

Series TY-B — 5.6 and 8.0 K-factor Upright and Pendent Intermediate Level Sprinklers Standard Response

General Description

The Series TY-B, 5.6 and 8.0 K-factor Upright and Pendent Intermediate Level Sprinklers described in this data sheet are automatic sprinklers of the “standard response” 5 mm frangible bulb type. They are “standard spray” sprinklers intended for use in fire sprinkler systems designed in accordance with the standard installation rules recognized by the applicable Listing or Approval agency (e.g., UL Listing is based on NFPA requirements). Both the Pendent and Upright Sprinklers produce a hemispherical water distribution pattern below the deflector.

Intermediate Level Sprinklers are primarily designed for use in rack storage sprinkler systems where their thermally sensitive elements must be shielded from the water spray of higher elevation sprinklers that could operate earlier during a fire. Intermediate Level Sprinklers are also used in other applications such as beneath open gridded catwalks.

Corrosion resistant coatings, where applicable, are utilized to extend the life of copper alloy sprinklers beyond that which would otherwise be obtained when exposed to corrosive atmospheres. Although corrosion resistant coated sprinklers have passed the standard corrosion tests of the applicable approval agencies, the testing is not representative of all possible cor-

rosive atmospheres. Consequently, it is recommended that the end user be consulted with respect to the suitability of these coatings for any given corrosive environment. The effects of ambient temperature, concentration of chemicals, and gas/chemical velocity, should be considered, as a minimum, along with the corrosive nature of the chemical to which the sprinklers will be exposed.

NOTICE

The Series TY-B 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.

Sprinkler Identification Numbers

TY3153 . . . Upright 5.6K, 1/2 in. NPT
TY3251 . . . Pendent 5.6K, 1/2 in. NPT
TY4153 . . . Upright 8.0K, 3/4 in. NPT
TY4251 . . . Pendent 8.0K, 3/4 in. NPT

Technical Data

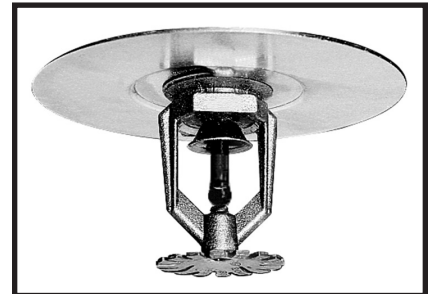
Approvals

UL and C-UL Listed
FM and NYC Approved

(Refer to Table A for complete approval information including corrosion resistant status.)

Maximum Working Pressure

175 psi (12,1 bar)



Discharge Coefficient

K = 5.6 GPM/psi^{1/2} (80,6 LPM/bar^{1/2})
K = 8.0 GPM/psi^{1/2} (115,2 LPM/bar^{1/2})

Temperature Ratings

Refer to Table A

Finishes

Sprinkler: Refer to Table A

Physical Characteristics

Frame	Bronze
Button	Brass/Copper
Sealing Assembly	Beryllium
	Nickel w/TEFLON
Bulb	Glass
Compression Screw	Bronze
Deflector	Copper
Shield	Plated Steel

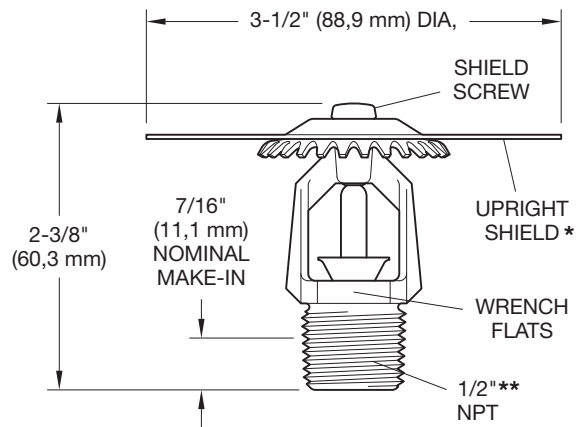
IMPORTANT

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

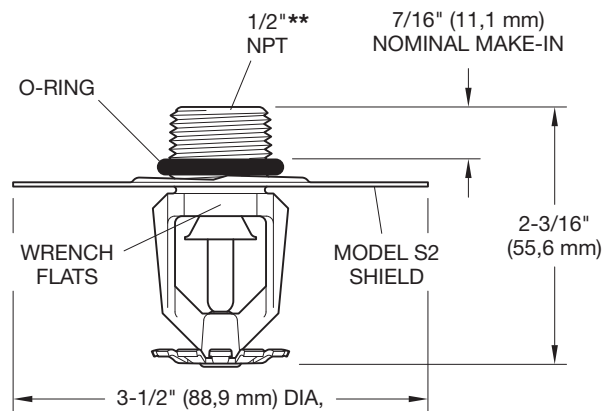
Always refer to Technical Data Sheet TFP700 for the “INSTALLER WARNING” that provides cautions with respect to handling and installation of sprinkler systems and components. Improper handling and installation can permanently damage a sprinkler system or its components and cause the sprinkler to fail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

* Temperature rating is indicated on deflector, shield, or adjacent to orifice seat on frame.

** Pipe thread connections per ISO 7-1 can be provided on special request.



UPRIGHT
 (FACTORY ASSEMBLED)

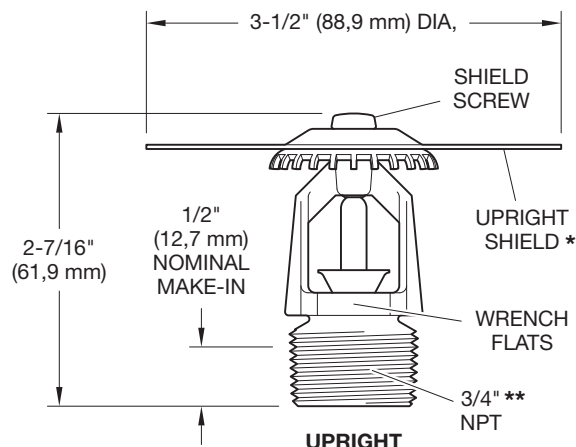


PENDENT
 (FIELD ASSEMBLED - SEE INSTALLATION SECTION)

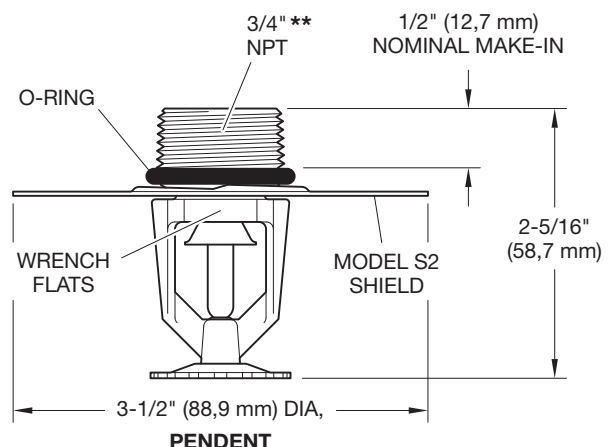
FIGURE 1
SERIES TY-B UPRIGHT (TY3153) AND PENDENT (TY3251) SPRINKLERS
STANDARD RESPONSE INTERMEDIATE LEVEL SPRINKLERS,
5.6 K-FACTOR, 1/2 INCH NPT

* Temperature rating is indicated on deflector, shield, or adjacent to orifice seat on frame.

** Pipe thread connections per ISO 7-1 can be provided on special request.



UPRIGHT
 (FACTORY ASSEMBLED)



PENDENT
 (FIELD ASSEMBLED - SEE INSTALLATION SECTION)

FIGURE 2
SERIES TY-B UPRIGHT (TY4153) AND PENDENT (TY4253) SPRINKLERS
STANDARD RESPONSE INTERMEDIATE LEVEL SPRINKLERS,
8.0 K-FACTOR, 3/4 INCH NPT

K	TYPE	TEMP.	BULB LIQUID	SPRINKLER FINISH (SEE NOTE 5)			
				NATURAL BRASS**	LEAD COATED	WAX COATED**	WAX OVER LEAD COATED**
5.6 1/2 in. NPT	UPRIGHT (TY3153)	135°F (57°C)	Orange	1, 2, 3, 4	1, 2, 3, 4	N/A	
		155°F (68°C)	Red				
		175°F (79°C)	Yellow				
		200°F (93°C)	Green				
		286°F (141°C)	Blue				
		360°F (182°C)	Mauve				
	PENDENT (TY3251)	135°F (57°C)	Orange	1, 2, 3, 4	1**, 2**, 3**, 4**	1, 2, 3, 4	
		155°F (68°C)	Red				
		175°F (79°C)	Yellow				
		200°F (93°C)	Green			1*, 2*, 3*, 4*	
		286°F (141°C)	Blue			N/A	
		360°F (182°C)	Mauve			N/A	
8.0 3/4 in. NPT	UPRIGHT (TY4153)	135°F (57°C)	Orange	1, 2, 3, 4	1, 2, 3, 4	N/A	
		155°F (68°C)	Red				
		175°F (79°C)	Yellow				
		200°F (93°C)	Green				
		286°F (141°C)	Blue				
		360°F (182°C)	Mauve				
	PENDENT (TY4251)	135°F (57°C)	Orange	1, 2, 3, 4	1**, 2**, 3**, 4**	1, 2, 3, 4	
		155°F (68°C)	Red				
		175°F (79°C)	Yellow				
		200°F (93°C)	Green			1*, 2*, 3*, 4*	
		286°F (141°C)	Blue			N/A	
		360°F (182°C)	Mauve			N/A	

NOTES:

1. UL Listed.
 2. C-UL Listed.
 3. FM Approved.
 4. Approved by the City of New York under MEA 354-01-E.
 5. Where Lead Coated, Wax Coated, and Wax over Lead Coated Sprinklers are noted to be UL and C-UL Listed, the sprinklers are UL and C-UL Listed as Corrosion Resistant Sprinklers. Where Lead Coated, Wax Coated, and Wax over Lead Coated Sprinklers are noted to be FM Approved, the sprinklers are FM Approved as Corrosion Resistant Sprinklers.
- *150°F (66°C) Maximum Ceiling Temperature.
 ** With Zinc Plated Shield.
 N/A: Not Available

TABLE A
LABORATORY LISTINGS AND APPROVALS

Operation

The glass bulb contains a fluid which expands when exposed to heat. When the rated temperature is reached, the fluid expands sufficiently to shatter the glass bulb, allowing the sprinkler to activate and water to flow.

Design Criteria

The Series TY-B Pendent and Upright Intermediate Level Sprinklers are intended for fire protection systems designed in accordance with the standard installation rules recognized by the applicable Listing or Approval agency (e.g., UL Listing is based on the requirements of NFPA 13, and FM Approval is based on the requirements of FM's Loss Prevention Data Sheets).