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ACTIVE FIRE PROTECTION - EQUIPMENT LISTING SCHEME
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PRODUCT LISTING DATA SHEET
(Active Fire Protection Equipment)

Product Designation

Grinnell, AquaMist®, Model Am24, 15NS x 9.2K(metric), 57°/68°/79°/93°C, 3 mm bulb, Pend., QR Water-mist Nozzles

(Refer to the Technical Specification section of this document for further specific detail)

Designated Supplier

Tyco Services Distribution - Fixed Fire Products
81B Jedda Road, HOXTON PARK, NSW, AUSTRALIA, 2171

Designated Manufacturer

Grinnell Corporation
1467 Elmwood Avenue, CRANSTON, RI, U.S.A., 02910

Supplier's Description

The Grinnell, AquaMist®, Model Am24, 15NS x 9.2K(metric), 57°/68°/79°/93°C, 3 mm bulb, Pend., QR Water-mist Nozzles are a bronze-framed frangible glass bulb type automatic nozzles for use in engineered wet pipe or single-interlock preaction water-mist fire-suppression systems for protection of Light Hazard and Ordinary Hazard Groups 1 and 2 risks as defined in NFPA 13 and AS 2118. This listing of the Am24 nozzles covers their use only in engineered hydraulically calculated systems designed and installed in accordance with the National Fire Protection Association Standard for Installation of Water Mist Fire Suppression Systems, NFPA 750 or, when published, its equivalent Australian Standard for design, installation, and commissioning of water mist systems.

The Am24 nozzle utilises an intermediate-pressure single jet of aqueous fluid impinging on a diffuser which produces a spray having a range of water droplet sizes suitable for the protection of the above Hazard Classifications.

The passageways of the nozzle inlet strainer and orifice insert have been designed to allow the nozzles to be used with unfiltered water supplies. However, a corrosion-resistant cleanable strainer with maximum basket perforation diameter of 2.5 mm is required to be installed upstream of the first branching to a water mist nozzle.

Systems using Am24 nozzles may operate with natural sea water providing that they are pre-charged with potable water and, after each system operation, the system is flushed with potable water before being again pre-charged.

Testing, Appraisal & Quality Assurance

The Grinnell, AquaMist®, Model Am24, 15NS x 9.2K(metric), 57°/68°/79°/93°C, 3 mm bulb, Pend., QR Water-mist Nozzles comply with the requirements of Underwriters Laboratories Test Procedure UL 2167, 'Water Mist Nozzles for Fire Protection Service' and Follow-up Service.

They are subject to an ActivFire/Tyco Services Distribution - Fixed Fire Products Supplier Listing Agreement.

This product listing data sheet should be read in conjunction with the general requirements and conditions stated by the "Terms and conditions" of the Register of Fire Protection Equipment.

Manager - ActivFire

† valid until the date indicated unless previously superseded or withdrawn

Limitations of Use

Limitations of use, where identified on this Product Listing Data Sheet, are derived from qualifications within the report of the testing agency and/or other related technical documentation. It is recommended that all details with respect to design, assembly and installation restrictions should be checked against the designated supplier's/manufacturer's current technical manual/data sheets and the requirements of the Authority having Jurisdiction.

For compliance with this listing, the Grinnell, AquaMist®, Model Am24, 15NS x 9.2K(metric), 57°/68°/79°/93°C, 3 mm bulb, Pend., QR Water-mist Nozzles shall be used only in engineered hydraulically calculated systems designed and installed in accordance with the National Fire Protection Association Standard for Installation of Water Mist Fire Suppression Systems, NFPA 750 or, when published, its equivalent Australian Standard for design, installation, and commissioning of water mist systems.

This listing is valid only where the ceiling height does not exceed 3.05 m for Ordinary Hazard Group 1 risks or 2.40 m for Ordinary Hazard Group 2 risks. For single-interlock preaction systems, and wet-pipe systems using 57°C and 93°C nozzles, the system total protected area shall not exceed 149 m^2. For wet-pipe systems using only 68°C and 79°C nozzles, the system total protected area is unlimited. The nozzles shall only be pendent oriented, and the ceiling to nozzle distance shall be not less than 40 mm or more than 100 mm. For Light Hazard and Ordinary Hazard Group 1 systems, the vertical clearance between protected commodity and the nozzle deflector shall be not less than 0.61 m. For all Am24 systems, nozzle to wall spacing shall be not more than 1.25 m, and spacing otherwise shall not exceed 2.5 m x 2.5 m. Minimum nozzle to nozzle spacing shall be 0.76 m. The operating pressure range shall be 11.7 to 17.2 bar, and the nominal flow constant (K, metric) used for system design shall be 9.2 (litres/minute, bar).

The Am24 nozzles shall not be used in environments which are likely to unacceptably degrade the selected nozzle finish, or exposed materials of construction, as specified in Grinnell Technical Data Sheet TD1172 dated November 1997.

Pipe (tube) and fittings located downstream of the main pipeline strainer shall be brass, copper, or stainless steel, as specified in NFPA 750 and in Grinnell Data Sheet TD1172 of November 1997. Non-stainless ferrous fittings and pipe shall not be used, even if galvanised or other coating is applied. For Light Hazard systems only, CPVC pipes and fittings specifically listed for light hazard fire protection service may be used provided that they are installed in accordance with their listings and the pipe manufacturer's instructions. CPVC pipes and fittings shall not be used where the service pressure and temperature would exceed 12.1 bar and 66°C respectively. CPVC pipe shall not be installed above open-gridded ceilings, within combustible concealed spaces required to be sprinkler protected, or in other exposed situations.

Technical Specification

The following details are a representative extract of the technical specification for the Grinnell, AquaMist®, Model Am24, 15NS x 9.2K(metric), 57°/68°/79°/93°C, 3 mm bulb, Pend., QR Water-mist Nozzles and may be subject to change. Complete and current details should be determined from the designated supplier's/manufacturer's technical manual/data sheets.

Nominal Orifice Size:	4.75 mm
Inlet Strainer Perforations:	3.18 mm diameter
Nominal K Factor (metric):	9.2 (litres/minute, bar)
Design Min. Operating Pressure:	7.0 bar
Design Max. Working Pressure:	17.2 bar
Thread Size:	15NS (available with NPT or ISO 7/1 thread)
Dimensions:	Overall Length (including inlet strainer) 76 mm approx.
Nominal Weight:	70 grams

Supplementary information

Standard Finishes: Unpainted bronze (investment-cast finish), white polyester, or bright chromium-plating.

Preaction Valve: Use Grinnell Model F445 or Model F446 Automatic Water Control valves with Electric Actuation Trim, for maximum working pressures of 12.1 bar and 17.2 bar, respectively. A smoke detection system shall be used to operate the preaction valves.

Tightening Torque: 10 to 20 Nm should be adequate to give a leak-tight joint. However, 28 Nm must not be exceeded. The Grinnell Model F855 Nozzle Wrench shall be used when installing or removing the polyester-coated nozzles, but a 200 - 250 mm long adjustable wrench may be used with unpainted or chrome-plated nozzles.