



City of Portland, Oregon - Bureau of Development Services

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Deferred Submittal Requirements and Application

Minimum Submittal Requirements (check all boxes and sign below):

For a full list of deferred submittal guidelines, please visit: www.portlandoregon.gov/bds/article/754963

- ☒ A copy of this application.
- ☒ Plans stamped and signed by a Design Engineer or Architect registered in Oregon. One PDF copy of plans for electronic submittals or three copies for paper submittals.
- ☒ Calculations and product information. One PDF copy for electronic submittals or two copies for paper submittals.
- ☒ Prior to submitting the deferred submittal, the Engineer of Record and/or Architect of Record responsible for the building shall review the deferred submittal plans and supporting materials and add a notation indicating that the deferred submittal documents have been reviewed and found to be in general conformance with the design of the building. The notation shall be made on the deferred submittal drawings. Review stamps on letters of transmission are not acceptable. Exception: the notation is not required on deferred submittals for roof trusses in residential construction when an Engineer or Architect of Record is not involved with the design of the building.
- ☐ Plan views and elevations identifying the location(s) as approved by the Engineer and/or Architect of Record must be submitted as appropriate but are required when the deferred submittal items include exterior elements.

I certify this deferred submittal application meets the minimum submittal requirements as outlined above.

Applicant Signature:  Date: 03/30/2023

Applicant Submittal Information:

Applicant name: Michael Distifeno
Address: 9095 SW Burnham
City: Tigard State: OR Zip Code: 97223
Phone: 5036842928 Email: m.distifeno@wyattfire.com
Value of deferred submittal: \$ 8740 Issued main building permit #: 2022-109151-000-1
Job Site Address: 5916 SW 67th PI Portland OR 97223
Description/Scope of work: Add residential fire sprinkler system
Contractor Name: Wyatt Fire Protection CCB: 64077

Engineer/Architect of Record for the building information (Not required for roof trusses in residential construction when an Engineer or Architect of Record is not involved with the design of the building)

Name: _____ Phone: _____

Design Engineer for the deferred items

Name: Michael Distifeno Phone: 5036842928

22-109151 DFS 01 RS



WYATT

FIRE PROTECTION, INC.

9095 S.W. Burnham

Tigard, OR 97223

OLESON LOT 5

5916 SW 67TH PL

PORTLAND, OR 97223

**FIRE PROTECTION
EQUIPMENT SUBMITTAL**

Series LFII Residential 4.9 K-factor Concealed Pendent Sprinkler Flat Plate, Wet Pipe System

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.

Scan the QR code or enter the URL in a web browser to access the most up-to-date electronic version of this document. Data rates may apply.



docs.jci.com/tycofire/tfp446

General Description

The TYCO Series LFII Residential 4.9K Concealed Pendent Sprinklers (TY2534) are decorative, glass bulb sprinklers, available in both ordinary 155°F (68°C) and intermediate 200°F (93°C) temperature rated configurations. They are designed for use in residential occupancies such as homes, apartments, dormitories, and hotels.

The cover plate assembly conceals the sprinkler operating components above the ceiling. The flat profile of the cover plate provides the optimum aesthetically appealing sprinkler design.

In addition, the concealed design of the Series LFII Residential Concealed Pendent Sprinklers provides 3/4" (19,1 mm) vertical adjustment. This adjustment provides a measure of flexibility when cutting fixed sprinkler drops.

The Series LFII Residential Concealed Pendent Sprinklers are intended for use in the following scenarios:

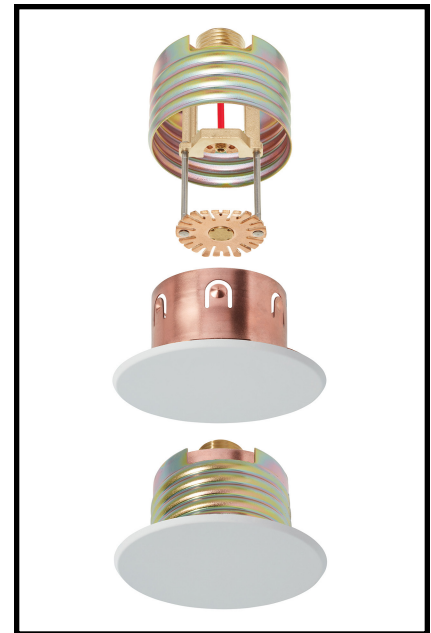
- Wet pipe residential sprinkler systems for one and two family dwellings and mobile homes per NFPA 13D
- Wet pipe residential sprinkler systems for residential occupancies up to and including four stories in height per NFPA 13R
- Wet pipe sprinkler systems for the residential portions of any occupancy per NFPA 13

The Series LFII Residential Concealed Pendent Sprinklers have been designed with heat sensitivity and water distribution characteristics proven to help in the control of residential fires and to improve the chance for occupants to escape or be evacuated.

The Series LFII Residential Concealed Pendent Sprinklers (TY2534) are shipped with a Disposable Protective Cap. The Protective Cap is temporarily removed for installation, and then it can be replaced to help protect the sprinkler while the ceiling is being installed or finished. The tip of the Protective Cap can also be used to mark the center of the ceiling hole into the plaster board, ceiling tiles, and so on, by gently pushing the ceiling product against the Protective Cap. When the ceiling installation is complete the Protective Cap is removed and the Cover Plate Assembly is installed.

NOTICE

The Series LFII Residential Concealed Pendent Sprinklers (TY2534) 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. Contact the installing contractor or product manufacturer with any questions.

Sprinkler Identification Number (SIN)

TY2534

Technical Data

Approvals

UL and C-UL Listed

Australian WaterMark Certified

The TYCO Series LFII Residential Concealed Pendent Sprinklers are Listed only when installed with LFII Concealed Cover Plates having factory-applied finishes.

Sprinklers and Cover Plates are separately ordered. See the Ordering Procedure section for more information.

Maximum Working Pressure

175 psi (12,1 bar)

Maximum Coverage Area ¹ ft x ft (m x m)	Maximum Spacing ft (m)	Temperature Rating	WET PIPE SYSTEM Minimum Flow and Residual Pressure ^{2, 3}				
			Flow GPM (LPM)	Pressure psi (bar)	Deflector to Ceiling	Installation Type	Minimum Spacing ft (m)
12 x 12 (3,7 x 3,7)	12 (3,7)	155°F (68°C), 200°F (93°C)	13 (49,2)	7.0 (0,48)	Smooth Ceilings 3/8 to 1 1/8 in.	Concealed	8 (2,4)
14 x 14 (4,3 x 4,3)	14 (4,3)		13 (49,2)	7.0 (0,48)	Beamed Ceilings per NFPA 13D or 13R, or 13. Installed in beam 3/8 to 1 1/8 in. below bottom of beam		
16 x 16 (4,9 x 4,9)	16 (4,9)		13 (49,2)	7.0 (0,48)			
18 x 18 (5,5 x 5,5)	18 (5,5)		17 (64,3)	12.0 (0,83)			
20 x 20 (6,1 x 6,1)	20 (6,1)		20 (75,7)	16.7 (1,15)			

Notes:

- For coverage area dimensions less than or between those indicated, use the minimum required flow for the next highest coverage area for which hydraulic design criteria are stated.
- Requirement is based on minimum flow in GPM (LPM) from each sprinkler. The associated residual pressures are calculated using the nominal K-factor. See Hydraulic Design under the Design Criteria section.
- For NFPA 13 residential applications, the greater of 0.1 GPM/ft² over the design area or the flow in accordance with the criteria in this table must be used.

TABLE A
WET PIPE SYSTEM
SERIES LFII RESIDENTIAL 4.9 K-FACTOR FLAT PLATE CONCEALED PENDENT SPRINKLER (TY2534)
NFPA 13D, 13R, AND 13 HYDRAULIC DESIGN CRITERIA

Discharge Coefficient

K=4.9 GPM/psi^{1/2} (70,6 LPM/bar^{1/2})

Temperature Rating

Ordinary

155°F (68°C) Sprinkler
139°F (59°C) Cover Plate

Note: Maximum Ambient Ceiling Temperature for the ordinary temperature configuration is 100°F (38°C).

Intermediate

200°F (93°C) Sprinkler
165°F (74°C) Cover Plate

Note: Maximum Ambient Ceiling Temperature for the intermediate temperature configuration is 150°F (65°C).

Vertical Adjustment

3/4 in. (19,1 mm)

Finishes

See the Ordering Procedure section

Physical Characteristics

Frame Brass
Support Cup Plated Steel
Guide Pins Stainless Steel
Deflector Bronze
Compression Screw Brass
Bulb Glass
Button Phosphor Bronze
Sealing Assembly Beryllium Nickel w/TEFLON
Cover Plate Brass
Retainer Plated Steel
Cover Plate Ejection Spring Stainless Steel
Bridge Bronze

Operation

When exposed to heat from a fire, the Cover Plate, normally soldered to the Retainer at three points, falls away to expose the Sprinkler/Support Cup Assembly.

The Deflector, supported by the Guide Pins, then drops down to its operated position.

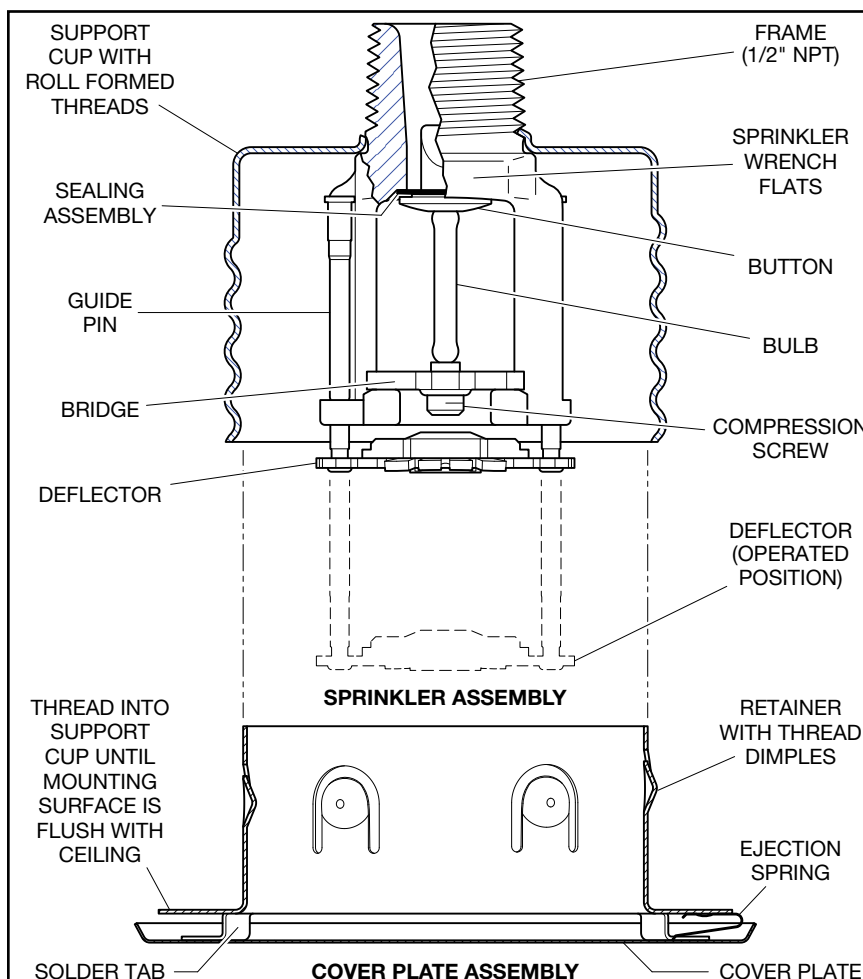
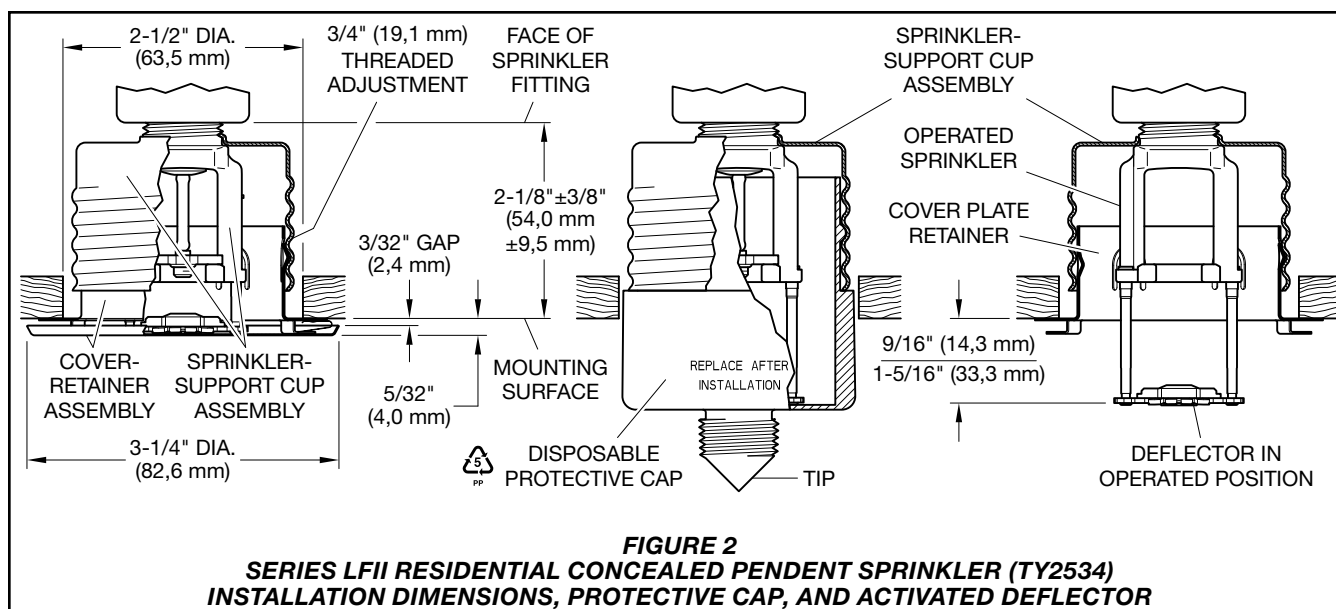


FIGURE 1
SERIES LFII RESIDENTIAL
CONCEALED PENDENT SPRINKLER (TY2534)



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, activating the sprinkler and allowing water to flow.

Design Criteria

The TYCO Series LFII Residential Concealed Pendent Sprinklers (TY2534) are UL and C-UL Listed for installation in accordance with this section.

Note: When conditions exist that are outside the scope of the provided criteria, refer to the *Residential Sprinkler Design Guide TFP490* for the manufacturer's recommendations that may be acceptable to the authority having jurisdiction.

Ceiling Types

Smooth flat horizontal, beamed, or sloped in accordance with NFPA 13D, 13R, or 13 as applicable.

Hydraulic Design (NFPA 13D and 13R)

For systems designed to NFPA 13D or NFPA 13R, the minimum required sprinkler flow rates are given in Table A as a function of temperature rating and the maximum allowable coverage areas.

The sprinkler flow rate is the minimum required discharge from each of the total number of "design sprinklers" as specified in NFPA 13D or NFPA 13R.

Hydraulic Design (NFPA 13)

For systems designed to NFPA 13, the number of design sprinklers is to be the four most hydraulically demanding sprinklers. The minimum required discharge from each of the four sprinklers is to be the greater of the following:

- The flow rates given in Table A as a function of temperature rating and the maximum allowable coverage area
- A minimum discharge of 0.1 GPM/ft² over the design area comprised of the four most hydraulically demanding sprinklers for actual coverage areas protected by the four sprinklers

Obstruction to Water Distribution

Sprinklers are to be located in accordance with the obstruction rules of NFPA 13D, 13R, and 13 as applicable for residential sprinklers as well as with the obstruction criteria described within the Technical Data Sheet TFP490.

Operational Sensitivity

The sprinklers are to be installed relative to the ceiling mounting surface as shown in Figure 2.

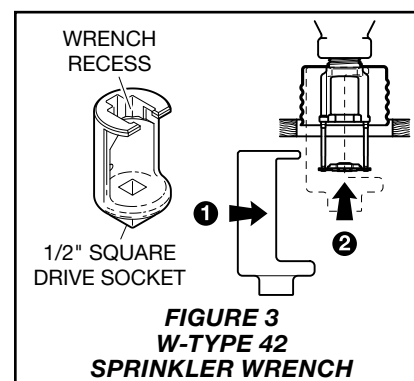
Sprinkler Spacing

The minimum spacing between sprinklers is 8 ft (2,4 m). The maximum spacing between sprinklers cannot exceed the length of the coverage area (see Table A) being hydraulically calculated, for example, maximum 12 ft for a 12 ft x 12 ft coverage area, or 20 ft for a 20 ft x 20 ft coverage area.

The Series LFII must not be used in applications where the air pressure above the ceiling is greater than that below. Down drafts through the Support Cup could delay sprinkler operation in a fire situation.

Installation

The TYCO Series LFII Residential Concealed Pendent Sprinklers (TY2534) 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.

A 1/2 in. NPT sprinkler joint should be obtained with a minimum to maximum torque of 7 to 14 lb-ft (9,5 to 19,0 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 the Cover Plate Assembly by under- or over-tightening the Sprinkler. Readjust the position of the sprinkler fitting to suit.

Step 1. The sprinkler must only be installed in the pendent position and with the centerline of the sprinkler perpendicular to the mounting surface.

Step 2. Remove the Protective Cap.

Step 3. With pipe thread sealant applied to the pipe threads and using the W-Type 42 Wrench shown in Figure 3, position the wrench recess to first straddle the deflector guide pins from the side and then push the wrench into

the support cup to engage the sprinkler wrench flats. Rotate clockwise to tighten the Sprinkler/Support Cup Assembly into the fitting. The W-Type 42 Wrench will accept a 1/2 in. ratchet drive.

Note: Do not engage the sprinkler frame arms by the wrench, engage only the sprinkler wrench flats.

Step 4. Replace the Protective Cap by pushing it upwards until it bottoms out against the Support Cup. The Protective Cap helps prevent damage to the Deflector and Guide Pins during ceiling installation and/or during application of the finish coating of the ceiling. It may also be used to locate the center of the clearance hole by gently pushing the ceiling material against the center point of the Cap.

Note: As long as the protective Cap remains in place, the system is considered to be "Out Of Service."

Step 5. After the ceiling has been completed with the 2 1/2 in. (63 mm) diameter clearance hole and in preparation for installing the Cover Plate Assembly, remove and discard the Protective Cap, and verify that the Deflector moves up and down freely.

If the sprinkler has been damaged and the Deflector does not move up and down freely, replace the entire sprinkler assembly. Do not attempt to modify or repair a damaged sprinkler.

Step 6. Push on the Cover Plate Assembly until its flange comes in contact with the ceiling.

Do not continue to push on the Cover Plate Assembly such that it lifts a ceiling panel out of its normal position.

If the Cover Plate Assembly cannot be engaged with the Mounting Cup or the Cover Plate Assembly cannot be engaged sufficiently to contact the ceiling, the Sprinkler Fitting must be repositioned.

Care and Maintenance

The TYCO Series LFII Residential Concealed Pendent Sprinklers (TY2534) 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 which it controls, permission to shut down the affected fire protection system must be obtained from the proper authorities and all personnel who may be affected by this action must be notified.

Absence of a Cover Plate may delay the sprinkler operation in a fire situation.

When properly installed, there is an air gap between the lip of the Cover Plate and the ceiling. The Cover Plate assembly has a nominal 3/32 (2,4 mm) air gap, as shown in Figure 2. This air gap is necessary for proper operation of the sprinkler by allowing heat flow from a fire to pass below and above the Cover Plate to help assure appropriate release of the Cover Plate in a fire situation. If the ceiling is to be repainted after the installation of the Sprinkler, care must be exercised to ensure that the new paint does not seal off any of the air gap.

Factory painted Cover Plates must not be repainted. They should be replaced, if necessary, by factory painted units. Non-factory applied paint may adversely delay or prevent sprinkler operation in the event of a fire.

Do not pull the Cover Plate relative to the Enclosure. Separation may result.

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 or over heated sprinklers must be replaced.

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

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, for example, NFPA 25, in addition to the standards of any other authorities having jurisdiction. Contact the installing contractor or product manufacturer with any questions.

The owner must assure that the sprinklers are not used for hanging any objects and that the sprinklers are only cleaned by means of gently dusting with a feather duster; otherwise, non-operation in the event of a fire or inadvertent operation may result.

Automatic sprinkler systems should be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes.

Limited Warranty

For warranty terms and conditions, visit www.tyco-fire.com.

Ordering Procedure

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

Sprinkler Assemblies

Specify: Series LFII (TY2534) 4.9K Residential Concealed Pendent Sprinkler, P/N (specify):

155°F (68°C) 51-549-1-155
200°F (93°C) 51-549-1-200

Note: Sprinkler and Cover Plates are separately sold. See below for Cover Plate ordering information.

Cover Plate Assemblies

Specify: LFII Concealed Sprinkler Cover Plate Assembly, temperature rating (specify), (specify) finish, P/N (specify):

139°F (59°C)
Ivory (RAL1015) 56-891-0-135
Bright Chrome 56-891-9-135B
Beige (RAL1001) 56-891-2-135
Pure White (RAL9010)* 56-891-3-135
Signal White (RAL9003)** 56-891-4-135
Grey White (RAL9002) 56-891-5-135
Brown (RAL8028) 56-891-6-135
Black (RAL9005) 56-891-7-135
Brushed Brass 56-891-8-135
Brushed Chrome 56-891-9-135
Custom Paint 56-891-X-135

165°F (74°C)
Ivory (RAL1015) 56-891-0-165
Bright Chrome 56-891-9-165B
Beige (RAL1001) 56-891-2-165
Pure White (RAL9010)* 56-891-3-165
Signal White (RAL9003)** 56-891-4-165
Grey White (RAL9002) 56-891-5-165
Brown (RAL8028) 56-891-6-165
Black (RAL9005) 56-891-7-165
Brushed Brass 56-891-8-165
Brushed Chrome 56-891-9-165
Custom Paint 56-891-X-165

* Eastern Hemisphere sales only

** Previously known as Bright White

Note: All Custom Cover Plates are painted using SHERWIN-WILLIAMS Interior Latex Paint. Contact Johnson Controls Customer Service with any questions related to custom orders.

Sprinkler Wrench

Specify: W-Type 42 Sprinkler Wrench, P/N 56-000-1-079

Series RFII — 5.6 K-factor “Royal Flush II” Concealed Pendent Sprinklers Quick & Standard Response, Standard Coverage

General Description

The TYCO Series RFII 5.6 K-factor, “Royal Flush II” Concealed Pendent Sprinklers Quick Response (3-mm bulb) and Standard Response (5-mm bulb), are decorative sprinklers featuring a flat cover plate designed to conceal the sprinkler. These sprinklers are optimal for architecturally sensitive areas such as hotel lobbies, office buildings, churches, and restaurants.

Each sprinkler includes a Cover Plate/Retainer Assembly and a Sprinkler/Support Cup Assembly. The separable, two-piece assembly design provides the following benefits:

- Allows installation of the sprinklers and pressure testing of the fire protection system prior to installation of a suspended ceiling or application of the finish coating to a fixed ceiling.
- Permits the removal of suspended ceiling panels for access to building service equipment without having to first shut down the fire protection system and remove sprinklers.
- Provides for 1/2 in. (12,7 mm) of vertical adjustment to allow a measure of flexibility in determining the length of fixed piping to cut for the sprinkler drops.

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 Series RFII Sprinklers are shipped with a Disposable Protective Cap. The Protective Cap is temporarily removed during installation and replaced to help protect the sprinkler during ceiling installation or finish. The tip of the Protective Cap can be used to mark the center of the ceiling hole into plaster board or ceiling tiles by gently pushing the ceiling product against the Protective Cap. When ceiling installation is complete, the Protective Cap is removed and the Cover Plate/Retainer Assembly is installed.

As an option, the Series RFII Standard Response (5-mm bulb) “Royal Flush II” Concealed Pendent Sprinklers can be fitted with a silicone Air and Dust Seal. (Refer to Figure 5.) The Air and Dust Seal is intended for sensitive areas where it is desirable to prevent air and dust from the area above the ceiling to pass through the cover plate.

NOTICE

The Series RFII Concealed 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.

Sprinkler Identification Number (SIN)

TY3531 — 3 mm bulb
TY3551 — 5 mm bulb



Technical Data

Sprinkler Approvals

Approvals apply only to the service conditions indicated in the Design Criteria section.

- TY3531 (3 mm Bulb) is UL Listed, C-UL Listed and NYC Approved (MEA 353-01-E) as Quick Response.
- TY3531 (3 mm Bulb) is VdS Approved (Certificate No. G4090007).
- TY3531 (3 mm Bulb) is FM and LPCB Approved (Ref. No. 094a/10) as Standard Response.

Note: FM and LPCB do not approve concealed sprinklers for quick response.

- TY3551 (5 mm Bulb) is UL Listed, C-UL Listed, FM Approved, LPCB Approved (Ref. No. 094a/9), and NYC Approved (MEA 353-01-E) as Standard Response.

Approvals for Air and Dust Seal

UL and C-UL Listed for use with the RFII Standard Response Concealed Sprinkler (TY3551)

Maximum Working Pressure

Maximum 250 psi (17,3 bar) by UL, C-UL, and NYC

Maximum 175 psi (12,1 bar) by FM, VdS, and LPCB

Temperature Rating

155°F (68°C) Sprinkler with
139°F (59°C) Cover Plate

200°F (93°C) Sprinkler with
165°F (74°C) Cover Plate

Discharge Coefficient

$K = 5.6 \text{ GPM/psi}^{1/2} (80,6 \text{ LPM/bar}^{1/2})$

Adjustment

1/2 inch (12,7 mm)

Finishes

See the Ordering Procedure section.

Physical Characteristics

Frame	.....Bronze
Support Cup	.....Plated Steel
Guide Pins	.....Stainless Steel
Deflector	.....Bronze
Compression Screw	.....Brass
Bulb	.....Glass
Cap	.....Bronze or Copper
Sealing Assembly	.....Beryllium Nickel w/TEFLON
Cover Plate	.....Brass
Retainer	.....Brass
Ejection Spring	.....Stainless Steel

Design Criteria

The TYCO Series RFI 5.6 K-factor, "Royal Flush II" Concealed Pendent Sprinklers are intended for fire protection systems designed in accordance with the standard installation rules recognized by the applicable Listing or Approval agency; for example, UL Listing is based on NFPA 13 and VdS Approval is based on the CEA 4001.

For more information on LPCB and VdS Approvals, contact Johnson Controls at the following office:

Enschede, Netherlands
 Telephone: 31-53-428-4444
 Fax: 31-53-428-3377

The Series RFI Concealed Pendent Sprinklers are only listed and approved with the Series RFI Concealed Cover Plates having a factory applied finish.

NOTICE

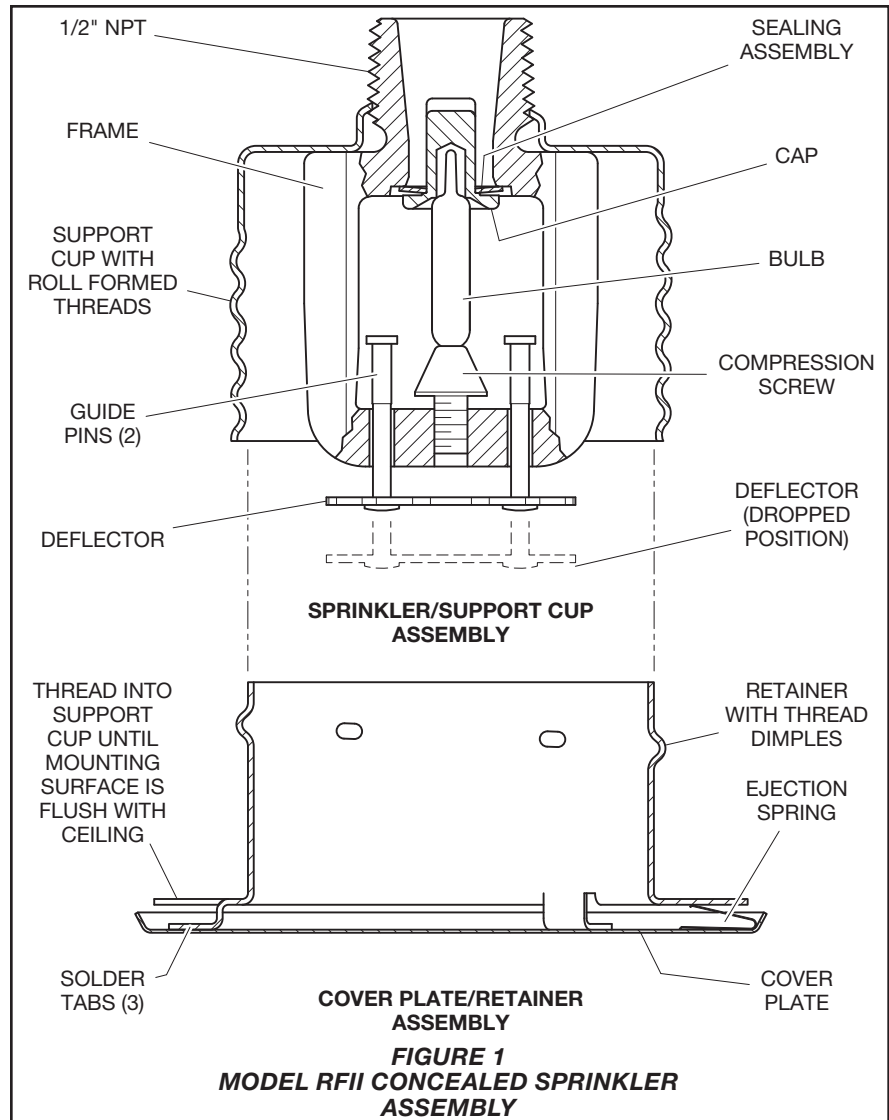
Do not use the Series RFI in applications where the air pressure above the ceiling is greater than that below. Down drafts through the Sprinkler/Support Cup Assembly can delay sprinkler operation in a fire situation.

Operation

When exposed to heat from a fire, the Cover Plate, normally soldered to the Retainer at three points, falls away to expose the Sprinkler/Support Cup Assembly.

The Deflector — supported by the Guide Pins — then drops down to its operational position.

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, activating the sprinkler and allowing water to flow.



Installation

The TYCO Series RFI 5.6 K-factor, "Royal Flush II" Concealed 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 inch (1,6 mm) for the 155°F (68°C) and 3/32 inch (2,4 mm) for the 200°F (93°C) temperature ratings.

A leak-tight 1/2 inch NPT sprinkler joint should be obtained by applying a minimum to maximum torque of 7 to 14 ft.-lbs. (9,5 to 19,0 Nm). Higher levels of torque can distort the sprinkler Inlet with consequent leakage or impairment of the sprinkler.

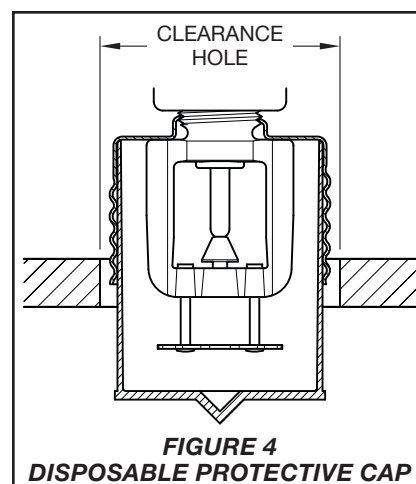
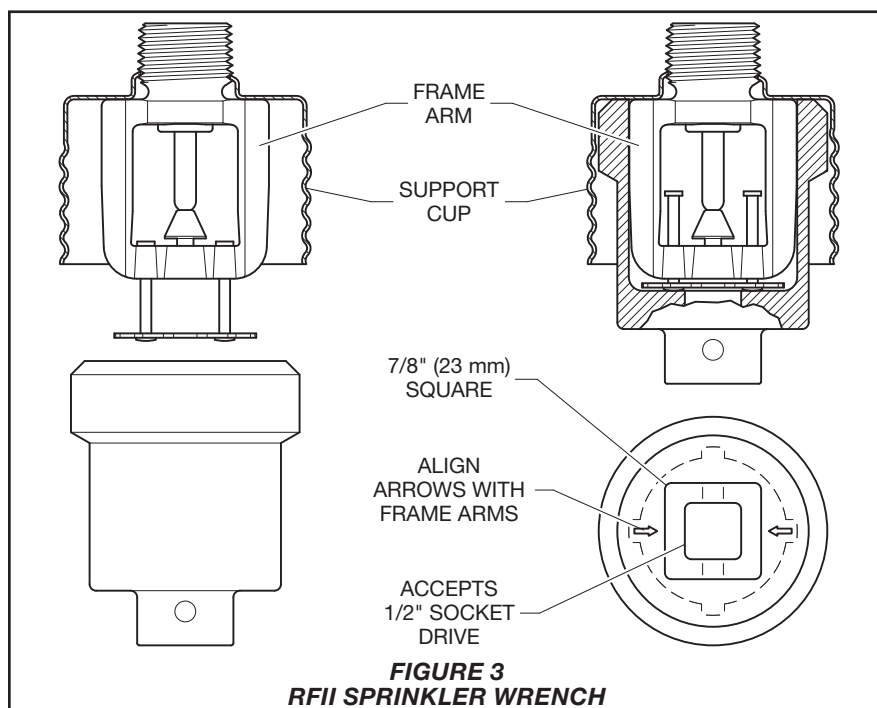
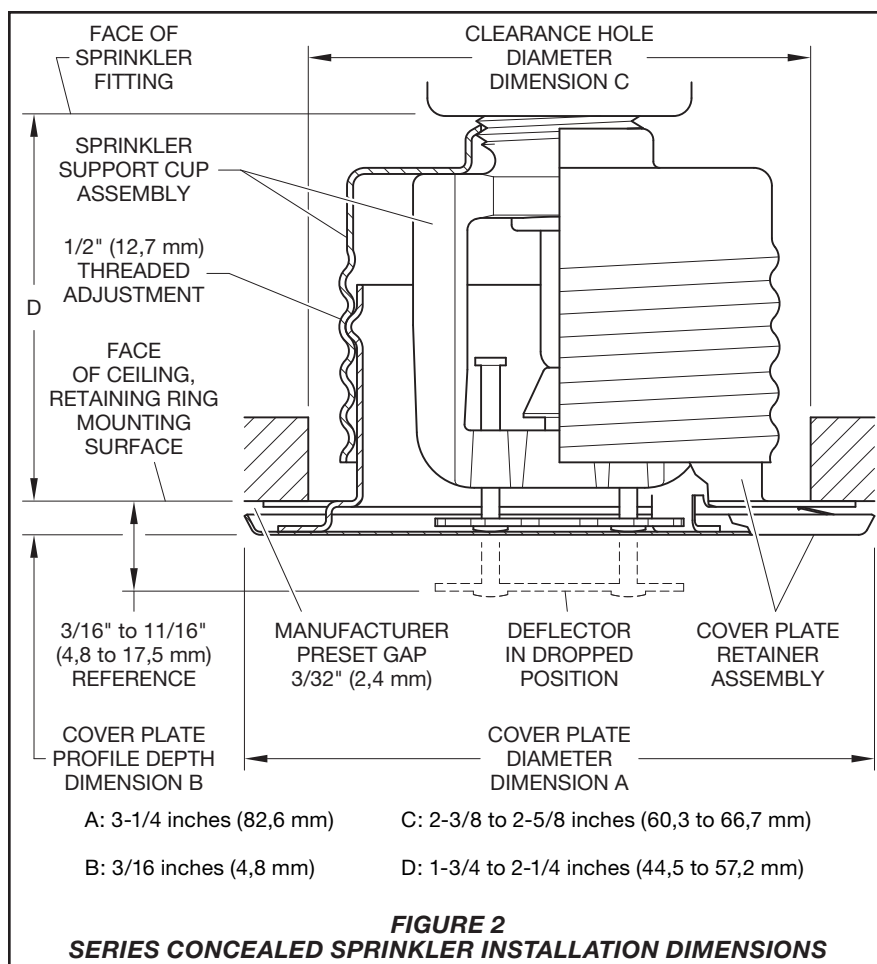
Do not attempt to compensate for insufficient adjustment in the Sprinkler by under- or over-tightening the Sprinkler/Support Cup Assembly. Re-adjust the position of the sprinkler fitting to suit.

Step 1. Install the sprinkler only in the pendent position with the center-line of the sprinkler perpendicular to the mounting surface.

Step 2. Remove the Protective Cap.

Step 3. With pipe thread sealant applied to the pipe threads, hand-tighten the sprinkler into the sprinkler fitting.

Step 4. Wrench-tighten the sprinkler using only the RFI Sprinkler Wrench. (Refer to Figure 3.) Apply the RFI Sprinkler Wrench to the Sprinkler as shown in Figure 3.



Step 5. Replace the Protective Cap by pushing it upwards until it bottoms out against the Support Cup. (Refer to Figure 4.) The Protective Cap helps prevent damage to the Deflector and Arms during ceiling installation and/or finish. You can also use the Protective Cap to locate the center of the clearance hole by gently pushing the ceiling material up against the center point of the Protective Cap.

NOTICE

As long as the Protective Cap remains in place, the system is considered "Out of Service".

Step 6. After the ceiling has been completed with the 2-1/2 in. (63,5 mm) diameter clearance hole and in preparation for installing the Cover Plate/Retainer Assembly, remove and discard the Protective Cap. Verify that the Deflector moves up and down freely.

If the Sprinkler is damaged and the Deflector does not move up and down freely, replace the entire Sprinkler. Do not attempt to modify or repair a damaged sprinkler.

Step 7. When installing an Air and Dust Seal, refer to Figure 5; otherwise, proceed to Step 8. To attach the Air and Dust Seal, verify the angle of the outside edge of the seal is oriented according to Figure 5. Start the edge of the Retainer in the grooved slot of the Air and Dust Seal and continue around the retainer until the entire Air and Dust Seal is engaged.

Step 8. Screw on the Cover Plate/Retainer Assembly until the Retainer (shown in Figure 2) or the Air and Dust Seal (shown in Figure 5) contacts the ceiling. Do not continue to screw on the Cover Plate/Retainer Assembly so that it lifts a ceiling panel out of its normal position. If you cannot engage the Cover Plate/Retainer Assembly with the Support Cup or you cannot engage the Cover Plate/Retainer Assembly sufficiently to contact the ceiling, you must reposition the Sprinkler Fitting.

Care and Maintenance

The TYCO Series RFII 5.6 K-factor, "Royal Flush II" Concealed 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 system from the proper authorities and notify all personnel who may be affected by this action.

Absence of the Cover Plate/Retainer Assembly can delay sprinkler operation in a fire situation.

When properly installed, there is a nominal 3/32 in. (2,4 mm) air gap between the lip of the Cover Plate and the ceiling, as shown in Figure 2.

This air gap is necessary for proper operation of the sprinkler. If the ceiling requires repainting after sprinkler installation, ensure that the new paint does not seal off any of the air gap.

Do not pull the Cover Plate relative to the Enclosure. Separation may result.

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.

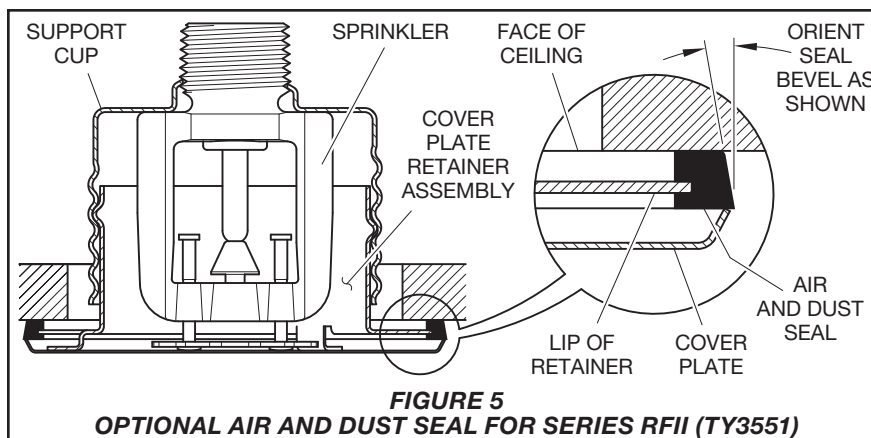


FIGURE 5
OPTIONAL AIR AND DUST SEAL FOR SERIES RFII (TY3551)

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.)

Exercise care to avoid damage to sprinklers before, during, and after installation. Replace sprinklers damaged by dropping, striking, wrench twisting, wrench slipping, or the like. Also, replace any sprinkler that has a cracked bulb or that has lost liquid from its bulb. (Refer to the Installation section.)

If you must remove a sprinkler, do not reinstall it or a replacement without reinstalling the Cover Plate/Retainer Assembly. If a Cover Plate/Retainer Assembly becomes dislodged during service, replace it immediately.

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, for example, 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 should be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national code.

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.

Sprinkler/Support Cup Assembly
Specify: Series RFII (specify SIN), K=5.6, "Royal Flush II" Pendent Sprinklers (specify) temperature rating, P/N* (specify):

	155°F (68°C)	200°F (93°C)
TY3531	51-792-1-155	51-792-1-200
TY3551	51-790-1-155	51-790-1-200

* Use Suffix "I" for ISO 7-1 connection; for example, 51-792-1-155-I

Separately Ordered Cover Plate/Retainer Assembly:

Specify: (temperature rating from below) Series RFII Concealed Cover Plate with (finish), P/N (specify).

	139°F (59°C)(a)	165°F (74°C)(b)
Grey White (RAL9002)	56-792-0-135	56-792-0-165
Brass	56-792-1-135	56-792-1-165
Pure White (c) (RAL9010)	56-792-3-135	56-792-3-165
Signal White (RAL9003)	56-792-4-135	56-792-4-165
Jet Black (RAL9005)	56-792-6-135	56-792-6-165
Brushed		
Chrome	56-792-8-135	56-792-8-165
Chrome	56-792-9-135	56-792-9-165
Custom	56-792-X-135	56-792-X-165

- (a) For use with 155°F (68°C) sprinklers.
- (b) For use with 200°F (93°C) sprinklers.
- (c) Eastern Hemisphere sales only.

Sprinkler Wrench

Specify: RFII Sprinkler Wrench, P/N 56-000-1-075

Air and Dust Seal

Specify: Air and Dust Seal, P/N 56-908-1-001

BlazeMaster® CPVC Fire Sprinkler Pipe & Fittings Submittal Sheet

General Description

Tyco Fire & Building Products (TFBP) BlazeMaster CPVC Pipe and Fittings are designed exclusively for use in wet pipe automatic fire sprinkler systems. They are made from a specially developed thermoplastic compound composed of post chlorinated polyvinyl chloride (CPVC) resin and state of the art additives. TFBP BlazeMaster CPVC products are easier to install than traditional steel pipe systems, and at the same time, provide superior heat resistance and strength as compared to traditional CPVC and PVC piping materials used in the plumbing trade. Various adapters are available to connect CPVC pipe to metallic piping. All female pipe thread adapters have brass inserts for durability. Grooved adapters connect directly to grooved end valves and metallic pipe, with flexible grooved end couplings.

WARNING

*Tyco Fire & Building Products (TFBP) BlazeMaster CPVC Pipe and Fittings described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the National Fire Protection Association, in addition to the standards of any other authorities having jurisdiction. **Failure to do so may impair the performance of these devices.***

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

Technical Data

Sizes

3/4" to 3"

Maximum Working Pressure

175 psi

Approvals

UL, FM, CUL, NSF, Dade County, LPCB, MEA, and the City of Los Angeles. (Refer to IH-1900, Rev. 0, January 2005 "Installation Instruction & Technical Handbook" for exact listing/approval information.)

Manufacture Source

U.S.A.

Material

- Pipe: ASTM F442, SDR 13.5
- Fittings: ASTM F438 (Sch. 40) and ASTM F439 (Sch. 80), ASTM F1970

Color

Orange



NOMINAL SIZE	AVERAGE O.D.	AVERAGE I.D.	WEIGHT lbs./ft.	WATER FILLED WEIGHT lbs./ft.	FT. OF PIPE PER LIFT	WEIGHT PER LIFT lbs.
3/4"	1.050"	0.874"	0.18	0.44	7875	1339
1"	1.315"	1.101"	0.26	0.67	5040	1320
1-1/4"	1.660"	1.394"	0.42	1.08	2835	1191
1-1/2"	1.900"	1.598"	0.54	1.41	2205	1213
2"	2.375"	2.003"	0.84	2.20	1260	1084
2-1/2"	2.875"	2.423"	1.26	3.26	1215	1531
3"	3.500"	2.952"	1.87	4.83	720	1344

FIGURE 1 — PIPE DIMENSIONS

Installation

Tyco Fire and Building Products (TFBP) BlazeMaster CPVC Pipe and Fittings are to be installed in accordance with IH-1900, Rev. 0, January 2005 "Installation Instruction & Technical Handbook".

Care and Maintenance

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 authority having jurisdiction. The installing contractor or product manufacturer should be contacted relative to any questions.

It is recommended that automatic sprinkler systems be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes.

NOTES

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

After placing a fire protection system in service, notify the proper authorities and advise those responsible for monitoring proprietary and/or central station alarms.

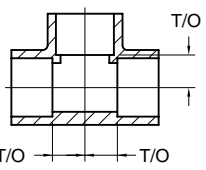
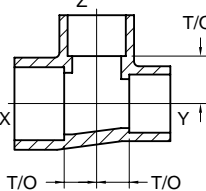
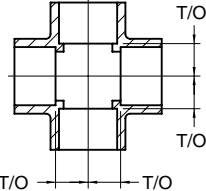
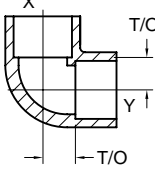
FITTING TYPE	PART NUMBER	NOMINAL SIZE	NOMINAL TAKE-OUT (T/O)			SCHD.	WEIGHT (lb.)
TEE 	80000	3/4"	5/8"			40	0.11
	80001	1"	11/16"			40	0.19
	80002	1-1/4"	7/8"			40	0.26
	80003	1-1/2"	1-1/16"			80	0.51
	80004	2"	1-3/8"			80	0.90
	80005	2-1/2"	1-9/16"			80	1.59
	80006	3"	1-13/16"			80	2.41
REDUCING TEE 		X x Y x Z	X	Y	Z		
	80132	3/4" x 3/4" x 1"	3/4"	3/4"	5/8"	40	0.14
	80133	1" x 3/4" x 3/4"	9/16"	9/16"	3/4"	40	0.14
	80134	1" x 3/4" x 1"	3/4"	11/16"	3/4"	40	0.17
	80260	1" x 1" x 3/4"	5/8"	5/8"	13/16"	40	0.16
	80135	1-1/4" x 1" x 3/4"	5/8"	5/8"	15/16"	40	0.21
	80136	1-1/4" x 1" x 1"	3/4"	3/4"	15/16"	40	0.22
	80137	1-1/4" x 1" x 1-1/4"	15/16"	15/16"	7/8"	40	0.26
	80261	1-1/4" x 1-1/4" x 3/4"	5/8"	5/8"	7/8"	40	0.23
	80262	1-1/4" x 1-1/4" x 1"	3/4"	3/4"	7/8"	40	0.26
	80138	1-1/4" x 1-1/4" x 1-1/2"	1"	1"	1"	80	0.43
	80140	1-1/2" x 1-1/4" x 3/4"	9/16"	9/16"	1"	80	0.36
	80141	1-1/2" x 1-1/4" x 1"	9/16"	9/16"	1-1/16"	80	0.38
	80263	1-1/2" x 1-1/2" x 3/4"	9/16"	9/16"	1"	80	0.36
	80264	1-1/2" x 1-1/2" x 1"	9/16"	9/16"	1-1/16"	80	0.38
	80275	1-1/2" x 1-1/2" x 1-1/4"	7/8"	7/8"	1"	80	0.45
	80265	2" x 2" x 3/4"	3/4"	3/4"	1-3/8"	80	0.61
	80266	2" x 2" x 1"	7/8"	7/8"	1-3/8"	80	0.66
	80274	2" x 2" x 1-1/4"	1-1/16"	1-1/16"	1-3/8"	80	0.74
	80267	2" x 2" x 1-1/2"	1-1/8"	1-1/8"	1-3/8"	80	0.78
	80271	2-1/2" x 2-1/2" x 1"	1-9/16"	1-9/16"	1-9/16"	80	1.43
	80272	2-1/2" x 2-1/2" x 1-1/4"	1-9/16"	1-9/16"	1-9/16"	80	1.46
	80273	2-1/2" x 2-1/2" x 1-1/2"	1-9/16"	1-9/16"	1-9/16"	80	1.48
	80276	2-1/2" x 2-1/2" x 2"	1-9/16"	1-9/16"	1-9/16"	80	1.50
	80270	3" x 3" x 1-1/2"	1-13/16"	1-13/16"	1-13/16"	80	2.28
	80268	3" x 3" x 2"	1-13/16"	1-13/16"	1-3/4"	80	2.25
	80269	3" x 3" x 2-1/2"	1-13/16"	1-13/16"	1-13/16"	80	2.44
CROSS & REDUCING CROSS 	80009	3/4"	9/16"			40	0.13
	80010	1"	11/16"			40	0.23
	80011	1-1/4"	15/16"			40	0.34
	80012	1-1/2"	1-1/16"			80	0.67
	80013	2"	1-5/16"			80	1.00
	80014	2-1/2"	1-9/16"			80	1.91
	80008	3"	1-13/16"			80	2.89
	80015	1" x 1" x 3/4" x 3/4"	7/8"			40	0.28
	80025	3/4"	5/8"			40	0.09
	80026	1"	3/4"			40	0.14
90° ELBOW & REDUCING ELBOW 	80027	1-1/4"	7/8"			40	0.21
	80028	1-1/2"	1-1/16"			80	0.40
	80029	2"	1-5/16"			80	0.79
	80030	2-1/2"	1-9/16"			80	1.14
	80031	3"	1-13/16"			80	1.82
		X x Y	X	Y			
	80032	1" x 3/4"	11/16"	13/16"		40	0.16

FIGURE 2 — FITTING DIMENSIONS (Part 1 of 4)

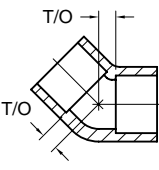
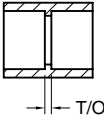
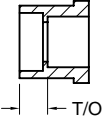
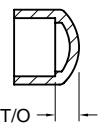
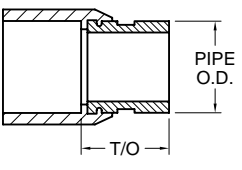
FITTING TYPE	PART NUMBER	NOMINAL SIZE	NOMINAL TAKE-OUT (T/O)		SCHD.	WEIGHT (lb.)
45° ELBOW 	80050	3/4"	3/8"		40	0.08
	80051	1"	3/8"		40	0.11
	80052	1-1/4"	3/4"		40	0.20
	80053	1-1/2"	1/2"		80	0.31
	80054	2"	3/4"		80	0.56
	80055	2-1/2"	13/16"		80	0.89
	80056	3"	1"		80	1.19
COUPLING & REDUCING COUPLING 	80075	3/4"	1/8"		40	0.07
	80076	1"	1/8"		40	0.11
	80077	1-1/4"	3/16"		40	0.12
	80078	1-1/2"	3/16"		80	0.25
	80079	2"	3/16"		80	0.38
	80080	2-1/2"	1/4"		80	0.67
	80081	3"	3/16"		80	0.91
	80220	1" x 3/4"	1/8"		40	0.08
REDUCER BUSHING 	80200	1" x 3/4"	7/16"		40	0.04
	80201	1-1/4" x 3/4"	1/2"		40	0.11
	80202	1-1/4" x 1"	5/16"		40	0.12
	80203	1-1/2" x 3/4"	5/8"		80	0.16
	80204	1-1/2" x 1"	1/2"		80	0.14
	80205	1-1/2" x 1-1/4"	3/8"		80	0.17
	80206	2" x 3/4"	13/16"		80	0.27
	80207	2" x 1"	11/16"		80	0.26
	80208	2" x 1-1/4"	9/16"		80	0.24
	80209	2" x 1-1/2"	7/16"		80	0.19
	80215	2-1/2" x 1"	15/16"		80	0.42
	80214	2-1/2" x 1-1/4"	13/16"		80	0.45
	80213	2-1/2" x 1-1/2"	11/16"		80	0.46
	80211	2-1/2" x 2"	5/8"		80	0.29
	80210	3" x 2"	3/4"		80	0.72
	80212	3" x 2-1/2"	1/2"		80	0.47
CAP 	80100	3/4"	5/16"		40	0.04
	80101	1"	3/8"		40	0.06
	80102	1-1/4"	7/16"		40	0.10
	80103	1-1/2"	11/16"		80	0.20
	80104	2"	5/8"		80	0.31
	80105	2-1/2"	7/8"		80	0.58
	80106	3"	1"		80	0.88
GROOVED COUPLING ADAPTER 	80160	1-1/4" x 1-1/4" Groove	T/O	PIPE O.D.	40	0.78
	80161	1-1/2" x 1-1/2" Groove	2-5/16"	1-1/4" (1.660")		
	80162	2" x 2" Groove	2-5/16"	1-1/2" (1.900")		
	80163	2-1/2" x 2-1/2" Groove	2-5/16"	2" (2.375")		
	80164	3" x 3" Groove	2-5/16"	2-1/2" (2.875")		
	80164	3" x 3" Groove	2-1/4"	3" (3.500")		
	80169	2-1/2" x 76,1 mm Groove	2-5/16"	76,1 mm (3.000")		

FIGURE 2 — FITTING DIMENSIONS (Part 2 of 4)

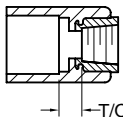
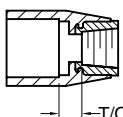
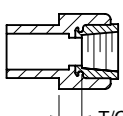
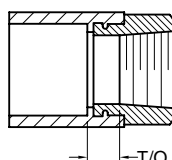
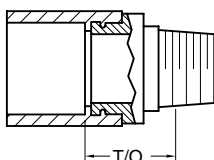
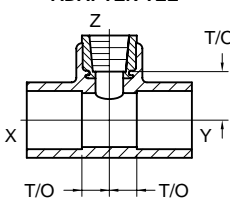
FITTING TYPE	PART NUMBER	NOMINAL SIZE	NOMINAL TAKE-OUT (T/O)			SCHD.	WEIGHT (lb.)
SPRINKLER HEAD ADAPTER 	80175E	3/4" x 1/2" NPT	7/16"			80	0.20
	80176E	1" x 1/2" NPT	7/16"			80	0.22
	80175WL	3/4" x 1/2" NPT	7/16"			40	0.16
	80179	1" x 3/4" NPT	13/16"			40	0.43
SPRINKLER HEAD ADAPTER 	80175W	3/4" x 1/2" NPT	1/2"			40	0.19
	80176W	1" x 1/2" NPT	1/2"			40	0.18
SPRINKLER HEAD ADAPTER (SPIGOT) 	80177L	3/4" x 1/2" NPT	1/2"			40	0.16
	80178	1" x 1/2" NPT	9/16"			40	0.20
	80180	1" x 3/4" NPT	7/8"			40	0.40
FEMALE ADAPTER 	80142	3/4" x 3/4" NPT	13/16"			40	0.41
	80145	1" x 1" NPT	7/8"			40	0.63
	80146	1-1/4" x 1-1/4" NPT	1-1/8"			40	1.03
	80147	1-1/2" x 1-1/2" NPT	1-3/8"			80	1.42
	80148	2" x 2" NPT	1-11/16"			80	2.66
MALE ADAPTER 	80157	3/4" x 3/4" NPT	1-5/16"			40	0.33
	80158	1" x 1" NPT	1-3/8"			40	0.56
SPRINKLER HEAD ADAPTER TEE 		X x Y x Z	X	Y	Z		
	80250	3/4" x 3/4" x 1/2" NPT	9/16"	9/16"	1"	40	0.22
	80251	1" x 1" x 1/2" NPT	11/16"	11/16"	1-3/16"	40	0.29
	80249	1" x 1" x 1" NPT	15/16"	15/16"	1-9/16"	40	0.73
	80256	1-1/4" x 1" x 1/2" NPT	7/16"	9/16"	1-5/16"	40	0.30
	80252	1-1/4" x 1-1/4" x 1/2" NPT	7/16"	7/16"	1-5/16"	40	0.31
	80257	1-1/2" x 1-1/4" x 1/2" NPT	1/2"	11/16"	1-7/16"	80	0.43
	80254	1-1/2" x 1-1/2" x 1/2" NPT	1/2"	1/2"	1-7/16"	80	0.46
	80258	2" x 1-1/2" x 1/2" NPT	1/2"	5/8"	1-11/16"	80	0.56
	80253	2" x 2" x 1/2" NPT	1/2"	1/2"	1-11/16"	80	0.62

FIGURE 2 — FITTING DIMENSIONS (Part 3 of 4)

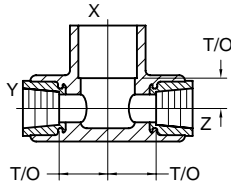
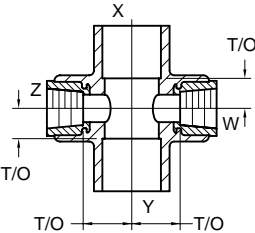
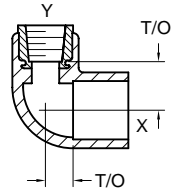
FITTING TYPE	PART NUMBER	NOMINAL SIZE	NOMINAL TAKE-OUT (T/O)		SCHD.	WEIGHT (lb.)
BACK-TO-BACK TEE 	80459 80460	X x Y x Z	X	Y, Z	40 40	0.48 0.46
		1" x 1/2" NPT x 1/2" NPT 1" x 1/2" NPT x 1/2" NPT	5/8" 5/8"	1-5/16" 1-3/16"		
BACK-TO-BACK CROSS 	80462 80463	X x Y x Z x W	X, Y	Z, W	40 40	0.46 0.47
		1" x 1" x 1/2" NPT x 1/2" NPT 1" x 1" x 1/2" NPT x 1/2" NPT	5/8" 5/8"	1-3/16" 1-5/16"		
SPRINKLER HEAD ADAPTER 90° ELBOW 	80199 80198 80196	X x Y	X	Y	40 40 40	0.20 0.26 0.26
		3/4" x 1/2" NPT	9/16"	1"		
		1" x 1/2" NPT 1" x 3/4" NPT	3/4" 1-1/16"	1-1/4" 1-7/16"		

FIGURE 2 — FITTING DIMENSIONS (Part 4 of 4)

Limited Warranty

Products manufactured by Tyco Fire & Building Products (TFBP) are warranted solely to the original Buyer for ten (10) years against defects in material and workmanship when paid for and properly installed and maintained under normal use and service. This warranty will expire ten (10) years from date of shipment by TFBP. No warranty is given for products or components manufactured by companies not affiliated by ownership with TFBP or for products and components which have been subject to misuse, improper installation, corrosion, or which have not been installed, maintained, modified or repaired in accordance with applicable Standards of the National Fire Protection Association, and/or the standards of any other Authorities Having Jurisdiction. Materials found

by TFBP to be defective shall be either repaired or replaced, at TFBP's sole option. TFBP neither assumes, nor authorizes any person to assume for it, any other obligation in connection with the sale of products or parts of products. TFBP shall not be responsible for sprinkler system design errors or inaccurate or incomplete information supplied by Buyer or Buyer's representatives.

In no event shall TFBP be liable, in contract, tort, strict liability or under any other legal theory, for incidental, indirect, special or consequential damages, including but not limited to labor charges, regardless of whether TFBP was informed about the possibility of such damages, and in no event shall TFBP's liability exceed an amount equal to the sales price.

The foregoing warranty is made in lieu of any and all other warranties, express or implied, including warranties

of merchantability and fitness for a particular purpose.

This limited warranty sets forth the exclusive remedy for claims based on failure of or defect in products, materials or components, whether the claim is made in contract, tort, strict liability or any other legal theory.

This warranty will apply to the full extent permitted by law. The invalidity, in whole or part, of any portion of this warranty will not affect the remainder.

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		PIECES
	in.	mm	in.	mm	in.	mm	lbs./ft.	kg/m	CRR*	Lift	
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		PIECES
	in.	mm	in.	mm	in.	mm	lbs./ft.	kg/m	CRR*	Lift	
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



TOLCO Fig. 29 series size range expansion

Double offset hanger and restrainer for CPVC plastic pipe & IPS steel pipe

The TOLCO™ Fig. 29 is designed as a hanger and restrainer for CPVC applications such as plastic fire sprinkler pipe. It provides a double offset from mounting surface to help eliminate abrasion, plus its unique design eliminates the need for wood block extension, allowing for retrofit attachment of hanger to the sprinkler pipe.

And now, in addition to the existing ¾" and 1" sizes, the Fig. 29 includes a 1¼" solution to round out the Fig. 29 product size offering. The addition of the 1¼" size provides hanger and restrainer solutions for larger size CPVC pipe installations and projects leading to gained efficiency and cost savings.

Part No.	Pipe Size in. (mm)	Approx. Wt./100 lbs. (kg)
29-¾	¾" (20)	18 (8.1)
29-1	1" (25)	19 (8.6)
29-1¼	1¼" (32)	24 (10.8)

US Patent No. 9,726,304
Can. Pat. No. 2618941



Features and benefits

- UL Listed as a hanger and restraint to support fire sprinkler systems
- Offset edge helps eliminate abrasion
- Attaches easily to wood structure
- Thumb tab provides protection to restrain pipe in rough job site conditions, but is not required to be bent for listed installation
- Can be used as a single offset hanger by aligning "dimples" with top of mounting surface and utilizing two fasteners in two of the three holes provided
- Attaches easily to wood structure with two special #10 x 1" hex head self-threading screws furnished with product
- Ideal for mechanical, plumbing and fire sprinkler applications

Specifications

- Pipe size range: Available in ¾" (20mm), 1" (25mm), and 1¼" (32mm)
- Material finish: Pre-galvanized steel offers corrosion resistance

Approvals

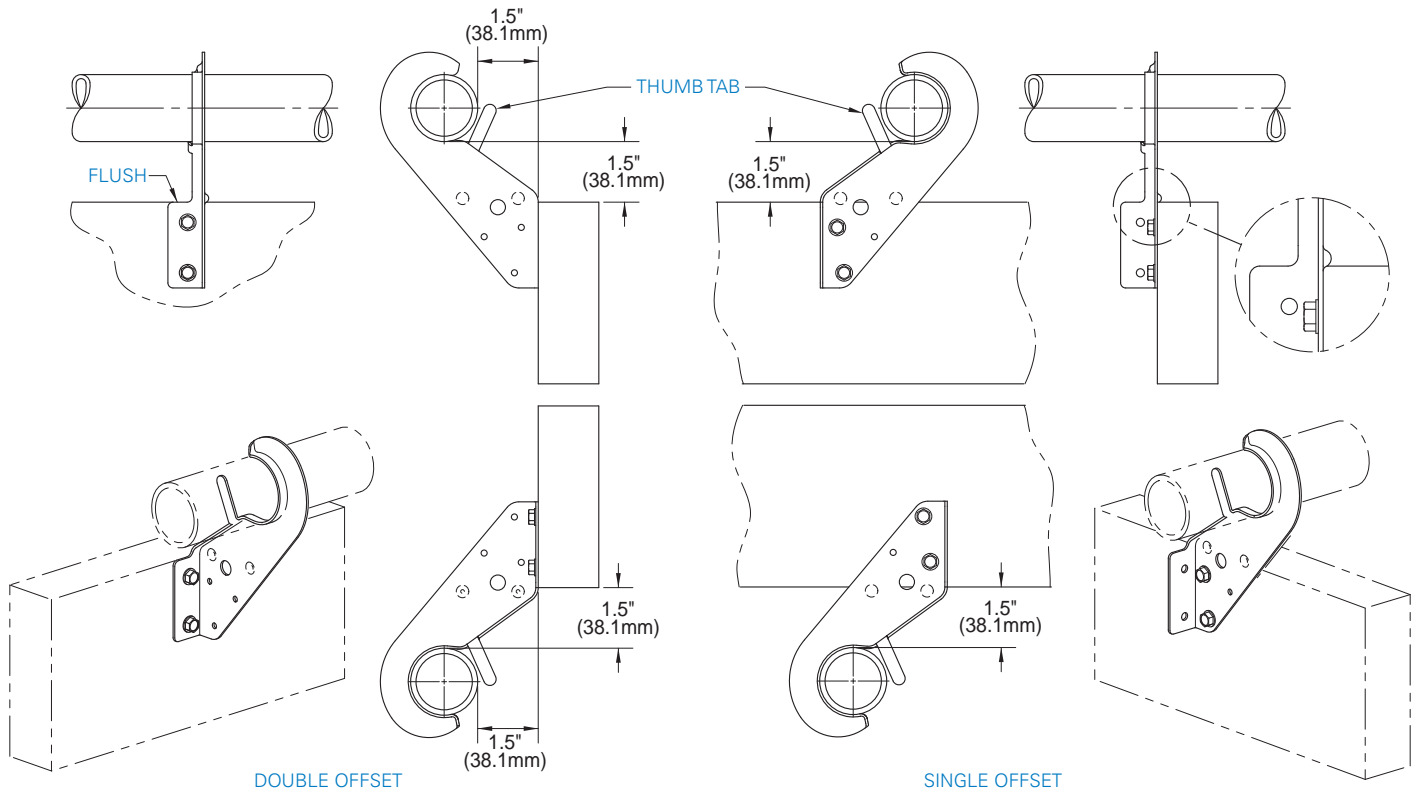
- Approved by Underwriters Laboratories Listed in the USA (UL) and Canada (cUL) as a hanger and restrainer to support thermoplastic fire sprinkler systems*
- Meets or exceeds requirements of NFPA 13, 13R and 13D.



TOLCO Fig. 29

Installation instructions

- Install using a rechargeable electric drill fitted with a $\frac{5}{16}$ " (8mm) socket attachment using the special hex head self-tapping screws provided.
- Install screws until they bottom out.
- Pipe can be "snapped" into the hanger before or after the installation of the screws to the mounting surface.
- "Thumb tab" may be bent up to provide additional protection for the pipe but is not required for performance of the hanger or restraint function.



**For more information,
visit Eaton.com/Fig-29.**

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latest product and support information.

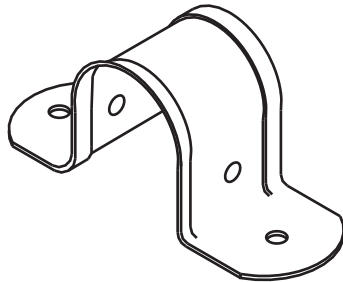




P.O. Box 3365 South El Monte, CA 91733 626.444.0541 Fax 626.444.3887 www.Afcon.org

510

CPVC - COPPER - STEEL HANGER



510 SIZE	Fastener Dim. ℄ - ℄
3/4	2.125
1	2.312
1 1/4	3.170
1 1/2	3.400
2	4.010
2 1/2	4.320
3	5.320

SIZE - SYSTEM PIPE: 3/4" thru 3"

MATERIAL - Carbon Steel.

FINISH - Mil. Galvanized.

LISTING/APPROVAL -



FUNCTION - Support horizontal piping: CPVC, Copper or Steel.

Size 3/4" - 2" Prevents upward movement of pipe from pendent sprinkler discharge.

Stabilize vertical piping.

INSTALLATION - Per these instructions

including NFPA 13, 13R, 13D and CPVC manufacturers instructions.

Install on horizontal or vertical mounting surface.

FASTENERS - UL Listed per NFPA 13

in **WOOD**:

3/4" - 3" CPVC pipe - #905 screw - no pre-drill.

3/4" - 3" Steel and Copper pipe - #14 x 1 1/2" SMS or
1/4"x11/2" lag bolt - no pre-drill.

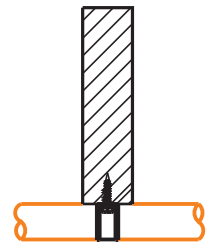
in **STEEL** - min. 18 GA.

3/4" - 3" CPVC, Copper and Steel pipe - 1/4" or #14 Tek Screw.

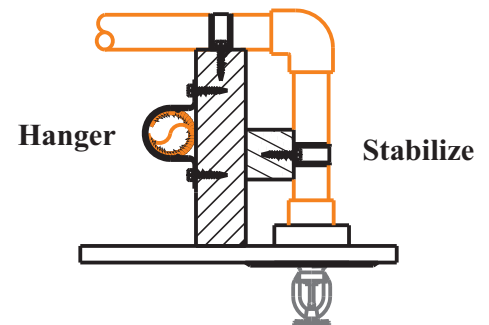
FEATURES

- * Offset edge eliminates abrasion.
- * Retainer dimples secure hanger to pipe during installation.
- * Required AFCON #905 screw included - 5/16" hex head.

ORDERING - Part # and pipe size.



Restraint



**CAN ALSO BE USED TO REPLACE - #500 Pipe Strap
#520 Tin Strap**

Specific AFCON products are exclusively designed to be compatible **ONLY** with other AFCON products including parts and fasteners, resulting in a listed sway brace, restrainer or hanger assembly. Be advised the following warranty restriction will apply. **DISCLAIMER** - AFCON will NOT warrant against the failure of its products when used in combination with other products, parts or systems not manufactured or sold by AFCON. AFCON shall NOT be liable under any circumstances whatsoever for any direct or indirect, incidental or consequential damages of any kind, including but not limited to loss of business or profit, when non-AFCON products have been, or are used.



Fig. 188R (Formerly Afcon Fig. 514) **Two Hole Standoff and Restrainer**

Size Range: 3/4" through 2"
Material: Carbon Steel
Finish: Pre-Galvanized per ASTM A653
Service:

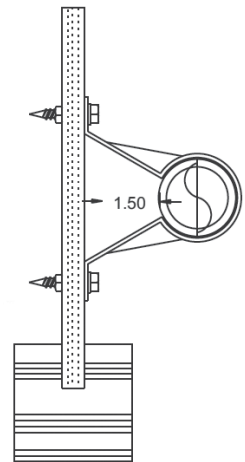
- Hanger and surge restraint for horizontal CPVC piping when installed on the top, bottom, and side of the supporting structure.
- Guide for vertical CPVC piping when installed on the side of the supporting structure.
- Horizontal and vertical seismic restraint per NFPA 13-2016 requirements.
- Listed with hardware provided on structural wood beams and composite wood beams (1" minimum). Listed with steel (18ga minimum) with two (2) #14x1" or 1/4"x1" hex washer head self-drilling TEK screws. For wood structures with less than 1" thickness, wood blocks may be placed on the backside of the wood structure. #10x1" fastener provided must be fully engaged in the wood block.
- May be installed with concrete, steel structural members, and other structural members with fasteners which comply with the requirements of NFPA 13.

Approvals: cULus Listed
Patents: No. 6,648,278

- Installation:**
- Snap hanger over pipe. If needed, squeeze strap back around pipe.
 - CPVC pipe must be allowed to slide freely through the Fig. 188R.
 - Secure hanger to mounting surface with screws provided or with listed fasteners.

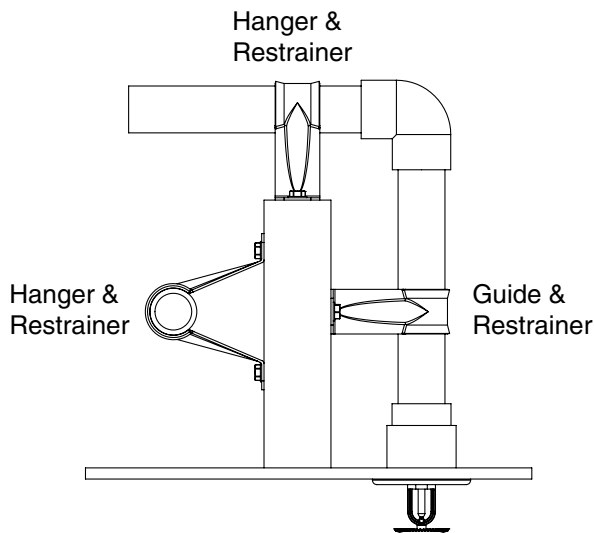
- Features:**
- Beveled edge design helps protect the CPVC pipe from any rough surface and eliminates pipe abrasion.
 - Easily attaches to wood structure with #10 x 1" hex washer head self-threading screw supplied with product. No pre-drilling required.
 - Bottom of pipe is offset 1 1/2" from the structure. Eliminates wooden spacer blocks.

Ordering: Specify CPVC pipe size, figure number and description.



Installation - Backing Nut
Hanger = 1 - at top fastener
Restrainer = 2 - on each fastener

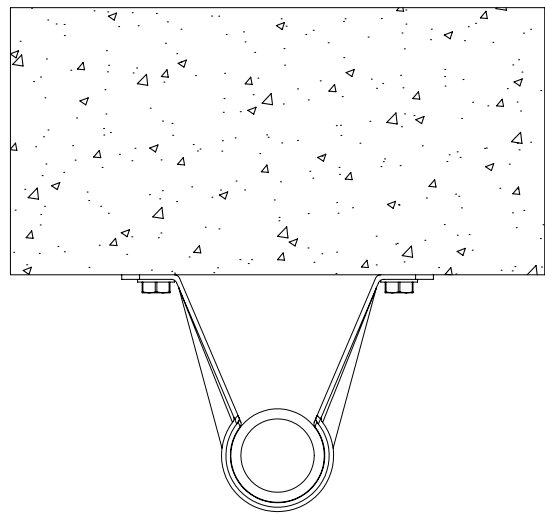
Per NFPA-13D and NFPA-13R



PROJECT INFORMATION		APPROVAL STAMP	
Project:		<input type="checkbox"/> Approved	
Address:		<input type="checkbox"/> Approved as noted	
Contractor:		<input type="checkbox"/> Not approved	
Engineer:		Remarks:	
Submittal Date:			
Notes 1:			
Notes 2:			

Fig. 188R (Formerly Afcon Fig. 514)

Two Hole Standoff and Restrainer (cont.)



Hanger and Restrainer

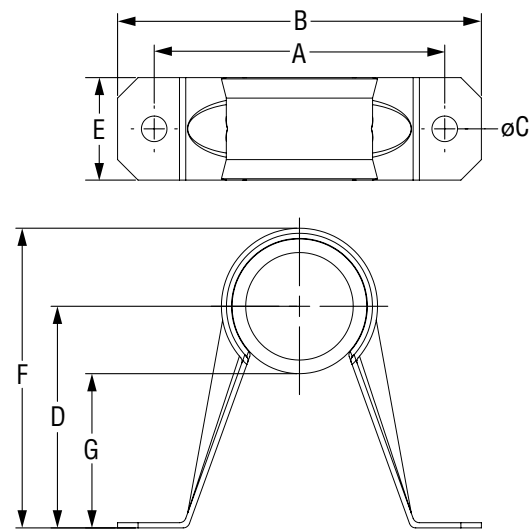


FIG. 188R: DIMENSIONS (IN) • WEIGHT (LBS)									
CPVC Pipe Size	A	B	øC	D	E	F	G	Max. Hanger Spacing (FT.)	Approx. Weight/100 (lbs)
¾	2¾	3½	¼	2	1	2⅝	1½	5½	11
1	2⅓⅓	3½	¼	2⅓⅓	1	2⅓⅓	1½	6	12
1¼	2⅓⅓	3½	¼	2⅓⅓	1	3¼	1½	6½	13
1½	3⅓⅓	4¼	¼	2⅓⅓	1	3½	1½	7	14
2	3⅓⅓	4⅓⅓	¼	2⅓⅓	1	4	1½	8	16

HOME HYDRANT

NFPA-13D Packaged Residential Fire Pump & Tank

U.S. Patents #8,678,032 & 8,905,069

HH3-150SP

350 Gallon Water Tank

- ① Tank Drain $\frac{1}{2}$ "(GHT)
- ② Overflow Fitting 1"(FNPT)
- ③ Auto-Fill Valve $\frac{3}{4}$ "(FNPT)

1.5HP Electric Motor

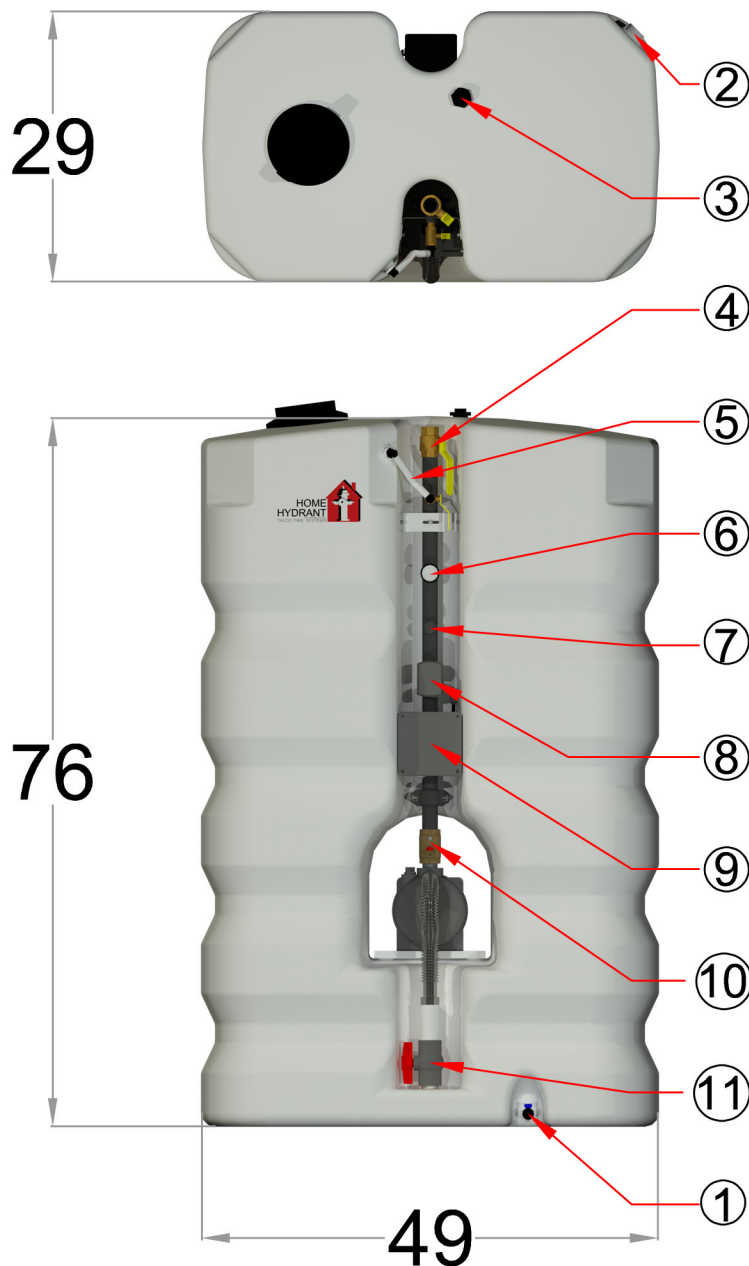
240 Volt Single-Phase

10.9 Amp (Full Load)

1 $\frac{1}{4}$ " Discharge (FNPT)

Smart Riser Control System

- ④ Isolation Ball Valve
- ⑤ Test Line/System Drain
- ⑥ Pressure Gauge
- ⑦ Flow Switch (Optional)
- ⑧ Pressure Switch
- ⑨ Run-Time Controller
- ⑩ Discharge Check Valve
- ⑪ Suction Shut-off Valve



Performance

Performance values based on multiple pump tests. Not for certification purposes.

GPM	0	20	25	30	35	40	45	50
PSI	55	52	51	50	48	46	43	40

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		PIECES
	in.	mm	in.	mm	in.	mm	lbs./ft.	kg/m	CRR*	Lift	
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		PIECES
	in.	mm	in.	mm	in.	mm	lbs./ft.	kg/m	CRR*	Lift	
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

Ductile Iron Threaded Fittings



Ductile Iron Threaded Fittings

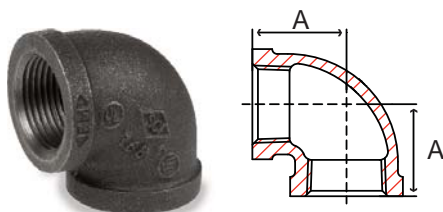
Specifications

-  branded ductile iron threaded fittings are UL Listed and FM Approved at 500 psi
- Rated to 300 WSP
- Ductile iron castings conform to ASTM A536
- Fitting dimensions conform to ASME B16.3
- Bushings and plugs conform to ASME B16.14
- Fittings are 100% air tested
- NPT threads on all fittings conform to ASME B1.20.1
- Independent lab verification that fittings meet applicable chemical & physical properties
- Manufacturing facilities are ISO 9001:2008 and ISO 14001



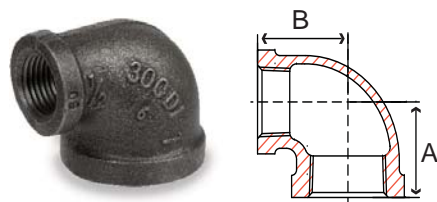
Temperature Degrees F	Working Pressure, Nonshock psiG 300# Class Threaded Fittings
-20 to 100	500
150	500
200	480
250	460
300	440
350	420
400	400
450	380
500	360
550	340
600	320
650	300

Fig. 35E 3 – 90° Elbow



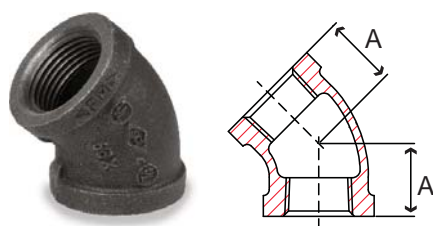
Size in	Part Number	A in	Packing		Weight lb
			Inner	Master	
1/2	35E 3004	1.13	100	200	0.2
3/4	35E 3006	1.31	70	140	0.3
1	35E 3010	1.50	40	80	0.5
1-1/4	35E 3012	1.75	25	50	0.8
1-1/2	35E 3014	1.94	18	36	1.1
2	35E 3020	2.25	10	20	1.8
2-1/2	35E 3024	2.70	4	8	3.2

Fig. 35RE3 – 90° Reducing Elbow



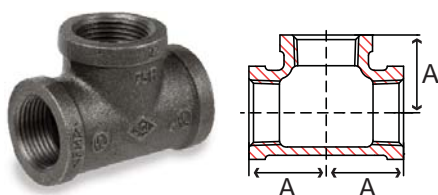
Size in	Part Number	A in	B in	Packing		Weight lb
				Inner	Master	
3/4 x 1/2	35RE3006004	1.20	1.22	80	160	0.3
1 x 1/2	35RE3010004	1.26	1.36	70	140	0.4
1 x 3/4	35RE3010006	1.38	1.45	50	100	0.4
1-1/4 x 1/2	35RE3012004	1.34	1.53	35	70	0.5
1-1/4 x 3/4	35RE3012006	1.45	1.63	35	70	0.6
1-1/4 x 1	35RE3012010	1.58	1.67	30	60	0.7
1-1/2 x 1/2	35RE3014004	1.52	1.75	30	60	0.6
1-1/2 x 3/4	35RE3014006	1.52	1.75	25	50	0.7
1-1/2 x 1	35RE3014010	1.65	1.80	20	40	0.8
1-1/2 x 1-1/4	35RE3014012	1.82	1.88	18	36	1.0
2 x 1/2	35RE3020004	1.60	1.97	18	36	1.0
2 x 3/4	35RE3020006	1.60	1.97	18	36	1.0
2 x 1	35RE3020010	1.73	2.02	16	32	1.2
2 x 1-1/4	35RE3020012	1.90	2.10	12	24	1.3
2 x 1-1/2	35RE3020014	2.02	2.16	10	20	1.5
2-1/2 x 1-1/2	35RE3024014	2.16	2.51	6	12	2.2
2-1/2 x 2	35RE3024020	2.39	2.60	6	12	2.5

Fig. 35F 3 – 45° Elbow



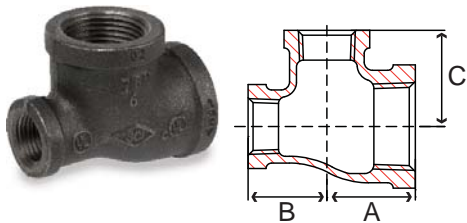
Size in	Part Number	A in	Packing		Weight lb
			Inner	Master	
1/2	35F 3004	0.88	150	300	0.2
3/4	35F 3006	0.98	80	160	0.3
1	35F 3010	1.13	40	80	0.5
1-1/4	35F 3012	1.29	25	50	0.7
1-1/2	35F 3014	1.44	20	40	1.0
2	35F 3020	1.69	10	20	1.6
2-1/2	35F 3024	1.95	4	8	2.7

Fig. 35T 3 – Tee



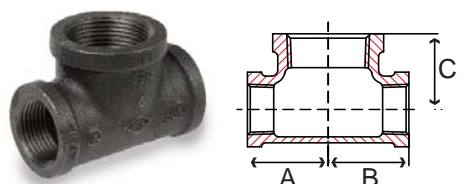
Size in	Part Number	A in	Packing		Weight lb
			Inner	Master	
1/2	35T 3004	1.13	80	160	0.3
3/4	35T 3006	1.31	30	60	0.5
1	35T 3010	1.50	25	50	0.7
1-1/4	35T 3012	1.75	10	20	1.1
1-1/2	35T 3014	1.94	10	20	1.5
2	35T 3020	2.25	6	12	2.4
2-1/2	35T 3024	2.70	4	8	4.3

Fig. 35RT3 – Reducing Tee



Size in	Part Number	A in	B in	C in	Packing		Weight lb
					Inner	Master	
3/4 x 1/2	35RT3006004	1.20	1.20	1.22	60	120	0.4
1 x 1/2	35RT3010004	1.26	1.26	1.36	30	60	0.6
1 x 1/2 x 1	35RT3010004010	1.50	1.36	1.50	30	60	0.6
1 x 3/4	35RT3010006	1.38	1.38	1.45	25	50	0.6
1 x 3/4 x 3/4	35RT3010006006	1.38	1.31	1.45	35	70	0.6
1 x 3/4 x 1	35RT3010006010	1.50	1.45	1.50	25	50	0.7
1-1/4 x 1/2	35RT3012004	1.34	1.34	1.53	20	40	0.8
1-1/4 x 1/2 x 1-1/4	35RT3012004012	1.75	1.53	1.75	25	50	0.9
1-1/4 x 3/4	35RT3012006	1.45	1.45	1.62	15	30	0.9
1-1/4 x 3/4 x 1-1/4	35RT3012006012	1.75	1.62	1.75	20	40	1.0
1-1/4 x 1	35RT3012010	1.58	1.58	1.67	15	30	1.0
1-1/4 x 1 x 1/2	35RT3012010004	1.34	1.26	1.53	25	50	0.7
1-1/4 x 1 x 3/4	35RT3012010006	1.45	1.38	1.63	20	40	0.8
1-1/4 x 1 x 1	35RT3012010010	1.58	1.50	1.69	20	40	0.9
1-1/4 x 1 x 1-1/4	35RT3012010012	1.75	1.69	1.75	15	30	1.0
1-1/2 x 1/2	35RT3014004	1.41	1.41	1.66	16	32	1.0
1-1/2 x 1/2 x 1-1/4	35RT3014004012	1.81	1.56	1.88	24	48	1.1
1-1/2 x 1/2 x 1-1/2	35RT3014004014	1.94	1.66	1.94	12	24	1.2
1-1/2 x 3/4	35RT3014006	1.52	1.52	1.75	16	32	1.1
1-1/2 x 3/4 x 1-1/4	35RT3014006012	1.94	1.66	1.88	20	40	1.1
1-1/2 x 3/4 x 1-1/2	35RT3014006014	1.94	1.75	1.94	18	36	1.2
1-1/2 x 1	35RT3014010	1.65	1.65	1.80	12	24	1.2
1-1/2 x 1 x 1/2	35RT3014010004	1.44	1.25	1.69	20	40	0.8
1-1/2 x 1 x 3/4	35RT3014010006	1.50	1.44	1.75	16	32	0.9
1-1/2 x 1 x 1	35RT3014010010	1.65	1.50	1.80	16	32	1.0
1-1/2 x 1 x 1-1/4	35RT3014010012	1.82	1.67	1.88	12	24	1.2
1-1/2 x 1 x 1-1/2	35RT3014010014	1.94	1.80	1.94	12	24	1.3
1-1/2 x 1-1/4	35RT3014012	1.82	1.82	1.88	12	24	1.4
1-1/2 x 1-1/4 x 1/2	35RT3014012004	1.41	1.34	1.66	16	32	0.9
1-1/2 x 1-1/4 x 3/4	35RT3014012006	1.52	1.45	1.75	16	32	1.0
1-1/2 x 1-1/4 x 1	35RT3014012010	1.65	1.58	1.80	16	32	1.1
1-1/2 x 1-1/4 x 1-1/4	35RT3014012012	1.82	1.75	1.88	14	28	1.3
1-1/2 x 1-1/4 x 1-1/2	35RT3014012014	1.94	1.88	1.94	14	28	1.4
2 x 1/2	35RT3020004	1.49	1.49	1.88	10	20	1.5
2 x 3/4	35RT3020006	1.60	1.60	1.97	10	20	1.6
2 x 1	35RT3020010	1.73	1.73	2.02	8	16	1.7
2 x 1 x 2	35RT3020010020	2.25	2.02	2.25	8	16	1.9
2 x 1-1/4	35RT3020012	1.90	1.90	2.10	8	16	1.9
2 x 1-1/4 x 2	35RT3020012020	2.25	2.10	2.25	8	16	2.0
2 x 1-1/2	35RT3020014	2.02	2.02	2.16	8	16	2.1
2 x 1-1/2 x 1/2	35RT3020014004	1.49	1.41	1.88	10	20	1.3
2 x 1-1/2 x 3/4	35RT3020014006	1.60	1.52	1.97	10	20	1.4
2 x 1-1/2 x 1	35RT3020014010	1.73	1.65	2.02	8	16	1.5
2 x 1-1/2 x 1-1/4	35RT3020014012	1.90	1.82	2.10	8	16	1.7
2 x 1-1/2 x 1-1/2	35RT3020014014	2.02	1.94	2.16	8	16	1.8

Fig. 35BT3 – Bull Head Tee



Size in	Part Number	A in	B in	C in	Packing		Weight lb
					Inner	Master	
3/4 x 1	35BT3006010	1.45	1.45	1.37	30	60	0.6
1 x 1-1/4	35BT3010012	1.67	1.67	1.58	20	40	0.9
1 x 1-1/2	35BT3010014	1.80	1.80	1.65	15	30	1.0
1-1/4 x 1 x 1-1/2	35BT3012010014	1.88	1.80	1.82	15	30	1.2
1-1/4 x 1-1/2	35BT3012014	1.88	1.88	1.82	15	30	1.3
1-1/4 x 2	35BT3012020	2.10	2.10	1.90	10	20	1.6
1-1/2 x 1-1/4 x 2	35BT3014012020	2.16	2.10	2.02	10	20	1.8
1-1/2 x 2	35BT3014020	2.16	2.16	2.02	8	16	1.8

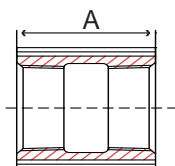


Fig. 35CP3 – Straight Coupling with Ribs

Size in	Part Number	A in	Packing		Weight lb
			Inner	Master	
1/2	35CP3004	1.38	200	400	0.1
3/4	35CP3006	1.63	100	200	0.2
1	35CP3010	1.75	60	120	0.4
1-1/4	35CP3012	2.00	35	70	0.5
1-1/2	35CP3014	2.19	25	50	0.7
2	35CP3020	2.62	15	30	1.2
2-1/2	35CP3024	3.00	9	18	2.2

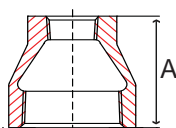


Fig. 35RC3 – Hex Reducing Coupling

Size in	Part Number	A in	Packing		Weight lb
			Inner	Master	
1 x 1/2	35RC3010004	1.69	80	160	0.3
1 x 3/4	35RC3010006	1.69	60	120	0.4
1-1/4 x 3/4	35RC3012006	2.06	40	80	0.6
2 x 1 (not hex)	35RC3020010	2.81	20	40	1.0

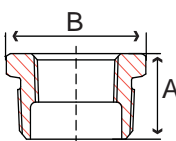


Fig. 35HB3 – Hex Bushing

Size in	Part Number	A in	Packing		Weight lb
			Inner	Master	
1 x 1/2	35HB3010004	1.06	180	360	0.2
1 x 3/4	35HB3010006	1.06	180	360	0.1
1-1/4 x 1	35HB3012010	1.19	90	180	0.2
1-1/2 x 1	35HB3014010	1.25	75	150	0.4
1-1/2 x 1-1/4	35HB3014012	1.25	75	150	0.3
2 x 1	35HB3020010	1.38	40	80	0.6
2 x 1-1/4	35HB3020012	1.38	40	80	0.6
2 x 1-1/2	35HB3020014	1.38	40	80	0.6

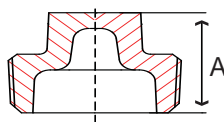


Fig. 35SP3 – Square Head Plug

Size in	Part Number	A in	Packing		Weight lb
			Inner	Master	
1/2	35SP3004	0.94	600	1200	0.07
3/4	35SP3006	1.12	350	700	0.1
1	35SP3010	1.25	200	400	0.1
1-1/4	35SP3012	1.37	100	200	0.3
1-1/2	35SP3014	1.44	80	160	0.4
2	35SP3020	1.50	45	90	0.6

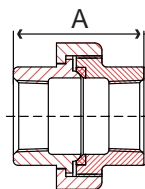


Fig. 35U 3 – Union with Brass Seat

Size in	Part Number	A in	Packing		Weight lb
			Inner	Master	
1	35U 3010	2.19	20	40	1.0
1-1/4	35U 3012	2.50	15	30	1.2
1-1/2	35U 3014	2.62	10	20	1.7
2	35U 3020	3.12	6	12	2.4

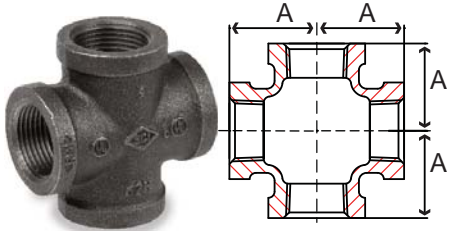


Fig. 35X 3 – Cross

Size in	Part Number	A in	Packing		Weight lb
			Inner	Master	
1	35X 3010	1.50	20	40	0.9
1-1/4	35X 3012	1.75	12	24	1.4
1-1/2	35X 3014	1.94	8	16	1.8
2	35X 3020	2.25	6	12	2.8

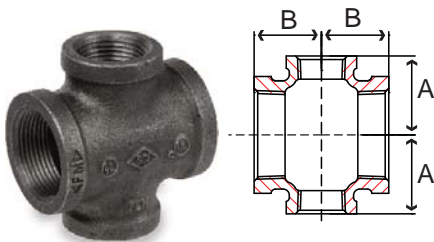


Fig. 35RX3 – Reducing Cross

Size in	Part Number	A in	B in	Packing		Weight lb
				Inner	Master	
1-1/4 x 1	35RX3012010	1.67	1.58	15	30	1.2
1-1/2 x 1	35RX3014010	1.80	1.65	12	24	1.4
2 x 1	35RX3020010	2.02	1.73	8	16	2.0

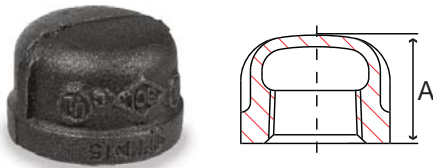


Fig. 35C 3 – Cap

Size in	Part Number	A in	Packing		Weight lb
			Inner	Master	
1/2	35C 3004	0.87	300	600	0.1
3/4	35C 3006	0.97	200	400	0.1
1	35C 3010	1.16	110	220	0.2
1-1/4	35C 3012	1.28	70	140	0.4
1-1/2	35C 3014	1.33	50	100	0.5
2	35C 3020	1.45	25	50	0.8
2-1/2	35C 3024	1.70	18	36	1.6

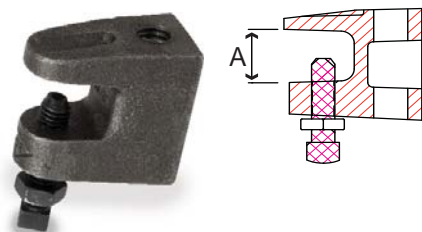


Fig. 35BC3 – Beam Clamp

Size in	Part Number	A in	Packing		Weight lb
			Inner	Master	
3/8	35BC3003	0.75	100	200	0.3
1/2	35BC3004	0.75	80	160	0.5

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 _____

www.victaulic.com

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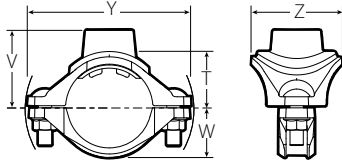


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FireLock® Outlet-T

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	13/16 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	13/16 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	13/16 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	13/16 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	13/16 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	13/16 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	13/16 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	13/16 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	13/16 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	13/16 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	13/16 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	13/16 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	13/16 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	13/16 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	13/16 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

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