

## Ultra Low Flow AQUAMIST Nozzles Type ULF AM22 Automatic (Closed)

### General Description

The TYCO Ultra Low Flow AQUAMIST Nozzles Type ULF AM22 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 AM22 AQUAMIST Nozzles described herein must be installed and maintained in compliance with this document, as well as 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

#### IMPORTANT

Refer to Technical Data Sheet TFP2300 for warnings pertaining to regulatory and health information.

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.

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. Contact the installing contractor or product manufacturer with any questions.

### Technical Data

**Discharge Coefficient**  
K = 9,2 LPM/bar<sup>1/2</sup> (0.64 GPM/psi<sup>1/2</sup>)

**Thread Connection**  
1/2 in. NPT

**Response Time Index**  
Quick Response

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

**Temperature Ratings**  
Refer to Table A

**Physical Characteristics**

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

The smallest waterway (orifice) diameter of the Orifice Insert is nominally 4,4 mm (0.172 in.). The diameter of the Inlet Strainer perforations is nominally 3,2 mm (0.125 in.).

### Design Criteria

Obtain guidance for the design of a water-mist system that utilizes the TYCO Type ULF AM22 AQUAMIST Nozzles from the Technical Services department.



The Type ULF AM22 can only be installed in non-recessed applications.

### Installation

The TYCO Type ULF AM22 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 in.) for the 57°C (135°F) to 2,4 mm (3/32 in.) for the 93°C (200°F) temperature ratings.

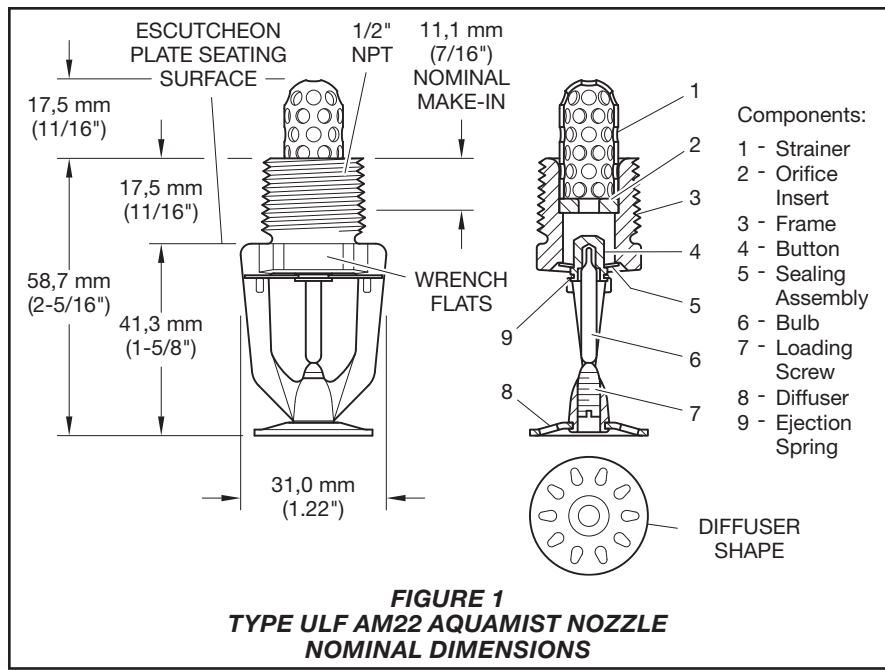
A leak-tight 1/2 inch NPT nozzle joint should be obtained by applying a minimum-to-maximum torque of 9,5 to 19,0 N·m (7 to 14 lb-ft). Higher levels of torque can distort the nozzle inlet and cause leakage or impairment of the nozzle.

For flush installations, use the Style 20 Escutcheon.

**Step 1.** Install the Type ULF AM22 Nozzle in the pendent position as shown in Figure 1.

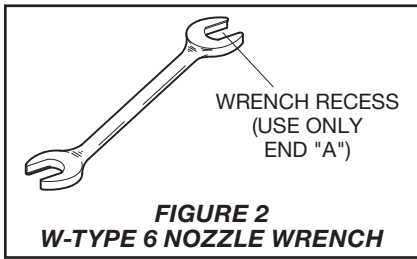
**Step 2.** With pipe-thread sealant applied to the pipe threads, hand-tighten the nozzle into the nozzle fitting.

**Step 3.** Tighten the nozzle into the nozzle fitting using only the W-Type 6 Nozzle Wrench, refer to Figure 2. With reference to Figure 1, apply the wrench to the Nozzle Wrench Flats.



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 RATING**  
**SELECTION**



**Note:** 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.

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

## Care and Maintenance

The TYCO Type ULF AM22 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 which 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 applicable standards 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 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](http://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 AM22 AQUAMIST Nozzles**  
 Specify: Type ULF AM22 AQUAMIST Nozzle with (specify finish), temperature rating (specify), P/N (specify):

**Natural Brass**

57°C (135°F)	49-209-1-135
68°C (155°F)	49-209-1-155
79°C (175°F)	49-209-1-175
93°C (200°F)	49-209-1-200

**Chrome Plated**

57°C (135°F)	49-209-9-135
68°C (155°F)	49-209-9-155
79°C (175°F)	49-209-9-175
93°C (200°F)	49-209-9-200

**Signal White\* (RAL9003)**

57°C (135°F)	49-209-4-135
68°C (155°F)	49-209-4-155
79°C (175°F)	49-209-4-175
93°C (200°F)	49-209-4-200

**Pure White\*\* (RAL9010)**

57°C (135°F)	49-209-3-135
68°C (155°F)	49-209-3-155
79°C (175°F)	49-209-3-175
93°C (200°F)	49-209-3-200

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

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

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

\*Refer to Technical Data Sheet TFP770