

## Issue A and B Exposure Protection Sprinklers, Window Type

### General Description

Exposure (Outside) Protection Sprinklers are utilized to provide protection from exposure fires on the outside of buildings. The Issue A and B Window Type Exposure Protection Sprinklers are intended for spraying water on window glazing at prescribed spacings and sprinkler locations at a minimum discharge pressure of 7 psi (0,48 bar).

The smaller orifice Issue A Sprinklers are normally used where exposure is light or moderate, the area of coverage is small, or where one horizontal line of window sprinklers is installed at each floor. The larger orifice Issue B Sprinklers are normally used where exposure is severe, or where one horizontal line of sprinklers is used to protect windows at more than one floor level.

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 sprinklers may be exposed.

#### 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.

The Issue A and B Window Type Exposure Protection Sprinklers are a re-designation for the Gem Issue A and B.

#### WARNINGS

*The Issue A and B Window Type Exposure Protection Sprinklers 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, in addition to the standards of any other authorities having jurisdiction. Failure to do so may impair the performance of these devices..*

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



NOZZLE TYPE	ORIFICE SIZE	THREAD SIZE (NPT)	K-FACTOR	
			NFPA (GPM / $\sqrt{\text{psi}}$ )	ISO/SI (LPM / $\sqrt{\text{bar}}$ )
ISSUE A	1/4"	1/2"	1.83	26,33
	5/16"	1/2"	2.62	37,72
	3/8"	1/2"	4.08	58,73
ISSUE B	1/2"	1/2"	5.76	82,93
	5/8"	3/4"	8.64	124,39
	3/4"	3/4"	12.39	178,39

**TABLE A**  
**ISSUE A AND B WINDOW TYPE EXPOSURE PROTECTION SPRINKLERS**  
**ORIFICE SIZES AND K-FACTORS**

# Technical Data

## Approvals

The Issue A and B Window Type Exposure Protection Sprinklers are UL Listed and FM Approved.

**Maximum Working Pressure**  
175 psi (12,1 bar).

**Discharge Coefficient**  
See Table A.

**Thread Connection**  
See Table A.

**Physical Characteristics**  
Body . . . . . Bronze

# Design Criteria

**Nozzle Placement.** Exposure Protection Sprinkler Systems must be designed, installed, and calculated in accordance with NFPA 13. Figures 2 and 3 provide nominal spray patterns.

**Main Pipeline Strainers.** The use of a main pipeline strainer per NFPA 13 is required for sprinklers having a nominal K-factor less than 2.8 (40,3).

# Installation

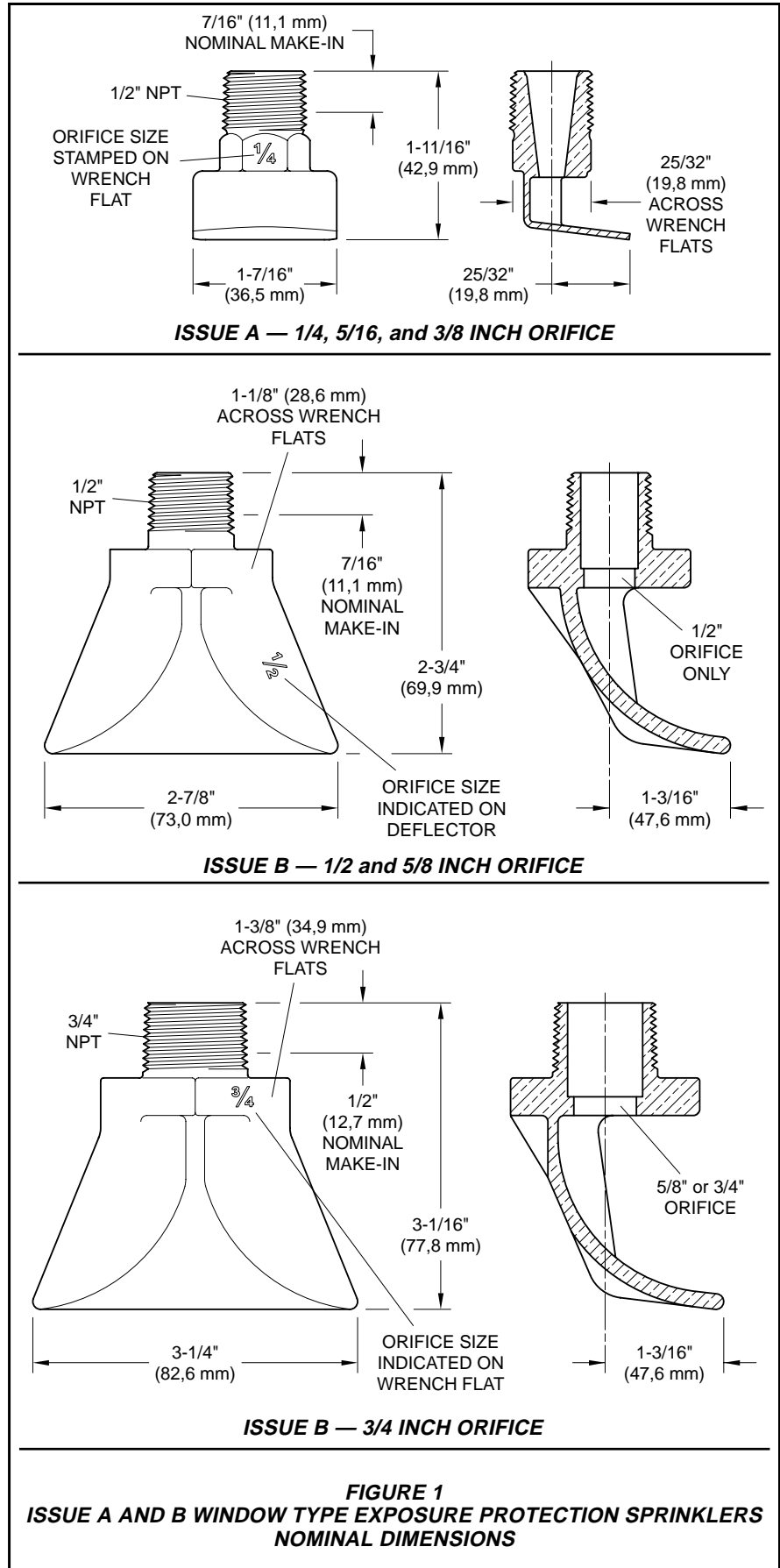
Issue A and B Window Type Exposure Protection Window Sprinklers must be installed in accordance with the following instructions:

### NOTE

A leak tight 1/2 inch NPT sprinkler joint should be obtained with a torque of 7 to 14 ft.lbs. (9,5 to 19,0 Nm). A maximum of 21 ft. lbs. (28,5 Nm) of torque may be used to install sprinklers with 1/2 NPT connections. A leak tight 3/4 inch NPT nozzle joint should be obtained with a torque of 10 to 20 ft.lbs. (13,4 to 26,8 Nm). A maximum of 30 ft. lbs. (40,7 Nm) of torque may be used to install sprinklers with 3/4 NPT connections. Higher levels of torque may distort the sprinkler inlet and cause leakage or impairment of the sprinklers.

**Step 1.** With pipe thread sealant applied to the pipe threads, hand tighten the sprinkler into the sprinkler fitting.

**Step 2.** Tighten the sprinkler into the sprinkler fitting using an adjustable crescent wrench. With reference to Figure 1 the adjustable crescent wrench is to be applied to wrench flats.



## Care and Maintenance

The Issue A and B Window Type Exposure Protection Sprinklers must be maintained and serviced in accordance with the following instructions:

### NOTE

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

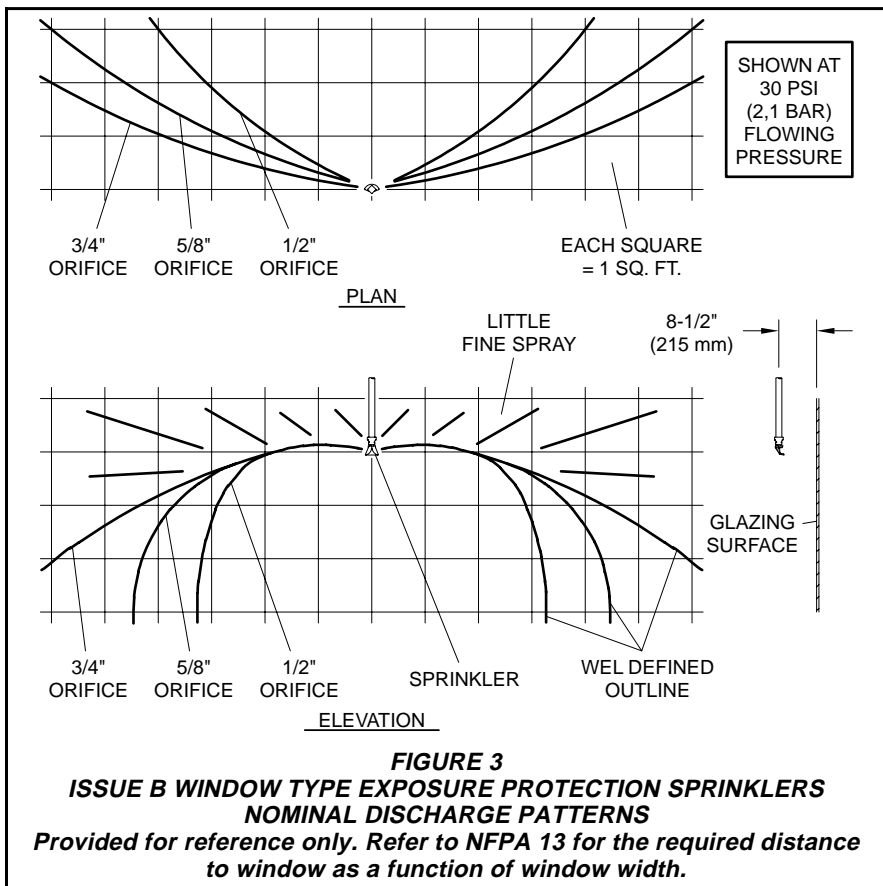
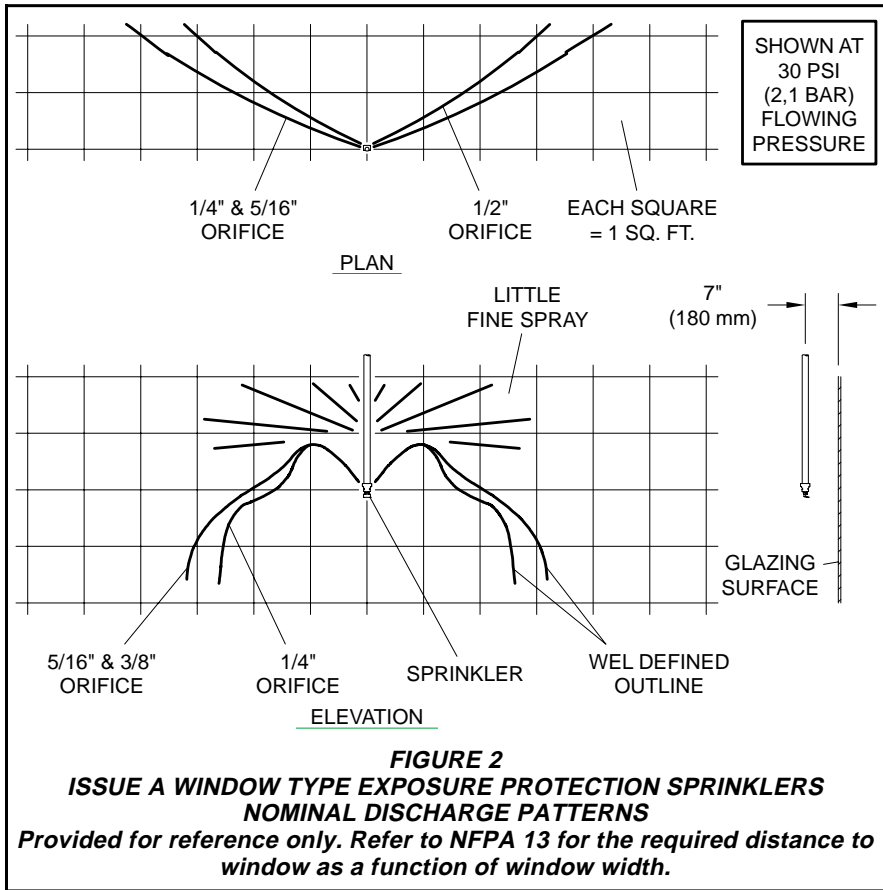
Issue A and B Window Type Exposure Protection Sprinklers must never be painted, plated, coated or altered in any way after leaving the factory; otherwise, the spray performance may be impaired.

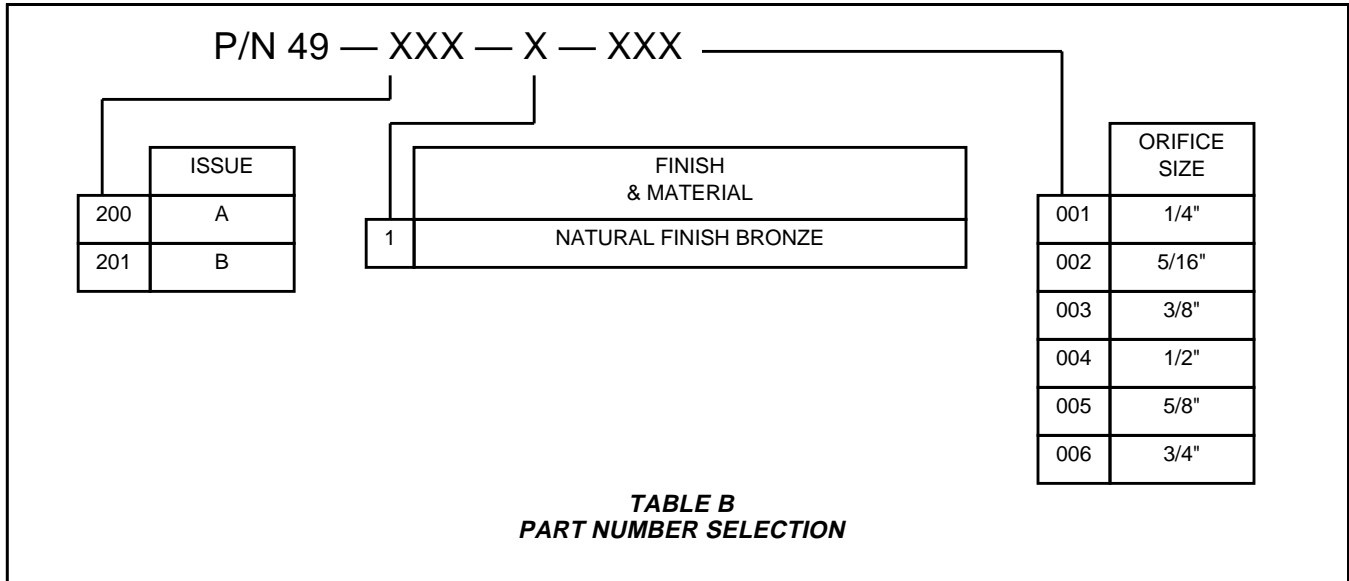
Care must be exercised to avoid damage to the sprinklers - before, during, and after installation. Sprinkler damaged by dropping, striking, wrench twist/slippage, or the like, must be replaced.

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 as they may be affected by the corrosive conditions present for a given installation. Thereafter, annual inspections per NFPA 25 are required.

Exposure protection systems for the outside of buildings require regularly scheduled care and maintenance by trained personnel. In addition to inspecting sprinklers for proper spray performance during water flow trip tests of the system, it is recommended that sprinklers be periodically inspected for loading/obstructions, or other evidence of impaired protection. The inspections should be scheduled weekly or as frequently as may be necessary, and corrective action must be taken to ensure that the sprinkler will perform as intended in the event of a fire.

The owner is responsible for the inspection, testing, and maintenance of their exposure 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 25), in addition to the standards of any other authorities having jurisdiction. The installing contractor or sprinkler manu-





facturer should be contacted relative to any questions.

It is recommended that exposure protection systems for the outside of buildings 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 & Building Products (TFBP) 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 TFBP. No warranty is given for products or components manufactured by companies not affiliated by ownership with TFBP 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 TFBP to be defective shall be either repaired or replaced, at TFBP's sole option. TFBP neither assumes, nor authorizes any person to assume for it, any other obligation in connection with the sale of products or parts of products. TFBP 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 TFBP 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 TFBP was informed about the possibility of such damages, and in no event shall TFBP'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

When placing an order, indicate the full product name and P/N.

Contact your local distributor for availability.

#### Window Type Exposure Protection Sprinklers:

Specify: Issue (A or B) Window Type Exposure Protection Sprinkler with (specify finish and material), P/N (Ref. Table B).