

# Ultra Low Flow AQUAMIST Nozzles Type ULF AM29 Automatic (Closed)

## General Description

TYCO Ultra Low Flow AQUAMIST Nozzles Type ULF AM29 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 and the protection of data centers.

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 AM29 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 (NFPA), 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 AM29 AQUAMIST Nozzle in a 57°C (135°F) temperature rating and in a Natural Brass finish is FM Approved when used as part of a wet pipe system in HC-1 applications. The TYCO Type ULF AM29 AQUAMIST Nozzle in 57°C (135°F) and 68°C (155°C) temperature ratings and in a Natural Brass finish is FM Approved when used as part of a wet pipe or single-interlock preaction system in protection of data processing equipment rooms/halls. 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=8,5 lpm/bar<sup>1/2</sup> (K=0.59 gpm/psi<sup>1/2</sup>)

**Thread Connection**  
1/2 Inch NPT

**Finishes**  
Natural Brass  
Pure White  
Signal White  
Chrome Plated

**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	.....	Bronze
Loading Screw	.....	Bronze



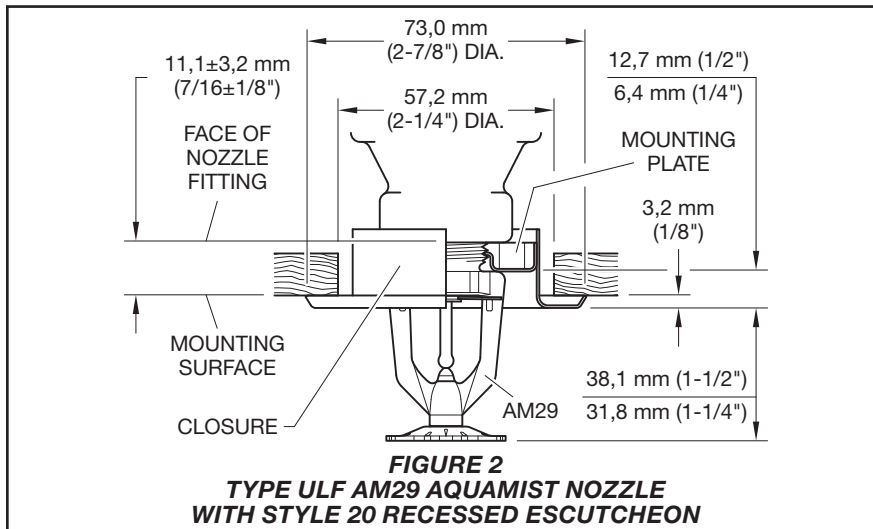
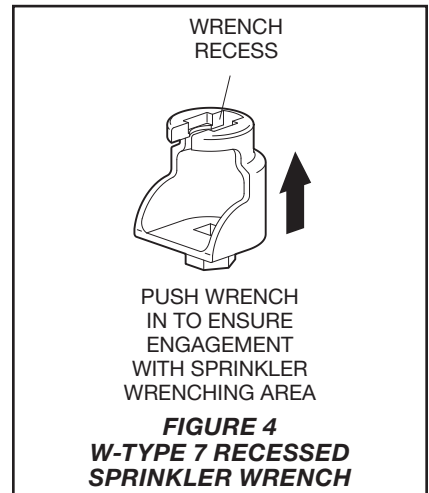
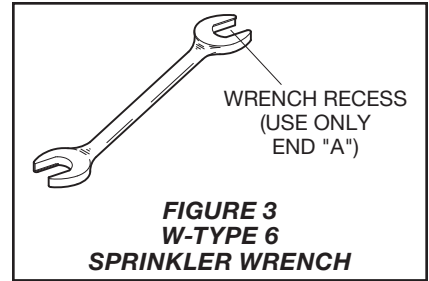
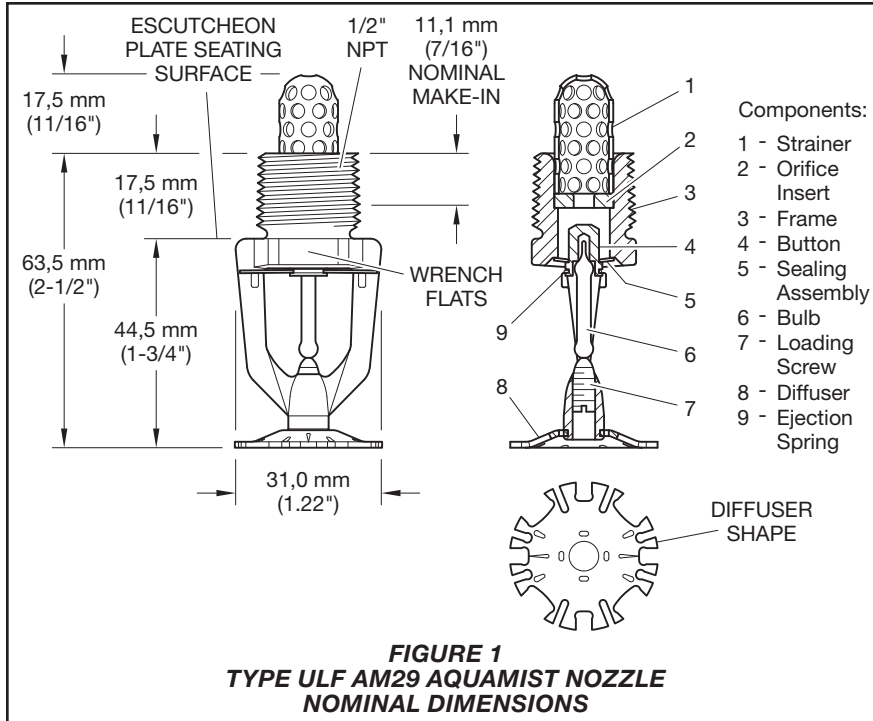
Temperature Rating	Bulb Fluid Color
57°C (135°F)	Orange
68°C (155°F)	Red
79°C (175°F)	Yellow
93°C (200°F)	Green
141°C (286°F)	Blue
182°C (360°F)	Mauve

**TABLE A  
TEMPERATURE RATING  
SELECTION**

The smallest waterway (orifice) diameter of the Orifice Insert is nominally 4,4 mm (0.172 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 AM29 AQUAMIST Nozzles from the Technical Services department.



**Step 3.** Tighten the nozzle into the nozzle fitting using only the W-Type 6 Sprinkler Wrench (Ref. Figure 3). With reference to Figure 1, apply the W-Type 6 Sprinkler Wrench to the wrench flats.

**Type ULF AM29 Recessed**  
 The Type ULF AM29 AQUAMIST Recessed Nozzles must be installed in accordance with the following instructions.

**Step A.** Install the Recessed Type ULF AM29 in the pendent position as shown in Figure 2.

**Step B.** 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 C.** Tighten the nozzle into the nozzle fitting using only the W-Type 7 Recessed Sprinkler Wrench (refer to Figure 1, apply the W-Type 7 Recessed Sprinkler Wrench to the nozzle wrench flats.

**Step D.** After the ceiling has been installed or the finish coat has been applied, slide on the Style 20 Closure over the Type ULF AM29 Nozzle and push the Closure over the Mounting Plate until its flange comes in contact with the ceiling.

**Note:** Absence of a Style 20 Recessed Escutcheon, which is used to cover a clearance hole, can delay the time to nozzle operation in a fire situation.

## Installation

TYCO Type ULF AM29 AQUAMIST Nozzles must be installed in accordance with this section.

### General Instructions

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 182°C (360°F) temperature ratings.

A leak-tight 1/2 inch NPT nozzle joint should be obtained 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 AM29

The Type ULF AM29 AQUAMIST Nozzles must be installed in accordance with the following instructions.

**Step 1.** Install the Type ULF AM29 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.

## Care and Maintenance

TYCO Type ULF AM29 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.

Nozzles that are found to be leaking or exhibiting visible signs of corrosion must be replaced.

Automatic nozzles must never be painted, plated, coated, or otherwise altered after leaving the factory. Modified nozzles must be replaced. Nozzles 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 nozzle with a cloth or by brushing it with a soft bristle brush.

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

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 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](http://www.tyco-fire.com).

## Ordering Procedure

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

### Type ULF AM29

#### AQUAMIST Nozzles

Specify: Type ULF AM29 AQUAMIST Nozzle with (specify) finish, (specify) temperature rating, P/N (specify)

#### Natural Brass

57°C (135°F) . . . . .	P/N 49-029-1-135
68°C (155°F) . . . . .	P/N 49-029-1-155
79°C (175°F) . . . . .	P/N 49-029-1-175
93°C (200°F) . . . . .	P/N 49-029-1-200
141°C (286°F) . . . . .	P/N 49-029-1-286
182°C (360°F) . . . . .	P/N 49-029-1-360

#### Pure White (RAL 9010) \*

57°C (135°F) . . . . .	P/N 49-029-3-135
68°C (155°F) . . . . .	P/N 49-029-3-155
79°C (175°F) . . . . .	P/N 49-029-3-175
93°C (200°F) . . . . .	P/N 49-029-3-200

\* Eastern Hemisphere sales only

#### Signal White (RAL 9003) \*\*

57°C (135°F) . . . . .	P/N 49-029-4-135
68°C (155°F) . . . . .	P/N 49-029-4-155
79°C (175°F) . . . . .	P/N 49-029-4-175
93°C (200°F) . . . . .	P/N 49-029-4-200

\*\* Previously known as Bright White

#### Chrome Plated

57°C (135°F) . . . . .	P/N 49-029-9-135
68°C (155°F) . . . . .	P/N 49-029-9-155
79°C (175°F) . . . . .	P/N 49-029-9-175
93°C (200°F) . . . . .	P/N 49-029-9-200
141°C (286°F) . . . . .	P/N 49-029-9-286
182°C (360°F) . . . . .	P/N 49-029-9-360

#### Recessed Escutcheon

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

\* Refer to Technical Data Sheet TFP770

#### Sprinkler Wrenches

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

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

