

Series TY-FRB – 2.8, 4.2, 5.6, and 8.0 K-Factor Upright, Pendent, and Recessed Pendent Sprinklers Quick Response, Standard Coverage

General Description

The TYCO Series TY-FRB 2.8, 4.2, 5.6, and 8.0 K-factor Upright, Pendent, and Recessed Pendent Sprinklers described in herein are quick response, standard coverage, decorative 3 mm glass bulb-type spray sprinklers. They are designed for use in light or ordinary hazard, commercial occupancies such as banks, hotels, and shopping malls.

The TY-FRB Recessed Pendent Sprinkler, where applicable, is intended for use in areas with a finished ceiling. This recessed pendent sprinkler uses one of the following Recessed Escutcheons:

- A two-piece Style 10 (1/2 in. NPT) or Style 40 (3/4 in. NPT) Recessed Escutcheon with 1/2 in. (12,7 mm) of recessed adjustment or up to 3/4 in. (19,1 mm) of total adjustment from the flush pendent position.
- A two-piece Style 20 (1/2 in. NPT) or Style 30 (3/4 in. NPT) Recessed Escutcheon with 1/4 in. (6,4 mm) of recessed adjustment or up to 1/2 in. (12,7 mm) of total adjustment from the flush pendent position.

The adjustment provided by the Recessed Escutcheon reduces the accuracy to which the fixed pipe drops to the sprinklers must be cut.

Corrosion-resistant coatings, where applicable, are utilized to extend the life of copper alloy sprinklers beyond what would be obtained when exposed

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.

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 corrosive 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.

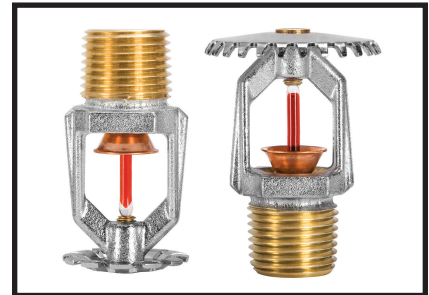
An intermediate level version of the Series TY-FRB Pendent Sprinklers is detailed in Technical Data Sheet TFP356. Sprinkler Guards are detailed in Technical Data Sheet TFP780.

NOTICE

The Series TY-FRB 2.8, 4.2, 5.6, and 8.0 K-factor Upright, Pendent, and Recessed Pendent Sprinklers 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 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.

NFPA 13 prohibits installation of 1/2 in. NPT sprinklers with K-factors greater than 5.6 in new construction. They are intended for retrofit in existing sprinkler systems only.



Sprinkler Identification Number (SIN)

- TY1131 . . . Upright 2.8K, 1/2 in. NPT
- TY1231 . . . Pendent 2.8K, 1/2 in. NPT
- TY2131 . . . Upright 4.2K, 1/2 in. NPT
- TY2231 . . . Pendent 4.2K, 1/2 in. NPT
- TY3131 . . . Upright 5.6K, 1/2 in. NPT
- TY3231 . . . Pendent 5.6K, 1/2 in. NPT
- TY4131 . . . Upright 8.0K, 3/4 in. NPT
- TY4231 . . . Pendent 8.0K, 3/4 in. NPT
- TY4831 . . . Upright 8.0K, 1/2 in. NPT
- TY4931 . . . Pendent 8.0K, 1/2 in. NPT

Technical Data

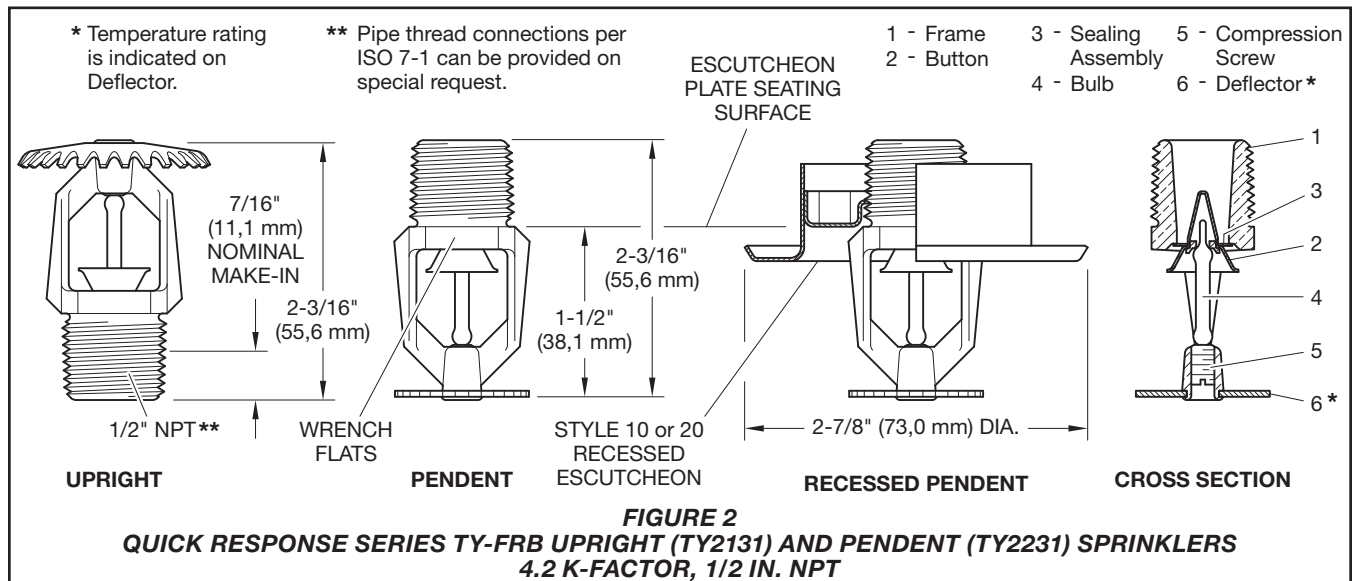
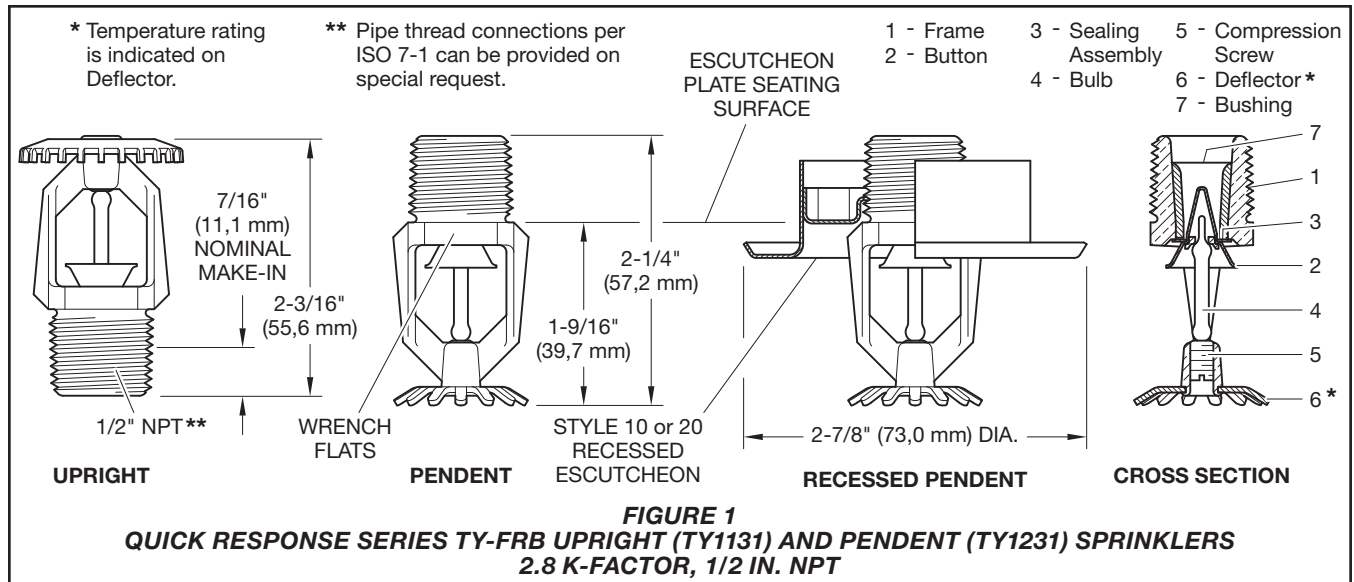
Approvals

UL and C-UL Listed
FM, LPCB, and NYC Approved

Refer to Table A and B for complete approval information including corrosion-resistant status.

Maximum Working Pressure

Refer to Table C



Discharge Coefficient

- K=2.8 GPM/psi^{1/2} (40,3 LPM/bar^{1/2})
- K=4.2 GPM/psi^{1/2} (60,5 LPM/bar^{1/2})
- 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 Rating

Refer to Table A and B

Finishes

Sprinkler: Refer to Table D

Recessed Escutcheon: Signal or Pure White, Grey Aluminum, Jet Black, Chrome Plated, or Natural Brass

Physical Characteristics

- Frame Bronze
- Button Brass/Copper
- Sealing Assembly Beryllium Nickel w/TEFLON
- Bulb Glass
- Compression Screw Bronze
- Deflector Copper/Bronze
- Bushing (K=2.8) Bronze

Poly-Stainless

Physical Characteristics

- Frame Bronze
- Button L316 Stainless Steel*
- Bulb Glass
- Compression Screw L316 Stainless Steel*
- Deflector Copper/Bronze
- Sealing Assembly Gold Plated Beryllium Nickel w/TEFLON

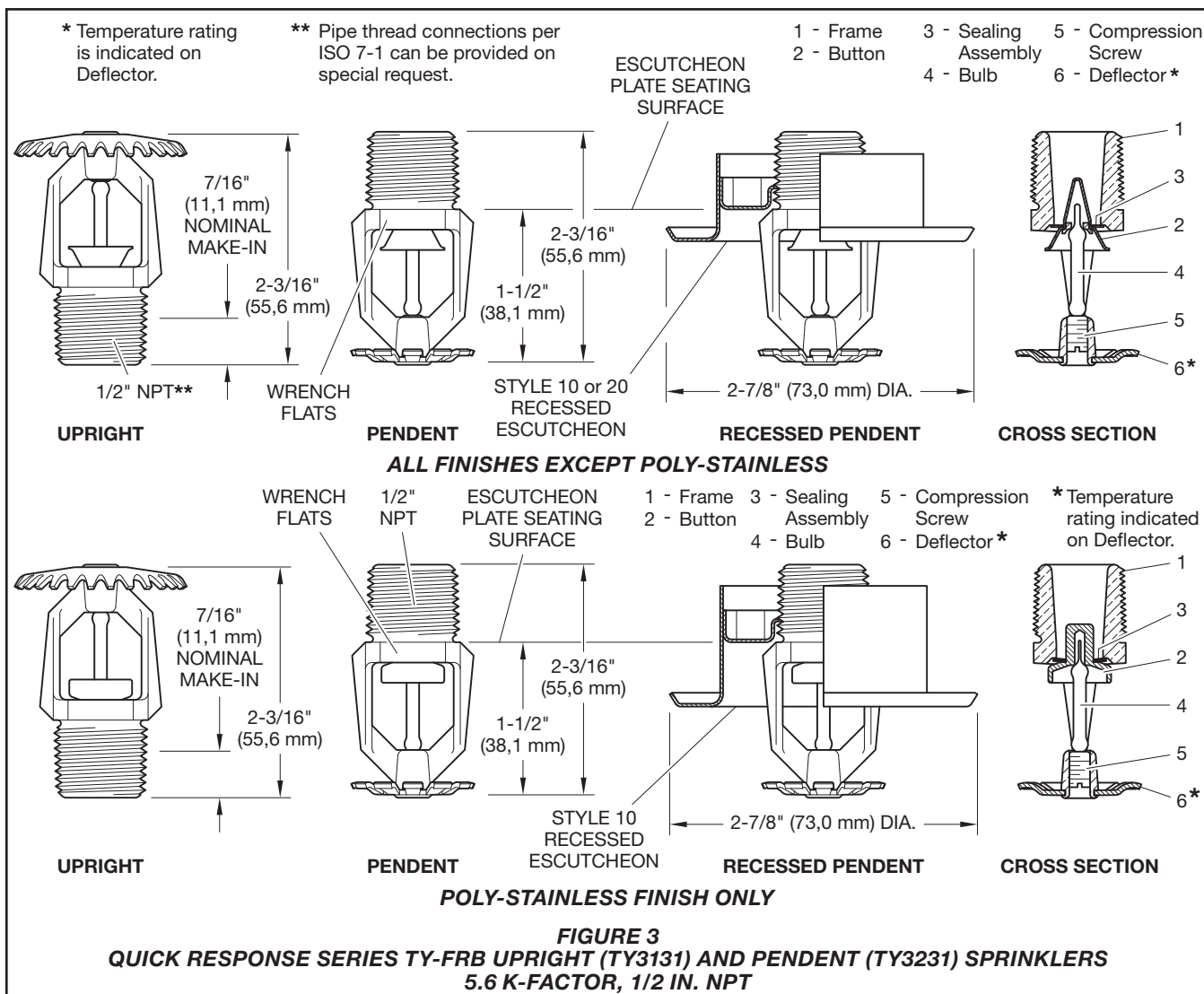
*Type L316 stainless steel (UNS 31603) per ASTM A479/479M or BS EN 1008 WN1.4404.

Operation

The glass bulb contains a fluid that 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 TYCO Series TY-FRB 2.8, 4.2, 5.6, and 8.0 K-factor Upright, Pendent, and Recessed Pendent Sprinklers are intended for fire protection systems designed in accordance with the standard installation rules recognized by the applicable Listing or Approval agency, such as UL Listing based on the requirements of NFPA 13 and FM Approval based on the requirements of the FM Global Loss Prevention Data Sheets. Use only the style 10, 20, 30, or 40 Recessed Escutcheon, as applicable, for recessed pendent installations.



Installation

The TYCO Series TY-FRB 2.8, 4.2, 5.6, and 8.0 K-factor Upright, Pendent, and Recessed Pendent Sprinklers must be installed in accordance with this section.

General Instructions

Do not install any bulb type sprinkler if the bulb is cracked or there is a loss of liquid from the bulb. With the sprinkler held horizontally, a small air bubble should be present. The diameter of the air bubble is approximately 1/16 in. (1,6 mm) for the 135°F (57°C) and 3/32 in. (2,4 mm) for the 286°F (141°C) temperature ratings. A leak-tight 1/2 in. NPT sprinkler joint should be obtained by applying a minimum-to-maximum torque of 7 to 14 lb-ft (9,5 to 19,0 N-m). A leak tight 3/4 in. NPT sprinkler joint should be obtained with a torque of 10 to 20 lb-ft (13,4 to 26,8 N-m). Higher levels of torque can distort the sprinkler inlet and cause leakage or impairment

of the sprinkler. Do not attempt to compensate for insufficient adjustment in the escutcheon plate by under- or over-tightening the sprinkler. Re-adjust the position of the sprinkler fitting to suit.

Series TY-FRB Upright and Pendent Sprinklers

The Series TY-FRB Upright and Pendent Sprinklers must be installed in accordance with the following instructions:

Step 1. Install pendent sprinklers in the pendent position. Install upright sprinklers in the upright position.

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

Step 3. Tighten the sprinkler into the sprinkler fitting using only the W-Type 6 Sprinkler Wrench (Ref. Figure 14). With reference to Figure 1 to Figure 5, apply the W-Type 6 Sprinkler Wrench to the sprinkler wrench flats.

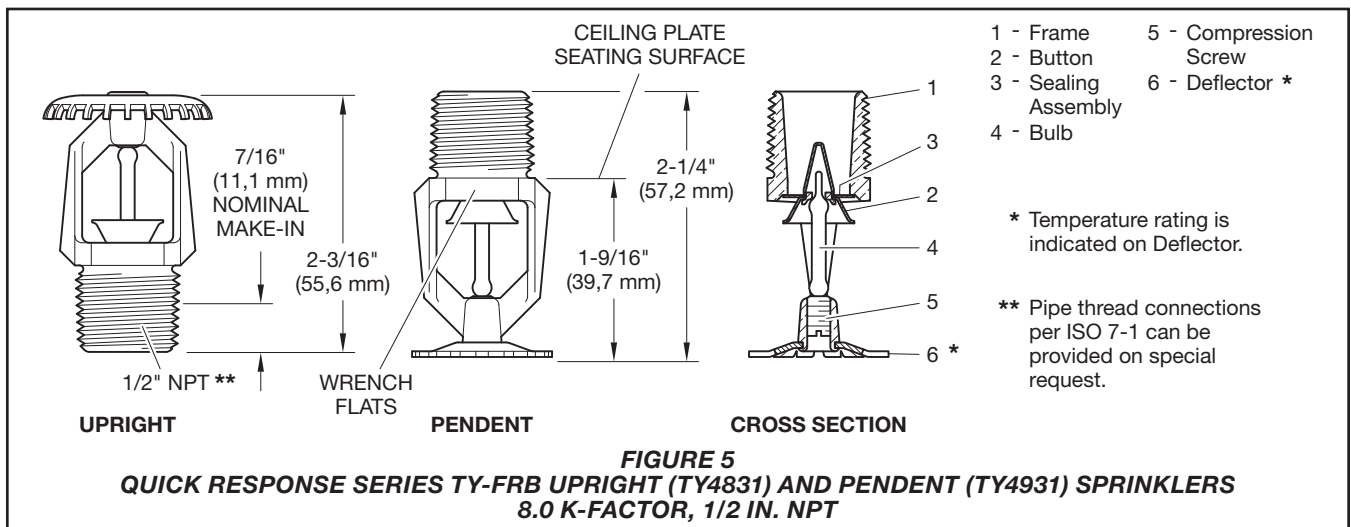
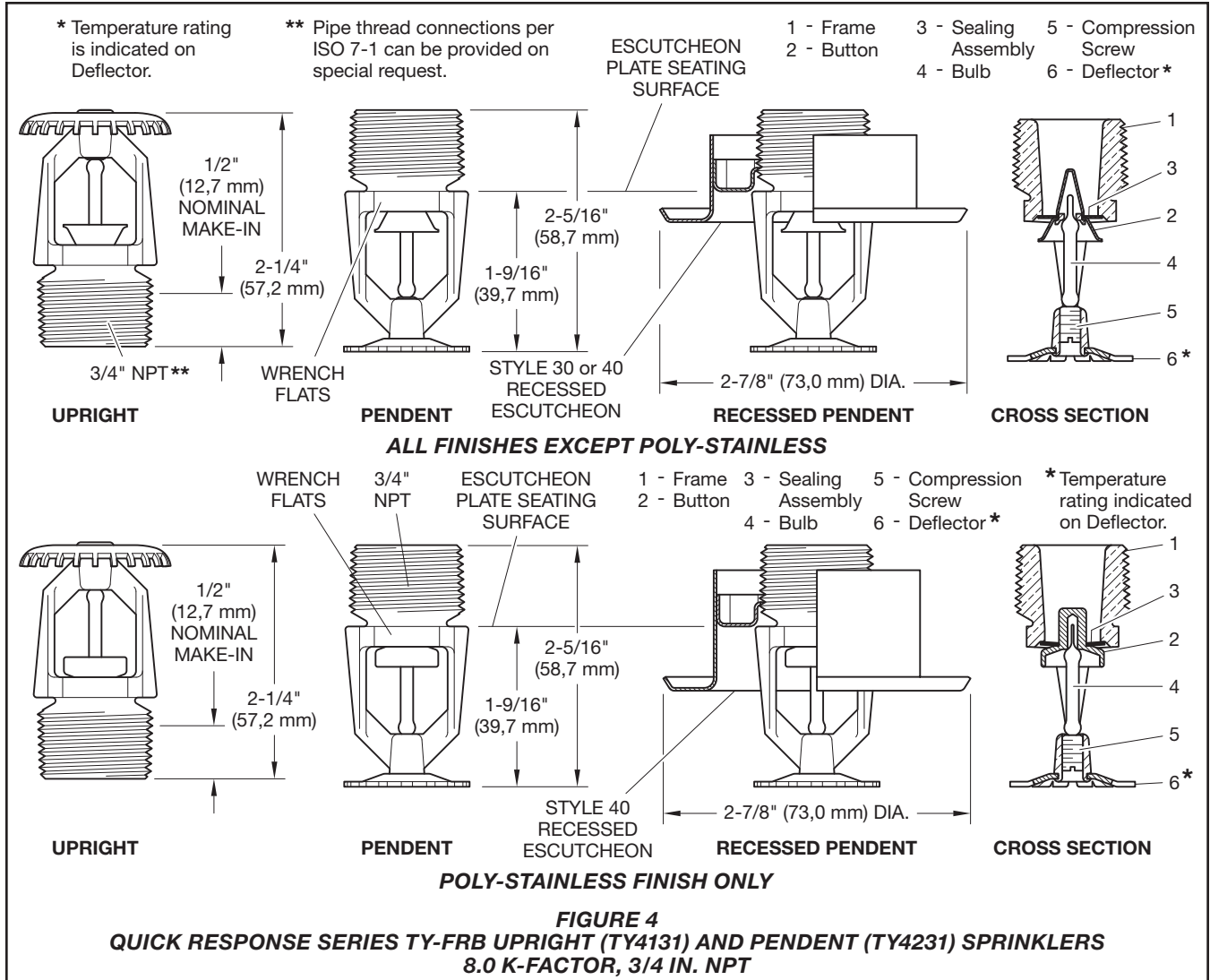
Series TY-FRB Recessed Pendent Sprinklers

The Series TY-FRB Recessed Pendent Sprinklers must be installed in accordance with the following instructions:

Step 1. After installing the Style 10, 20, 30, or 40 Mounting Plate, as applicable, over the sprinkler threads and 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 only the W-Type 7 Recessed Sprinkler Wrench (Ref. Figure 15). With reference to Figure 1 to 4, apply the W-Type 7 Recessed Sprinkler Wrench to the sprinkler wrench flats.

Step 3. After the ceiling is installed or the finish coat is applied, slide on the Style 10, 20, 30, or 40 Closure over the Series TY-FRB Recessed Pendent Sprinkler and push the Closure over the Mounting Plate until its flange comes in contact with the ceiling.



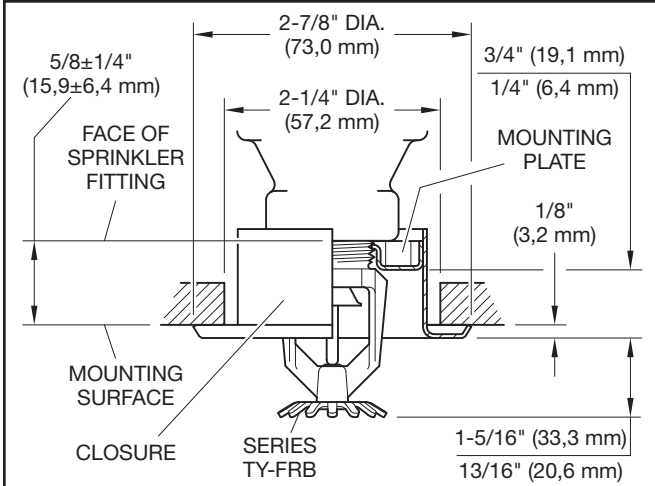


FIGURE 6
SERIES TY-FRB RECESSED PENDENT
WITH TWO-PIECE 3/4 INCH TOTAL ADJUSTMENT
STYLE 10 RECESSED ESCUTCHEON
2.8 K-FACTOR, 1/2 IN. NPT

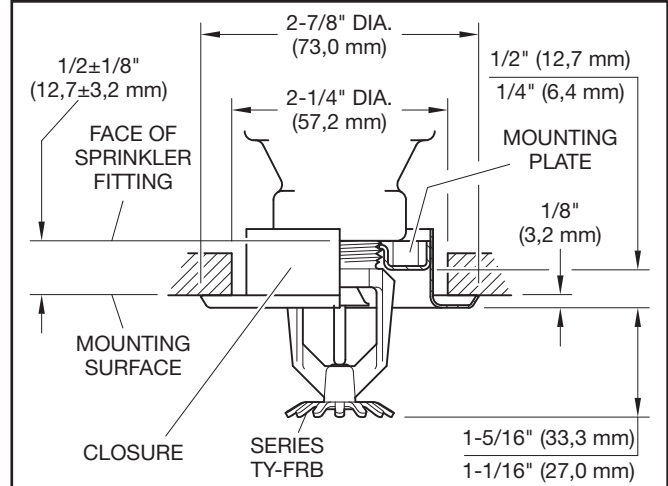


FIGURE 7
SERIES TY-FRB RECESSED PENDENT
WITH TWO-PIECE 1/2 INCH TOTAL ADJUSTMENT
STYLE 20 RECESSED ESCUTCHEON
2.8 K-FACTOR, 1/2 IN. NPT

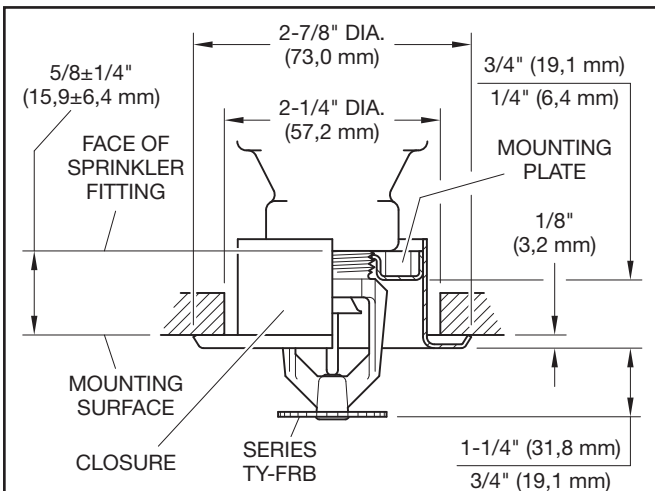


FIGURE 8
SERIES TY-FRB RECESSED PENDENT
WITH TWO-PIECE 3/4 INCH TOTAL ADJUSTMENT
STYLE 10 RECESSED ESCUTCHEON
4.2 K-FACTOR, 1/2 IN. NPT

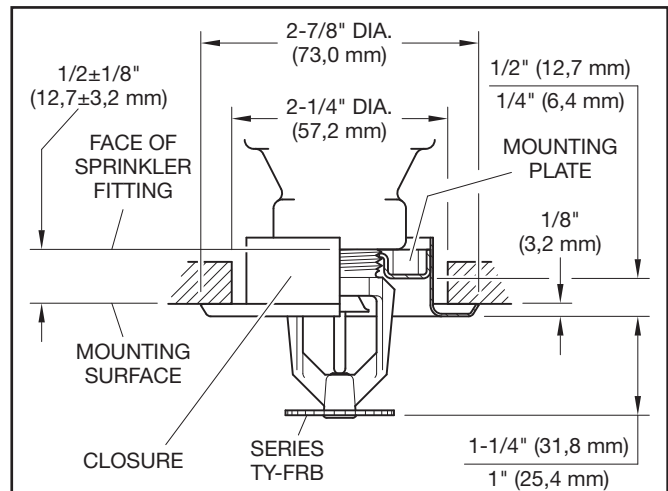
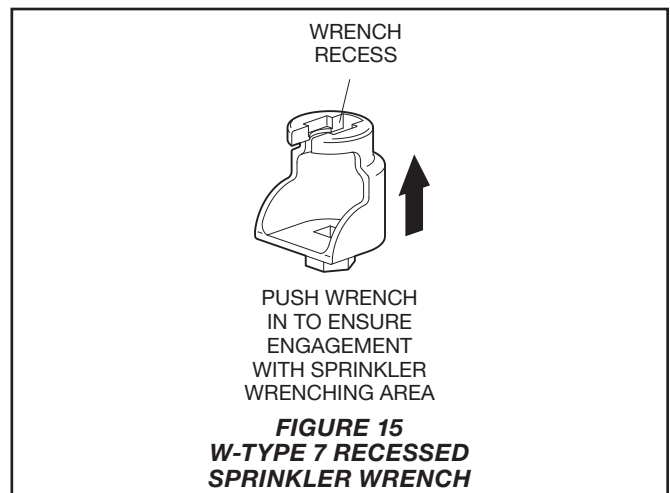
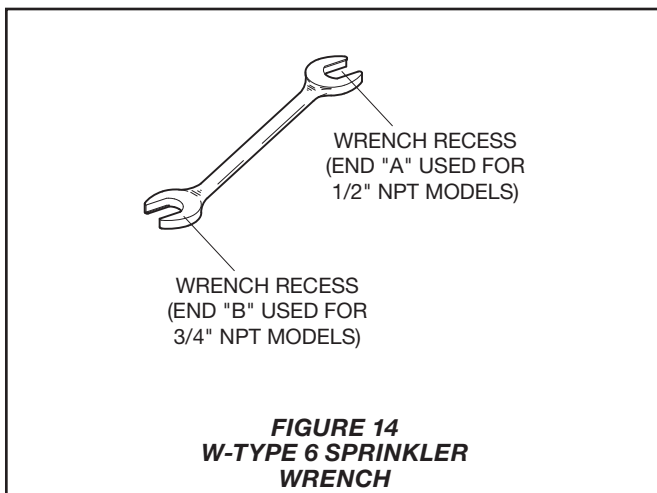
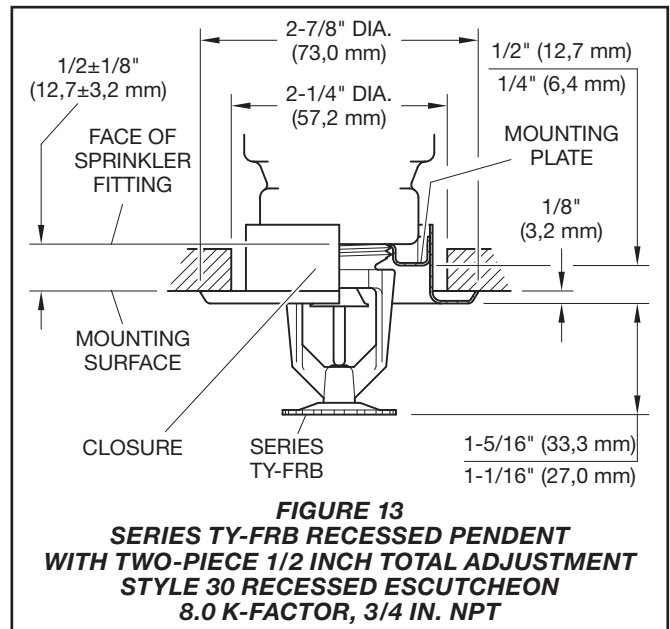
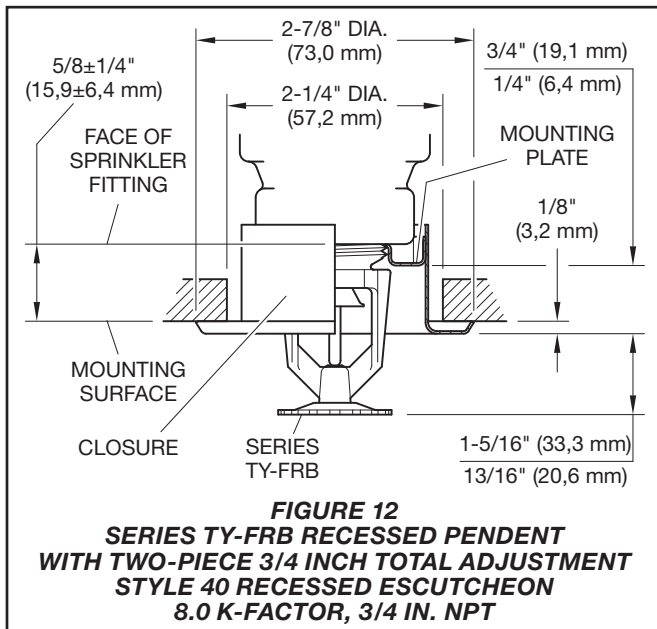
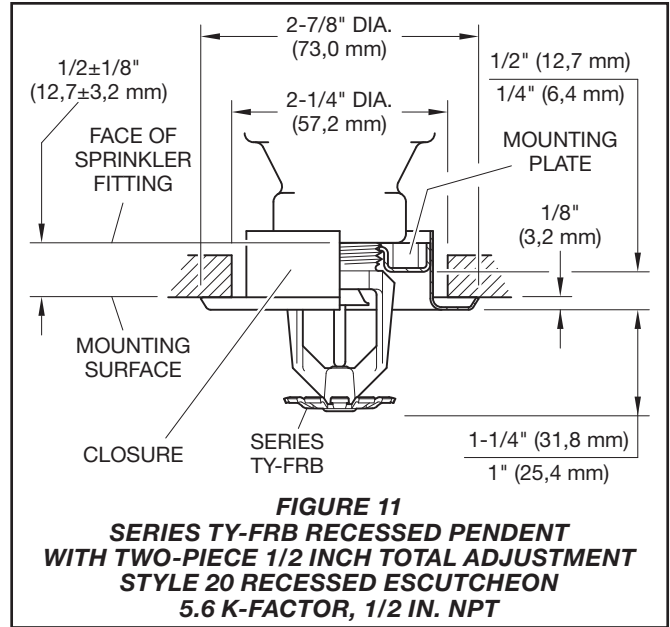
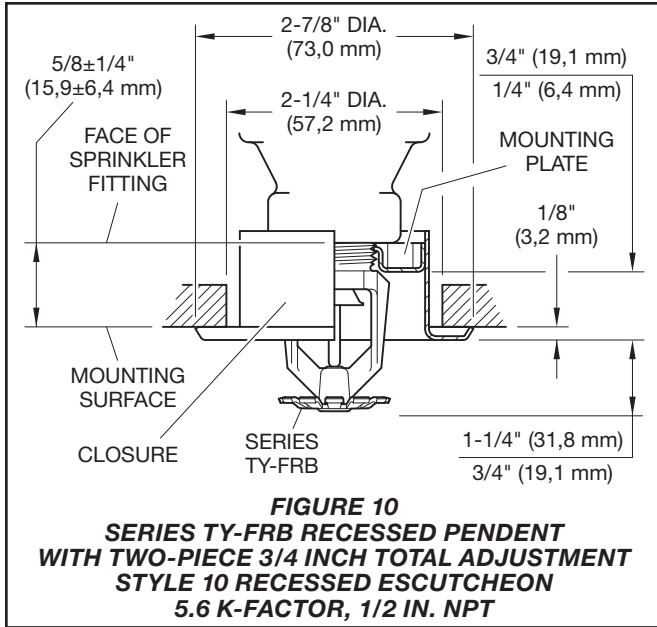


FIGURE 9
SERIES TY-FRB RECESSED PENDENT
WITH TWO-PIECE 1/2 INCH TOTAL ADJUSTMENT
STYLE 20 RECESSED ESCUTCHEON
4.2 K-FACTOR, 1/2 IN. NPT



K-Factor	Type	Temperature	Sprinkler Finish ⁵			
			Bulb Liquid Color	Natural Brass	Chrome Plated	Polyester ^c
2.8 1/2 in. NPT	Pendent (TY1231) and Upright (TY1131)	135°F (57°C)	Orange		1, 2, 3, 4	
		155°F (68°C)	Red			
		175°F (79°C)	Yellow			
		200°F (93°C)	Green			
		286°F (141°C)	Blue			
	Recessed Pendent (TY1231) ^a Figure 6	135°F (57°C)	Orange			
		155°F (68°C)	Red			
		175°F (79°C)	Yellow			
		200°F (93°C)	Green			
		Recessed Pendent (TY1231) ^b Figure 7	135°F (57°C)			Orange
			155°F (68°C)			Red
			175°F (79°C)			Yellow
			200°F (93°C)			Green
	4.2 1/2 in. NPT	Pendent (TY2231) and Upright (TY2131)	135°F (57°C)			Orange
155°F (68°C)			Red			
175°F (79°C)			Yellow			
200°F (93°C)			Green			
286°F (141°C)			Blue			
Recessed Pendent (TY2231) ^a Figure 8		135°F (57°C)	Orange			
		155°F (68°C)	Red			
		175°F (79°C)	Yellow			
		200°F (93°C)	Green			
		Recessed Pendent (TY2231) ^b Figure 9	135°F (57°C)	Orange		
			155°F (68°C)	Red		
			175°F (79°C)	Yellow		
			200°F (93°C)	Green		

NOTES

- a. Installed with Style 10 (1/2 in. NPT) or Style 40 (3/4 in. NPT) 3/4 in. Total Adjustment Recessed Escutcheon, as applicable.
- b. Installed with Style 20 (1/2 in. NPT) or Style 30 (3/4 in. NPT) 1/2 in. Total Adjustment Recessed Escutcheon, as applicable.
- c. Frame and Deflector only.
1. Listed by Underwriters Laboratories, Inc., (UL) as Quick Response Sprinklers.
2. Listed by Underwriters Laboratories, Inc., for use in Canada (C-UL) as Quick Response Sprinklers.
3. Approved by Factory Mutual Research Corporation (FM) as Quick Response Sprinklers.
4. Approved by the City of New York under MEA 354-01-E.
5. Where Polyester Coated Sprinklers are noted to be UL and C-UL Listed, the sprinklers are UL and C-UL Listed, the sprinklers are UL and C-UL Listed as corrosion-resistant sprinklers.

**TABLE A
LABORATORY LISTINGS AND APPROVALS FOR
2.8 AND 4.2 K-FACTOR SPRINKLERS**

K-Factor	Type	Temperature	Bulb Liquid Color	Sprinkler Finish ⁸				
				Natural Brass	Chrome Plated	Polyester ^c	Poly-Stainless ^c	Lead Coated
5.6 1/2 in. NPT	Pendent (TY3231) and Upright (TY3131)	135°F (57°C)	Orange	1, 2, 3, 4, 5, 6, 7			1, 2	1, 2, 3, 5
		155°F (68°C)	Red					
		175°F (79°C)	Yellow					
		200°F (93°C)	Green					
		286°F (141°C)	Blue					
	Recessed Pendent (TY3231) ^a Figure 10	135°F (57°C)	Orange	1, 2, 4, 5			1, 2	N/A ^d
		155°F (68°C)	Red					
		175°F (79°C)	Yellow					
		200°F (93°C)	Green					
	Recessed Pendent (TY3231) ^b Figure 11	135°F (57°C)	Orange	1, 2, 3, 4, 5			N/A	N/A
		155°F (68°C)	Red					
		175°F (79°C)	Yellow					
200°F (93°C)		Green						
8.0 3/4 in. NPT	Pendent (TY4231) and Upright (TY4131)	135°F (57°C)	Orange	1, 2, 3, 4, 5, 6, 7			1, 2	1, 2, 5
		155°F (68°C)	Red					
		175°F (79°C)	Yellow					
		200°F (93°C)	Green					
		286°F (141°C)	Blue					
	Recessed Pendent (TY4231) ^a Figure 12	135°F (57°C)	Orange	1, 2, 5			1, 2	N/A
		155°F (68°C)	Red					
		175°F (79°C)	Yellow					
		200°F (93°C)	Green					
	Recessed Pendent (TY4231) ^b Figure 13	135°F (57°C)	Orange	1, 2, 3, 5			N/A	N/A
		155°F (68°C)	Red					
		175°F (79°C)	Yellow					
200°F (93°C)		Green						
8.0 1/2 in. NPT	Pendent (TY4931) and Upright (TY4831)	135°F (57°C)	Orange	1, 2, 4, 5, 6			N/A	1, 2, 5
		155°F (68°C)	Red					
		175°F (79°C)	Yellow					
		200°F (93°C)	Green					
		286°F (141°C)	Blue					

NOTES

- a. Installed with Style 10 (1/2 in. NPT) or Style 40 (3/4 in. NPT) 3/4 in. Total Adjustment Recessed Escutcheon, as applicable.
- b. Installed with Style 20 (1/2 in. NPT) or Style 30 (3/4 in. NPT) 1/2 in. Total Adjustment Recessed Escutcheon, as applicable.
- c. Frame and Deflector only.
- d. Not Available (N/A)
- 1. Listed by Underwriters Laboratories, Inc., (UL) as Quick Response Sprinklers.
- 2. Listed by Underwriters Laboratories, Inc., for use in Canada (C-UL) as Quick Response Sprinklers.
- 3. Approved by Factory Mutual Research Corporation (FM) as Quick Response Sprinklers.
- 4. Approved by the Loss Prevention Certification Board (LPCB Ref. No. 007k/04) as Quick Response Sprinklers. However, LPCB does not rate the thermal sensitivity of recessed sprinklers.
- 5. Approved by the City of New York under MEA 354-01-E.
- 6. VdS Approved (For details, contact Johnson Controls, Enschede, Netherlands, Tel. 31-53-428-4444/Fax 31-53-428-3377.)
- 7. Approved by the Loss Prevention Certification Board (LPCB Ref. No. 094a/06) as Quick Response Sprinklers.
- 8. Where Polyester Coated and 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 Sprinklers are noted to be FM Approved, the sprinklers are FM Approved as a Corrosion-Resistant Sprinklers.

TABLE B
LABORATORY LISTINGS AND APPROVALS FOR
5.6 AND 8.0 K-FACTOR SPRINKLERS

K-Factor	Type	Sprinkler Finish			
		Natural Brass	Chrome Plated	Polyester	Lead Coated
2.8 1/2 in. NPT	Pendent (TY1231) and Upright (TY1131)	175 psi (12,1 bar)			N/A ²
	Recessed Pendent (TY1231)				
4.2 1/2 in. NPT	Pendent (TY2231) and Upright (TY2131)	175 psi (12,1 bar)			N/A
	Recessed Pendent (TY2231)				
5.6 1/2 in. NPT	Pendent (TY3231) and Upright (TY3131)	250 psi (17,2 bar) or 175 psi (12,1 bar) ¹			
	Recessed Pendent (TY3231)				
8.0 3/4 in. NPT	Pendent (TY4231) and Upright (TY4131)	175 psi (12,1 bar)			175 psi (12,1 bar)
	Recessed Pendent (TY4231)				N/A
8.0 1/2 in. NPT	Pendent (TY4931) and Upright (TY4831)	175 psi (12,1 bar)			175 psi (12,1 bar)

NOTES

1. The maximum working pressure of 250 psi (17,2 bar) only applies to the Listing by Underwriters Laboratories Inc. (UL); the Listing by Underwriters Laboratories, Inc. for use in Canada (C-UL); and, the Approval by the City of New York.
2. Not applicable (N/A).

**TABLE C
MAXIMUM WORKING PRESSURE**

Care and Maintenance

The TYCO Series TY-FRB 2.8, 4.2, 5.6, and 8.0 K-factor Upright, Pendent, and Recessed Pendent Sprinklers 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 systems from the proper authorities and notify all personnel who may be affected by this action.

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

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 taken 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 25), in addition to the standards of any other authorities having jurisdiction. Contact the installing contractor or sprinkler manufacturer regarding any questions.

Automatic sprinkler systems are recommended to be inspected, tested, and maintained by a qualified Inspection Service in accordance with local

requirements and/or national codes.

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).

Initial and frequent visual inspections of random samples are recommended for corrosion-resistant sprinklers to verify the integrity of the corrosion-resistant material of construction. Thereafter, annual inspections per NFPA 25 should suffice. Inspections of corrosion-resistant sprinklers are recommended at close range, instead of from the floor level per NFPA. Inspection at close range can better determine the exact sprinkler condition and the long-term integrity of the corrosion-resistant material, which can be affected by the corrosive conditions present.

P/N 57 – XXX – X – XXX

		SIN			TEMPERATURE RATINGS	
330	2.8K UPRIGHT (1/2 in. NPT)	TY1131			135	135°F (57°C)
331	2.8K PENDENT (1/2 in. NPT)	TY1231			155	155°F (68°C)
340	4.2K UPRIGHT (1/2 in. NPT)	TY2131			175	175°F (79°C)
341	4.2K PENDENT (1/2 in. NPT)	TY2231			200	200°F (93°C)
370	5.6K UPRIGHT (1/2 in. NPT)	TY3131			286	286°F (141°C)
371	5.6K PENDENT (1/2 in. NPT)	TY3231				
390	8.0K UPRIGHT (3/4 in. NPT)	TY4131				
391	8.0K PENDENT (3/4 in. NPT)	TY4231				
360	8.0K UPRIGHT (1/2 in. NPT)	TY4831				
361	8.0K PENDENT (1/2 in. NPT)	TY4931				

SPRINKLER FINISH	
1	NATURAL BRASS
2	POLY-STAINLESS GREY ALUMINUM (RAL9007) ¹ POLYESTER
3	PURE WHITE POLYESTER (RAL9010) ²
4	SIGNAL WHITE POLYESTER (RAL9003)
5	JET BLACK POLYESTER (RAL9005) ³
7	LEAD COATED
9	CHROME PLATED

NOTES

1. Available only on TY3131, TY3231, TY4131, and TY4231
2. Eastern Hemisphere sales only.
3. Available in only 2.8K, 4.2K, and 8.0K, 155°F (68°C) and 200°F (93°C); requires longer lead time to manufacture.

TABLE D
SERIES TY-FRB PENDENT AND UPRIGHT SPRINKLERS
PART NUMBER SELECTION

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).

Sprinkler Assemblies with NPT Thread Connections

Specify: Series TY-FRB (Specify SIN), (specify K-factor), (specify Pendent or Upright) Sprinkler (specify) temperature rating, (specify) finish or coating, P/N (specify from Table D)

Recessed Escutcheon

Specify: Style (10, 20, 30, or 40) Recessed Escutcheon with (specify*) finish, P/N (specify*)

* Refer to Technical Data Sheet TFP770

Sprinkler Wrench

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

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

Series EC-11 and EC-14 Sprinklers, 11.2 K and 14.0 K Upright and Pendent Extended Coverage Light and Ordinary Hazard

General Description

TYCO Series EC-11 and EC-14 Extended Coverage Upright and Pendent Sprinklers are decorative glass-bulb sprinklers designed for use in light or ordinary hazard occupancies. They are intended for use in automatic sprinkler systems designed in accordance with standard installation rules, such as NFPA 13, for a maximum coverage area of 400 ft² (37,2 m²) as compared to the maximum coverage area of 130 ft² (12,1 m²) for standard coverage sprinklers used in ordinary hazard occupancies. Series EC-11 and EC-14 Extended Coverage Sprinklers feature a UL and C-UL Listing that permits their use with unobstructed or non-combustible obstructed ceiling construction as defined and permitted by NFPA 13, as well as a specific application listing for use under concrete tees.

Series EC-11 and EC-14 Extended Coverage Sprinklers have been fire tested to compare their performance to that of standard coverage spray sprinklers. These tests have shown that the protection provided is equal to or more effective than standard coverage spray sprinklers.

Corrosion-resistant coatings, where applicable, help extend the life of copper alloy sprinklers beyond that which occurs when exposed to corrosive atmospheres. Although corrosion-resistant coated sprinklers

passed standard corrosion tests of the applicable approval agencies, this testing is not representative of all possible corrosive atmospheres. Consequently, it is recommended that the end user be consulted with respect to the suitability of these corrosion-resistant coatings for any given corrosive environment. The effects of ambient temperature, concentration of chemicals, and gas/chemical velocity should be considered, along with the corrosive nature of the chemical to which the sprinklers will be exposed.

NOTICE

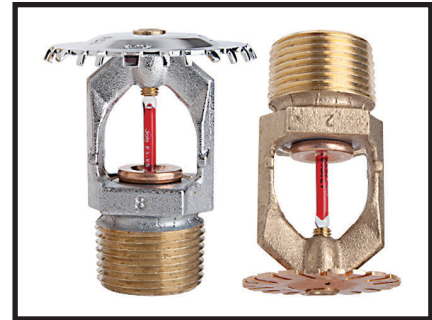
Series EC-11 and EC-14 Extended Coverage Sprinklers described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the NFPA, in addition to the standards of any other authorities having jurisdiction. Failure to do so may impair the performance of these devices.

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. Contact the installing contractor or product manufacturer with any questions.

Sprinkler Identification Numbers

TY5137 Upright, 11.2K
TY5237 Pendent, 11.2K
TY6137 Upright, 14.0K
TY6237 Pendent, 14.0K

TY5137 is a re-designation for C5137, G1894, and S2510
TY5237 is a re-designation for C5237, G1893, and S2511
TY6137 is a re-designation for C6137, G1896, and S2610
TY6237 is a re-designation for C6237, G1895, and S2611



Technical Data

Approvals

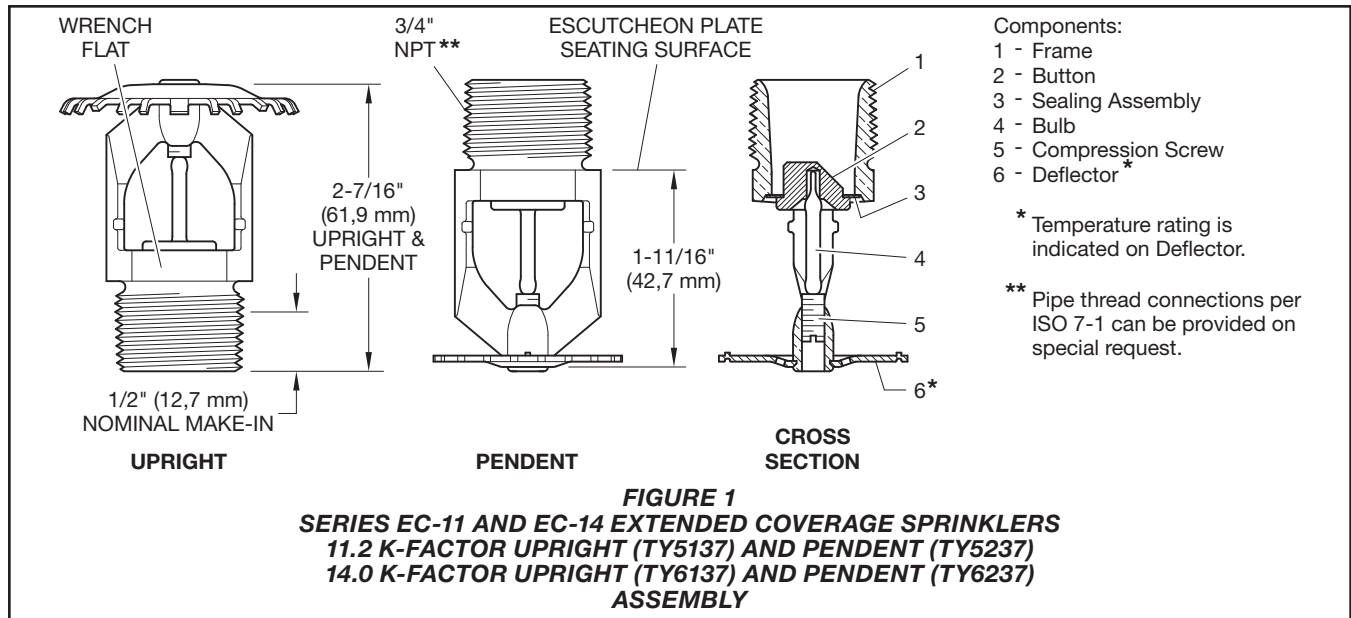
TYCO Series EC-11 and EC-14 Extended Coverage Upright and Pendent Sprinklers are UL and C-UL Listed. Refer to Table A for complete sprinkler approval information including corrosion-resistant status. The approvals apply to the service conditions indicated in the Design Criteria section.

Series EC-11 and EC-14 Extended Coverage Sprinklers are FM Approved. Refer to Table A for complete sprinkler approval information including corrosion-resistant status. The approvals apply to the service conditions indicated in the Design Criteria section.

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.



The Style 60 Two-Piece Flush Escutcheon (Figure 4) is UL Listed for use with the Series EC-11 and EC-14 Pendent Sprinklers.

Maximum Working Pressure
 175 psi (12,1 bar)

Pipe Thread Connection
 3/4 in. NPT

Discharge Coefficients
 K = 11.2 GPM/psi^{1/2} (161,3 LPM/bar^{1/2})
 K = 14.0 GPM/psi^{1/2} (201,6 LPM/bar^{1/2})

Temperature Ratings
 Refer to Table A

Finish
 Sprinkler:
 Refer to Table A

Recessed or Flush Escutcheon:
 White-Coated, Chrome-Plated, and
 Brass-Plated

Physical Characteristics

Frame	Bronze
Button	Bronze
Sealing Assembly	Beryllium Nickel w/TEFLON
Bulb	Glass (3 mm)
Compression Screw	Bronze
Deflector	Brass

Operation

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

Design Criteria

TYCO Series EC-11 and EC-14 Extended Coverage Upright and Pendent Sprinklers must only be installed in accordance with the applicable UL and C-UL Listing or FM Approval requirements as indicated below. Only Style 30 or 40 Recessed Escutcheons are to be used for recessed installation, as applicable. Refer to Tables A, B, and C, for more information.

UL and C-UL Listing Requirements

1. Series EC-11 and EC-14 Extended Coverage Sprinklers may be used for the coverage areas shown in Table D, based on maintaining the minimum specified flow rate as a function of coverage area and hazard group for all sprinklers in the design area.
2. Series EC-11 and EC-14 Extended Coverage Sprinklers are permitted to be used with unobstructed or non-combustible obstructed ceiling construction as defined and permitted by NFPA 13; for example:

- Unobstructed, combustible or noncombustible, ceiling construction with a deflector to ceiling/roof deck distance of 1 to 12 in. (25 to 300 mm).

- Components:
- 1 - Frame
 - 2 - Button
 - 3 - Sealing Assembly
 - 4 - Bulb
 - 5 - Compression Screw
 - 6 - Deflector*
- * Temperature rating is indicated on Deflector.

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

- Obstructed, non-combustible, ceiling construction with a deflector location below structural members of 1 to 6 in. (25 to 150 mm) and a maximum deflector to ceiling/roof deck distance of 22 in. (550 mm).
3. Series EC-11 and EC-14 Extended Coverage Sprinklers, specifically tested and listed for non-combustible obstructed construction, are permitted to be used within trusses or bar joists having non-combustible web members greater than 1 in. (25.4 mm) when applying the 4 times obstruction criteria rule defined under "Obstructions to Sprinkler Discharge Pattern Development".
 4. To prevent cold soldering, the minimum allowable spacing between Series EC-11 and EC-14 Extended Coverage Sprinklers is 8 ft (2,4 m) for upright sprinklers and 9 ft (2,7 m) for pendent sprinklers.
 5. Series EC-11 and EC-14 Extended Coverage Sprinklers are to be installed in accordance with all other requirements of NFPA 13 for extended coverage upright and pendent sprinklers; For example, obstructions to sprinkler discharge, obstructions to sprinkler pattern development, obstructions to prevent sprinkler discharge from reaching hazard and clearance to storage.

Hazard	Type	Temperature	Bulb Liquid	Sprinkler Finish (See Note 5)			
				Natural Brass	Chrome Plated	Polyester*	Lead Coated
Light Table B describes UL and C-UL Sensitivity Rating Table C describes FM Sensitivity Rating	Upright K=11.2 (TY5137) Pendent K=11.2 (TY5237) K=14.0 (TY6237)	135°F (57°C)	Orange	1, 2, 3**, 4			
		155°F (68°C)	Red				
		175°F (79°C)	Yellow				
		200°F (93°C)	Green	1, 2, 4		1, 2, 4	
		286°F (141°C)	Blue	1, 2, 3, 4		N/A	
	Recessed Pendent K=11.2 (TY5237) K=14.0 (TY6237) With Style 30 Escutcheon	135°F (57°C)	Orange	1, 2, 4			
		155°F (68°C)	Red				
		175°F (79°C)	Yellow				
		200°F (93°C)	Green				
	286°F (141°C)	Blue	1, 2, 4				
Ordinary Table B describes UL and C-UL Sensitivity Rating Table C describes FM Sensitivity Rating	Upright K=11.2 (TY5137) K=14.0 (TY6137) Pendent K=11.2 (TY5237) K=14.0 (TY6237)	135°F (57°C)	Orange	1, 2, 3, 4			
		155°F (68°C)	Red				
		175°F (79°C)	Yellow				
		200°F (93°C)	Green	1, 2, 4		1, 2, 4	
		286°F (141°C)	Blue	1, 2, 3, 4		N/A	
	Recessed Pendent K=11.2 (TY5237) K=14.0 (TY6237) With Style 30 or 40 Escutcheon	135°F (57°C)	Orange	1, 2, 4			
		155°F (68°C)	Red				
		175°F (79°C)	Yellow				
		200°F (93°C)	Green				

NOTES

- Listed by Underwriters Laboratories, Inc. (UL)
- Listed by Underwriters Laboratories, Inc., for use in Canada (C-UL)
- Approved by Factory Mutual Research Corporation (FM)
- Approved by the City of New York under MEA 177-03-E
- Where Polyester Coated or Lead Coated Sprinklers are noted to be UL and C-UL Listed, the sprinklers are UL and C-UL Listed as Corrosion Resistant Sprinklers

N/A = Not Available
* Frame and Deflector only
** Pendent only

TABLE A
LABORATORY LISTINGS AND APPROVALS

Area ft x ft	Style	Light Hazard					Ordinary Hazard				
		135°F (57°C)	155°F (68°C)	175°F (79°C)	200°F (93°C)	286°F (141°C)	135°F (57°C)	155°F (68°C)	175°F (79°C)	200°F (93°C)	286°F (141°C)
14 x 14	Upright or Pendent	-	-	-	-	-	QR	QR	QR	QR	QR
	Style 30 Recessed	-	-	-	-	-	QR	QR	QR	QR	QR
	Style 40 Recessed	-	-	-	-	-	QR	QR	QR	QR	QR
16 x 16	Upright or Pendent	QR*	QR*	QR*	QR*	QR*	SR	SR	SR	SR	SR
	Style 30 Recessed	QR*	QR*	QR*	QR*	QR*	SR	SR	SR	SR	SR
	Style 40 Recessed	N/A	N/A	N/A	N/A	N/A	SR	SR	SR	SR	SR
18 x 18	Upright or Pendent	QR*	QR*	QR*	QR*	QR*	SR	SR	SR	SR	SR
	Style 30 Recessed	QR*	QR*	QR*	QR*	QR*	SR	SR	SR	SR	SR
	Style 40 Recessed	N/A	N/A	N/A	N/A	N/A	SR	SR	SR	SR	SR
20 x 20	Upright or Pendent	QR*	QR*	QR*	SR*	SR*	SR	SR	SR	SR	SR
	Style 30 Recessed	QR*	QR*	QR*	SR*	SR*	SR	SR	SR	SR	SR
	Style 40 Recessed	N/A	N/A	N/A	N/A	N/A	SR	SR	SR	SR	SR

NOTES

- QR = Quick Response
- SR = Standard Response
- N/A = Not Applicable

* Does not apply to Upright K=14.0

TABLE B
SENSITIVITY RATING FOR UL AND C-UL LISTING OF SERIES EC-11 OR EC-14 SPRINKLERS
(REFER TO TABLE D FOR PERMITTED K-FACTOR/AREA COMBINATIONS)

HC-1								
Linear Spacing ft		Area Spacing ft		Ceiling Height ft	Ceiling Type	K-factor	Style	Response
Min	Max	Min	Max					
10	20	100	400	Up to 30	Noncombustible Unobstructed, Noncombustible Obstructed, or Combustible Unobstructed	11.2 EC 14.0 EC	Pendent or Upright	Quick
10	20	100	400	Up to 30	Noncombustible Unobstructed, Noncombustible Obstructed, or Combustible Unobstructed	11.2 EC 14.0 EC	Pendent Recessed Style 30	
10	20	100	400	Up to 30	Combustible Obstructed	11.2 EC 14.0 EC	Pendent or Upright	
10	20	100	400	Up to 30	Combustible Obstructed	11.2 EC 14.0 EC	Pendent Recessed Style 30	
10	20	100	400	Over 30 and up to 45	Noncombustible Unobstructed	11.2 EC 14.0 EC	Upright	
HC-2								
Linear Spacing ft		Area Spacing ft		Ceiling Height ft	Ceiling Type	K-factor	Style	Response
Min	Max	Min	Max					
10	20	100	400	Up to 30	Noncombustible Unobstructed, Combustible Unobstructed	11.2 EC	Upright	Quick
10	20	100	400	Up to 30		14.0 EC	Pendent or Upright	
10	16	100	256	Over 30 and up to 45		11.2 EC 14.0 EC	Upright	
HC-3								
Linear Spacing ft		Area Spacing ft		Ceiling Height ft	Ceiling Type	K-Factor	Style	Response
Min	Max	Min	Max					
10	16	100	256	Up to 30	Noncombustible Unobstructed, Combustible Unobstructed	11.2 EC	Upright	Quick
10	20	100	400	Up to 30		14.0 EC	Pendent or Upright	
10	16	100	256	Over 30 and up to 45		11.2 EC, 14.0 EC	Upright	
NOTES								
<ul style="list-style-type: none"> The design for K 11.2 EC (K 160 EC) sprinklers should not include fewer than six sprinklers or have a design pressure of less than 12 psi (0,8 bar); similarly the design for K 14.0 EC (K 200 EC) sprinklers should not include fewer than four sprinklers or have a design pressure of less than 18 psi (1,2 bar). For flow criteria, refer to FM Loss Prevention Data Sheet 3-26. Refer to FM Loss Prevention Data Sheet 2-0 for permitted K-Factor/Area Combinations. 								
TABLE C SENSITIVITY RATING FOR FM APPROVAL OF SERIES EC-11 OR EC-14 SPRINKLERS								

UL and C-UL Specific Application Listing Requirements for Installation under Concrete Tees
Series EC-11 and EC-14 Extended Coverage Upright and Pendent Sprinklers (TY5137, TY5237, TY6137 and TY6237) have a UL and C-UL Specific Application Listing for use under concrete tees when installed as follows:

1. Stems of the concrete tee construction must be spaced at less than 7.5 ft (2,3 m) on center but more than 3 ft (0,9 m) on center. The

depth of the concrete tees must not exceed 30 in. (762 mm). The maximum permitted concrete tee length is 32 ft (9,8 m). However, where the concrete tee length exceeds 32 ft (9,8 m), non-combustible baffles, equal in height to the depth of the tees, can be installed so that the space between the tees does not exceed 32 ft (9,8 m) in length.

2. The sprinkler deflectors are to be located in a horizontal plane at or above 1 in. (25,4 mm) below the bottom of the concrete tee stems.

3. When the sprinkler deflectors are located higher than a horizontal plane 1 in. (25,4 mm) beneath the bottom of the concrete tee stems, the obstruction to sprinkler discharge criteria requirements of NFPA 13 for extended coverage upright and pendent sprinklers applies.

Description	Area ft x ft	Light Hazard 0.10 GPM/ft ²		Group I Ordinary Hazard 0.15 GPM/ft ²		Group II Ordinary Hazard 0.20 GPM/ft ²	
		GPM	PSI	GPM	PSI	GPM	PSI
TY5137 (K=11.2) Upright	14 x 14	30	7.2	30	7.2	39	12.1
	16 x 16	30	7.2	39	12.1	51	20.7
	18 x 18	33	8.7	49	19.1	65	33.7
	20 x 20	40	12.8	60	28.7	80	51.0
TY5237 (K=11.2) Pendent	14 x 14	30	7.2	30	7.2	39	12.1
	16 x 16	30	7.2	39	12.1	51	20.7
	18 x 18	33	8.7	49	19.1	65	33.7
	20 x 20	40	12.8	60	28.7	80	51.0
TY6137 (K=14.0) Upright	14 x 14	N/A	N/A	39	7.8	51	13.3
	16 x 16	N/A	N/A	39	7.8	51	13.3
	18 x 18	N/A	N/A	49	12.3	65	21.6
	20 x 20	N/A	N/A	60	18.4	80	32.7
TY6237 (K=14.0) Pendent	14 x 14	37	7.0	39	7.8	51	13.3
	16 x 16	37	7.0	39	7.8	51	13.3
	18 x 18	37	7.0	49	12.3	65	21.6
	20 x 20	40	8.2	60	18.4	80	32.7

- NOTES**
- 1 ft = 0.3048 m
 - 1 ft² = 0.093 m²
 - 1 GPM = 3.785 LPM
 - 1 psi = 0.06895 bar
 - 1 GPM/ft² = 40.74 mm/min

TABLE D
FLOW CRITERIA FOR UL AND C-UL LISTING OF SERIES EC-11 AND EC-14 SPRINKLERS

FM Approval Requirements

Series EC-11 and EC-14 Extended Coverage Upright and Pendent Sprinklers are to be installed in accordance with the applicable FM Loss Prevention Data Sheet for limited use in buildings of specific roof construction and for the protection of certain specific ordinary hazard (non-storage and/or non-flammable or combustible liquid) occupancies. Information provided in the FM Loss Prevention Data Sheets relates to, but is not limited to, hydraulic design, ceiling slope, and obstructions, minimum and maximum allowable spacing, and deflector-to-ceiling distance.

These criteria may differ from UL and/or NFPA criteria. Therefore, the designer should review and become familiar with FM requirements before proceeding with design.

Installation

TYCO Series EC-11 and EC-14 Extended Coverage Upright and Pendent Sprinklers must be installed in accordance with this section.

General Instructions

Do not install any bulb-type sprinkler if the bulb is cracked or there is a loss of liquid from the bulb. With the sprinkler held horizontally, a small air bubble should be present. The diameter of the air bubble is approximately 1/16 in. (1,6 mm) for the 135°F (57°C) to 3/32 in. (2,4 mm) for the 286°F (141°C) temperature ratings.

A leak-tight 3/4 in. NPT sprinkler joint should be obtained by applying a minimum-to-maximum torque of 10 to 20 ft-lb (13,4 to 26,8 N·m). Higher levels of torque may distort the sprinkler inlet with consequent leakage or impairment of the sprinkler.

Do not attempt to compensate for insufficient adjustment in an Escutcheon

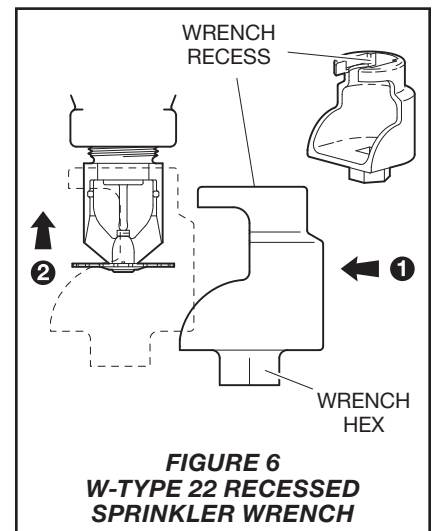
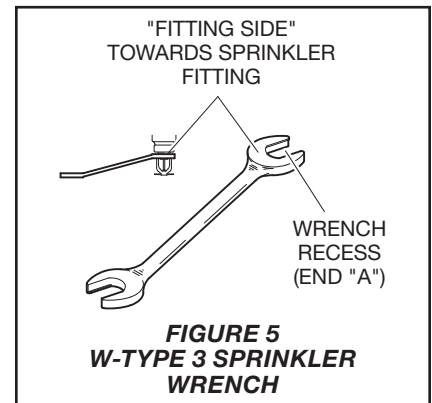
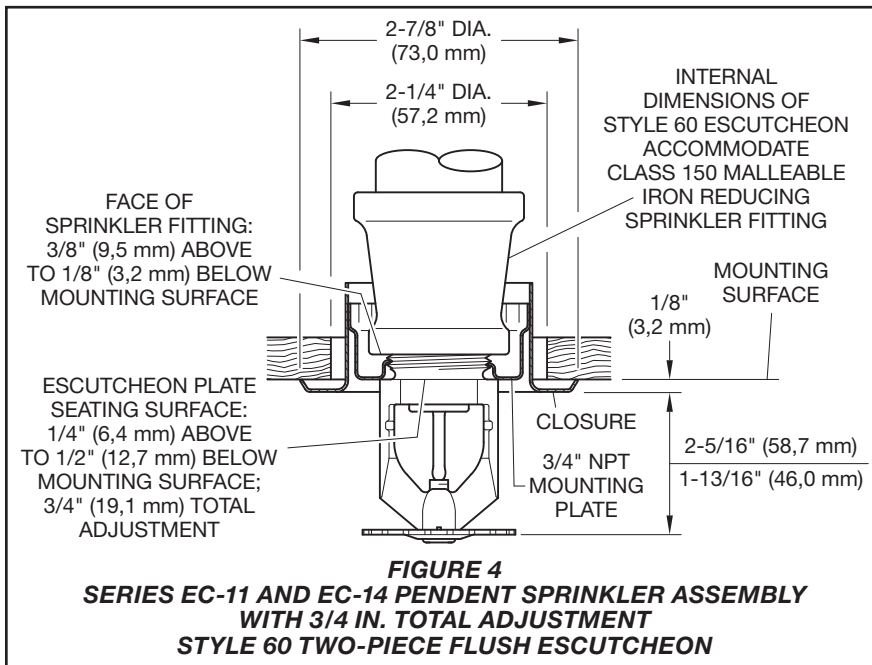
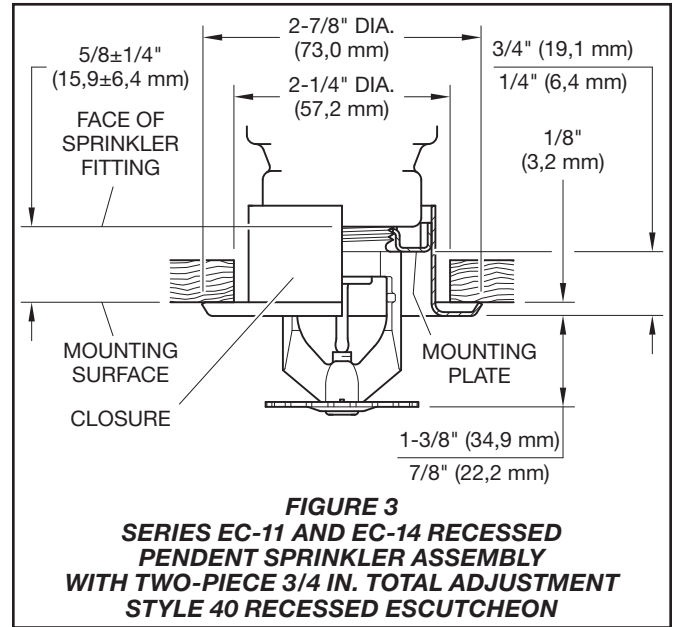
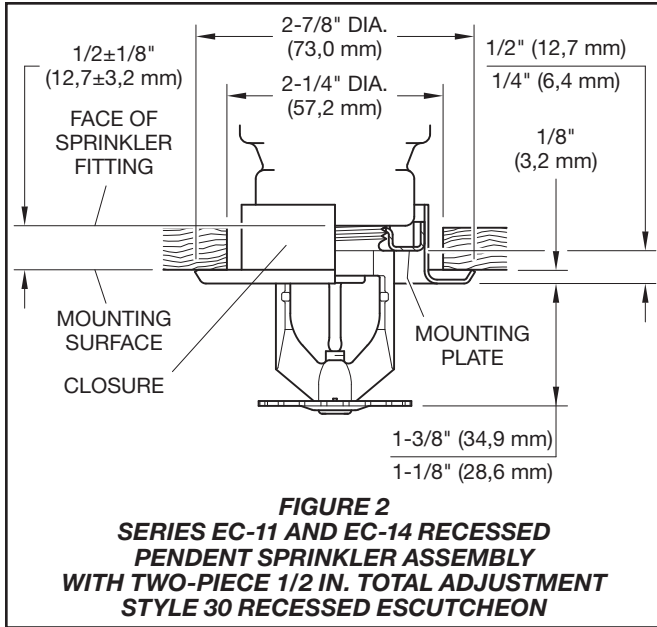
Plate by under or over-tightening the Sprinkler. Re-adjust the position of the sprinkler fitting to suit.

Step 1. Install the sprinkler with the deflector parallel to the mounting surface. Install pendent sprinklers in the pendent position; install upright sprinklers in the upright position.

Step 2. After installing the Style 30, 40, or 60 mounting plate (or other applicable escutcheon) over the sprinkler pipe threads and with pipe-thread sealant applied to the pipe threads, hand-tighten the sprinkler into the sprinkler fitting.

Step 3. For upright or pendent sprinklers, wrench-tighten using only the W-Type 3 (End A) Sprinkler Wrench. For the pendent sprinkler installed with Style 30, 40, or 60 Escutcheon, wrench-tighten the sprinkler using only the W-Type 22 Sprinkler Wrench.

Apply the wrench recess of the applicable sprinkler wrench (Figure 5 and 6) to the sprinkler wrench flats (Figure 1).



P/N 51 - XXX - X - XXX

		SIN			SPRINKLER FINISH ¹			TEMPERATURE RATING	
893	11.2K Pendent	TY5237	1		NATURAL BRASS	135		135°F (57°C)	
894	11.2K Upright	TY5137	4		SIGNAL WHITE (RAL9003) POLYESTER	155		155°F (68°C)	
895	14.0K Pendent	TY6237	5		JET BLACK (RAL9005) POLYESTER	175		175°F (79°C)	
896	14.0K Upright	TY6137	7		LEAD COATED	200		200°F (93°C)	
			9		CHROME-PLATED	286		286°F (141°C)	
						000		OPEN ²	

NOTES:
1. Escutcheon ordered separately.
2. OPEN indicates the sprinkler assembly without glass bulb, button, and sealing assembly.

TABLE E
SERIES EC-11 AND EC-14 UPRIGHT AND PENDENT SPRINKLERS
PART NUMBER SELECTION

Care and Maintenance

TYCO Series EC-11 and EC-14 Extended Coverage Upright and Pendent Sprinklers 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 systems from the proper authorities and notify all personnel who may be affected by this action.

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. Refer to the Installation section, for more information.

Frequent visual inspections are recommended to be initially performed for corrosion resistant coated sprinklers, after the installation has been completed, to verify the integrity of the corrosion resistant coating. Thereafter, annual inspections per NFPA 25 should suffice; however, instead of inspecting from the floor level, a random sampling of close-up visual inspections should be made, so as to better determine the exact sprinkler condition and the long term integrity of the corrosion resistant coating, as it may be affected by the corrosive conditions present.

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 recognized by the Approval agency, such as NFPA 25, in addition to the standards of any authorities having jurisdiction. Contact the installing contractor or product manufacturer with any questions.

Automatic sprinkler systems are recommended to 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).

Sprinkler Assemblies with NPT Thread Connections

Specify: Series EC-11 or EC-14 (specify) Sprinkler, SIN (specify), (specify) K-factor, Pendent or Upright (specify) Extended Coverage, (specify) temperature rating, (specify) finish, P/N (from Table E)

Recessed Escutcheon, Two-Piece

Specify: Style (30 or 40) Two-Piece Recessed Escutcheon with (specify) finish, P/N (specify*)

*Refer to Technical Data Sheet TFP770

Flush Escutcheon, Two-Piece

Specify: Style 60 Two-Piece Flush Escutcheon with (specify) finish, P/N (specify**)

**Refer to Technical Data Sheet TFP778

Sprinkler Wrenches

Specify: W-Type 3 Sprinkler Wrench, P/N 56-895-1-001

Specify: W-Type 22 Recessed Sprinkler Wrench, P/N 56-665-7-001

FireLock® V27, K5.6

Models V2703, V2707, V2704, V2708

Standard Spray Upright, Pendent and Recessed Pendent Standard and Quick Response



V2703/V2704
Upright



V2707/V2708
Pendent



V2707/V2708
Recessed Pendent

Approvals/Listings:



See Victaulic Publication [10.01](#) for more details.

Product Description:

These Model V27 standard spray sprinklers are designed to produce a hemispherical spray pattern for standard commercial applications. They are available with either standard or quick response bulbs. It is cast with a hex-shaped wrench boss to allow easy tightening from many angles, reducing assembly effort. This sprinkler is available in various temperature ratings (see chart on page 3) and finishes to meet many design requirements. The recessed pendent should be utilized with a Model V27 recessed escutcheon which provides up to $3/4$ "/19 mm of adjustments.

Coverage

For coverage area and sprinkler placement, refer to NFPA 13 or applicable standard.

Technical Specifications:

Models: V2703, V2704, V2707, V2708

Style: Pendent, Upright or Recessed Pendent

Nominal Orifice Size: $1/2$ "/13 mm

K Factor: 5.6 Imp./8.1 S.I.¹

Nominal Thread Size: $1/2$ " NPT/15 mm

Max. Working Pressure:

- 175 psi/1200 kPa (FM)
- 250 psi/1725 kPa (UL)

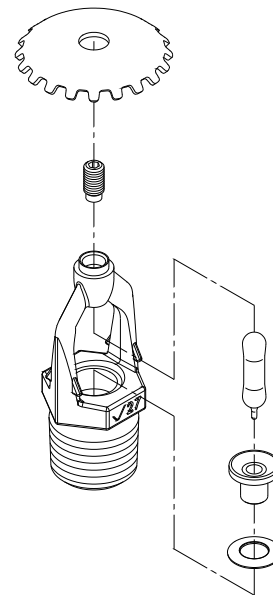
Factory Hydrostatic Test: 100% @ 500 psi/3450 kPa

Min. Operating Pressure:

- 7 psi/48 kPa
- 0.35 bar/5 psi (VdS for upright only)

Temperature Rating: See chart

¹ For K-Factor when pressure is measured in Bar, multiply S.I. units by 10.0.



Exaggerated for clarity

Job/Owner

System No.	
Location	

Contractor

Submitted By	
Date	

Engineer

Spec Section	
Paragraph	
Approved	
Date	

Material Specifications:

Upright Deflector: Bronze per UNS C11000

Pendent Deflector: Bronze per UNS C51000

Bulb: Glass with glycerin solution

Bulb Nominal Diameter:

Standard: 5.0 mm

Quick Response: 3.0 mm

Load Screw: Bronze per UNS C65100

Pip Cap: Bronze per UNS C65100

Spring: Beryllium nickel

Seal: Teflon² tape

Frame: Die cast brass 65-30

Lodgement Spring: Stainless steel per UNS S30200

Accessories

Installation Wrench:

Open End: V27

Recessed: V27-2

Sprinkler Finishes:

Plain Brass

Chrome plated

White polyester coated³

Black painted³

Custom painted³

Proprietary Nickel Teflon² coating³

VC-250⁴

155, 200, 286 SR Only:

Wax³

For cabinets and other accessories refer to separate sheet.

² Teflon is a registered trademark of Dupont Co.

³ UL Listed for corrosion resistance.

⁴ UL Listed and FM Approved for corrosion resistance.

Approvals/Listings:

APPROVALS/LISTINGS	Model					
	V2703	V2707	V2707	V2704	V2708	V2708 ⁷
Orifice Size (inches)	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Orifice Size (mm)	13	13	13	13	13	13
Nominal K Factor Imperial	5.6	5.6	5.6	5.6	5.6	5.6
Nominal K Factor S.I. ⁵	8.1	8.1	8.1	8.1	8.1	8.1
Response	Standard	Standard	Standard	Quick	Quick	Quick
Deflector Type	Upright	Pendent	Recessed Pendent	Upright	Pendent	Recessed Pendent
Approved Temperature Ratings	F°/C°					
cULus	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C
FM	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C
NYC/MEA 62-99-E	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C
CSFM 7690-0531:112	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C
LPCB	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	None	None	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C	None	None
VNIPO	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C
CCC	ZSTZ 155°F/68°C 200°F/93°C	ZSTX 155°F/68°C 200°F/93°C	None	K-ZSTZ 155°F/68°C 200°F/93°C	K-ZSTZ 155°F/68°C 200°F/93°C	None
VdS	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	None	None	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	None	None
CE	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	None	None	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	None	None

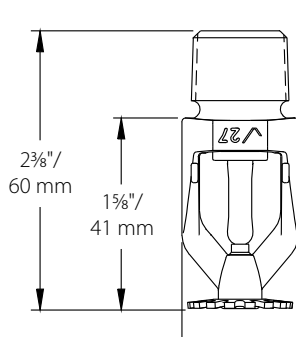
⁵ For K Factor when pressure is measured in Bar, multiply S.I. units by 10.0

⁷ FM Approved with 1/2" adjustment escutcheon only - quick response

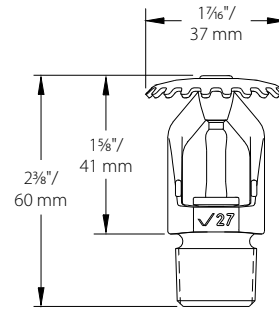
Note: Listings and Approvals as of printing. All are approved open.



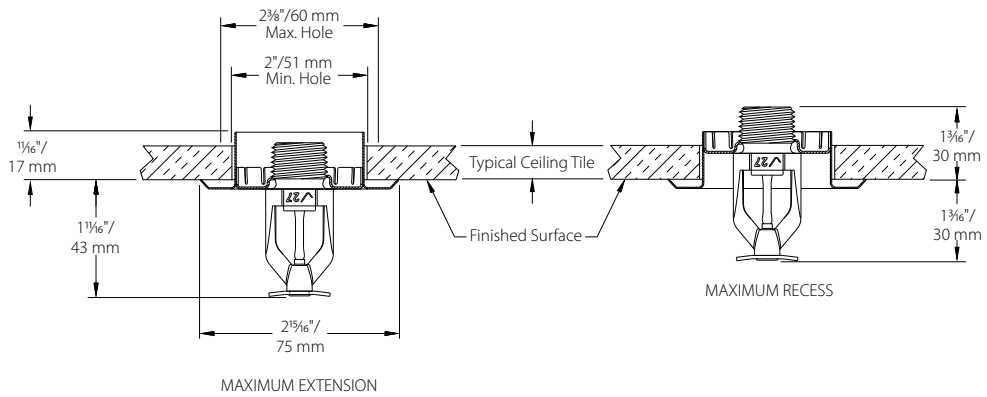
Dimensions:



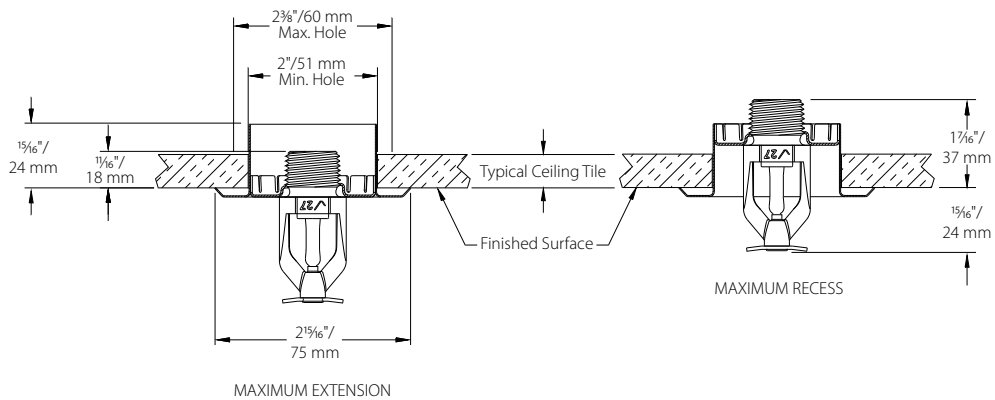
Standard Pendent –
V2707, V2708



Standard Upright –
V2703, V2704



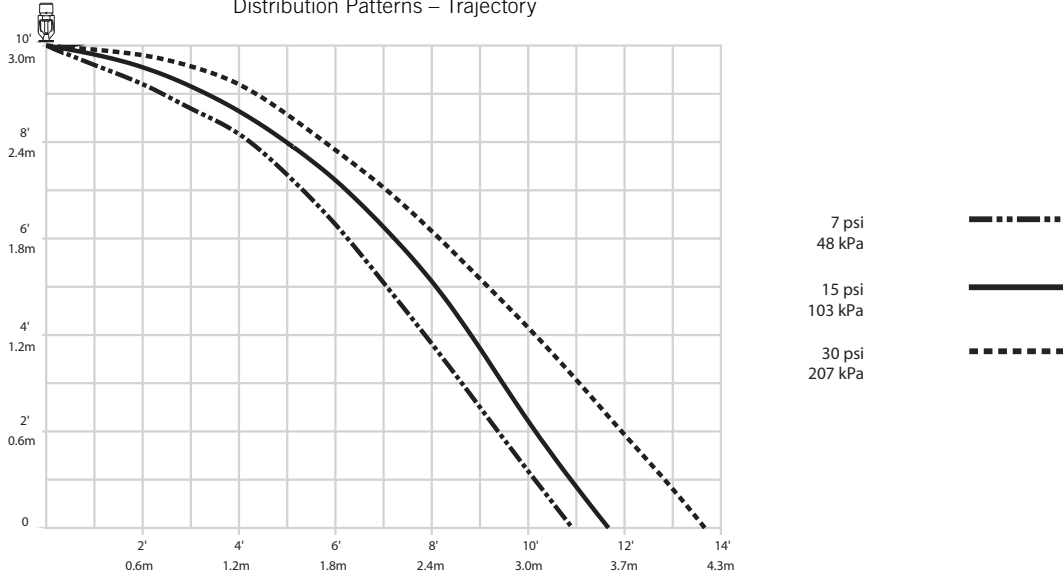
1/2" Adjustment Recessed – V2707, V2708 (drawing not to scale)



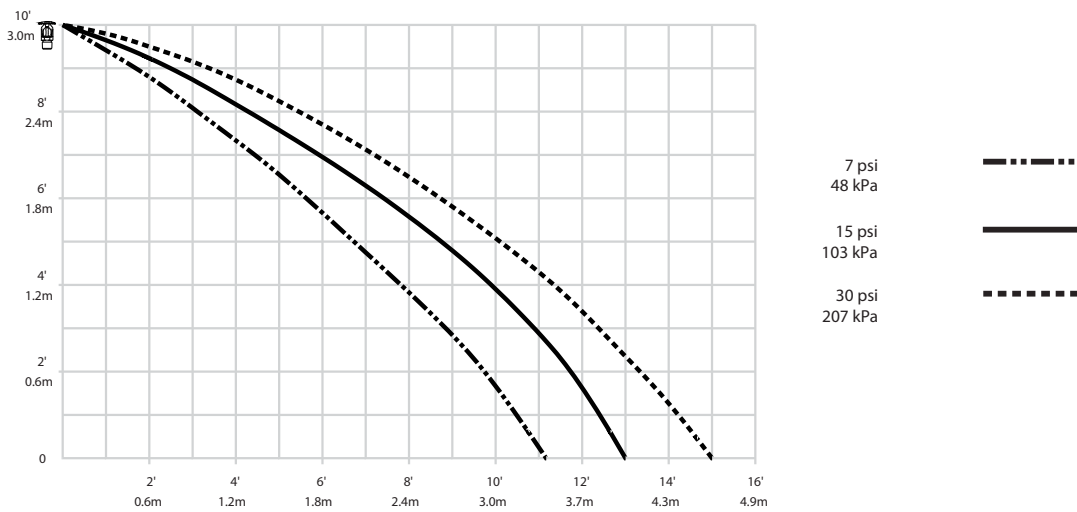
3/4" Adjustment Recessed – V2707, V2708 (drawing not to scale)

Distribution Patterns:

Models V2707, V2708
K5.6 Standard Pendent and Recessed Pendent
Distribution Patterns – Trajectory



Models V2703, V2704
K5.6 Standard Upright
Distribution Patterns – Trajectory



NOTES:

- A. Data shown is approximate and can vary due to differences in installation.
- B. These graphs illustrate approximate trajectories, floor-wetting, and wall-wetting patterns for these specific Victaulic FireLock Automatic Sprinklers. They are provided as information for guidance in avoiding obstructions to sprinklers and should not be used as minimum sprinkler spacing rules for installation. **Refer to the appropriate NFPA National Fire Code or the Authority Having Jurisdiction for specific information regarding obstructions, spacing limitations and area of coverage requirements.** Failure to follow these guidelines could adversely affect the performance of the sprinkler and will void all Listings, Approvals and Warranties.
- C. All patterns are symmetrical to the centerline of the waterway.

Ratings:

All glass bulbs are rated for temperatures from -67°F (-55°C) to those shown in the table below.

Sprinkler Temperature Classification	Victaulic Part Identification	Temperature – °F/°C		Glass Bulb Color
		Nominal Temperature Rating	Maximum Ambient Temperature Allowed	
Ordinary	A	135°F/57°C	100°F/38°C	Orange
Ordinary	C	155°F/68°C	100°F/38°C	Red
Intermediate	E	175°F/79°C	150°F/65°C	Yellow
Intermediate	F	200°F/93°C	150°F/65°C	Green
High	J	286°F/141°C	225°F ⁸ /107°C	Blue
Extra High ⁷	K	360°F/182°C	300°F/149°C	Purple
–	M	Open	–	No Bulb




⁷ Standard response only.

⁸ 150/65 if wax coated.

Available Wrenches:

	V27-2 Recessed	V27 Open End
V2707, V2708 Pendent	✓	✓
V2707, V2708 Recessed Pendent	✓	–
V2703, V2704 Upright	–	✓

⚠ WARNING

- Always read and understand installation, care, and maintenance instructions, supplied with each box of sprinklers, before proceeding with installation of any sprinklers.
- Always wear safety glasses and foot protection.
- Depressurize and drain the piping system before attempting to install, remove, or adjust any Victaulic piping products.
- Installation rules, especially those governing obstruction, must be strictly followed.
- Painting, plating, or any re-coating of sprinklers (other than that supplied by Victaulic) is not allowed.

Failure to follow these instructions could result in serious personal injury and/or property damage.

The owner is responsible for maintaining the fire protection system and devices in proper operating condition. For minimum maintenance and inspection requirements, refer to the current National Fire Protection Association pamphlet that describes care and maintenance of sprinkler systems. In addition, the authority having jurisdiction may have additional maintenance, testing, and inspection requirements that must be followed.

If you need additional copies of this publication, or if you have any questions about the safe installation of this product, contact Victaulic World Headquarters: P.O. Box 31, Easton, Pennsylvania 18044-0031 USA, Telephone: 001-610-559-3300.

Installation

Reference should always be made to the I-40 Victaulic FireLock Automatic Sprinklers Installation and Maintenance Sheet for the product you are installing. This installation sheet is included with each shipment of Victaulic products for complete installation and assembly data, and is available in PDF format on our website at victaulic.com.

Warranty

Refer to the Warranty section of the current Price List or contact Victaulic for details.

Note

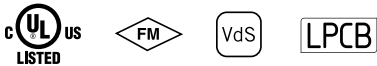
This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

Trademarks

Victaulic is a registered trademark of Victaulic Company.



Approvals/Listings:



[See Victaulic Publication 10.01 for more details.](#)

Coatings and Materials:

Victaulic® Firelock® sprinklers are offered in a variety of materials and optional coatings to increase their resistance to corrosion. White and black paint, wax, Nickel-Teflon¹ and VC-250 are all UL/FM/VdS/LPCB approved coatings or finishes and are available on Victaulic FireLock sprinkler frames V10, V12, V24, V27, V34, and V36. VC-250 is UL and FM approved as a corrosion resistant coating, while VdS and LPCB have recognized and approved VC-250 as an alternate coating. Please refer to the particular agency website for additional details.

VC-250:

VC-250 is an optional, corrosion-resistant coating developed by Victaulic to increase the protection of FireLock sprinklers from visual and physical changes such as exposure to weather or exposure to areas that may be specified as chemical environments. When applied, this nickel based, multi-layer coating fully encompasses each Firelock sprinkler to provide increased corrosion resistance while maintaining functionality.

¹ Teflon is a registered trademark of Dupont Corporation



WARNING

- **Coating selection is the responsibility of the specifying engineer based on as installed conditions. The durability/longevity of any coating in a particular application is based on multiple factors and selection of the coating should be determined by an individual familiar with the application and the environmental factors.**

Final determination of the coating rests with the engineer of record, property owner or facility manager.

Installation Considerations:

Visual inspection is recommended for corrosion resistant sprinklers before and after installation, to verify the integrity of the corrosion resistant coating. Thereafter, inspect sprinklers on a regular basis for corrosion, mechanical damage, obstructions, etc. according to NFPA 25, and as required by local regulations or codes.

For proper installation, maintenance and care instructions please follow the [I-40](#) instruction manual. For additional information regarding the coating properties, chemical resistance, or coating performance please contact Victaulic technical services at 1-800-PickVic.

Visual Examination Conditions:

UL corrosion testing was conducted according to the methods outlined in UL199. FM Global testing was conducted in accordance with the methods specified in FM 2000 sprinkler testing standard under the corrosion resistance section.

Additional testing of commonly found chemicals at selected concentrations was performed to provide guidance on how the coated sprinklers can be visually affected. The testing was performed at an independent laboratory with accreditation by the American Association for Laboratory Accreditation (A2LA) following ASTM D1308 test protocols. ASTM D1308 is a testing method for the effect of chemicals on clear and pigmented organic finishes, resulting in any objectionable alteration in the surface, such as discoloration, change in gloss, blistering, softening, swelling, loss of adhesion, or special phenomena. These test methods provide the means by which the relative performance of coating systems may be evaluated. The results detailed in the table on the following page were, per the test method, following 48 hours of exposure and the samples being rinsed.

The chemicals chosen were a representative sample of chemicals commonly found in many different industries and environments. For example, indoor swimming pools are often related with chlorine and hydrochloric acid, water treatment facilities and paper pulp mills may have hydrogen peroxide rich atmospheres, sodium hydroxide can be used in cleaners for the food and beverage industry, and sodium chloride is found along coastal salt water areas. **The concentrations were for test purposes only and may not be representative of actual concentration levels where the sprinklers would be installed.**

Visual Examination Results:

The information in this table is the result of visual examinations only after the tests were conducted.


Tested according to ASTM D1308 spot test method.					
Chemical	Brass	Chrome	Nickel-Teflon ¹	VC-250	Stainless Steel
10% Hydrogen Peroxide	C	NC	C	NC	NC
10% Sodium Hydroxide	C	NC	C	NC	C
3% Acetic Acid	C	NC	NC	NC	NC
5% Ammonia	C	NC	C	NC	NC
10% Hydrochloric Acid	C	C	NC	NC	NC
10% Hydrofluoric Acid	C	C	C	C	C
10% Nitric Acid	C	NC	C	NC	C
10% Phosphoric Acid	C	NC	C	C	NC
5% Sodium Chloride	C	C	NC	NC	NC
2.0 L Sulfur Dioxide	NC	NC	NC	NC	NC
10% Sulfuric Acid	C	NC	C	C	NC

Ratings based on testing at an ambient room temperature of ~73°F (22.8°C)

Report observations only. No Pass/Fail criteria provided.

1 Teflon is a registered trademark of Dupont Corporation

Key	
NC	No Visual Change During Exposure
C	Visual Change During Exposure

 **WARNING**

- Coating selection is the responsibility of the specifying engineer based on as installed conditions. The durability/longevity of any coating in a particular application is based on multiple factors and selection of the coating should be determined by an individual familiar with the application and the environmental factors. Final determination of the coating rests with the engineer of record, property owner or facility manager.**

Installation

Reference should always be made to the [I-40 Victaulic FireLock® Automatic Sprinklers Installation and Maintenance Handbook](#) for the product you are installing. Handbooks are included with each shipment of Victaulic products for complete installation and assembly data, and are available in PDF format on our website at www.victaulicfire.com.

Warranty

Refer to the Warranty section of the current Price List or contact Victaulic for details.

Note

This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

Trademarks

Victaulic® and Firelock® are registered trademarks of Victaulic Company.

Fire Sprinkler Pipe

Schedule 10 and Schedule 40

Submittal Data Sheet



FM Approved and Fully Listed Sprinkler Pipe

Wheatland's Schedule 10 and Schedule 40 steel fire sprinkler pipe is FM Approved and UL, C-UL and FM Listed.

Approvals and Specifications

Both products meet or exceed the following standards:

- ASTM A135, Type E, Grade A (Schedule 10)
- ASTM A795, Type E, Grade A (Schedule 40)
- NFPA 13

Manufacturing Protocols

Schedule 10 and Schedule 40 are subjected to the toughest possible testing protocols to ensure the highest quality and long-lasting performance.

Finishes and Coatings

All Wheatland black steel fire sprinkler pipe up to 6" receives a proprietary mill coating to ensure a clean, corrosion-resistant surface that outperforms and outlasts standard lacquer coatings. This coating allows the pipe to be easily painted, without special preparation. Schedule 10 and Schedule 40 can be ordered in black, or with hot-dip galvanizing, to meet FM/UL requirements for dry systems that meet the zinc coating specifications of ASTM A795 or A53. All Wheatland galvanized material is also UL Listed.

Product Marking

Each length of Wheatland fire sprinkler pipe is continuously stenciled to show the manufacturer, type of pipe, grade, size and length. Barcoding is acceptable as a supplementary identification method.

SCHEDULE 10 SPECIFICATIONS

NPS	NOM OD		NOM ID		NOMINAL WALL		NOMINAL WEIGHT		UL CRR*	PIECES Lift
	in.	mm	in.	mm	in.	mm	lbs./ft.	kg/m		
1¼	1.660	42.2	1.442	36.6	.109	2.77	1.81	2.69	7.3	61
1½	1.900	48.3	1.682	42.7	.109	2.77	2.09	3.11	5.8	61
2	2.375	60.3	2.157	54.8	.109	2.77	2.64	3.93	4.7	37
2½	2.875	73.0	2.635	66.9	.120	3.05	3.53	5.26	3.5	30
3	3.500	88.9	3.260	82.8	.120	3.05	4.34	6.46	2.6	19
4	4.500	114.3	4.260	108.2	.120	3.05	5.62	8.37	1.6	19
5	5.563	141.3	5.295	134.5	.134	3.40	7.78	11.58	1.5	13
6	6.625	168.3	6.357	161.5	.134	3.40	9.30	13.85	1.0	10
8	8.625	219.1	8.249	209.5	.188	4.78	16.96	25.26	2.1	7

* Calculated using Standard UL CRR formula, UL Fire Protection Directory, Category VIZY.

* The CRR is a ratio value used to measure the ability of a pipe to withstand corrosion. Threaded Schedule 40 steel pipe is used as the benchmark (value of 1.0).

SCHEDULE 40 SPECIFICATIONS

NPS	NOM OD		NOM ID		NOMINAL WALL		NOMINAL WEIGHT		UL CRR*	PIECES Lift
	in.	mm	in.	mm	in.	mm	lbs./ft.	kg/m		
1	1.315	33.4	1.049	26.6	.133	3.38	1.68	2.50	1.00	70
1¼	1.660	42.2	1.380	35.1	.140	3.56	2.27	3.39	1.00	51
1½	1.900	48.3	1.610	40.9	.145	3.68	2.72	4.05	1.00	44
2	2.375	60.3	2.067	52.5	.154	3.91	3.66	5.45	1.00	30

* Calculated using Standard UL CRR formula, UL Fire Protection Directory, Category VIZY.

* The CRR is a ratio value used to measure the ability of a pipe to withstand corrosion. Threaded Schedule 40 steel pipe is used as the benchmark (value of 1.0).



SUBMITTAL INFORMATION

PROJECT:

CONTRACTOR:

DATE:

ENGINEER:

SPECIFICATION REFERENCE:

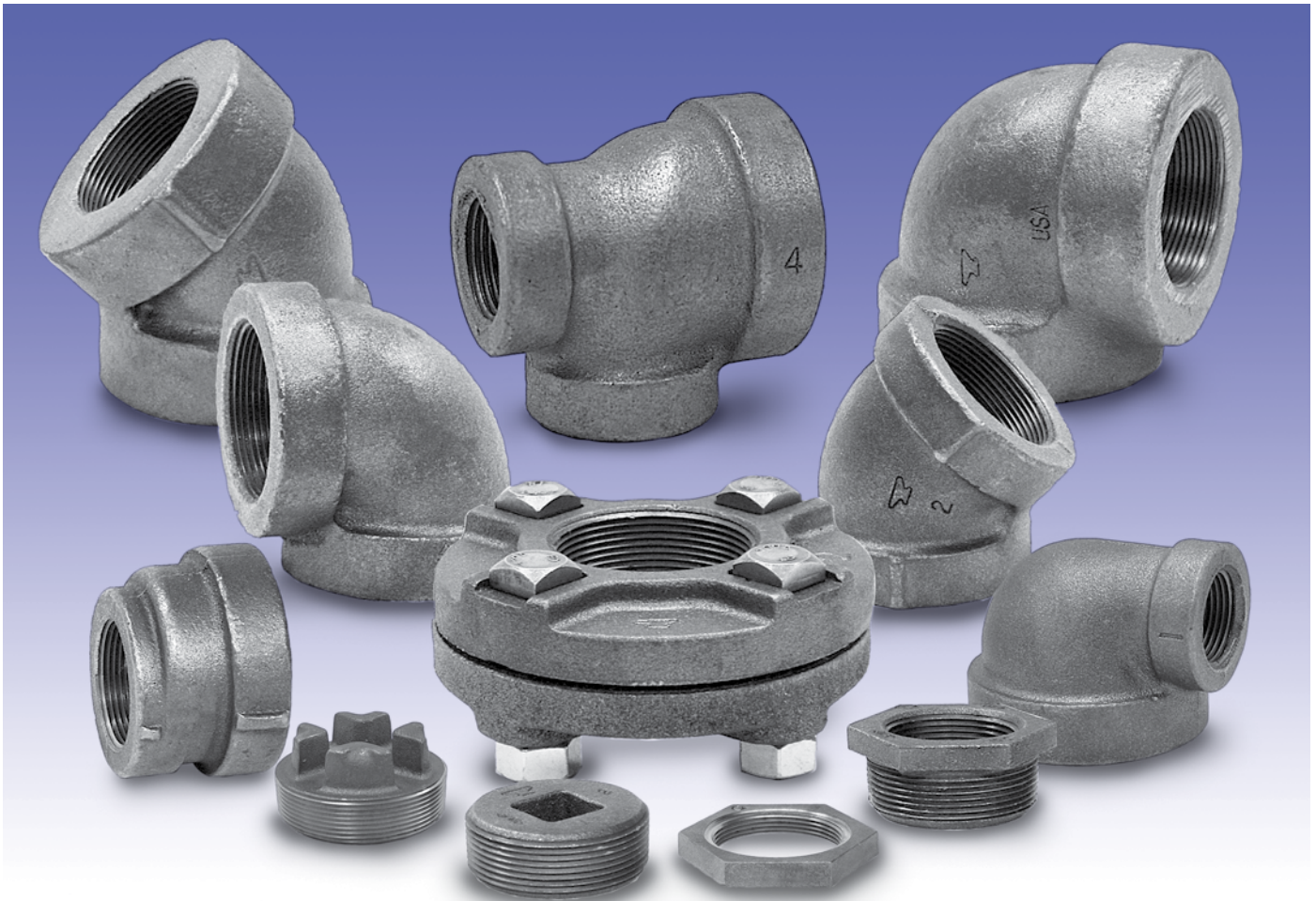
SYSTEM TYPE:

LOCATIONS:

COMMENTS:

BLACK

HOT-DIP GALVANIZED



Anvil standard and extra heavy cast iron threaded fittings are manufactured in accordance with ASME B16.4. Plugs and bushings are manufactured in accordance with ASME B16.14.

NOTE: Figure 367 Concentric Reducers do not meet the overall length requirement of ASME B16.4. All other dimensions are in compliance.



For Listings/Approval Details and Limitations, visit our website at www.anvilintl.com or contact an Anvil Sales Representative.

Cast Iron Threaded Fittings Pressure - Temperature Ratings					
Temperature		Pressure			
		Class 125		Class 250	
(°F)	(°C)	psi	bar	psi	bar
-20° to 150°	-28.9 to 65.6	175	12.1	400	27.6
200°	93.3	165	11.4	370	25.5
250°	121.1	150	10.3	340	23.4
300°	148.9	140	9.7	310	21.4
350°	176.7	125	8.6	300	20.7
400°	204.4	-	-	250	17.2

Standards and Specifications					
	Dimensions	Material	Galvanizing*	Thread	Pressure Rating
CAST IRON THREADED FITTINGS					
Class 125	ASME B16.4	ASTM A-126 (A)	ASTM A-153	ASME B1.20.1	ASME B16.4
Class 250	ASME B16.4	ASTM A-126 (A)	ASTM A-153	ASME B1.20.1	ASME B16.4
CAST IRON PLUGS AND BUSHINGS					
	ASME B16.14	ASTM A- 126 (A)	ASTM A-153	ASME B1.20.1	ASME B16.14

* ASTM B 633, Type I, SC 4, may be supplied as alternate zinc coating per applicable ASME B16 product standard.

Cast Iron Threaded Fittings

Class 125 (Standard)

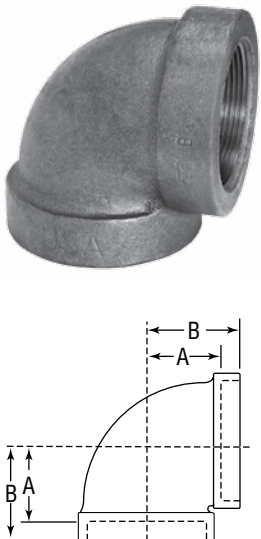
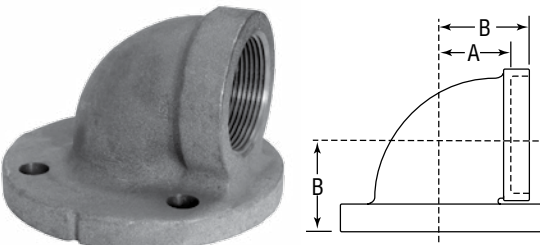
FIGURE 351 90° Elbow	Size		A		B		Unit Weight	
	NPS	DN	in	mm	in	mm	lbs	kg
	Black							
	1/4	8	1/2	13	13/16	22	0.16	0.07
	3/8	10	9/16	14	15/16	24	0.25	0.11
	1/2	15	11/16	17	1 1/8	29	0.40	0.18
	3/4	20	13/16	22	1 15/16	33	0.60	0.27
	1	25	15/16	24	1 1/2	38	0.92	0.42
	1 1/4	32	1 1/8	29	1 3/4	44	1.44	0.65
	1 1/2	40	1 5/16	33	1 15/16	49	1.95	0.88
	2	50	1 9/16	40	2 1/4	57	3.13	1.42
	2 1/2	65	1 13/16	47	2 11/16	68	4.94	2.24
	3	80	2 3/16	56	3 1/8	79	7.21	3.27
	3 1/2	90	2 7/16	62	3 7/16	87	9.67	4.39
	4	100	2 11/16	68	3 13/16	98	12.17	5.52
	5	125	3 5/16	84	4 1/2	114	21.46	9.73
	6	150	3 7/8	98	5 1/8	130	31.33	14.21
8	200	5 3/16	132	6 9/16	167	64.56	29.28	

FIGURE 371 90° Elbow, Flange & Screw	Size		A		B		Unit Weight	
	NPS	DN	in	mm	in	mm	lbs	kg
	Black							
	2 1/2	65	1 13/16	47	2 11/16	68	10.22	4.63
	3	80	2 3/16	56	3 1/8	79	13.25	6.01
	4	100	2 11/16	68	3 13/16	98	21.56	9.78
	6	150	3 7/8	98	5 1/8	130	40.50	18.37

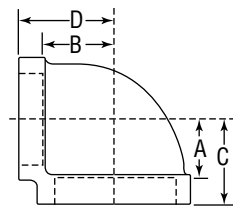
†Nominal Pipe Sizes of 4" (100 DN) and larger have two holes tapped for stud or tap bolts.

Note: See page 35 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 352
90° Elbow, Reducing



Size				A		B		C		D		Unit Weight	
												Black	
NPS	DN	NPS	DN	in	mm	in	mm	in	mm	in	mm	lbs	kg
1/2	15	1/4	8	5/8	16	3/4	19	1 1/16	27	1 1/16	27	0.40	0.18
		3/8	10	5/8	16	11/16	17	1 1/16	27	1 1/16	27	0.34	0.15
3/4	20	1/2	15	11/16	17	13/16	22	1 1/4	32	1 1/4	32	0.51	0.23
1	25	1/2	15	11/16	17	15/16	24	1 3/8	35	1 3/8	35	0.67	0.30
		3/4	20	13/16	22	15/16	24	1 7/16	37	1 7/16	37	0.76	0.34
1 1/4	32	1/2	15	11/16	17	1 1/16	27	1 1/2	38	1 1/2	38	1.07	0.49
		3/4	20	13/16	22	1 1/8	29	1 5/8	41	1 5/8	41	1.02	0.46
		1	25	15/16	24	1 1/8	29	1 11/16	43	1 11/16	43	1.21	0.55
1 1/2	40	1/2	15	3/4	19	1 1/4	32	1 5/8	41	1 5/8	41	1.53	0.69
		3/4	20	7/8	22	1 5/16	33	1 13/16	47	1 13/16	47	1.55	0.70
		1	25	1	25	1 1/4	32	1 13/16	47	1 13/16	47	1.44	0.65
		1 1/4	32	1 3/16	30	1 1/4	32	1 7/8	48	1 7/8	48	1.74	0.79
2	50	1/2	15	1 3/16	30	1 7/16	37	1 3/8	35	1 3/8	35	2.22	1.01
		3/4	20	1 5/16	33	1 1/2	38	2	51	2	51	2.20	1.00
		1	25	1 1/16	27	1 7/16	37	2	51	2	51	2.08	0.94
		1 1/4	32	1 3/16	30	1 7/16	37	2 1/16	52	2 1/16	52	2.33	1.06
		1 1/2	40	1 5/16	33	1 1/2	38	2 1/8	54	2 1/8	54	2.59	1.17
2 1/2	65	1	25	1	25	1 3/4	44	2 5/16	59	2 5/16	59	2.93	1.33
		1 1/4	32	1 3/16	30	1 3/4	44	2 3/8	60	2 3/8	60	3.41	1.55
		1 1/2	40	1 5/16	33	1 13/16	47	2 7/16	62	2 7/16	62	3.68	1.67
		2	50	1 9/16	40	1 7/8	48	2 9/16	65	2 9/16	65	4.01	1.82
3	80	1 1/4	32	1 5/8	41	2 5/16	59	2 15/16	75	2 15/16	75	5.98	2.71
		1 1/2	40	1 5/8	41	2 5/16	59	2 15/16	75	2 15/16	75	5.65	2.56
		2	50	1 5/8	41	2 1/4	57	2 15/16	75	2 15/16	75	5.25	2.38
		2 1/2	65	1 7/8	48	2 3/16	56	3 1/16	78	3 1/16	78	6.44	2.92
4	100	2	50	2 3/16	56	2 15/16	75	3 5/8	92	3 5/8	92	11.89	5.39
		2 1/2	65	2 3/16	56	2 3/4	70	3 5/8	92	3 5/8	92	11.27	5.11
		3	80	2 3/16	56	2 11/16	68	3 5/8	92	3 5/8	92	10.63	4.82
5	125	4	100	2 13/16	73	3 5/16	84	4 3/8	111	4 3/8	111	16.47	7.47
6	150	3	80	2 5/16	59	3 13/16	98	4 13/16	124	4 13/16	124	19.43	8.81
		4	100	2 13/16	73	3 7/8	98	4 15/16	125	4 15/16	125	23.53	10.67
		5	125	3 3/8	86	3 13/16	98	5	127	5	127	26.66	12.09

Note: See page 35 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

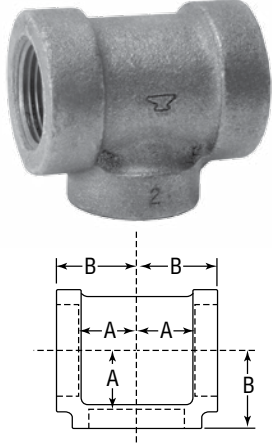
FIGURE 358 Tee	Size		A		B		Unit Weight	
							Black	
	NPS	DN	in	mm	in	mm	lbs	kg
	1/4	8	1/2	13	13/16	22	0.22	0.10
	3/8	10	5/8	16	1	25	0.35	0.16
	1/2	15	11/16	17	1 1/8	29	0.56	0.25
	3/4	20	13/16	22	1 5/16	33	0.84	0.38
	1	25	1 5/16	24	1 1/2	38	1.25	0.57
	1 1/4	32	1 7/8	29	1 3/4	44	2.03	0.92
	1 1/2	40	1 5/8	33	1 15/16	49	2.70	1.22
	2	50	1 9/16	40	2 1/4	57	4.23	1.92
	2 1/2	65	1 13/16	47	2 11/16	68	6.67	3.02
	3	80	2 3/16	56	3 1/8	79	10.00	4.54
	3 1/2	90	2 7/16	62	3 7/16	87	13.29	6.03
	4	100	2 11/16	68	3 3/4	95	16.33	7.41
	5	125	3 5/16	84	4 1/2	114	27.33	12.39
	6	150	3 7/8	98	5 1/8	130	40.85	18.53
	8	200	5 3/16	132	6 9/16	167	79.00	35.83

FIGURE 359 Tee Reducing												Unit Weight									
Size						A		B		C		D		E		F		Black			
NPS	DN	NPS	DN	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg		
1/2	15	1/2	15	1/4	8	1 1/16	17	1 1/16	17	1 3/16	22	1 1/8	29	1 1/8	29	1 1/8	29	0.57	0.26		
				3/8	10	1 1/16	17	1 1/16	17	3/4	19	1 1/8	29	1 1/8	29	0.57	0.26				
				3/4	20	1 3/16	22	1 3/16	22	1 1/4	32	1 1/4	32	1 3/16	22	0.68	0.31				
				1	25	1	25	1 3/16	22	1 7/16	37	1 7/16	37	1 3/8	35	1.00	0.45				
3/4	20	1/2	15	1/2	15	1 1/16	17	1 1/16	17	1 3/16	22	1 3/16	22	1 1/8	29	1 1/4	32	0.64	0.29		
				3/4	20	1 3/16	22	1 3/16	22	1 3/16	22	1 5/16	24	1 1/4	32	1 5/16	24	0.75	0.34		
		3/4	20	1/4	8	9/16	14	9/16	14	7/8	22	1 1/16	17	1 1/16	17	1 3/16	22	1 1/4	32	0.62	0.28
				3/8	10	1 1/16	17	1 1/16	17	1 5/16	24	1 3/16	22	1 3/16	22	1 1/4	32	0.75	0.34		
				1/2	15	1 1/16	17	1 1/16	17	1 3/16	22	1 3/16	22	1 3/16	22	1 1/4	32	0.76	0.34		
				1	25	1 5/16	24	1 5/16	24	1 3/16	22	1 7/16	37	1 7/16	37	1 3/8	35	0.99	0.45		
1	25	1/4	8	1	25	1 5/16	24	1 5/16	24	1 5/16	24	1 1/2	38	1 1/4	32	1 1/2	38	1.08	0.49		
				1/2	15	1 1/16	17	3/4	19	1 5/16	24	1 1/4	32	1 3/16	22	1 3/8	35	0.90	0.41		
				3/4	20	1 3/16	22	1 3/16	22	1 5/16	24	1 3/8	35	1 1/4	32	1 7/16	37	0.91	0.41		
		1/2	15	1	25	1 5/16	24	1 5/16	24	1 5/16	24	1 5/16	24	1 1/2	38	1 3/8	35	1 1/2	38	1.08	0.49
				3/4	20	1 1/16	17	1 1/16	17	1 5/16	24	1 1/4	32	1 3/16	22	1 3/8	35	0.89	0.40		
				1	25	1 3/16	22	1 3/16	22	1 5/16	24	1 3/8	35	1 5/16	24	1 7/16	37	1.00	0.45		
		3/4	20	1	25	1 5/16	24	1 5/16	24	1 5/16	24	1 5/16	24	1 1/2	38	1 7/16	37	1 1/2	38	1.13	0.51
				1/4	8	1 1/16	17	1 1/16	17	1 1/8	29	1 1/8	29	1 1/4	32	1 3/8	35	1.01	0.46		
				1/2	15	1 1/16	17	1 1/16	17	1 5/16	24	1 1/4	32	1 1/4	32	1 3/8	35	1.01	0.46		
				3/4	20	1 3/16	22	1 3/16	22	1 5/16	24	1 3/8	35	1 3/8	35	1 7/16	37	1.11	0.50		
				1 1/4	32	1 1/8	29	1 1/8	29	1 5/16	24	1 11/16	43	1 11/16	43	1 9/16	40	1.49	0.68		
				1 1/2	40	1 1/4	32	1 1/4	32	1	25	1 13/16	47	1 13/16	47	1 5/8	41	1.84	0.83		
2	50	1 7/16	37	1 7/16	37	1	25	2	50	2	50	1 3/4	44	2.70	1.22						

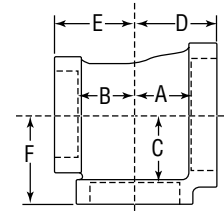
Note: See page 35 for pressure-temperature ratings.

Continued on next page.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 359
Tee Reducing



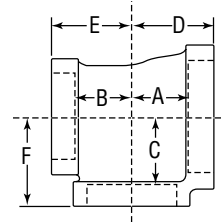
Size				A		B		C		D		E		F		Unit Weight						
				Black		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg			
NPS	DN	NPS	DN	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg					
1 1/4	15	1/2	32	1/2	15	13/16	22	13/16	22	1 1/8	29	1 7/16	37	1 5/16	24	1 5/8	41	1.00	0.45			
				1	25	1 5/16	24	1 5/16	24	1 1/8	29	1 9/16	40	1 3/8	35	1 11/16	43	1.38	0.63			
				1 1/4	32	1 1/8	29	1 1/8	29	1 1/8	29	1 3/4	44	1 9/16	40	1 3/4	44	1.64	0.74			
	20	3/4	20	32	3/4	20	13/16	22	13/16	22	1 1/8	29	1 7/16	37	1 5/16	24	1 5/8	41	1.27	0.58		
					1	25	1 5/16	24	1 5/16	24	1 1/8	29	1 9/16	40	1 7/16	37	1 11/16	43	1.43	0.65		
					1 1/4	32	1 1/8	29	1 1/8	29	1 1/8	29	1 3/4	44	1 5/8	41	1 3/4	44	1.73	0.78		
	25	1	25	32	1/2	15	1 1/16	17	1 1/16	17	1 1/8	29	1 5/16	24	1 1/4	32	1 9/16	40	1.27	0.58		
					3/4	20	1 3/16	22	1 3/16	22	1 1/8	29	1 7/16	37	1 3/8	35	1 5/8	41	1.36	0.62		
					1	25	1 5/16	24	1 5/16	24	1 1/8	29	1 9/16	40	1 9/16	40	1 11/16	43	1.53	0.69		
					1 1/4	32	1 1/8	29	1 1/8	29	1 1/8	29	1 3/4	44	1 11/16	43	1 3/4	44	1.79	0.81		
					1 1/2	40	1 1/4	32	1 1/4	32	1 3/16	22	1 7/8	48	1 13/16	47	1 13/16	47	2.07	0.94		
	32	1 1/4	32	32	2	50	1 7/16	37	1 7/16	37	1 3/16	22	2 1/16	52	2	50	1 7/8	48	2.66	1.21		
					1/2	15	1 1/16	17	1 1/16	17	1 1/8	29	1 5/16	24	1 5/16	24	1 9/16	40	1.47	0.67		
					3/4	20	1 3/16	22	1 3/16	22	1 1/8	29	1 7/16	37	1 7/16	37	1 5/8	41	1.57	0.71		
	40	1 1/2	40	32	1	25	1 5/16	24	1 5/16	24	1 1/8	29	1 9/16	40	1 9/16	40	1 11/16	43	1.73	0.78		
					1 1/2	40	1 1/4	32	1 1/4	32	1 3/16	22	1 7/8	48	1 7/8	48	1 13/16	47	2.29	1.04		
					2	50	1 7/16	37	1 7/16	37	1 3/16	22	2 1/16	52	2 1/16	52	1 7/8	48	2.81	1.27		
					1/2	15	1 1/16	17	1 1/16	17	1 1/8	29	1 5/16	24	1 5/16	24	1 9/16	40	1.47	0.67		
					3/4	20	1 3/16	22	1 3/16	22	1 1/8	29	1 7/16	37	1 7/16	37	1 5/8	41	1.57	0.71		
	1 1/2	15	1/2	32	1 1/4	32	1 3/16	22	1 1/8	29	1 1/4	32	1 13/16	47	1 9/16	40	1 7/8	48	1.93	0.88		
1 1/2					40	1 5/16	24	1 1/4	32	1 5/16	24	1 15/16	49	1 11/16	43	1 15/16	49	2.14	0.97			
25		1	25	32	3/4	20	1 1/2	40	1 5/16	24	1 1/4	32	1 5/16	24	1 15/16	49	1 3/4	44	1 15/16	49	2.18	0.99
					1/2	15	1 3/16	22	3/4	19	1 1/4	32	1 7/16	37	1 5/16	24	1 11/16	43	1.75	0.79		
					3/4	20	7/8	22	1 3/16	22	1 1/4	32	1 1/2	38	1 3/8	35	1 3/4	44	1.70	0.77		
					1	25	1	25	1 5/16	24	1 1/4	32	1 5/8	41	1 1/2	38	1 13/16	47	1.72	0.78		
					1 1/4	32	1 3/16	22	1 1/8	29	1 1/4	32	1 13/16	47	1 11/16	43	1 7/8	48	2.08	0.94		
					1 1/2	40	1 5/16	24	1 1/4	32	1 5/16	24	1 15/16	49	1 13/16	47	1 15/16	49	2.29	1.04		
40		1 1/4	32	32	2	50	1 1/2	38	1 7/16	37	1 5/16	24	2 1/8	54	2	50	2	51	2.91	1.32		
					1/2	15	1 3/16	22	1 1/16	17	1 1/4	32	1 7/16	37	1 5/16	24	1 11/16	43	1.67	0.76		
					3/4	20	7/8	22	1 3/16	22	1 1/4	32	1 1/2	38	1 7/16	37	1 3/4	44	1.79	0.81		
					1	25	1	25	1 5/16	24	1 1/4	32	1 5/8	41	1 9/16	40	1 13/16	47	1.97	0.89		
					1 1/4	32	1 3/16	22	1 1/8	29	1 1/4	32	1 13/16	47	1 3/4	44	1 7/8	48	2.28	1.03		
40		1 1/2	40	32	1 1/2	40	1 5/16	24	1 1/4	32	1 5/16	24	1 15/16	49	1 7/8	48	1 15/16	49	2.50	1.13		
					2	50	1 1/2	38	1 7/16	37	1 5/16	24	2 1/8	54	2 1/16	52	2	51	3.07	1.39		
	1/2				15	1 3/16	22	1 3/16	22	1 1/4	32	1 7/16	37	1 7/16	37	1 11/16	43	1.84	0.83			
	3/4				20	7/8	22	7/8	22	1 1/4	32	1 1/2	38	1 1/2	38	1 3/4	44	1.95	0.88			
	1				25	1	25	1	25	1 1/4	32	1 5/8	41	1 5/8	41	1 13/16	47	2.13	0.97			
	1 1/4				32	1 3/16	22	1 3/16	22	1 1/4	32	1 13/16	47	1 13/16	47	1 7/8	48	2.44	1.11			
	2				50	1 1/2	38	1 1/2	38	1 5/16	24	2 1/8	54	2 1/8	54	2	51	3.23	1.46			
2 1/2	65	1 13/16	47	1 13/16	47	1 5/16	24	2 7/16	62	2 7/16	62	2 3/16	56	4.15	1.88							

Note: See page 35 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 359
Tee Reducing



Size				A		B		C		D		E		F		Unit Weight			
NPS	DN	NPS	DN	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Black	
																		lbs	kg
2	50	1/2	15	1 1/2	40	15/16	24	1 3/8	35	1 1/2	38	2	51	1 13/16	47	2 1/8	54	2.95	1.34
				2	50	1 9/16	40	1 7/16	37	1 9/16	40	2 1/4	57	1 7/8	48	2 1/4	57	3.30	1.50
	3/4	20	1 1/4	32	1 3/16	22	1 1/8	29	1 7/16	37	1 7/8	48	1 3/4	44	2 1/16	52	2.50	1.13	
			1 1/2	40	1 5/16	24	1 5/16	24	1 1/2	38	2	51	1 13/16	47	2 1/8	54	3.40	1.54	
			2	50	1 9/16	40	1 7/16	37	1 9/16	40	2 1/4	57	1 5/8	49	2 1/4	57	3.31	1.50	
			2 1/2	65	1 7/8	48	1 13/16	47	1 9/16	40	2 9/16	65	2 3/8	60	2 7/16	62	4.88	2.21	
	1	25	1	25	1 1/16	17	1 1/16	17	1 7/16	37	1 3/4	44	1 5/8	41	2	51	2.70	1.22	
			1 1/4	32	1 3/16	22	1 1/8	29	1 1/2	38	1 7/8	48	1 3/4	44	2 1/16	52	2.94	1.33	
			1 1/2	40	1 5/16	24	1 1/4	32	1 1/2	38	2	51	1 13/16	47	2 1/8	54	2.85	1.29	
			2	50	1 9/16	40	1 7/16	37	1 9/16	40	2 1/4	57	2	51	2 1/4	57	3.46	1.57	
			2 1/2	65	1 7/8	48	1 13/16	47	1 9/16	40	2 9/16	65	2 3/8	60	2 7/16	62	4.88	2.21	
			2 3/4	70	1 7/8	48	1 13/16	47	1 9/16	40	2 9/16	65	2 3/8	60	2 7/16	62	4.88	2.21	
	1 1/4	32	1/2	15	1 1/16	17	1	25	1 7/16	37	1 3/4	44	1 5/8	41	2	51	2.48	1.12	
			3/4	20	7/8	22	7/8	22	1 7/16	37	1 9/16	40	1 1/2	38	1 15/16	49	2.50	1.13	
			1	25	1 1/16	17	1	25	1 7/16	37	1 3/4	44	1 5/8	41	2	51	2.73	1.24	
			1 1/4	32	1 3/16	22	1 1/8	29	1 7/16	37	1 7/8	48	1 3/4	44	2 1/16	52	2.90	1.32	
			1 1/2	40	1 5/16	24	1 1/4	32	1 1/2	38	2	51	1 7/8	48	2 1/8	54	3.13	1.42	
			2	50	1 9/16	40	1 7/16	37	1 9/16	40	2 1/4	57	2 1/16	52	2 1/4	57	3.71	1.68	
			2 1/2	65	1 7/8	48	1 3/4	44	1 9/16	40	2 9/16	65	2 3/8	60	2 7/16	62	4.54	2.06	
			2 3/4	70	1 7/8	48	1 13/16	47	1 9/16	40	2 9/16	65	2 3/8	60	2 7/16	62	4.54	2.06	
	1 1/2	40	1/2	15	1 3/16	22	1 3/16	22	1 7/16	37	1 1/2	38	1 7/16	37	1 7/8	48	2.34	1.06	
			3/4	20	7/8	22	7/8	22	1 7/16	37	1 9/16	40	1 1/2	38	1 15/16	49	2.46	1.12	
			1	25	1 1/16	17	1	25	1 7/16	37	1 3/4	44	1 5/8	41	2	51	2.66	1.21	
			1 1/4	32	1 3/16	22	1 3/16	22	1 7/16	37	1 7/8	48	1 13/16	47	2 1/16	52	2.98	1.35	
1 1/2			40	1 5/16	24	1 5/16	24	1 1/2	38	2	51	1 15/16	49	2 1/8	54	3.24	1.47		
2			50	1 9/16	40	1 1/2	38	1 9/16	40	2 1/4	57	2 1/8	54	2 1/4	57	3.70	1.68		
2 1/2			65	1 7/8	48	1 15/16	49	1 9/16	40	2 9/16	65	2 9/16	65	2 7/16	62	5.46	2.48		
2 3/4			70	1 7/8	48	1 15/16	49	1 9/16	40	2 9/16	65	2 9/16	65	2 7/16	62	5.46	2.48		
2	50	1/2	15	1 3/16	22	1 3/16	22	1 7/16	37	1 1/2	38	1 1/2	38	1 7/8	48	2.74	1.24		
		3/4	20	7/8	22	7/8	22	1 7/16	37	1 9/16	40	1 9/16	40	1 15/16	49	2.86	1.30		
		1	25	1 1/16	17	1 1/16	17	1 7/16	37	1 3/4	44	1 3/4	44	2	51	3.05	1.38		
		1 1/4	32	1 3/16	22	1 3/16	22	1 7/16	37	1 7/8	48	1 7/8	48	2 1/16	52	3.38	1.53		
		1 1/2	40	1 5/16	24	1 5/16	24	1 1/2	38	2	51	2	51	2 1/8	54	3.59	1.63		
		2 1/2	65	1 7/8	48	1 7/8	48	1 9/16	40	2 9/16	65	2 9/16	65	2 7/16	62	5.17	2.34		
		3	100	3	76	3	76	2 7/16	62	3 11/16	94	3 11/16	94	3 1/2	89	7.87	3.57		

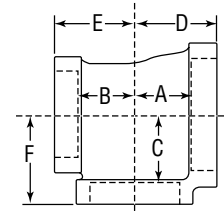
Continued on next page.

Note: See page 35 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 359
Tee Reducing



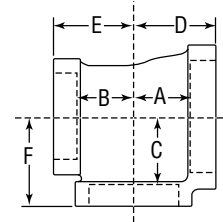
Size				A		B		C		D		E		F		Unit Weight					
NPS	DN	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Black					
																lbs	kg				
2 1/2	65	1/2	15	2 1/2	65	1 13/16	47	1 13/16	47	1 13/16	47	2 11/16	68	2 1/4	57	2 11/16	68	5.20	2.36		
				3/4	20	1 13/16	47	1 3/4	44	1 13/16	47	2 11/16	68	2 1/4	57	2 11/16	68	5.10	2.31		
		1	25	2	50	1 9/16	40	1 9/16	40	1 7/8	48	2 7/16	62	2 1/8	54	2 9/16	65	5.03	2.28		
				2 1/2	65	1 13/16	47	1 3/4	44	1 13/16	47	2 11/16	68	2 3/16	59	2 11/16	68	5.36	2.43		
		1 1/4	32	2	50	1 9/16	40	1 1/2	38	1 7/8	48	2 7/16	62	2 1/8	54	2 9/16	65	4.96	2.25		
				2 1/2	65	1 13/16	47	1 3/4	44	1 13/16	47	2 11/16	68	2 3/8	60	2 11/16	68	5.40	2.45		
		1 1/2	40	1 1/2	40	1 5/16	24	1 5/16	22	1 13/16	47	2 3/16	56	1 15/16	49	2 7/16	62	4.23	1.92		
				2	50	1 9/16	40	1 1/2	38	1 7/8	48	2 7/16	62	2 1/8	54	2 9/16	65	4.85	2.20		
				2 1/2	65	1 13/16	47	1 13/16	47	1 13/16	47	2 11/16	68	2 7/16	62	2 11/16	68	4.85	2.20		
		2	50	1/2	15	3/4	19	13/16	22	1 3/4	44	1 11/16	43	1 1/2	38	2 3/16	56	5.82	2.64		
				3/4	20	7/8	22	7/8	22	1 3/4	44	1 3/4	44	1 9/16	40	2 1/4	57	3.62	1.64		
				1	25	1	25	1 1/16	17	1 3/4	44	1 15/16	49	1 3/4	44	2 5/16	59	3.92	1.78		
				1 1/4	32	1 3/16	22	1 3/16	22	1 3/4	44	2 1/16	52	1 7/8	48	2 3/8	60	4.26	1.93		
				1 1/2	40	1 5/16	24	1 5/16	24	1 13/16	47	2 3/16	56	2	51	2 7/16	62	4.42	2.00		
				2	50	1 9/16	40	1 9/16	40	1 7/8	48	2 7/16	62	2 1/4	57	2 9/16	65	5.17	2.34		
				2 1/2	65	1 13/16	47	1 7/8	48	1 13/16	47	2 11/16	68	2 9/16	65	2 11/16	68	6.00	2.72		
				3	80	2 1/16	52	2 1/8	54	1 7/8	48	3	80	2 7/8	73	2 13/16	73	7.35	3.33		
		2 1/2	65	1/2	15	3/4	19	3/4	19	1 3/4	44	1 11/16	43	1 11/16	43	2 3/16	56	4.00	1.81		
				3/4	20	7/8	22	7/8	22	1 3/4	44	1 3/4	44	1 3/4	44	2 1/4	57	4.29	1.95		
				1	25	1	25	1	25	1 3/4	44	1 15/16	49	1 15/16	49	2 5/16	59	4.48	2.03		
				1 1/4	32	1 3/16	22	1 3/16	22	1 3/4	44	2 1/16	52	2 1/16	52	2 3/8	60	4.83	2.19		
				1 1/2	40	1 5/16	24	1 5/16	24	1 13/16	47	2 3/16	56	2 3/16	56	2 7/16	62	5.14	2.33		
				2	50	1 9/16	40	1 9/16	40	1 7/8	48	2 7/16	62	2 7/16	62	2 9/16	65	5.88	2.67		
				3	80	2 1/16	52	2 1/16	52	1 7/8	48	3	80	3	80	2 13/16	73	8.09	3.67		
4	100			2 3/4	70	2 13/16	73	2 7/16	62	3 11/16	94	3 11/16	94	3 1/2	89	14.03	6.36				
3	80	3/4	20	3	80	2 1/8	54	2 1/8	54	2 1/8	54	3 1/8	79	2 11/16	68	3 1/8	79	8.25	3.74		
				1	25	3	80	2 1/8	54	2 1/8	54	2 1/8	54	3 1/8	79	2 11/16	68	3 1/8	79	8.30	3.76
				1 1/4	32	3	80	2 1/8	54	2 1/8	54	2 1/8	54	3 1/8	79	2 13/16	73	3 1/8	79	8.46	3.84
		1 1/2	40	3	80	2 1/8	54	2 3/16	56	2 1/8	54	3 1/8	79	2 13/16	73	3 1/8	79	8.13	3.69		
				1 1/2	40	1 3/8	35	1 1/2	38	2 3/16	56	2 5/16	59	2 3/16	56	2 13/16	73	6.83	3.10		
				2	50	1 9/16	40	1 9/16	40	2 3/16	56	2 9/16	65	2 1/4	57	2 15/16	75	7.29	3.31		
		2	50	2 1/2	65	1 7/8	48	1 15/16	49	2 1/8	54	2 13/16	73	2 9/16	65	3 1/16	78	7.10	3.22		
				3	80	2 1/8	54	2 3/16	56	2 1/8	54	3 1/8	79	2 15/16	75	3 1/8	79	8.79	3.99		
				1	25	1	25	1 5/16	24	2 1/8	54	2 1/16	52	1 15/16	49	2 11/16	68	5.51	2.50		
		2 1/2	65	1 1/4	32	1 1/4	32	1 3/16	22	2 1/8	54	2 3/16	56	2 1/16	52	2 3/4	70	5.92	2.68		
				1 1/2	40	1 3/8	35	1 5/16	24	2 3/16	56	2 9/16	59	2 3/16	56	2 13/16	73	6.23	2.83		
				2	50	1 9/16	40	1 1/2	38	2 3/16	56	2 9/16	65	2 7/16	62	2 15/16	75	6.81	3.09		
				2 1/2	65	1 7/8	48	1 13/16	47	2 1/8	54	2 13/16	73	2 11/16	68	3 1/16	78	7.66	3.47		
				3	80	2 1/8	54	2 1/8	54	2 1/8	54	3 1/8	79	3 1/16	78	3 1/8	79	9.13	4.14		
		3	80	1/2	15	1 5/16	24	1 5/16	24	2 3/16	56	1 7/8	48	1 7/8	48	2 5/8	67	6.08	2.76		
				3/4	20	1 5/16	24	1 5/16	24	2 1/8	54	1 7/8	48	1 7/8	48	2 5/8	67	6.06	2.75		
				1	25	1	25	1	25	2 1/8	54	2 1/16	52	2 1/16	52	2 11/16	68	6.27	2.84		
				1 1/4	32	1 1/4	32	1 1/4	32	2 1/8	54	2 3/16	56	2 3/16	56	2 3/4	70	6.75	3.06		
				1 1/2	40	1 3/8	35	1 3/8	35	2 3/16	56	2 5/16	59	2 5/16	59	2 15/16	75	7.10	3.22		
				2	50	1 9/16	40	1 9/16	40	2 3/16	56	2 9/16	65	2 9/16	65	2 7/8	73	7.75	3.51		
				2 1/2	65	1 7/8	48	1 7/8	48	2 1/8	54	2 13/16	73	2 13/16	73	3 1/16	78	8.92	4.05		
				4	100	2 11/16	68	2 11/16	68	2 7/16	62	3 11/16	94	3 11/16	94	3 1/2	89	12.80	5.80		

Note: See page 35 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 359
Tee Reducing



Size					A	B	C	D	E	F	Unit Weight										
NPS	DN	NPS	DN	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg				
3 1/2	90	3 1/2	90	1 1/2	40	1 3/8	35	1 3/8	35	2 7/16	62	2 3/8	60	2 3/8	60	3 1/16	78	8.87	4.02		
				2	50	1 5/8	41	1 5/8	41	2 7/16	62	2 5/8	67	2 5/8	67	3 3/16	81	9.94	4.51		
4	100	1	25	4	100	2 3/4	70	2 15/16	75	2 3/4	70	3 3/4	95	3 1/2	89	3 3/4	95	13.52	6.13		
				1 1/2	40	4	100	2 3/4	70	2 7/8	73	2 3/4	70	3 3/4	95	3 1/2	89	3 3/4	95	13.47	6.11
		2	50	2	50	1 11/16	43	1 7/8	48	2 3/4	70	2 11/16	68	2 9/16	65	3 1/2	89	3 3/4	95	11.34	5.14
				4	100	2 3/4	70	2 3/4	70	2 3/4	70	3 3/4	95	3 1/2	89	3 3/4	95	13.89	6.30		
		2 1/2	65	2 1/2	65	1 7/8	48	1 13/16	47	2 5/8	67	2 15/16	75	2 13/16	73	3 9/16	90	3 3/4	95	11.78	5.34
				4	100	2 3/4	70	2 3/4	70	2 3/4	70	3 3/4	95	3 5/8	92	3 3/4	95	15.75	7.14		
		3	80	2 1/2	65	1 7/8	48	1 7/8	48	2 5/8	67	2 15/16	75	2 13/16	73	3 9/16	90	3 3/4	95	11.25	5.10
				3	80	2 1/4	57	2 1/8	54	2 11/16	68	3 1/4	83	3 1/8	79	3 5/8	92	3 3/4	95	12.50	5.67
		4	100	4	100	2 3/4	70	2 11/16	68	2 3/4	70	3 3/4	95	3 5/8	92	3 3/4	95	15.04	6.82		
				1	25	1 3/16	22	1 3/16	22	2 3/4	70	2 5/16	59	2 5/16	59	3 5/16	84	3 3/4	95	10.40	4.72
		4	100	1 1/4	32	1 5/16	24	1 5/16	24	2 5/8	67	2 5/16	59	2 5/16	59	3 5/16	84	3 3/4	95	10.38	4.71
				1 1/2	40	1 7/16	37	1 7/16	37	2 11/16	68	2 7/16	62	2 7/16	62	3 5/16	84	3 3/4	95	10.75	4.88
4	100	2	50	1 11/16	43	1 11/16	43	2 3/4	70	2 11/16	68	2 11/16	68	3 1/2	89	3 3/4	95	11.63	5.27		
		2 1/2	65	2	51	2	51	2 5/8	67	2 15/16	75	2 15/16	75	3 9/16	90	3 3/4	95	12.85	5.83		
4	100	3	80	2 1/4	57	2 1/4	57	2 11/16	68	3 1/4	83	3 1/4	83	3 5/8	92	3 3/4	95	14.12	6.40		
		5	125	3 3/8	86	3 3/8	86	2 13/16	73	4 3/8	111	4 3/8	111	4	102	3 3/4	95	20.88	9.47		
4	100	6	150	3 7/8	98	3 7/8	98	2 7/8	73	4 15/16	125	4 15/16	125	4 1/16	103	3 3/4	95	26.36	11.95		
		2	50	1 3/4	44	1 3/4	44	3 7/16	87	2 15/16	75	2 15/16	75	4 1/8	105	3 3/4	95	17.43	7.90		
5	125	3	80	2 5/16	59	2 5/16	59	3 1/4	83	3 1/2	89	3 1/2	89	4 1/4	108	3 3/4	95	20.00	9.07		
		4	100	2 13/16	71	2 13/16	71	3 3/8	86	4	102	4	102	4 3/8	111	3 3/4	95	23.83	10.81		
6	150	4	100	2 7/8	73	2 13/16	71	3 7/8	98	4 1/16	103	4	102	4 15/16	125	3 3/4	95	30.00	13.61		
		2 1/2	65	2	51	2	51	3 13/16	97	3 1/4	83	3 1/4	83	4 3/4	121	3 3/4	95	25.67	11.64		
		3	80	2 3/8	60	2 3/8	60	3 13/16	97	3 9/16	90	3 9/16	90	4 13/16	122	3 3/4	95	27.46	12.45		
		4	100	2 7/8	73	2 7/8	73	3 7/8	98	4 1/16	103	4 1/16	103	4 15/16	125	3 3/4	95	32.44	14.71		
		5	125	3 3/8	86	3 3/8	86	3 13/16	97	4 5/8	117	4 5/8	117	5	127	3 3/4	95	37.00	16.78		

Note: See page 35 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 360 Cross		Size		A		B		Unit Weight	
		NPS	DN	in	mm	in	mm	lbs	kg
	1/2	15	9/16	14	13/16	22	2.80	1.27	
	3/4	20	13/16	22	15/16	33	1.03	0.47	
	1	25	15/16	24	1 1/2	38	1.59	0.72	
	1 1/4	32	1 1/8	29	1 3/4	44	2.42	1.10	
	1 1/2	40	1 5/16	33	1 15/16	49	3.21	1.46	
	2	50	1 9/16	40	2 1/4	57	5.28	2.39	
	2 1/2	65	1 13/16	47	2 11/16	68	8.07	3.66	
	3	80	2 3/16	56	3 1/8	79	11.84	5.37	
	4	100	2 3/4	70	3 13/16	98	19.63	8.90	

FIGURE 361 Cross Reducing		Size		A		B		C		D		E, F		G, H		Unit Weight						
		NPS	DN	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg			
	1	25	1	25	3/4	20	3/4	20	13/16	22	13/16	22	15/16	24	15/16	24	1 3/8	35	1 7/16	37	1.30	0.59
	1 1/4	32	1 1/4	32	1	25	1	25	15/16	24	15/16	24	1 1/8	29	1 1/8	29	1 9/16	40	1 11/16	43	2.04	0.93
	1 1/2	40	1	25	1	25	1	25	1	25	1 1/8	29	1 1/4	32	1 1/4	32	1 5/8	41	1 13/16	47	2.74	1.24
					1	25	1	25	1	25	1 1/4	32	1 1/4	32	1 5/8	41	1 13/16	47	2.67	1.21		
			1 1/2	40	1	25	1	25	1	25	1 1/4	32	1 1/4	32	1 5/8	41	1 13/16	47	2.51	1.14		
					1 1/4	32	1 1/4	32	1 1/8	29	1 1/8	29	1 3/8	35	1 3/8	35	1 13/16	47	1 7/8	48	3.95	1.79
	2	50	1 1/2	40	1	25	1 1/16	17	1 1/8	29	1 1/2	38	1 7/16	37	1 3/4	44	2	51	3.57	1.62		
					1 1/4	32	1 1/8	29	1 3/16	22	1 1/2	38	1 7/16	37	1 7/8	48	2 1/8	54	4.25	1.93		
			2	50	1 1/4	32	1 3/16	22	1 3/16	22	1 1/2	38	1 7/16	37	1 7/8	48	2 1/16	52	4.18	1.90		
					1	25	1 1/16	17	1 1/16	17	1 7/16	37	1 7/16	37	1 3/4	44	2	51	3.22	1.46		
	2 1/2	65	2	50	1	25	1 1/16	17	1 13/16	47	1 13/16	47	1 15/16	49	2 5/16	59	5.11	2.32				
					1 1/2	40	1 1/2	40	1 1/4	32	1 5/16	24	1 7/8	48	1 7/8	48	2 3/16	56	2 7/16	62	6.13	2.78
2					50	2	50	1 1/2	38	1 3/4	44	1 7/8	48	1 7/8	48	2 7/16	62	2 9/16	65	7.23	3.28	
2 1/2			65	1 1/4	32	1	25	13/16	22	13/16	22	1 3/4	44	1 13/16	47	2 1/16	52	2 3/8	60	5.39	2.44	
						1 1/4	32	1 1/8	29	1 1/8	29	1 13/16	47	1 13/16	47	2 1/16	52	2 3/8	60	5.26	2.39	
				1 1/2	40	1 1/2	40	1 1/4	32	1 1/4	32	1 7/8	48	1 7/8	48	2 3/16	56	2 7/16	62	5.68	2.58	
3	80	2	50	1 9/16	40	1 9/16	40	1 15/16	49	1 15/16	49	2 7/16	62	2 9/16	65	6.82	3.09					
				2	50	2	50	1 9/16	40	1 9/16	40	1 15/16	49	1 15/16	49	2 7/16	62	2 9/16	65	6.82	3.09	
3	80	3	80	1 3/8	35	1 3/8	35	2 3/16	56	2 3/16	56	2 5/16	59	2 13/16	73	7.91	3.59					
				1 5/8	41	1 5/8	41	2 3/16	56	2 3/16	56	2 9/16	65	2 15/16	75	8.85	4.01					
4	100	4	100	2	50	2	50	2 11/16	68	2 11/16	68	2 3/4	70	3 7/16	87	12.00	5.44					

Cast Iron Threaded Fittings

Class 125 (Standard)

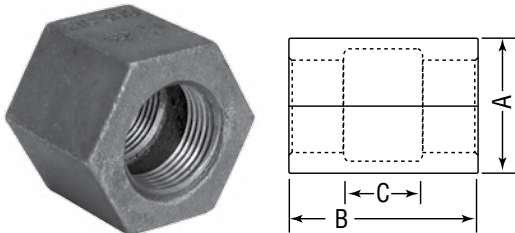

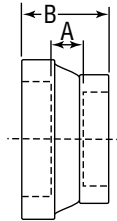
FIGURE 366 Screwed Hex Coupling	Size		Across Flats A		B		C		Unit Weight	
	NPS	DN	in	mm	in	mm	in	mm	Black	
									lbs	kg
	1	25	1 ¹⁵ / ₁₆	49	1 ¹¹ / ₁₆	43	⁹ / ₁₆	14	0.82	0.37

FIGURE 487 Flanged Union Gasket Type	Size		Diam. of Flanges		No. of Bolts	Unit Weight			
	NPS	DN	in	mm		Black		Galv.	
					–	lbs	kg	lbs	kg
Assembled with gaskets 	1/2	15	2 ¹⁵ / ₁₆	75	3	1.75	0.79	1.75	0.79
	3/4	20	3	76	3	2.00	0.91	2.00	0.91
	1	25	3 ¹ / ₄	83	3	2.25	1.02	2.25	1.02
	1 ¹ / ₄	32	4 ³ / ₁₆	106	4	4.75	2.15	4.75	2.15
	1 ¹ / ₂	40	4 ³ / ₈	111	4	5.00	2.27	5.00	2.27
	2	50	5	127	4	6.50	2.95	6.50	2.95
	2 ¹ / ₂	65	5 ⁵ / ₈	143	4	8.50	3.85	8.50	3.85
	3	80	6 ³ / ₈	162	4	11.00	4.99	11.00	4.99
	3 ¹ / ₂	90	6 ⁷ / ₈	175	4	12.75	5.78	–	–
	4	100	7 ¹¹ / ₁₆	195	5	18.00	8.16	18.00	8.16
	5	125	8 ¹⁵ / ₁₆	227	5	22.00	9.98	–	–
	6	150	10 ¹ / ₄	260	6	30.00	13.61	30.00	13.61
	8	200	12 ¹⁵ / ₁₆	329	8	51.00	23.13	51.00	23.13

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 367
Concentric
Reducer



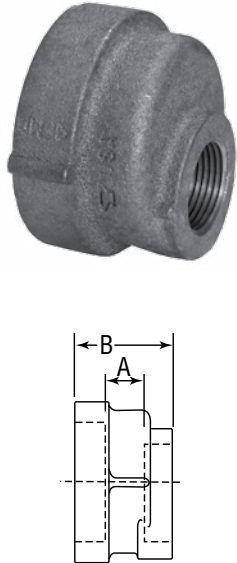
Size				A		B*		Unit Weight	
								Black	
NPS	DN	NPS	DN	in	mm	in	mm	lbs	kg
3/4	20	1/2	15	5/8	16	19/16	40	0.40	0.18
1	25	1/2 (Hex)	15	11/16	17	111/16	43	0.54	0.24
		3/4 (Hex)	20	7/16	11	11/2	38	0.63	0.29
1 1/4	32	1/2	15	9/16	14	15/8	41	0.84	0.38
		3/4	20	1	25	21/8	54	0.90	0.41
		1	25	15/16	24	21/8	54	1.07	0.49
1 1/2	40	1/2	15	1/2	13	15/8	41	1.00	0.45
		3/4	20	1/2	13	15/8	41	1.20	0.54
		1	25	1/2	13	13/4	44	1.50	0.68
		1 1/4	32	1	25	21/4	57	1.45	0.66
2	50	1/2	15	5/8	16	2	51	2.00	0.91
		3/4	20	3/4	19	2	51	1.90	0.86
		1	25	3/4	19	2	51	1.83	0.83
		1 1/4	32	13/16	22	21/8	54	1.78	0.81
		1 1/2	40	7/8	22	23/16	56	1.98	0.90
2 1/2	65	1 1/2	40	3/4	19	2	51	3.10	1.41
		2	50	1	25	29/16	65	2.98	1.35
3	80	3/4	20	15/16	24	21/2	64	4.31	1.95
		2	50	11/16	27	23/4	70	3.96	1.80
		2 1/2	65	15/16	24	213/16	73	4.40	2.00
4	100	2	50	13/16	30	215/16	75	6.50	2.95
		2 1/2	65	13/16	30	31/8	79	7.78	3.53
		3	80	11/16	27	31/8	79	7.01	3.18
5	125	4	100	11/16	27	35/16	84	10.48	4.75
6	150	4	100	11/8	29	37/16	87	13.83	6.27
		5	125	11/8	29	39/16	90	15.53	7.04
8	200	6	150	1 1/4	32	37/8	98	29.10	13.20

* Dimension "B" does not conform to ASME standard.

Note: See page 35 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 368 Eccentric Reducer	Size				A		B*		Unit Weight	
	NPS	DN	NPS	DN	in	mm	in	mm	Black	
									lbs	kg
	³ / ₄	20	¹ / ₂	15	⁹ / ₁₆	14	1 ¹ / ₂	38	0.45	0.20
	1	25	¹ / ₂	15	¹ / ₂	13	1 ⁷ / ₁₆	37	0.57	0.26
			³ / ₄	20	⁷ / ₁₆	11	1 ¹ / ₂	38	0.61	0.28
	1 ¹ / ₄	32	¹ / ₂	15	⁹ / ₁₆	14	1 ⁵ / ₈	41	1.00	0.45
			³ / ₄	20	¹ / ₂	13	1 ⁵ / ₈	41	0.90	0.41
			1	25	¹ / ₂	13	1 ¹¹ / ₁₆	43	1.00	0.45
	1 ¹ / ₂	40	¹ / ₂	15	¹¹ / ₁₆	17	1 ³ / ₄	44	1.11	0.50
			³ / ₄	20	⁹ / ₁₆	14	1 ¹¹ / ₁₆	43	1.17	0.53
			1	25	⁹ / ₁₆	14	1 ³ / ₄	44	1.21	0.55
			1 ¹ / ₄	32	⁵ / ₈	16	1 ⁷ / ₈	48	1.26	0.57
	2	50	¹ / ₂	15	³ / ₄	19	1 ¹⁵ / ₁₆	49	1.80	0.82
			³ / ₄	20	³ / ₄	19	2	51	1.83	0.83
			1	25	¹¹ / ₁₆	17	2 ¹ / ₁₆	52	1.86	0.84
			1 ¹ / ₄	32	¹³ / ₁₆	22	2 ¹ / ₈	54	1.87	0.85
			1 ¹ / ₂	40	⁷ / ₈	22	2 ³ / ₁₆	56	1.93	0.88
	2 ¹ / ₂	65	1	25	¹³ / ₁₆	22	2 ¹ / ₄	57	2.74	1.24
			1 ¹ / ₄	32	⁷ / ₈	22	2 ³ / ₈	60	2.80	1.27
			1 ¹ / ₂	40	⁷ / ₈	22	2 ³ / ₈	60	2.94	1.33
			2	50	1	25	2 ⁹ / ₁₆	65	2.95	1.34
	3	80	1	25	⁷ / ₈	22	2 ⁷ / ₁₆	62	3.95	1.79
			1 ¹ / ₄	32	¹⁵ / ₁₆	24	2 ⁹ / ₁₆	65	3.80	1.72
			1 ¹ / ₂	40	¹⁵ / ₁₆	24	2 ⁹ / ₁₆	65	4.16	1.89
			2	50	1 ¹ / ₁₆	27	2 ³ / ₄	70	4.61	2.09
			2 ¹ / ₂	65	¹⁵ / ₁₆	24	2 ¹³ / ₁₆	73	4.80	2.18
	4	100	1 ¹ / ₄	32	1 ¹ / ₁₆	27	2 ³ / ₄	70	6.58	2.98
			1 ¹ / ₂	40	1 ¹ / ₈	29	2 ¹³ / ₁₆	73	6.61	3.00
			2	50	1 ³ / ₁₆	30	2 ¹⁵ / ₁₆	75	6.91	3.13
			2 ¹ / ₂	65	1 ¹ / ₈	29	3 ¹ / ₁₆	78	7.26	3.29
			3	80	1 ¹ / ₁₆	27	3 ¹ / ₈	79	7.64	3.46
	5	125	3	80	1 ¹ / ₁₆	27	3 ¹ / ₄	83	11.44	5.19
4			100	1 ¹ / ₁₆	27	3 ⁵ / ₁₆	84	11.19	5.07	
6	150	3	80	1 ¹ / ₁₆	27	3 ⁵ / ₁₆	84	14.66	6.65	
		4	100	1 ¹ / ₈	29	3 ⁷ / ₁₆	87	15.36	6.97	



* Dimension "B" does not conform to ASME standard.

Note: See page 35 for pressure-temperature ratings.

CAST IRON

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 383 Hex Bushing	Size					Unit Weight				
			Hex Type	All Cast Iron	NPS	DN	Black		Galv.	
	NPS	DN					lbs	kg	lbs	kg
<p>Outside Hex Type A</p>  <p>Inside Hex Type B</p> 	1½	40	A	C	¼	8	0.47	0.21	0.47	0.21
			B	C	⅜	10	0.47	0.21	0.47	0.21
			B	C	½	15	0.42	0.19	0.42	0.19
			B	C	¾	20	0.47	0.21	0.47	0.21
			A	C	1	25	0.50	0.23	0.50	0.23
	2	50	A	C	¼	8	0.75	0.34	0.75	0.34
			A	C	⅜	10	0.75	0.34	0.75	0.34
			B	C	½	15	0.70	0.32	0.70	0.32
			B	C	¾	20	0.71	0.32	0.71	0.32
			B	C	1	25	0.73	0.33	0.73	0.33
			A	C	1¼	32	0.81	0.37	0.81	0.37
	2½	65	B	C	½	15	1.28	0.58	1.28	0.58
			B	C	¾	20	1.25	0.57	1.25	0.57
			B	C	1	25	1.16	0.53	1.16	0.53
			B	C	1¼	32	1.24	0.56	1.24	0.56
			B	C	1½	40	1.29	0.59	1.29	0.59
	3	80	B	C	½	15	1.93	0.88	1.93	0.88
			B	C	¾	20	1.92	0.87	1.92	0.87
			B	C	1	25	1.90	0.86	1.90	0.86
			B	C	1¼	32	1.77	0.80	1.77	0.80
B			C	1½	40	1.79	0.81	1.79	0.81	
A			C	2	50	1.90	0.86	1.90	0.86	
A			C	2½	65	1.63	0.74	1.63	0.74	
A			C	3	80	1.96	0.89	1.96	0.89	
3½	80	B	C	1	25	2.42	1.10	2.42	1.10	
		B	C	1¼	32	2.56	1.16	2.56	1.16	
		B	C	1½	40	2.65	1.20	2.65	1.20	
		B	C	2	50	2.54	1.15	2.54	1.15	
		A	C	2½	65	3.23	1.46	3.23	1.46	
		A	C	3	80	1.96	0.89	1.96	0.89	

See page 34 (Malleable Iron)
for other available sizes.

Continued on next page.



According to specifications, hex bushings and cored plugs should be used with 150# malleable iron and 125# cast iron. Solid plugs and face bushings are recommended for use with 250# and 300# fittings.

Note: See page 35 for pressure-temperature ratings.


Cast Iron Threaded Fittings

Class 125 (Standard)

Continued from previous page.

FIGURE 383 Hex Bushing	Size						Unit Weight			
			Hex Type	All Cast Iron			Black		Galv.	
	NPS	DN			NPS	DN	lbs	kg	lbs	kg
Outside Hex Type A  Inside Hex Type B 	4	100	B	C	1	25	3.59	1.63	3.59	1.63
			B	C	1 1/4	32	3.54	1.61	3.54	1.61
			B	C	1 1/2	40	3.44	1.56	3.44	1.56
			B	C	2	50	3.11	1.41	3.11	1.41
			B	C	2 1/2	65	3.29	1.49	3.29	1.49
			A	C	3	80	3.15	1.43	3.15	1.43
			A	C	3 1/2	90	2.50	1.13	2.50	1.13
	5	125	B	C	2	50	5.12	2.32	5.12	2.32
			B	C	2 1/2	65	4.87	2.21	4.87	2.21
			B	C	3	80	4.83	2.19	4.83	2.19
			A	C	3 1/2	90	4.00	1.81	–	–
			A	C	4	100	3.94	1.79	3.94	1.79
	6	150	B	C	2	50	8.00	3.63	8.00	3.63
			B	C	2 1/2	65	7.72	3.50	–	–
B			C	3	80	7.75	3.51	7.75	3.51	
B			C	4	100	6.83	3.10	6.83	3.10	
A			C	5	125	5.24	2.38	5.24	2.38	
8	200	B	C	3	80	15.50	7.03	–	–	
		B	C	4	100	13.93	6.32	–	–	
		B	C	5	125	13.65	6.19	–	–	
		A	C	6	150	13.19	5.98	13.19	5.98	
10	250	B	C	6	150	24.50	11.11	–	–	
		A	C	8	200	22.00	9.98	–	–	

See page 34 (Malleable Iron) for other available sizes.

FIGURE 385 Face Bushing	Size				Unit Weight	
					Black	
	NPS	DN	NPS	DN	lbs	kg
 <p>See page 34 (Malleable Iron) for other available sizes.</p>	3	80	2	50	13.30	6.03
	4	100	2 1/2	65	2.55	1.16
			3	80	19.20	8.71


According to specifications, hex bushings and cored plugs should be used with 150# malleable iron and 125# cast iron. Solid plugs and face bushings are recommended for use with 250# and 300# fittings.

Note: See page 35 for pressure-temperature ratings.

CAST IRON

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 387 Square Head Plugs, Cored	Size		Unit Weight			
			Black		Galv.	
	NPS	DN	lbs	kg	lbs	kg
	3/4*	20	0.13	0.06	0.13	0.06
	1	25	0.25	0.11	0.25	0.11
	1 1/4	32	0.39	0.18	0.39	0.18
	1 1/2	40	0.50	0.23	0.50	0.23
	2	50	0.82	0.37	0.82	0.37
	2 1/2	65	1.32	0.60	1.32	0.60
	3	80	1.87	0.85	1.87	0.85
	3 1/2	90	2.50	1.13	2.50	1.13
	4	100	4.00	1.81	4.00	1.81

* Zinc Plated


FIGURE 388 Square Head Plugs, Solid	Size		Unit Weight			
			Black		Galv.	
	NPS	DN	lbs	kg	lbs	kg
	1/2	15	0.10	0.05	0.10	0.05
	3/4	20	0.17	0.08	0.17	0.08
	1	25	0.32	0.15	0.32	0.15
	1 1/4	32	0.53	0.24	0.53	0.24
	1 1/2	40	0.76	0.34	0.76	0.34
	2	50	1.23	0.56	1.23	0.56
	2 1/2	65	2.00	0.91	2.00	0.91
	3	80	3.18	1.44	3.18	1.44
	3 1/2	90	4.38	1.99	—	—


FIGURE 389 Bar Plugs, Cored	Size		Unit Weight			
			Black		Galv.	
	NPS	DN	lbs	kg	lbs	kg
	4	100	3.82	1.73	3.82	1.73
	5	125	6.50	2.95	6.50	2.95
	6	150	9.94	4.51	9.94	4.51
	8	200	20.26	9.19	20.26	9.19




FIGURE 380 Bar Plugs, Solid	Size		Unit Weight	
			Black	
	NPS	DN	lbs	kg
	4	100	5.68	2.58
	5	125	9.60	4.35
	6	150	14.78	6.70

FIGURE 390 Countersunk Plugs	Size		Unit Weight			
			Black		Galv.	
	NPS	DN	lbs	kg	lbs	kg
	1	25	0.20	0.09	0.20	0.09
	1 1/4	32	0.32	0.15	0.32	0.15
	1 1/2	40	0.47	0.21	0.47	0.21
	2	50	0.84	0.38	0.84	0.38
	2 1/2	65	1.40	0.63	—	—
	3	80	2.25	1.02	—	—
	3 1/2	90	3.02	1.37	—	—
	4	100	3.76	1.71	—	—

See page 31 (Malleable Iron) for other available sizes.

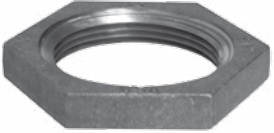
FIGURE 381 Cap	Size		Unit Weight			
			Black		Galv.	
	NPS	DN	lbs	kg	lbs	kg
	2 1/2	65	2.55	1.16	—	—
	3	80	4.10	1.86	—	—
	4	100	6.40	2.90	—	—
	5	125	10.70	4.85	—	—
	6	150	14.20	6.44	14.20	6.44
	8	200	27.23	12.35	27.23	12.35

According to specifications, hex bushings and cored plugs should be used with 150# malleable iron and 125# cast iron. Solid plugs and face bushings are recommended for use with 250# and 300# fittings.

Note: See page 35 for pressure-temperature ratings.

Cast Iron Threaded Fittings


Class 125 (Standard)

FIGURE 370 Locknut 	Size		Minimum Dimensions								Unit Weight	
			A		B		C		D		Black	
	NPS	DN	in	mm	in	mm	in	mm	in	mm	lbs	kg
2½	65	3.500	89	3.180	81	.590	15	0.90	2	1.13	0.51	
3	80	4.270	108	3.840	98	.670	17	0.90	2	1.60	0.73	
4	100	5.380	137	5.000	127	.800	20	.130	3	1.10	0.50	

For nominal sizes smaller than 2½" (65 DN) see Malleable Iron page 26.

Cast Iron Threaded Fittings

Class 250 (Extra Heavy)

FIGURE 421 90° Elbow 	Size		A		B		Unit Weight	
			in	mm	in	mm	Black	
	NPS	DN	in	mm	in	mm	lbs	kg
¼	8	5/8	16	15/16	24	0.37	0.17	
½	15	13/16	22	1¼	32	0.75	0.34	
¾	20	15/16	24	17/16	37	1.13	0.51	
1	25	1 1/16	27	1 5/8	41	1.79	0.81	
1¼	32	1 5/16	33	1 15/16	49	3.00	1.36	
1½	40	1½	38	2 1/8	54	4.05	1.84	
2	50	1 13/16	47	2 1/2	64	6.76	3.07	
2½	65	2	51	2 15/16	75	10.56	4.79	
3	80	2 3/8	60	3 3/8	86	15.25	6.92	

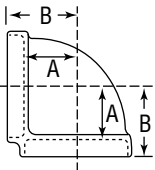

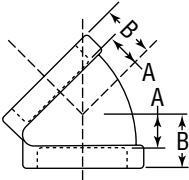


FIGURE 424 45° Elbow 	Size		A		B		Unit Weight	
			in	mm	in	mm	Black	
	NPS	DN	in	mm	in	mm	lbs	kg
½	15	9/16	14	1	25	0.66	0.30	
¾	20	5/8	16	1 1/8	29	1.04	0.47	
1	25	¾	19	1 5/16	33	1.56	0.71	
1¼	32	7/8	22	1 ½	38	2.70	1.22	
1½	40	1 1/16	27	1 11/16	43	3.55	1.61	
2	50	1 5/16	33	2	51	6.07	2.75	
2½	65	1 5/16	33	2 ¼	57	9.79	4.44	



Note: See page 35 for pressure-temperature ratings.

CAST IRON

Cast Iron Threaded Fittings

Class 250 (Extra Heavy)

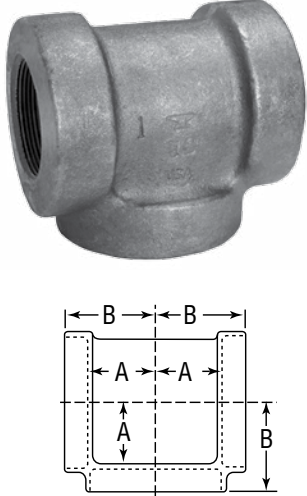
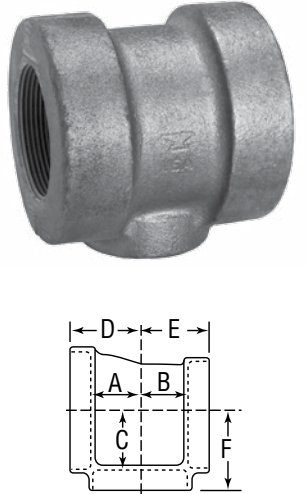
FIGURE 425 Tee	Size		A		B		Unit Weight	
	NPS	DN	in	mm	in	mm	Black	
							lbs	kg
	1/4	8	5/8	16	15/16	24	0.47	0.21
	3/8	10	11/16	17	1 1/16	27	0.70	0.32
	1/2	15	3/4	19	1 1/4	32	1.20	0.54
	3/4	20	7/8	22	1 7/16	37	1.57	0.71
	1	25	1	25	1 5/8	41	2.43	1.10
	1 1/4	32	1 3/16	30	1 15/16	49	3.94	1.79
	1 1/2	40	1 7/16	37	2 1/8	54	5.31	2.41
	2	50	1 3/4	44	2 1/2	64	9.01	4.09
	2 1/2	65	1 15/16	49	2 5/16	75	14.23	6.45
	3	80	2 5/16	59	3 3/8	86	20.95	9.50
	4	100	2 15/16	75	4 1/8	105	33.98	15.41

FIGURE 426 Reducing Tee	Size						A, B		C		D, E		F		Unit Weight			
	NPS	DN	NPS	DN	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	Black	
																	lbs	kg
	3/4	20	3/4	20	1/2	15	3/4	19	7/8	22	1 5/16	33	1 3/8	35	1.37	0.62		
	1	25	1	25	1/2	15	3/4	19	1	25	1 3/8	35	1 1/2	38	2.03	0.92		
					3/4	20	7/8	22	1	25	1 1/2	38	1 9/16	40	2.19	0.99		
	1 1/4	32	1 1/4	32	3/4	20	15/16	24	1 1/8	29	1 5/8	41	1 11/16	43	3.21	1.46		
					1	25	1 1/16	27	1 3/16	30	1 3/4	44	1 13/16	47	3.49	1.58		
	1 1/2	40	1 1/2	40	3/4	20	1	25	1 1/4	32	1 11/16	43	1 7/8	48	4.02	1.82		
					1	25	1 1/8	29	1 5/16	33	1 13/16	47	1 15/16	49	4.26	1.93		
	2	50	2	50	1 1/4	32	1 5/16	33	1 3/8	35	2	51	2 1/16	52	4.98	2.26		
					3/4	20	1 1/8	29	1 7/16	37	1 7/8	48	2	51	6.24	2.83		
					1	25	1 1/4	32	1 1/2	38	2	51	2 1/8	54	6.57	2.98		
	2	50	2	50	1 1/4	32	1 3/8	35	1 9/16	40	2 3/16	56	2 1/4	57	7.11	3.22		
					1 1/2	40	1 1/2	38	1 5/8	41	2 5/16	59	2 5/16	59	7.69	3.49		

Note: See page 35 for pressure-temperature ratings.

FireLock® Outlet-T

STYLE 922



The Style 922 Outlet-T provides a convenient method of incorporating ½, ¾, and 1"15, 20 and 25 mm outlets for directly connecting sprinklers, drop nipples, sprigs, gauges, drains and other outlet products. Available for 1¼ through 76.1 mm/32 to 76.1 mm piping systems, Style 922 outlets are UL/ULC Listed, LPCB and FM Approved for branch connections and VdS Approved for direct sprinkler connection only on wet and dry systems.

The locating collar engages into the hole prepared in the pipe. When tightened, the assembly compresses the gasket onto the OD of the pipe. The Style 922 Outlet-T is UL/FM rated up to 300 psi/2068 kPa and VdS rated up to 16 bar at the ambient temperatures typical for fire protection systems.

Style 922 is suitable for use on standard, lightwall, Schedule 5 and other specialty pipes.* Contact Victaulic for other optional coatings.

*Consult Section 10.01 for specific listings/approvals.



MATERIAL SPECIFICATIONS

Housing: Ductile iron conforming to ASTM A-536, grade 65-45-12. Ductile iron conforming to ASTM A-395, grade 65-45-15, is available upon special request.

Gasket:

- **Grade "E" EPDM - Type A**
(Violet color code). FireLock products have been Listed by Underwriters Laboratories Inc. and Approved by Factory Mutual Research for wet and dry (oil free air) sprinkler services up to the rated working pressure using the Grade "E" Type A Gasket System.

Bolts/Nuts: Heat-treated plated carbon steel, trackhead meeting the physical and chemical requirements of ASTM A-449 and physical requirements of ASTM A-183.

Housing Coating:

- Orange enamel (North America, Latin America, Asia Pacific)
- Red enamel (Europe)

JOB/OWNER

System No. _____
Location _____

CONTRACTOR

Submitted By _____
Date _____

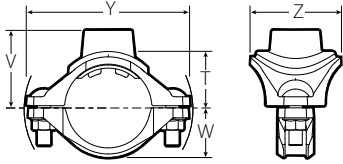
ENGINEER

Spec Sect _____ Para _____
Approved _____
Date _____

FireLock® Outlet-T

STYLE 922

DIMENSIONS



Nominal Size inches/mm		Hole Diameter	Dimensions – inches/millimeters					Approx. Weight Each	
Run X Branch FPT†		+0.06/+1.5 -0.00/-0.0	T*	V	W	Y	Z	lbs/kg	
1 ¼ 32	X	½ 15	1 ¾ 30.2	1.30 33.0	1.83 46.5	1.10 27.9	3.87 98.3	2.56 65.0	1.0 0.45
		¾ 20	1 ¾ 30.2	1.28 32.5	1.83 46.5	1.10 27.9	3.87 98.3	2.56 65.0	1.1 0.50
		1 25	1 ¾ 30.2	1.52 38.6	2.18 55.4	1.10 27.9	3.87 98.3	2.56 65.0	1.2 0.54
1 ½ 40	X	½ 15	1 ¾ 30.2	1.42 36.1	1.95 49.5	1.22 31.0	4.08 103.6	2.56 65.0	1.2 0.54
		¾ 20	1 ¾ 30.2	1.40 35.6	1.95 49.5	1.22 31.0	4.08 103.6	2.56 65.0	1.2 0.54
		1 25	1 ¾ 30.2	1.64 41.7	2.30 58.4	1.22 31.0	4.08 103.6	2.56 65.0	1.3 0.59
2 50	X	½ 15	1 ¾ 30.2	1.66 42.2	2.19 55.6	1.46 37.1	4.60 116.8	2.56 65.0	1.3 0.59
		¾ 20	1 ¾ 30.2	1.64 41.7	2.19 55.6	1.46 37.1	4.60 116.8	2.56 65.0	1.4 0.64
		1 25	1 ¾ 30.2	1.88 47.8	2.54 64.5	1.46 37.1	4.60 116.8	2.56 65.0	1.5 0.68
2 ½ 65	X	½ 15	1 ¾ 30.2	1.91 48.5	2.44 62.0	1.71 43.4	5.40 137.2	2.56 65.0	1.6 0.73
		¾ 20	1 ¾ 30.2	1.89 48.0	2.44 62.0	1.71 43.4	5.40 137.2	2.56 65.0	1.6 0.73
		1 25	1 ¾ 30.2	2.13 54.1	2.79 70.9	1.71 43.4	5.40 137.2	2.56 65.0	1.6 0.73
76.1 mm	X	½ 15	1 ¾ 30.2	1.91 48.5	2.44 62.0	1.71 43.4	5.50 139.7	2.56 65.0	1.6 0.73
		¾ 20	1 ¾ 30.2	1.89 48.0	2.44 62.0	1.71 43.4	5.50 139.7	2.56 65.0	1.6 0.73
		1 25	1 ¾ 30.2	2.13 54.1	2.79 70.9	1.71 43.4	5.50 139.7	2.56 65.0	1.7 0.80

† Victaulic female threaded products are designed to accommodate standard NPT or BSPT (optional) male pipe threads only. Use of male threaded products with special features, such as probes, dry pendent sprinklers, etc., should be verified as suitable for use with this Victaulic product. Failure to verify suitability in advance may result in assembly problems or leakage.

*Center of run to engaged pipe end for NPT threads (dimensions are approximate).

FireLock® Outlet-T

STYLE 922

PERFORMANCE

Run Size x Outlet Size			Equivalent Length of 1 inch Schedule 40 Steel Pipe (per UL 213, Section 16) (C=120)*, FT
Inches/mm			Feet/meters
1 ¼ 32	X	1 25	8.5 2.6
1 ½ 40	X	1 25	8.5 2.6
2 50	X	1 25	8.5 2.6
2 ½ 65	X	1 25	8.5 2.6
76.1 mm	X	1 25	8.5 2.6

* Hazen-Williams coefficient of friction is 120

FireLock® Outlet-T

STYLE 922

INSTALLATION

Reference should always be made to the I-100 Victaulic Field Installation Handbook for the product you are installing. Handbooks are included with each shipment of Victaulic products for complete installation and assembly data, and are available in PDF format on our website at www.victaulic.com.

WARRANTY

Refer to the Warranty section of the current Price List or contact Victaulic for details.

NOTE

This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

For complete contact information, visit www.victaulic.com

10.52 3355 REV G UPDATED 12/2009

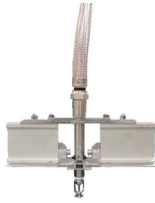
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10.52



Victaulic® VicFlex™ Sprinkler Fittings

Series AQC-U Braided Flexible Hose Assemblies for Clean Room Ceilings



1.0 PRODUCT DESCRIPTION

Available Sizes by Component

- **Series AQC-U Assembly Hose:** 36, 48, 72"/914, 1219, 1830 mm.
- **Brackets:** Swivel bracket integrated in Series AQC-U assembly

Maximum Working Pressure

- 200 psi/1400 kPa/14 bar

Maximum Working Temperature

- 225°F/107°C

Connections:

- To branch line (inlet) via 1"/25.4 mm NPT or BSPT male thread
- To sprinkler head (outlet) via ½"/15 mm NPT or BSPT female thread

Minimum Bend Radius

- 6"/152 mm

Maximum Number of Bends per Flexible Drop:

- See section 5.0 Performance.

Application

FM approved for use with the following manufacturer's ceiling types:

- M+W Zander Facility Engineering GmbH.

NOTE

- Other cleanroom ceiling manufacturers can be evaluated and potentially approved on a case-by-case basis. For further assistance, please refer to the form in Section 7.0 Reference Materials.

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

2.0 CERTIFICATION/LISTINGS



3.0 MATERIAL SPECIFICATIONS

Reducer: 300-series stainless steel

Ceiling Gasket Seal: EPDM

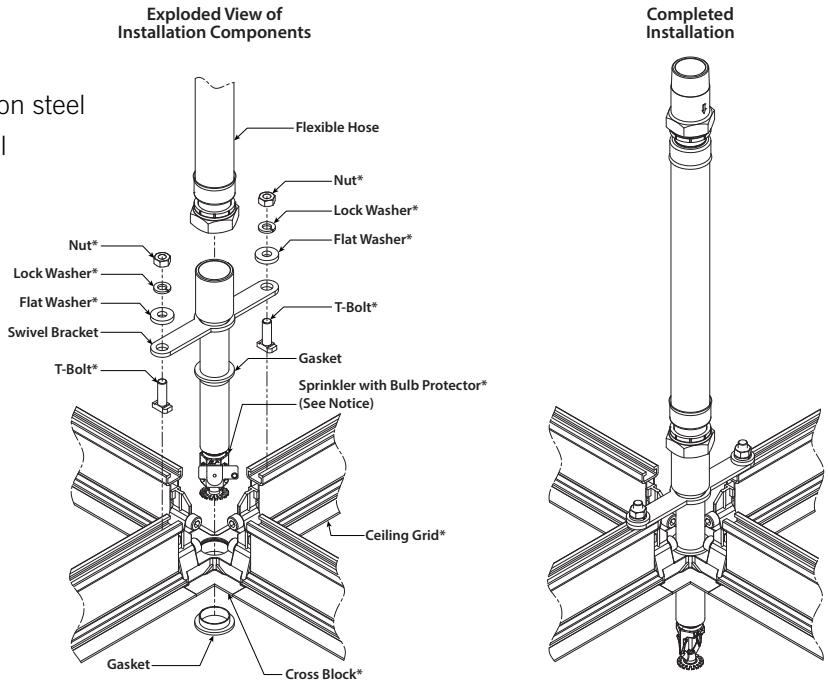
Connection Nut: Zinc plated carbon steel

Isolation Ring: Nylon

Branch Line Connection: Zinc plated carbon steel

Braid and Collar: 300-series stainless steel

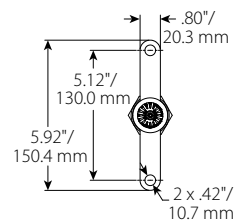
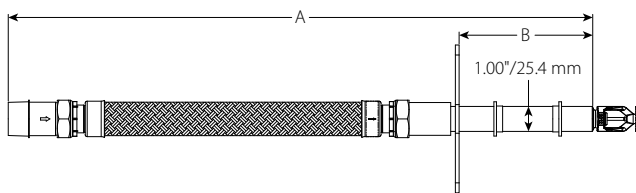
Swivel Bracket: 300-series Stainless Steel



* Denotes components that Victaulic does not provide but that are provided with the ceiling grid

4.0 DIMENSIONS

AQC-U for use with M+W Zander Facility Engineering GmbH ceiling.



NOTE

- To specify alternative dimensions please use order form in section 7.0 Reference Materials.

"A" Nominal Length of Flexible Hose inches mm	"B" Length from Swivel Bracket to Sprinkler ¹ inches mm
36 914	5.38 137
48 1219	5.38 137
72 1830	5.38 137

¹ To specify alternative "B" length use order form in section 7.0 Reference Materials.







5.0 PERFORMANCE

FM Friction Loss Data - Series AQC-U Assembly for Clean Room Ceilings

Nominal Length of Flexible Hose inches mm	NPT/BSPT Sprinkler End inches mm	Maximum Number of 90° Bends	Equivalent Length of 1"/33.7 mm Schedule 40 Pipe feet meters
36 900	½ 15	2	24 7.3
48 1200	½ 15	3	31.5 9.6
72 1800	½ 15	4	46.6 14.2

6.0 NOTIFICATIONS

⚠ WARNING

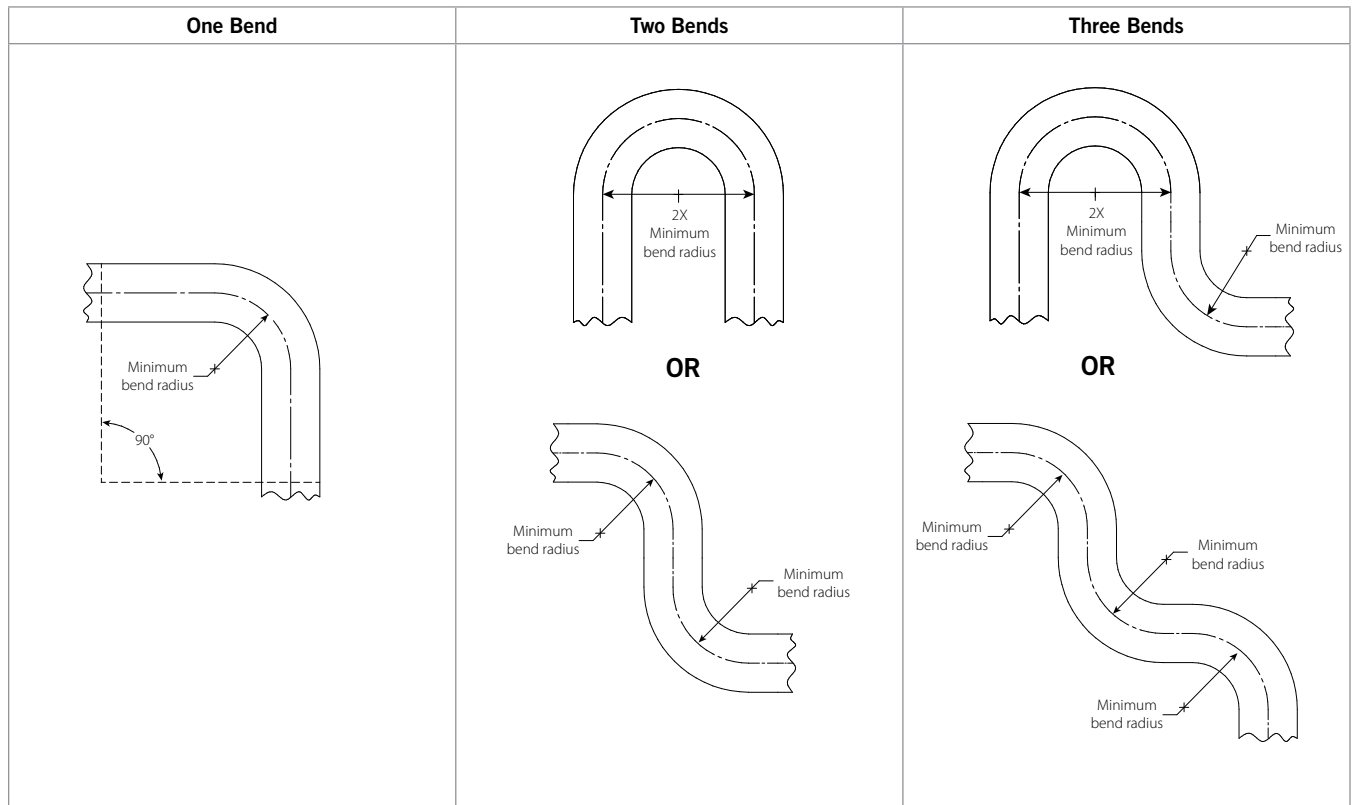







- Read and understand all instructions before attempting to install, remove, adjust, or maintain any Victaulic piping products.
- Depressurize and drain the piping system before attempting to install, remove, adjust, or maintain any Victaulic piping products.
- Wear safety glasses, hardhat, foot protection, and hearing protection.

Failure to follow these instructions and warnings could cause system failure, resulting in death or serious personal injury and property damage.

7.0 REFERENCE MATERIALS

Flexible Hose In-Plane Bend



NOTE

- For out-of-plane (three-dimensional) bends, care must be taken to avoid imparting torque on the hose.

7.0 REFERENCE MATERIALS (Continued)

VicFlex™ Series AQC-U Flexible Sprinkler Fitting Assembly for Clean Rooms Form

For ceiling grids incompatible with the standard dimensions stated in section 4.0 Dimensions, please fill out the form below to request a quote and either email or fax to Engineered Products – ep@victaulic.com, 610-923-3010.

Company Name	
Company Location	
Contact Name	
Contact Phone	
Contact Email	
Project Name	
End User Name	

Quantity

If different configurations are required, please attach a separate form for each configuration.

Step 1: Specify Ceiling Manufacturer

Step 2: Select Assembly Type

No sprinkler pre-assembled.

Assembly with sprinkler pre-assembled.

Step 3: Select and specify values in table below for each configuration as required.

Select One Each:

A	Total Nominal Hose Assembly Length	36"/914mm	48"/1219mm	72"/1830mm
I	Inlet Thread	1"/25mm NPT	1"/25mm BSPT	
O	Outlet Thread	½"/15mm NPT	½"/15mm BSPT	

Specify: Swivel Bracket Dimensions

B	
C	
D	
E	
F	

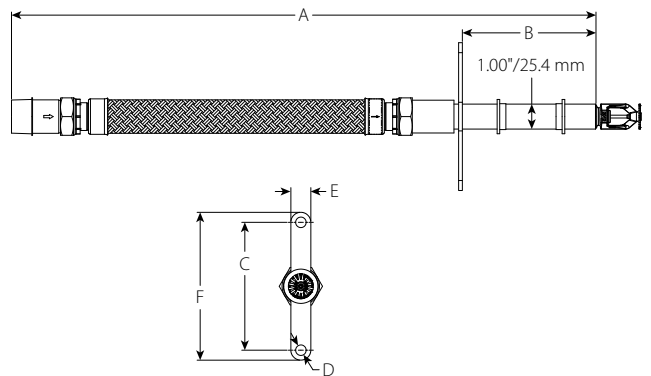
Optional (Please Select):

V27 pendent model (SIN)	
Temperature Rating	
Finish	

Please reference the following submittals for Sprinkler information
40.10, 40.17, 40.18, 40.40

NOTE

- Specified systems DO NOT include escutcheon plates.
- These items must be ordered separately from Victaulic.
- See current Victaulic Sprinkler Price List or contact Customer Care.



NOTE

- Please provide swivel bracket dimensions in accordance with different ceilings.

User Responsibility for Product Selection and Suitability

Each user bears final responsibility for making a determination as to the suitability of Victaulic products for a particular end-use application, in accordance with industry standards and project specifications, and the applicable building codes and related regulations as well as Victaulic performance, maintenance, safety, and warning instructions. Nothing in this or any other document, nor any verbal recommendation, advice, or opinion from any Victaulic employee, shall be deemed to alter, vary, supersede, or waive any provision of Victaulic Company's standard conditions of sale, installation guide, or this disclaimer.

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Note

This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

Installation

Reference should always be made to the Victaulic installation handbook or installation instructions of the product you are installing. Handbooks are included with each shipment of Victaulic products, providing complete installation and assembly data, and are available in PDF format on our website at www.victaulic.com.

Warranty

Refer to the Warranty section of the current Price List or contact Victaulic for details.

Trademarks

Victaulic and all other Victaulic marks are the trademarks or registered trademarks of Victaulic Company, and/or its affiliated entities, in the U.S. and/or other countries.

Beam Clamps

B3034 - C-Clamp

Size Range: 3/8"-16 thru 3/4"-10 rod

Material: Cast Malleable Steel with hardened cup point set screw and jam nut

Function: Recommended for hanging from steel beam where flange thickness does not exceed 3/4" (19.0mm).

Features: May be used on top or bottom flange of the beam. Beveled lip allows hanging from top flange where clearance is limited. May be installed with the set screw in the up or down position. Offset design permits unlimited rod adjustment by allowing the rod to be threaded completely through the clamp. The rear window design permits inspection of thread engagement.

Approvals: Underwriters Laboratories Listed (**cULus**) and Factory Mutual Engineering Approved (**FM**) for 3/8"-16 and 1/2"-13 rod sizes. Conforms to Federal Specification WW-H-171E & A-A-1192A, Type 23 and Manufacturers Standardization Society ANSI/MSS SP-69 & SP-58, Type 19. 3/8"-16 is (**cULus**) Listed to support up to 4" (100mm) pipe with the set screw in the down position, up to 3" (75mm) pipe with the set screw in the up position. 1/2"-13 is (**cULus**) Listed to support up to 8" (200mm) pipe with the set screw in the down position, up to 6" (150mm) pipe with the set screw in the up position. Factory Mutual Engineering Approved only with the setscrew in the down position.

Finish: Plain. Contact customer service for alternative finishes and materials.

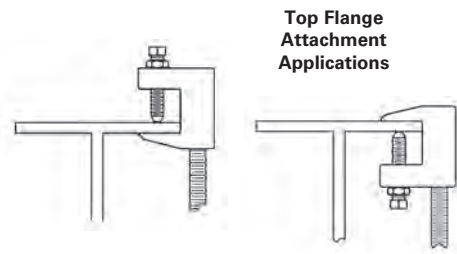
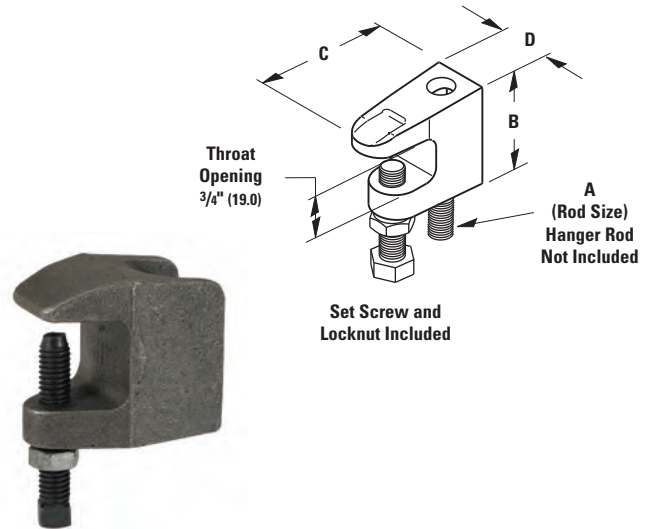
Order By: Figure number, rod size and finish

Setscrew Torque: Per MSS SP-58 14.2.5

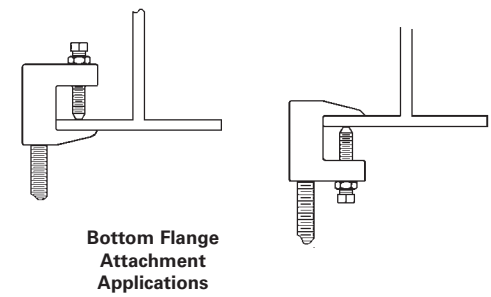
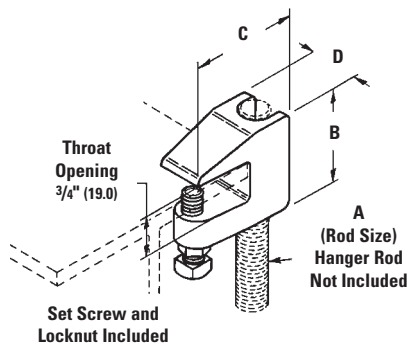
3/8" -16 set screws = 5 ft./lbs. (7 Nm)

1/2" -13 set screws = 11 ft./lbs. (15 Nm)

Caution should be taken not to over-tighten set screws.



B3034-5/8" and B3034-3/4" sizes
Attach only as shown.



Part No.	Rod Size A	Set Screw Size	B		C		D		Maximum Iron Pipe Size Per UL		Approx. Wt./100	
			in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	Lbs.	(kg)
B3034-3/8	3/8"-16	3/8"-16 x 1 1/2"	1 5/8"	(41.3)	2"	(50.8)	7/8"	(19.0)	4"	(100)	30	(13.6)
B3034-1/2	1/2"-13	1/2"-13 x 1 1/2"	1 13/16"	(46.0)	2 3/16"	(55.6)	1 3/16"	(30.2)	8"	(200)	47	(21.3)
B3034-5/8	5/8"-11	1/2"-13 x 2"	1 3/4"	(44.5)	2 1/8"	(54.0)	1 1/4"	(31.7)	--	--	58	(26.3)
B3034-3/4	3/4"-10	1/2"-13 x 2"	2"	(50.8)	2 1/4"	(57.2)	1 1/4"	(31.7)	--	--	77	(35.0)

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.

Fig. 200 - "Trimline" Adjustable Band Hanger

Size Range — 1/2" thru 8" pipe

Material — Carbon Steel, Mil. Galvanized to G90 specifications

Function — For fire sprinkler and other general piping purposes. Knurled swivel nut design permits hanger adjustment after installation.

Features —

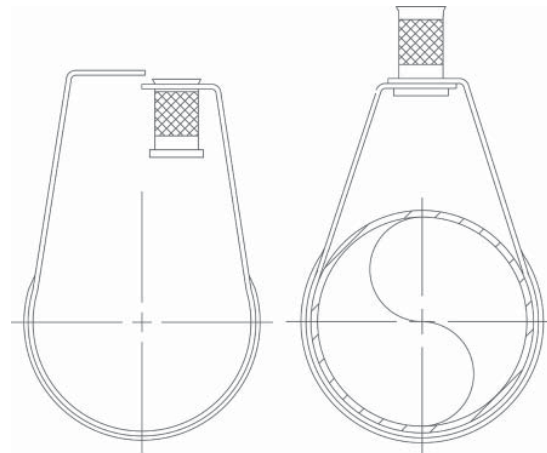
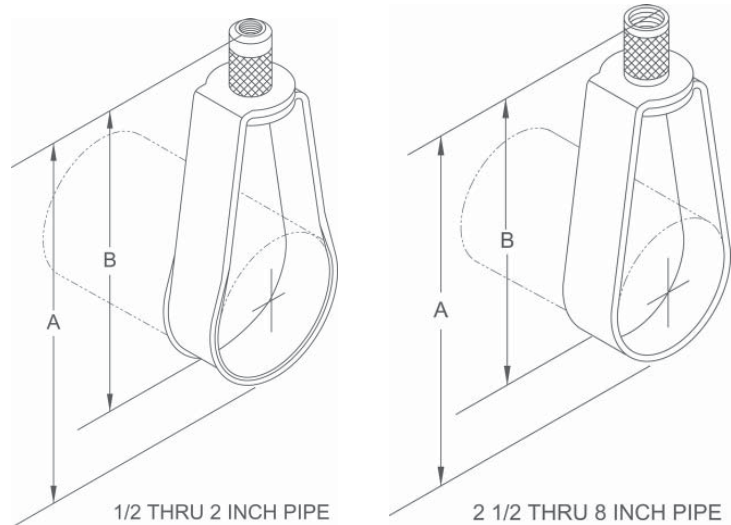
- (1/2" thru 2") Flared edges ease installation for all pipe types and protect CPVC plastic pipe from abrasion. Captured design keeps adjusting nut from separating with hanger. Hanger is easily installed around pipe.
- (2 1/2" thru 8" Spring tension on nut holds it securely in hanger before installation. Adjusting nut is easily removed.

Approvals — Underwriters' Laboratories listed (1/2" thru 8") in the USA (**UL**) and Canada (**cUL**) for steel and CPVC plastic pipe and Factory Mutual Engineering Approved (3/4" thru 8"). Conforms to Federal Specifications WW-H-171E, Type 10 and Manufacturers Standardization Society SP-69, Type 10.

Maximum Temperature — 650°F

Finish — Mil. Galvanized. For Stainless Steel materials, order TOLCO[™] Fig. 200WON.


Order By — Figure number and pipe size



Dimensions • Weights

Pipe Size	Rod Size Inch	Rod Size Metric	A	B	Max. Rec. Load Lbs.	Approx. Length
1/2	3/8	8mm or 10mm	3 1/8	2 5/8	400	11
3/4	3/8	8mm or 10mm	3 1/8	2 1/2	400	11
1	3/8	8mm or 10mm	3 3/8	2 5/8	400	12
1 1/4	3/8	8mm or 10mm	3 3/4	2 7/8	400	13
1 1/2	3/8	8mm or 10mm	3 7/8	2 7/8	400	14
2	3/8	8mm or 10mm	4 1/2	3	400	15
2 1/2	3/8	10mm	5 5/8	4 1/8	600	27
3	3/8	10mm	5 7/8	4	600	29
3 1/2	3/8	10mm	7 3/8	5 1/4	600	34
4	3/8	10mm	7 3/8	5	1000	35
5	1/2	12mm	9 1/8	6 1/4	1250	66
6	1/2	12mm	10 1/8	6 3/4	1250	73
8	1/2	12mm	13 1/8	8 3/4	1250	136

Fig. 98 - Rod Stiffener

Component of State of California OSHPD Approved Seismic Restraints System 

Size Range — Secures 3/8" thru 7/8" hanger rod

Material — Carbon Steel

Function — Secures channel to hanger rod for vertical seismic bracing.

Approvals — Underwriters Laboratories Listed in the USA (**UL**) and Canada (**cUL**). Included in our Seismic Restraints Catalog approved by the State of California Office of Statewide Health Planning and Development (**OSHPD**). For additional load, spacing and placement information relating to OSHPD projects, please refer to the TOLCO Seismic Restraint Systems Guidelines

Finish — Electro Galvanized

Note — Available in HDG finish or Stainless Steel materials.

Order By — Figure number

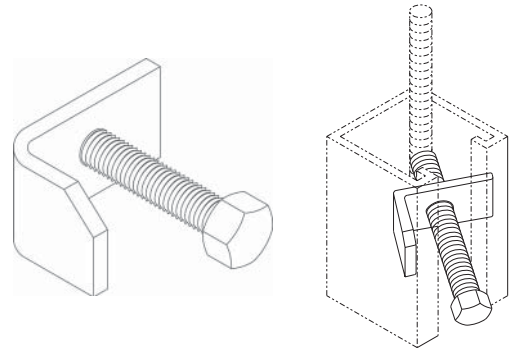


Fig. 99 - All Thread Rod Cut to Length

Size Range — Secures 3/8" thru 7/8" rod in 1" increments

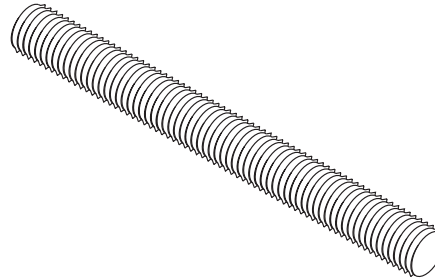
Material — Carbon Steel

Maximum Temperature — 750°F

Finish — Plain

Note — Available in Electro-Galvanized and HDG finish or Stainless Steel materials.

Order By — Figure number, rod diameter, rod length and finish



Rod Size	Dimensions • Weights	
	Max. Rec. Load Lbs. For Service Temps	
	650°F	750°F
3/8	610	540
1/2	1130	1010
5/8	1810	1610
3/4	2710	2420
7/8	3770	3360

Fig. 100 - All Thread Rod Full Lengths

Size Range — Secures 3/8" thru 7/8" rod in 10' lengths

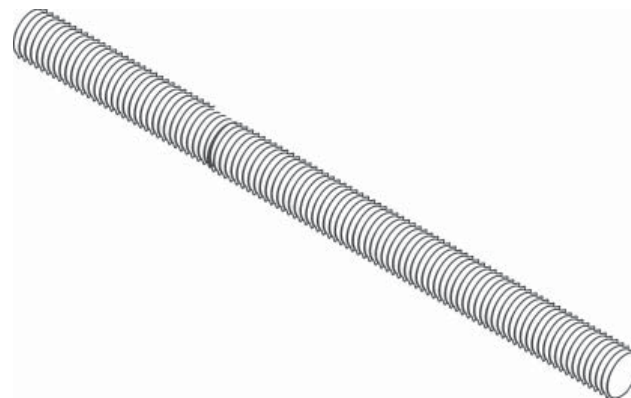
Material — Carbon Steel

Maximum Temperature — 750°F

Finish — Plain

Note — Available in Electro-Galvanized and HDG finish or Stainless Steel materials.

Order By — Figure number, rod diameter and finish



Rod Size	Dimensions • Weights		Approx. Wt./100
	Max Rec. Load Lbs. For Service Temps		
	650°F	750°F	
1/4	240	215	12
3/8	610	540	29
1/2	1130	1010	53
5/8	1810	1610	84
3/4	2710	2420	123
7/8	3770	3360	169
1	4960	4420	222
1¼	8000	7140	360
1½	11630	10370	510