

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 of the hazard and the basic purpose of the water mist system.

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.

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. Contact the installing contractor or product manufacturer 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

$K = 11,7 \text{ LPM/bar}^{1/2}$
($K = 0.81 \text{ GPM/psi}^{1/2}$)

Thread Connection

1/2 inch NPT

Finish

Natural Brass
Chrome Plated
White Coated

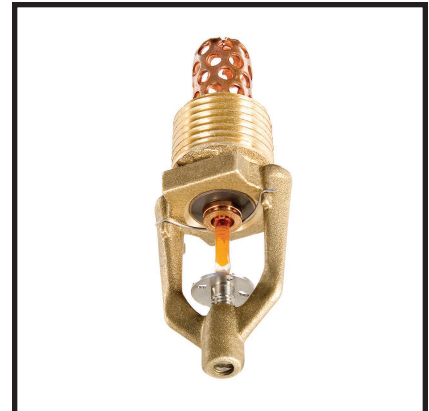
Temperature Ratings

Refer to Table A

Physical Characteristics

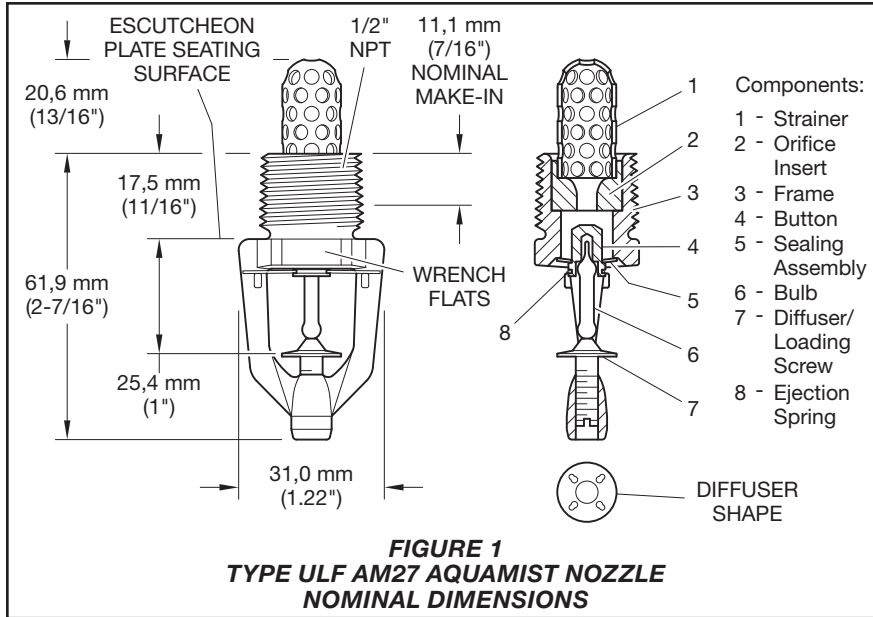
Frame	Brass
Strainer	Copper
Orifice Insert	Bronze
Button	Bronze
Sealing Assembly ..	Beryllium Nickel w/TEFLON
Ejection Spring	Stainless Steel
Bulb	Glass
Diffuser/Loading Screw	Stainless Steel

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).



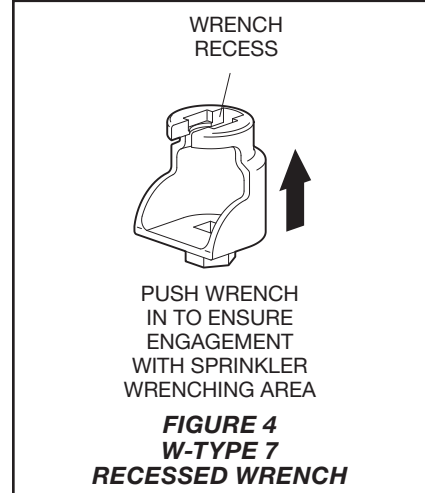
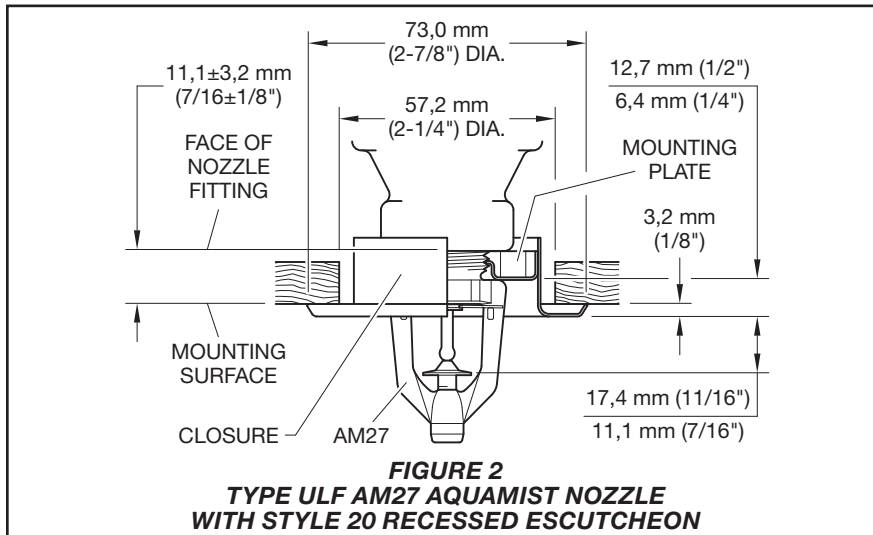
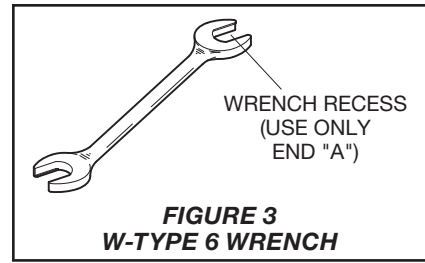
Design Criteria

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



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
TEMPERATURE RATINGS
SELECTION



Installation

The TYCO Type ULF AM27 AQUAMIST Nozzles must be installed in accordance with this section.

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 (Ref. 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 Recessed Wrench (Ref. Figure 4). With reference to Figure 1, apply the W-Type 7 Recessed Wrench to the nozzle Fitting 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 this section.

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.

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The owner must assure that the sprinklers are not used for hanging any objects and that the sprinklers are only cleaned by means of gently dusting with a feather duster; otherwise, non-operation in the event of a fire or inadvertent operation may result.

Sprinklers which are found to be leaking or exhibiting visible signs of corrosion must be replaced.

Automatic sprinklers must never be painted, plated, coated, or otherwise altered after leaving the factory. Modified sprinklers must be replaced. Sprinklers that have been exposed to corrosive products of combustion, but have not operated, should be replaced if they cannot be completely cleaned by wiping the sprinkler with a cloth or by brushing it with a soft bristle brush.

Care must be exercised to avoid damage to the sprinklers - before, during, and after installation. Sprinklers damaged by dropping, striking, wrench twist/slippage, or the like, must be replaced. Also, replace any sprinkler that has a cracked bulb or that has lost liquid from its bulb. (Ref. Installation Section.)

The owner is responsible 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 (e.g., NFPA 20, 25, and 750), in addition to the standards of any other authorities having jurisdiction. Contact the installing contractor or product manufacturer with 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

For warranty terms and conditions, visit www.tyco-fire.com.

Ordering Procedure

Contact your local distributor for availability. When placing an order, indicate the full product name and Part Number (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)	49-212-1-135
68°C (155°F)	49-212-1-155
79°C (175°F)	49-212-1-175
93°C (200°F)	49-212-1-200
Chrome Plated	
57°C (135°F)	49-212-9-135
68°C (155°F)	49-212-9-155
79°C (175°F)	49-212-9-175
93°C (200°F)	49-212-9-200
Signal White* (RAL 9003)	
57°C (135°F)	49-212-4-135
68°C (155°F)	49-212-4-155
79°C (175°F)	49-212-4-175
93°C (200°F)	49-212-4-200
Pure White** (RAL 9010)	
57°C (135°F)	49-212-3-135
68°C (155°F)	49-212-3-155
79°C (175°F)	49-212-3-175
93°C (200°F)	49-212-3-200

* Previously known as Bright White
** Eastern Hemisphere sales only

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

* Refer to Technical Data Sheet TFP770.

Nozzle Wrench
Specify: W-Type 6 Wrench,
P/N 56-000-6-387

Specify: W-Type 7 Recessed Wrench,
P/N 56-850-4-001

