - UV. - Ozone.
K4.7	Energy efficiency	<ul style="list-style-type: none"> • Know how operatives can improve energy efficiency. • Know the systems that can be used to run an economic, energy efficient and effective pool facility. • Know how to record and review energy usage to improve energy performance.
Ref	Skills:	A Pool Plant Operative must:
S4.1	Basic schematic diagram	<ul style="list-style-type: none"> • Be able to draw a basic schematic diagram to show the water flow through the plant and systems at individual places of work.
S4.2	Risk assessments	<ul style="list-style-type: none"> • Undertake a risk assessment of the storage and use of chemicals.
S4.3	Backwashing	<ul style="list-style-type: none"> • Demonstrate understanding of how to carry out a backwash of the filtration system, cleaning strainer baskets and how to clean and calibrate probes in automatic dosing units.
S4.4	Appropriate checks	<ul style="list-style-type: none"> • Carry out appropriate checks and take appropriate corrective action.

5. Pool water quality

Ref	Knowledge and understanding:	A Pool Plant Operative must:
K5.1	Water pollution	<ul style="list-style-type: none"> Identify the potential causes of water pollution, to include: <ul style="list-style-type: none"> Physical pollutants. Chemical pollutants. Biological pollutants.
K5.2	Hygiene and cleanliness	<ul style="list-style-type: none"> Know the importance of good hygiene for both pool operatives and pool user. Identify ways in which good pool hygiene can be promoted to the pool user. Identify ways to minimise the transfer of dirt on to poolside. Know the correct procedure for effective cleaning of the pool and surrounding environment.
K5.3	Emergency procedures	<ul style="list-style-type: none"> Understand how to implement emergency procedures in a pool environment. Know the emergency procedures that should be actioned. Know the dangers of cryptosporidium in pools and the key characteristics. Know the procedure for dealing with the following incidents in the pool: <ul style="list-style-type: none"> Faecal (Solid). Faecal (Runny). Blood. Vomit.
K5.4	Water quality and hygiene	<ul style="list-style-type: none"> Know the different types of diseases and infections associated with poor water quality. Know the importance and purpose of microbiological testing. Identify how often pools should be microbiologically tested and what action should be taken if results are found to be unsatisfactory.
Ref	Skills:	A Pool Plant Operative must:
S5.1	Hygiene and cleanliness	<ul style="list-style-type: none"> Ensure pool surrounds and tide marks are cleaned appropriately.
S5.2	Water quality and hygiene	<ul style="list-style-type: none"> Ensure that microbiological tests are carried out at the recommended frequency and when deemed necessary in other circumstances. Ensure the results are monitored and appropriate action is taken when necessary.

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