

Ultra Low Flow AQUAMIST Nozzles Type ULF AM27 Automatic (Closed)

General Description

The TYCO Ultra Low Flow AQUAMIST Nozzles Type ULF AM27 are closed (automatic) nozzles intended for use with engineered, water-mist systems. They are low-pressure nozzles that utilize a single fluid jet impinging on a diffuser to produce a spray having a range of water droplet sizes suitable for the control of Class A fires.

It is recommended that the end user be consulted with respect to the suitability of the materials of construction and finish for any given corrosive environment. The effects of ambient temperature, concentration of chemicals, and gas/chemical velocity should be considered, at a minimum, along with the corrosive nature to which the nozzles may be exposed.

NOTICE

The Type ULF AM27 AQUAMIST Nozzles described herein must be installed and maintained in compliance with this document and with the applicable standards of the National Fire Protection Association, in addition to the standards of any authorities having jurisdiction. Failure to do so may impair the performance of these devices.

The design of individual water mist systems can vary considerably, depending on the characteristics and nature

IMPORTANT

Always refer to Technical Data Sheet TFP700 for the "INSTALLER WARNING" that provides cautions with respect to handling and installation of sprinkler systems and components. Improper handling and installation can permanently damage a sprinkler system or its components and cause the sprinkler to fail to operate in a fire situation or cause it to operate prematurely.

of the hazard and the basic purpose of the water mist system. Because of these variations, the design of water mist systems for fire protection must only be performed by experienced designers who thoroughly understand the limitations as well as capabilities of such systems.

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. The installing contractor or nozzle manufacturer should be contacted with any questions.

Approvals

The TYCO Type ULF AM27 AQUAMIST Nozzles in a 57°C/135°F temperature rating and in a natural brass finish are Factory Mutual Approved when used as part of an engineered, wet pipe water mist system. In particular, the FM Approval testing was performed in accordance with FM Class 5560, Approval Standard for Water Mist Systems.

Technical Data

Discharge Coefficient
K = 11,7 LPM/bar^{1/2}
(K = 0.81 GPM/psi^{1/2})

Thread Connection
1/2 inch NPT

Finish
Natural Brass, Chrome Plated, or White Coated

Temperature Ratings
Refer to Table A.

Physical Characteristics
Frame Brass
Strainer Copper
Orifice Insert Bronze
Button Bronze
Sealing Assembly Beryllium
Nickel w/Teflon†

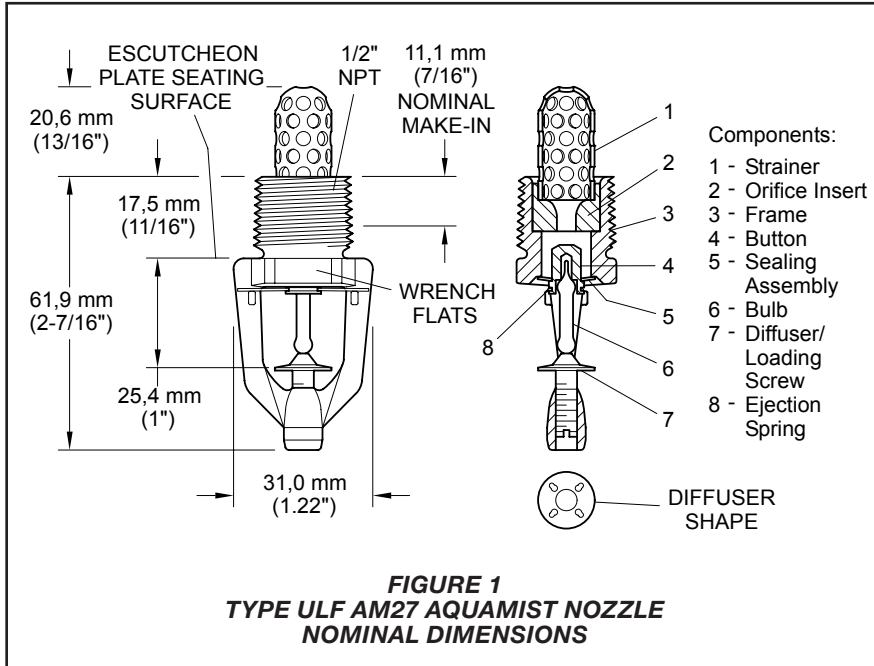


Ejection Spring Stainless Steel
Bulb Glass
Diffuser/Loading Screw . . . Stainless Steel

The smallest waterway (orifice) diameter of the Orifice Insert is nominally 4,3 mm (0.169 inches). The diameter of the Inlet Strainer perforations is nominally 3,2 mm (0.125 inches).

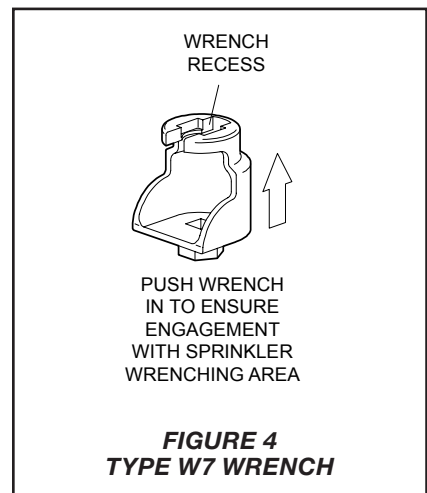
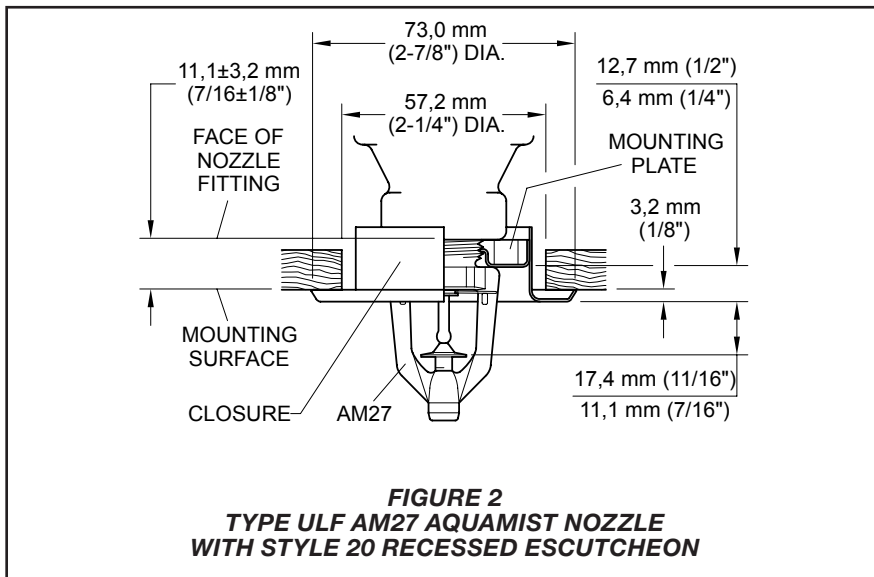
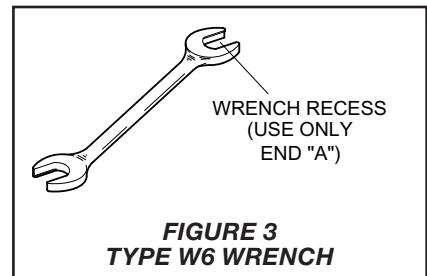
Patent
Patent pending

† DuPont Registered Trademark



Temperature Rating	Bulb Fluid Color
57°C/135°F	Orange
68°C/155°F	Red
79°C/175°F	Yellow
93°C/200°F	Green

TABLE A
SELECTION OF
TEMPERATURE RATINGS



Design Criteria

Obtain guidance for the design of a water-mist system that utilizes the TYCO Type ULF AM27 AQUAMIST Nozzles from the Technical Services department.

Installation

The TYCO Type ULF AM27 AQUAMIST Nozzles must be installed in accordance with the following instructions.

NOTICE

Do not install any bulb-type nozzle if the bulb is cracked or there is a loss of liquid from the bulb. With the nozzle held horizontally, a small air bubble should be present. The diameter of the air bubble is approximately 1,6 mm (1/16 inch) for the 57°C/135°F to 2,4 mm (3/32 inch) for the 93°C/200°F temperature ratings.

Obtain a leak-tight 1/2 inch NPT nozzle joint by applying a minimum-to-maximum torque of 9,5 to 19,0 Nm (7 to 14 ft.-lbs.). Higher levels of torque can distort the nozzle inlet and cause leakage or impairment of the nozzle.

Do not attempt to compensate for insufficient adjustment in the escutcheon plate by under or over-tightening the nozzle. Re-adjust the position of the nozzle fitting to suit.

Type ULF AM27

The Type ULF AM27 AQUAMIST Nozzles must be installed in accordance with the following instructions.

Step 1. Install the Type ULF AM27 in the pendent position as shown in Figure 1.

Step 2. With pipe-thread sealant applied to the pipe threads, hand-tighten the nozzle into the nozzle fitting.

Step 3. Tighten the nozzle into the nozzle fitting using only the W-Type 6 Wrench (refer to Figure 3). With reference to Figure 1, apply the W-Type 6 Wrench to the Wrench Flats.

Type ULF AM27 Recessed

The Type ULF AM27 AQUAMIST Recessed Nozzles must be installed in accordance with the following instructions.

Step 1. Install the Recessed Type ULF AM27 in the pendent position as shown in Figure 2.

Step 2. After installing the Style 20 Mounting Plate, as applicable, over the nozzle threads and with pipe-thread sealant applied to the pipe threads, hand-tighten the nozzle into the nozzle fitting.

Step 3. Tighten the nozzle into the nozzle fitting using only the W-Type 7 Wrench (refer to Figure 4). With reference to

Figure 1, apply the W-Type 7 Wrench to the nozzle Wrench Flats.

Step 4. After the ceiling has been installed or the finish coat has been applied, slide on the Style 20 Closure over the Type ULF AM27 Nozzle and push the Closure over the Mounting Plate until its flange comes in contact with the ceiling.

Care and Maintenance

The TYCO Type ULF AM27 AQUAMIST Nozzles must be maintained and serviced in accordance with the following instructions.

NOTICE

Before closing a fire protection system main control valve for maintenance work on the fire protection system that it controls, obtain permission to shut down the affected fire protection system from the proper authorities and notify all personnel who may be affected by this action.

Absence of an escutcheon, which is used to cover a clearance hole, can delay the time to nozzle operation in a fire situation.

Exercise care to avoid damage to Type ULF AM27 Nozzles before, during and after installation. Never paint, plate, coat, or otherwise alter nozzles after they leave the factory.

To prevent impaired performance, replace nozzles that:

- were modified or over-heated.
- were damaged by dropping, striking, wrench twisting, wrench slippage, or the like.
- are leaking or showing visible signs of corrosion.
- were exposed to corrosive products of combustion but not operated if they cannot be completely cleaned by wiping the nozzle with a cloth or by brushing it with a soft bristle brush.
- have a cracked bulb or have lost liquid from the bulb. (Refer to the Installation section.)

Frequent visual inspections are recommended to be initially performed for nozzles installed in potentially corrosive atmospheres to verify the integrity of the materials of construction and finish as they may be affected by the corrosive conditions present for a given installation. Thereafter, annual inspections per NFPA 25 are required, in addition to inspections required by the authority having jurisdiction.

Responsibility lies with the owner for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the National Fire Protection Association (for example, NFPA 20, 25, and 750), in addition to the standards of any other authorities having jurisdiction. Contact the installing contractor or sprinkler manufacturer regarding any questions.

Water-mist fixed systems should be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes.

Limited Warranty

Products manufactured by Tyco Fire Suppression & Building Products (TFSBP) are warranted solely to the original Buyer for ten (10) years against defects in material and workmanship when paid for and properly installed and maintained under normal use and service. This warranty will expire ten (10) years from date of shipment by TFSBP. No warranty is given for products or components manufactured by companies not affiliated by ownership with TFSBP or for products and components which have been subject to misuse, improper installation, corrosion, or which have not been installed, maintained, modified or repaired in accordance with applicable Standards of the National Fire Protection Association, and/or the standards of any other Authorities Having Jurisdiction. Materials found by TFSBP to be defective shall be either repaired or replaced, at TFSBP's sole option. TFSBP neither assumes, nor authorizes any person to assume for it, any other obligation in connection with the sale of products or parts of products. TFSBP shall not be responsible for sprinkler system design errors or inaccurate or incomplete information supplied by Buyer or Buyer's representatives.

In no event shall TFSBP be liable, in contract, tort, strict liability or under any other legal theory, for incidental, indirect, special or consequential damages, including but not limited to labor charges, regardless of whether TFSBP was informed about the possibility of such damages, and in no event shall TFSBP's liability exceed an amount equal to the sales price.

The foregoing warranty is made in lieu of any and all other warranties, express or implied, including warranties of merchantability and fitness for a particular purpose.

This limited warranty sets forth the exclusive remedy for claims based on failure of or defect in products, materials or components, whether the claim is made in contract, tort, strict liability or any other legal theory.

This warranty will apply to the full extent permitted by law. The invalidity, in whole or part, of any portion of this warranty will not affect the remainder.

Ordering Procedure

Contact your local distributor for availability. When placing an order, indicate the full product name and P/N.

Type ULF AM27 AQUAMIST Nozzles

Specify: Type ULF AM27 AQUAMIST Nozzle with (type of) finish and (specify) temperature rating, P/N (specify).

Natural Brass

57°C/135°F P/N 49-212-1-135
68°C/155°F P/N 49-212-1-155
79°C/175°F P/N 49-212-1-175
93°C/200°F P/N 49-212-1-200

Chrome Plated

57°C/135°F P/N 49-212-9-135
68°C/155°F P/N 49-212-9-155
79°C/175°F P/N 49-212-9-175
93°C/200°F P/N 49-212-9-200

Signal White*

(RAL 9003)
57°C/135°F P/N 49-212-4-135
68°C/155°F P/N 49-212-4-155
79°C/175°F P/N 49-212-4-175
93°C/200°F P/N 49-212-4-200
* Previously known as Bright White

Pure White**

(RAL 9010)
57°C/135°F P/N 49-212-3-135
68°C/155°F P/N 49-212-3-155
79°C/175°F P/N 49-212-3-175
93°C/200°F P/N 49-212-3-200
** Eastern Hemisphere sales only

Recessed Escutcheon

Specify: Style 20 Recessed Escutcheon with (specify*) finish, P/N (specify*).

* Refer to Technical Data Sheet TFP770.

Wrench

Specify: Type W6 Wrench,
P/N 56-000-6-387.

Specify: Type W7 Wrench,
P/N 56-850-4-001.