

This certificate is valid for Building Regulations & associated technical guidance in force on the date of registration and for the regulations in the countries indicated

## Plumis Automist 'Smartsan Hydra'

### Description of Product

This is an assessment of the Plumis Automist multiroom Smartsan Hydra targeted fire suppression system. The system utilises multiple water nozzle spray heads connected to a single pump which is capable of discharging water mist spray effectively cooling and suppressing the fire.



### Key Factors Assessed

- Safety in case of Fire
- Safety in Use
- Durability serviceability and identification

### Validity

This certificate was first issued on 22<sup>nd</sup> June 2018 and is valid until 22<sup>nd</sup> April 2019.

Issue Dated 22<sup>nd</sup> June 2018

## Scope of Registration

The system operates when fire is detected by the Plumis multisensor detector. This causes all the linked spray heads to scan the room, the temperature in room is measured by the infrared sensor which register exceptionally high temperatures. All heads registering high temperatures are compared to select the spray head which has the best view of the fire. The selected spray head locks onto the fire location and pump activation takes place. Mains water is driven through the unique nozzle unit directing a dense fog into the location of the fire. The fire is saturated with mist spray suppressing the fire.

Watermist uses fine droplets that evaporate at the base of the fire to extract heat, cooling the fire and displacing oxygen from the fire zone. This results in fire control, suppression and extinguishment.

Nozzle heads are typically installed on the wall 1400mm-1450mm above the floor. Coverage is typically 6m radius with 180 degree spray pattern. Sufficient heads must be installed to cover the whole room taking account of obstructions and room configuration. Electrical supply to equipment should be in fire rated cabling typically FP200.

The system is intended to be used as an alternative to residential sprinkler systems. The system allows multiple heads to be connected to a single pump. Fire suppression can be controlled from a single nozzle head.

Each installation must be carried out by Plumis accredited installers who will specify, install, commission and maintain the Automist Smart Scan system in accordance with the Plumis Installation and Maintenance Manual and in accordance with BS8458; 2015 Fixed Fire Protection Systems- Residential and Domestic Watermist Systems Code of Practice for Design and Installation. The design must take into account the individual circumstances of the installation including issues such as room obstructions which will impact on the effectiveness of the watermist spray, nozzle locations and any individual circumstances which might prejudice the system installation.

Typical System components include but are not limited to the following:

- Plumis detector
- Automist Smart Scan Head
- High pressure outlet hose
- Testing point
- Automist controller and pump unit
- Stainless steel hose
- Filter
- WRAS approved check valve
- Data Cable

The capability of the system has been independently tested by Exova Warrington Fire in accordance with BS8458 2015 Annex C. The system may be used as an automatic fire suppression system for life safety in both domestic and residential occupancies up to a maximum building height of 45m.

The system coverage is limited in use to those specific situations identified in Approved Document B Fire Safety or Table 2 of BS 9991;2015 Fire Safety in the Design management and use of residential buildings-code of practice.

For Scottish purposes:

Alternative suppression systems - there are many alternative or innovative fire suppression systems available including systems utilising domestic plumbing and watermist systems. Such systems are not called up by the Technical Handbooks in support of the Mandatory Standards -consequently any consideration of such a system must be carried out by the verifier following the submission of an alternative design approach by the designer/installer.

## Conditions of Certificate

The system is limited in use to those specific situations identified in Table 2 of BS 9991; 2015 'Fire Safety in the design, management and use of residential buildings - code of practice'.

The system must be designed, installed and maintained by a Plumis accredited Installer in accordance with BS 8458: 2015 Fixed Fire Protection Systems - Residential and Domestic Watermist Systems - Code of Practice for Design and Installation and in accordance with the most up to date Plumis Automist Smartscan Design, Installation, Operation and Maintenance (DIOM) Manual.

Design limits are detailed in BS 8458 2015. These include the limits of application based on fire tests identified in Table 3 of BS 8458 2015 'Fixed Fire Protection Systems - Residential and Domestic Watermist Systems - Code of Practice for Design and Installation'. The fire testing carried out by Exova Warrington identified the following fire test limits; Domestic Buildings-room size 80m<sup>2</sup> and ceiling height limit 3.5m, Residential Buildings room size 80m<sup>2</sup> and ceiling height limit 3.5m. A comprehensive fire engineering assessment would be needed to justify installations where these limits are exceeded.

The maximum total length of high-pressure hoses is 60 m. The maximum allowable hose with a nominal diameter of ¼" is 20m, and maximum allowable hose with a nominal diameter of 5/16" is 40m when used in combination. The two hose types can be used in combination if the total length does not exceed the 60m limit. If a 5/16" only installation is made, the maximum hose length is of 50m.

When used as a direct replacement for a BS 8458 sprinkler, the extent of watermist coverage should include all parts of the dwelling with the possible exception of areas without a fire risk such as bathrooms floor area <5m<sup>2</sup>, cupboards floor area <2m<sup>2</sup>, non-communicating attached buildings, ceiling voids and uninhabited roof voids as identified in clause 6.4 of BS 8458; 2015.

The system may be fed direct from the mains. The design will include recommendations for water pressure, flow and duration typically 6 l / minute of flow at 1 bar pressure.

Installation must be carried out by suitably trained and competent individuals or by one of the manufacturers approved licensees.

Only components approved by Plumis may be utilised in the system.

The installed system must be subject to servicing as advised by the Plumis. Annual maintenance must be carried out by an accredited Plumis contractor.

All other requirements of Approved Document B or BS9991 2015 relating to fire safety measures includes for example smoke detection, passive fire protection, smoke ventilation must be fully complied with to ensure adequate safety in the event of fire.

For Scotland purposes:

That the specifications and materials referred to have been assessed in accordance with the Building (Scotland) Regulations 2004 and in accordance with the supporting guidance in the Domestic Technical Handbooks which came into force with effect from 1 October 2015.

That where reference is made on a plan or specification document to any Code of Practice, British or European Standard or manufacturer's instruction it shall be construed as a reference to such publication in the form in which it is in force at the date of this Registered Detail.

That the materials specified shall be for purposes of this Registered Detail and should not be changed without first gaining approval so to do from Local Authority Building Standards Scotland [LABSS]. Failure to do so will invalidate the Registered Detail.

That the Registered Detail shall be valid for a period of 12 months from the date of issue or until otherwise invalidated by formal notice by LABSS. The Registered Detail may be re-validated after 12 months following a request and payment of an annual renewal fee from the Registered Detail Holder.

This Registered Detail should not be regarded as a formal approval under the building warrant process prescribed by the Building (Scotland) Act 2003 enacted from 1 May 2005.

That this Registered Detail shall contribute to compliance with relevant Mandatory Standards specified under the Building (Scotland) Regulations 2004 as amended when read with the scope, conditions and regulations sections to this Registered Detail.

This Registered Detail, when used in support of an application for a building warrant, must be accompanied by a site-specific alternative design submission to each verifier where the system is to be installed to justify compliance with Mandatory Standard 2.15 when considered with Guidance Clause 2.15.1.

LABC and LABSS consider that, Automist 'Smartsan Hydra' will meet the functional requirements of the Building Regulations (listed below) if the criteria detailed in this certificate are met;



## The Building Regulations 2010 (as amended) England & Wales

Regulation 7      Materials and workmanship

Note:                The product is acceptable when installed, commissioned and maintained in accordance with the manufacturers recommendations and the documentation referenced in 'Supporting Documentation' below.

AD B                 Fire Safety

Note:                Where following the recommendations of the following guidance documents: Approved Document B: Fire Safety and BS 9991:2015 'Fire safety in the design, management and use of residential buildings: code of practice' and BS 8458 2015 'Fixed Fire Protection Systems - Residential and Domestic Watermist Systems - Code of Practice for Design and Installation'.



## The Building Regulations 2010 (as amended) England

AD B                 Fire Safety

Note:                Where following the recommendations of the following guidance documents: Approved Document B: Fire Safety and BS 9991:2015 - Fire safety in the design, management and use of residential buildings: code of practice



## The Building Regulations 2010 (as amended) Wales

AD B                 Fire Safety

Note:                Where following the recommendations of the following guidance documents: Approved Document B: Fire Safety and BS 9991:2015 - Fire safety in the design, management and use of residential buildings: code of practice



## The Building (Scotland) Regulations 2004 (as amended)

Technical Handbooks Domestic and Non-Domestic

Regulation 8      Durability, workmanship and fitness of materials

0.8.5:                Ways of establishing the fitness of materials

Note:                The product is acceptable when installed in accordance with all of the manufacturer's instructions and the documentation referenced in 'Supporting Documentation' below and within the Scope of registration and the Conditions of this Certificate specified above.

Regulation 9      Building Standards applicable to construction

Note:                Construction shall be carried out so that the work complies with the applicable requirements of schedule 5.

### Mandatory

Standard 2.15 Automatic fire suppression systems

Clause 2.15.1 Automatic fire suppression systems

Note: This Registered Detail, when used in support of an application for a building warrant, must be accompanied by a site-specific alternative approach design submission to each verifier where the system is to be installed to justify compliance with Mandatory Standards 2.15 when considered with Guidance Clause 2.15.1.

Alternative approaches in a particular case may or may not be compensated by an automatic fire suppression system.

## Non-Regulatory Information



### LABC Warranty

The use of the Automist 'Smartsan Hydra' has not been assessed to meet the requirements of the LABC Warranty Technical Manual. If you would like to discuss a specific use please make an enquiry to [technical.services@labcwarranty.co.uk](mailto:technical.services@labcwarranty.co.uk)

## Supporting Documentation

Exova Warringtonfire Test to BS 8458; 2015 Annex 'C' 'Method of measuring the capability of a Watermist System to control a Fire - Room fire test for Watermist Systems with Automatic Nozzles' Document reference: 396489 Dated 23<sup>rd</sup> April 2018

BS 8458 2015 'Fixed Fire Protection Systems - Residential and Domestic Watermist Systems - Code of Practice for Design and Installation'

BS 9991; 2015 'Fire Safety in the design, management and use of residential buildings - code of practice'

Plumis Automist Smartsan® Hydra Design, Installation Maintenance Manual - Version 0.0.5

Plumis LABC Hydra Validation tests on 24<sup>th</sup> March 2018

ISO 9001 2015 Design Manufacture and Supply of Watermist Systems

## Contact Information

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