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Building	Planning
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Fire	Traffic



Material Data Report For Fire Protection Systems

FOR THE
LIFE OF
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5005 THIRD AVENUE S.
SEATTLE, WA 98134

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FIRE SPRINKLERS

Series TY-FRB, 5.6 K-factor Upright, Pendent, and Recessed Pendent Sprinklers Quick Response, Standard Coverage

General Description

The TYCO Series TY-FRB, 5.6 K-factor, Upright (TY313) and Pendent (TY323) Sprinklers described in this data sheet are quick response, standard coverage, decorative 3 mm glass bulb-type spray sprinklers designed for use in light or ordinary hazard, commercial occupancies such as banks, hotels, and shopping malls.

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

- A two-piece Style 15 Recessed Escutcheon with recessed adjustment up to 5/8 in. (15,9 mm) from the flush pendent position.
- A two-piece Style 20 Recessed Escutcheon with recessed adjustment up to 1/2 in. (12,7 mm) 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.

Intermediate level versions of Series TY-FRB Sprinklers are described in Technical Data Sheet TFP357. Sprinkler guards and shields are described in Technical Data Sheet TFP780.

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.

NOTICE

The TYCO Series TY-FRB Sprinklers described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the National Fire Protection Association, in addition to the standards of any other authorities having jurisdiction. Failure to do so may impair the performance of these devices.

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

Sprinkler Identification Number (SIN)

TY313 . . . Upright 5.6K, 1/2 in. NPT
TY323 . . . Pendent 5.6K, 1/2 in. NPT

Technical Data

Approvals
Refer to Table A

Maximum Working Pressure
175 psi (12.1 bar)
250 psi (17.2 bar)*

* The maximum working pressure of 250 psi (17.2 bar) only applies to the listing by Underwriters Laboratories, Inc. (UL).

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

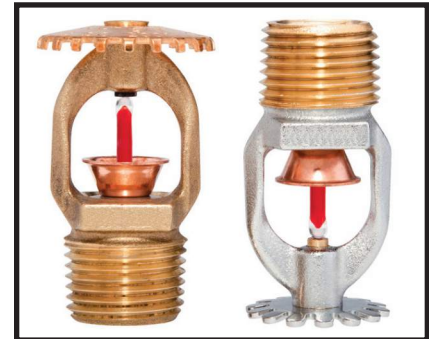
Temperature Rating
Refer to Table A

Finishes
Sprinkler: Refer to Table B

Recessed Escutcheon: White Coated, Black Coated, Chrome Plated, or Brass Plated

Physical Characteristics

Frame	Bronze
Button	Brass/Copper
Sealing Assembly	Stainless Steel w/TEFLON
Bulb	Glass
Compression Screw	Bronze
Deflector	Bronze

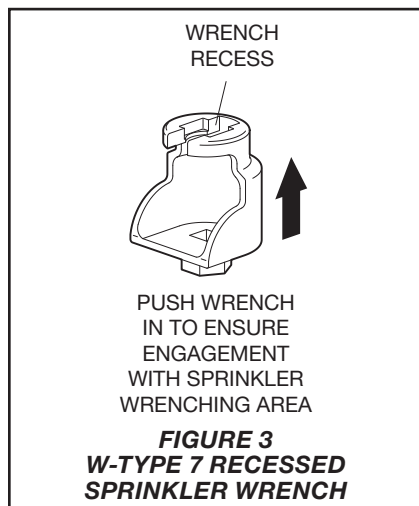
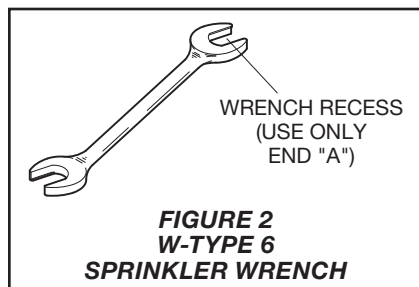
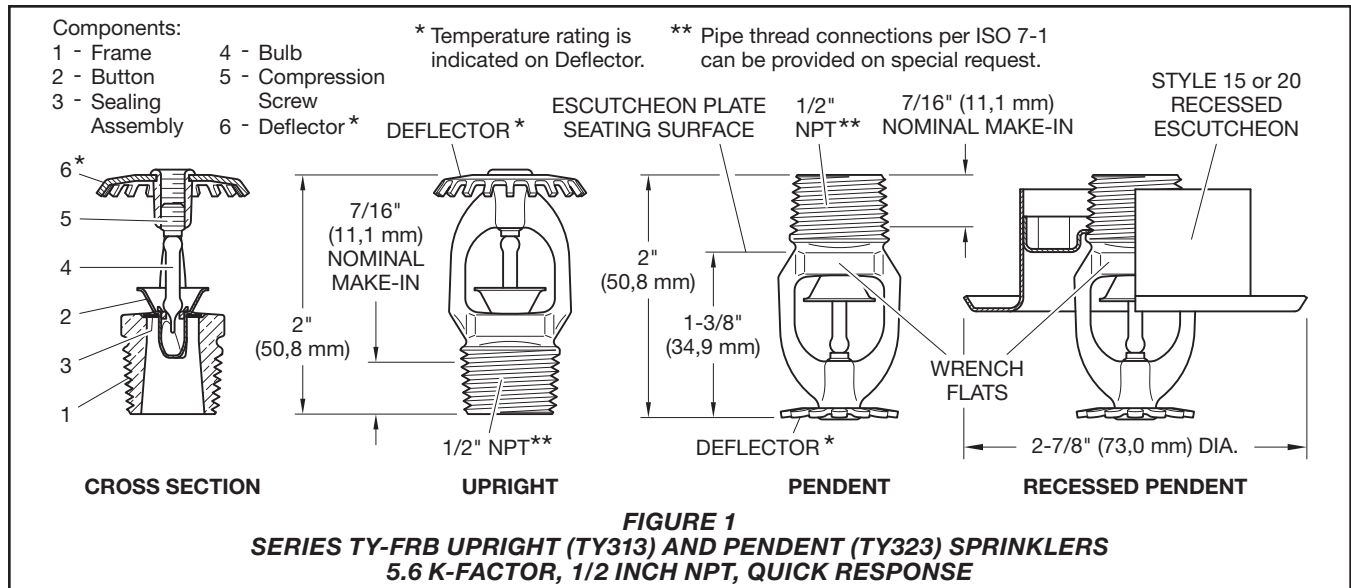


Operation

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

Design Criteria

The TYCO Series TY-FRB, 5.6 K-factor, Upright (TY313) and Pendent (TY323) 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 is based on the requirements of NFPA 13, and FM Approval is based on the requirements of FM's Loss Prevention Data Sheets). Only the Style 15 or Style 20 Recessed Escutcheon is to be used for recessed pendent installations.



Installation

The TYCO Series TY-FRB, 5.6 K-factor, Upright (TY313) and Pendent (TY323) 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). 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 Escutcheon Plate by under- or over-tightening the sprinkler. Re-adjust the position of the sprinkler fitting to suit.

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 (Figure 2). With reference to Figure 1, apply the W-Type 6 Sprinkler Wrench to the wrench flats. Torque sprinklers 7 to 14 lb-ft (9,5 to 19,0 N·m).

Recessed Pendent Sprinklers

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

Step A. After installing the Style 15 or Style 20 Mounting Plate over the sprinkler threads, and with pipe-thread sealant applied to the pipe threads, hand-tighten the sprinkler into the sprinkler fitting.

Step B. Tighten the sprinkler into the sprinkler fitting using only the W-Type 7 Recessed Sprinkler Wrench (Figure 3). With reference to Figure 1, apply the W-Type 7 Recessed Sprinkler Wrench to the sprinkler wrench flats. Torque sprinklers 7 to 14 lb-ft (9,5 to 19,0 N·m).

Step C. After ceiling installation and finishing, slide on the Style 15 or Style 20 Closure over the Series TY-FRB Sprinkler and push the Closure over the Mounting Plate until its flange comes in contact with the ceiling.

Care and Maintenance

The TYCO Series TY-FRB, 5.6 K-factor, Upright (TY313) and Pendent (TY323) 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.

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.

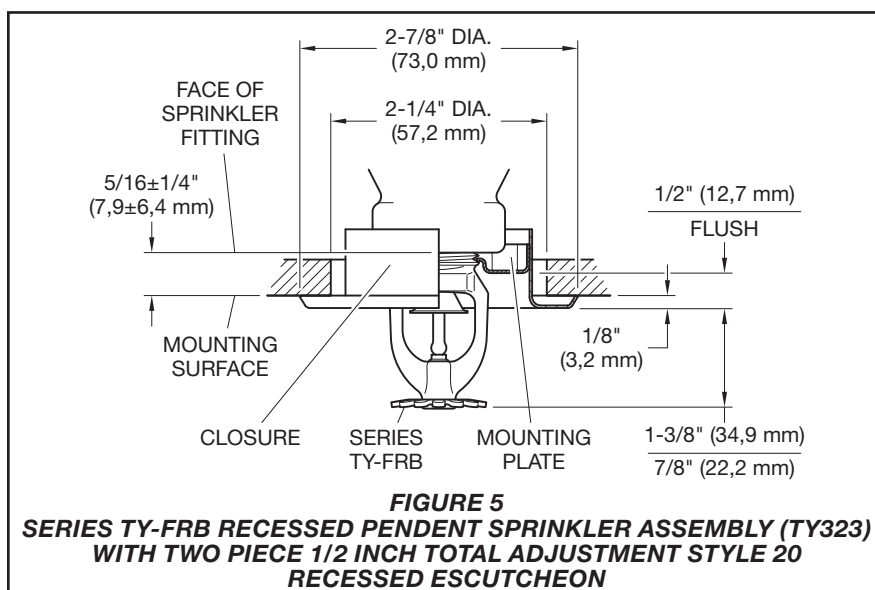
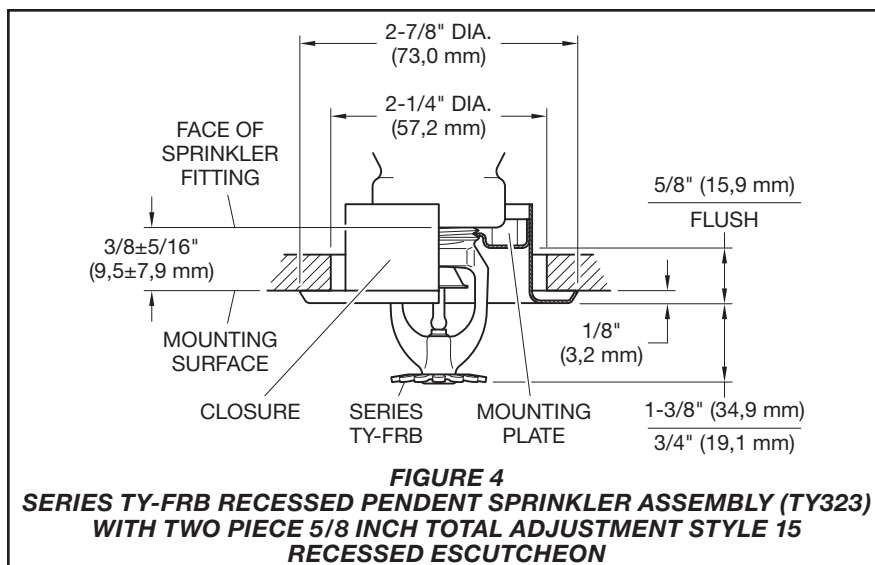
Sprinklers which are found to be leaking or exhibiting visible signs of corrosion must be replaced.

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. (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 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 TY-FRB Upright or Pendent (specify) Sprinkler, SIN (specify), K=5.6, Quick Response, (specify) temperature rating, (specify) finish, P/N (specify, refer to Table A).

Recessed Escutcheon

Specify: Style 15 Recessed Escutcheon with (specify*) finish, P/N (specify*)

Specify: Style 20 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

K FACTOR	TYPE	TEMPERATURE	SPRINKLER FINISH (See Note 7)			
			BULB LIQUID COLOR	NATURAL BRASS	CHROME PLATED	POLYESTER ^c
5.6 1/2 in. NPT	UPRIGHT (TY313) and PENDENT (TY323)	135°F (57°C)	Orange		1, 2, 3, 4, 5, 6	
		155°F (68°C)	Red			
		175°F (79°C)	Yellow			
		200°F (93°C)	Green			
		286°F (141°C)	Blue			
	RECESSED PENDENT (TY323) Figures 4 ^a and 5 ^b	135°F (57°C)	Orange			
		155°F (68°C)	Red			
		175°F (79°C)	Yellow			
200°F (93°C)		Green				

Notes:

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. VdS Approved (For details, contact Johnson Controls, Enschede, Netherlands, Tel. 31-53-428-4444/Fax 31-54-428-3377.)
6. Approved by the Loss Prevention Certification Board (LPCB Ref. No. 094a/06) as Quick Response Sprinklers.
7. Where Polyester Coated Sprinklers are noted to be UL and C-UL Listed, the sprinklers are UL and C-UL Listed as Corrosion-Resistant Sprinklers.
- a. Installed with Style 15 (1/2 in. NPT) 5/8 in. Total Adjustment Recessed Escutcheon, as applicable.
- b. Installed with Style 20 (1/2 in. NPT) 1/2 in. Total Adjustment Recessed Escutcheon, as applicable.
- c. Frame and Deflector only. Listings and approvals apply to color (Special Order).

TABLE A
LABORATORY LISTINGS AND APPROVALS FOR
5.6 K-FACTOR SPRINKLERS

P/N^a 77 - XXX - X - XXX

		SIN	SPRINKLER FINISH		TEMPERATURE RATINGS	
370	5.6K UPRIGHT (1/2 in.NPT)	TY313	1	NATURAL BRASS	135	135°F (57°C)
371	5.6K PENDENT (1/2 in.NPT)	TY323	3	PURE WHITE (RAL9010) ^a POLYESTER	155	155°F (68°C)
			4	SIGNAL WHITE (RAL9003) POLYESTER	175	175°F (79°C)
			5	JET BLACK (RAL9005) POLYESTER	200	200°F (93°C)
			9	CHROME PLATED	286	286°F (141°C)

Notes:

- a. Use suffix "I" for ISO 7-1 connection; for example, 77-370-4-175-I

Notes:

- a. Eastern Hemisphere sales only

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

PIPE

Fig. 20XXT Standard Tall Hose



Fig. 20XXT cULus & FM Approved Brackets

Bracket Fig # & Size	cULus Listed	FM Approved	FlexHead Historical Model Number
BKT-MPO	✓	✓	MPO24BKT2
BKT-MPT	✓	✓	MPT24BKT1
BKT-ADO, 16 in	✓	✓	ADO16BKT3
BKT-ADO, 24 in	✓	✓	ADO24BKT3
BKT-ADO, 30 in		✓	ADO30BKT3
BKT-ADO, 48 in		✓	ADO48BKT3
BKT-UHO3		✓	UHO-3
BKT-TZ		✓	SPO6TZBKT2

Notes: Flexhead Historical Model Numbers may be used to verify cULus Listings & FM Approvals.

Specifications

Assembly Length

24 in	36 in	48 in
60 in	72 in	

Outlet Drop Size (NPT per ASME B1.20.1)

½ NPS (DN15)	¾ NPS (DN20)
--------------	--------------

Inlet Pipe Size (NPT per ASME B1.20.1)

1 NPS (DN25)

Pressure Rating

UL: 175 psi (1,205 kPa)
FM: 175 psi (1,205 kPa)

Minimum Bend Radius

UL: 3.0 in (76.2 mm)
FM: 8.0 in (203.2 mm)

Ambient Temperature

300°F (145°C) Max

Material

304 Stainless Steel

Features

- 100% Leak Tested Fully Welded Design
- Pre-Installed Sprinkler Head option available upon request
- Compliant with NFPA 13, 13R, & 13D
- For Wet, Dry, and Pre-Action Sprinkler Systems

Ordering

Specify figure number, length, outlet size, outlet drop length, and description.



PROJECT INFORMATION	APPROVAL STAMP
Project:	Approved
Address:	Approved as noted
Contractor:	Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

Fig. 20XXT Standard Tall Hose

Fig. 20XXT cULus Listing per UL 2443 & FM Approval (Listing) per FM 1637

Outlet Drop Size	Asembly Length	Equivalent Length						Max # of 90° Bends	
		UL	FM					UL	FM
			k = 5.6	k = 8.0	k = 11.2	k = 14.0	k = 16.8		
	in	ft/m	ft/m	ft/m	ft/m	ft/m	ft/m		
½ NPS DN15	24	11 3.4	18.4 5.6	7.7 2.3	7.6 2.3	-	-	3	1
	36	16 4.9	26.6 8.1	11.5 3.5	11.5 3.5	-	-	3	2
	48	24 7.3	30.3 9.2	15.3 4.6	15.4 4.7	-	-	4	3
	60	29 8.8	35.8 10.9	19.1 5.8	19.3 5.9	-	-	4	4
	72	35 10.7	45.6 13.9	23.0 7.0	23.2 7.1	-	-	4	4
¾ NPS DN20	24	12 3.7	-	7.3 2.2	5.9 1.8	14.7 4.5	7.1 2.2	3	1
	36	18 5.5	-	21.5 6.5	10.4 3.1	21.8 6.6	10.9 3.3	3	2
	48	23 7.0	-	30.5 9.3	14.9 4.5	29.0 8.8	14.8 4.5	4	3
	60	29 8.8	-	39.5 12.0	19.4 5.9	36.1 11.0	18.7 5.7	4	4
	72	32 9.8	-	48.5 14	24.0 7.3	43.2 13.1	22.6 6.9	4	4

1. Equivalent Length of NPS 1 (DN25) Sch 40 Pipe.
2. Equivalent Lengths listed above assume the maximum number of 90° bends.
3. A 90° bend can be achieved with two 45° bends or three 30° bends.
4. UL Equivalent Lengths are listed for installation with sprinklers with a maximum k-factor of 16.8.
5. FM Equivalent Lengths listed above include the Friction Loss of the Sprinkler.
6. UL Listed for "Limited Flexibility".

Fig. 20XXT Standard Tall Hose

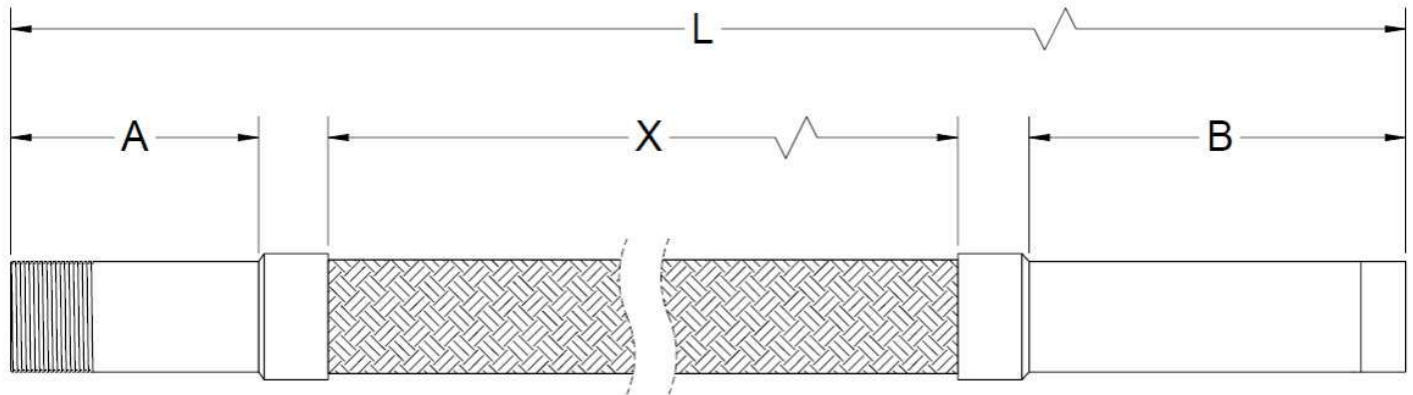


Fig. 20XXT cULus Listing per UL 2443 & FM Approval (Listing) per FM 1637

Asembly Length	True Length (L)		Braid Length (X)		Inlet Nipple Length (A)		Outlet Drop Length (B)		FlexHead Historical Model Number	
	in	mm	in	mm	in	mm	in	mm	½ NPS Outlet	¾ NPS Outlet
24	24	610	15	381					2024T-50	2024T-75
36	36	914	37	940					2036T-50	2036T-75
48	48	1219	39	991	3.0	76.2	6.3	160.0	2048T-50	2048T-75
60	60	1524	51	1295					2060T-50	2060T-75
72	72	1829	63	1600					2072T-50	2072T-75

Fig. 20XXT Standard Tall Hose

Installation Instructions

Connection to the Branch

1. Apply pipe sealant or tape to the NPT thread.
2. Install into branch outlet. Tighten the assembly by placing the pipe wrench on the pipe nipple section.
3. **Note:** Only place the pipe wrench on the unthreaded portion of the inlet nipple.

Connection to the Sprinkler Head

1. Installation of the sprinkler head into the outlet drop shall be per the sprinkler manufacturer's installation instructions.

Connection to the Bracket

1. Installation of the hose to the bracket shall be per the bracket's installation instructions. The bracket shall be listed for installation with the 20XXT. See Page 1 for Listed and Approved brackets.

Bending the Hose

1. The hose may be bent to ensure the inlet nipple and outlet drop are in the desired locations.
2. The hose should never be bent to a radius less than minimum listed bend radius. The bend radius is defined to the center of the hose.
3. The hose must have at least one 90° bend. A 90° bend can be achieved with two 45° bends or three 30° bends.
4. For best performance, the bends in the hose should be as large and smooth as possible.

General Installation Notes

1. Never apply a wrench to the braided hose.
2. The Fig 20XXT may be installed in any direction from the branch.
3. If installing a sprinkler to a bracket after installation, it is best practice to prevent twisting of the bracket and hose by holding the outlet drop with a wrench.

Multipoint Open Hub Bracket Fig. BKT-MPO

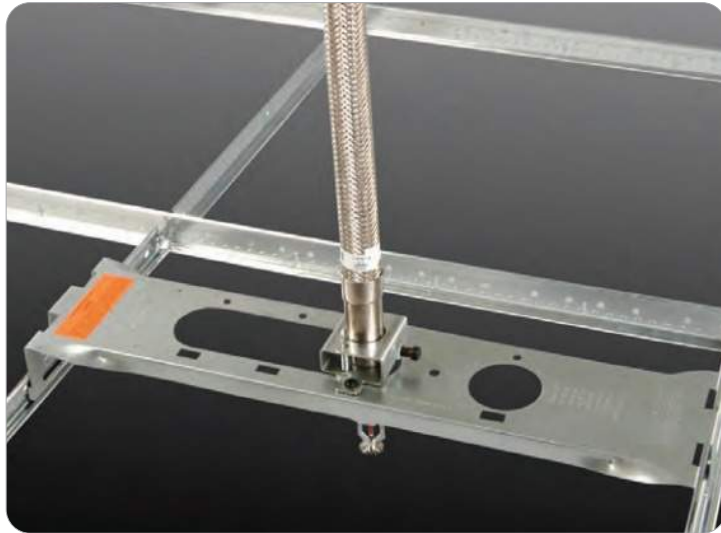


Fig. BKT-MPO cULus & FM Listed Hoses

Hose Figure #	cULus Listed	FM Approved
20XXT	✓	✓
20XXET	✓	✓
20XXE	✓	✓
20XXSF		✓
20XXSF-CS		✓
20XXSF-SLT		✓
20XXSF-CS-SLT		✓
20XXH	✓	✓
20XXHE	✓	✓
20XXI		✓
20XX-DPS		✓
20XX-DPS-DT		✓

Note: Brackets are only UL Listed and FM AApproved when installed with FlexHead brackets listed above.

Product Specifications

Bracket Length

24 in

Material

Carbon Steel – Galvanized

Applications

- Suspended Ceilings per ASTM C635 & C636
- Wood Framing – Gypsum or Dry Wall
- Steel Framing – Gypsum or Dry Wall

Features

- Open hub design for ease of installation
- Bracket hub set for Center-of-Tile installation out of the box.
- Wide body prevents rotation and ensures stability
- Bracket hub may be installed at quarter and mid points along the bracket

Ordering

Specify figure number & description

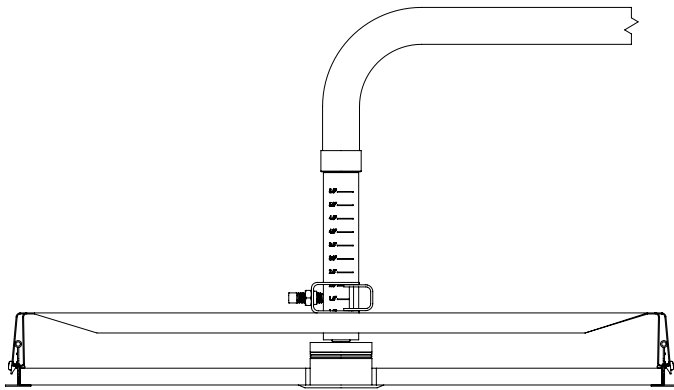


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Address:	Approved as noted
Contractor:	Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

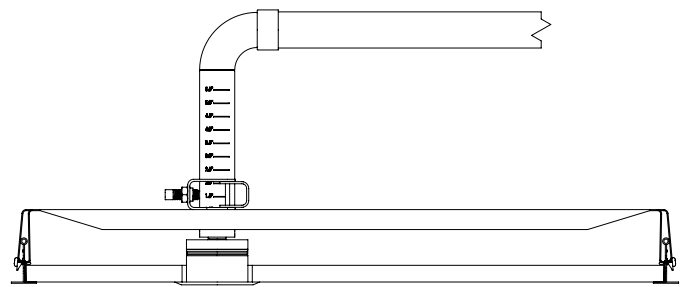
Multiport Open Hub Bracket Fig. BKT-MPO

Applications

Suspended Ceilings

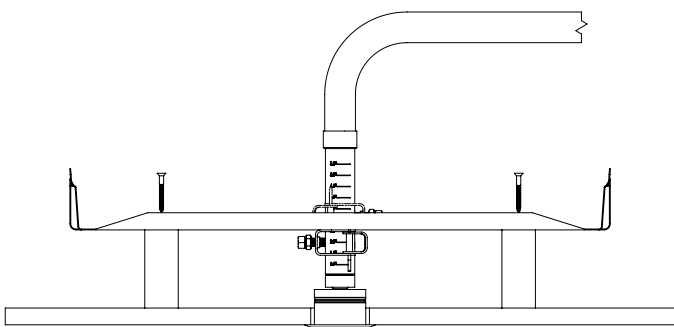


Mid Point Installation

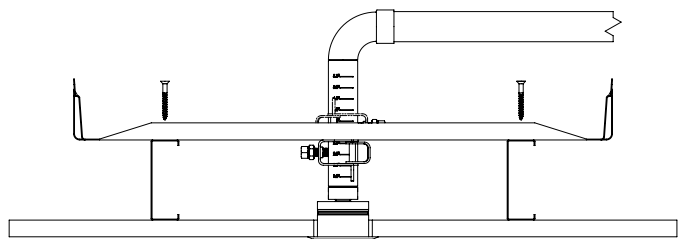


Quarter Point Installation

Wood Framing & Steel Framing – Gypsum or Dry Wall – Ceiling or Sidewall



16" On-Center Wood Frame Installation



16" On-Center Steel Frame Installation

Multiport Open Hub Bracket
Fig. BKT-MPO

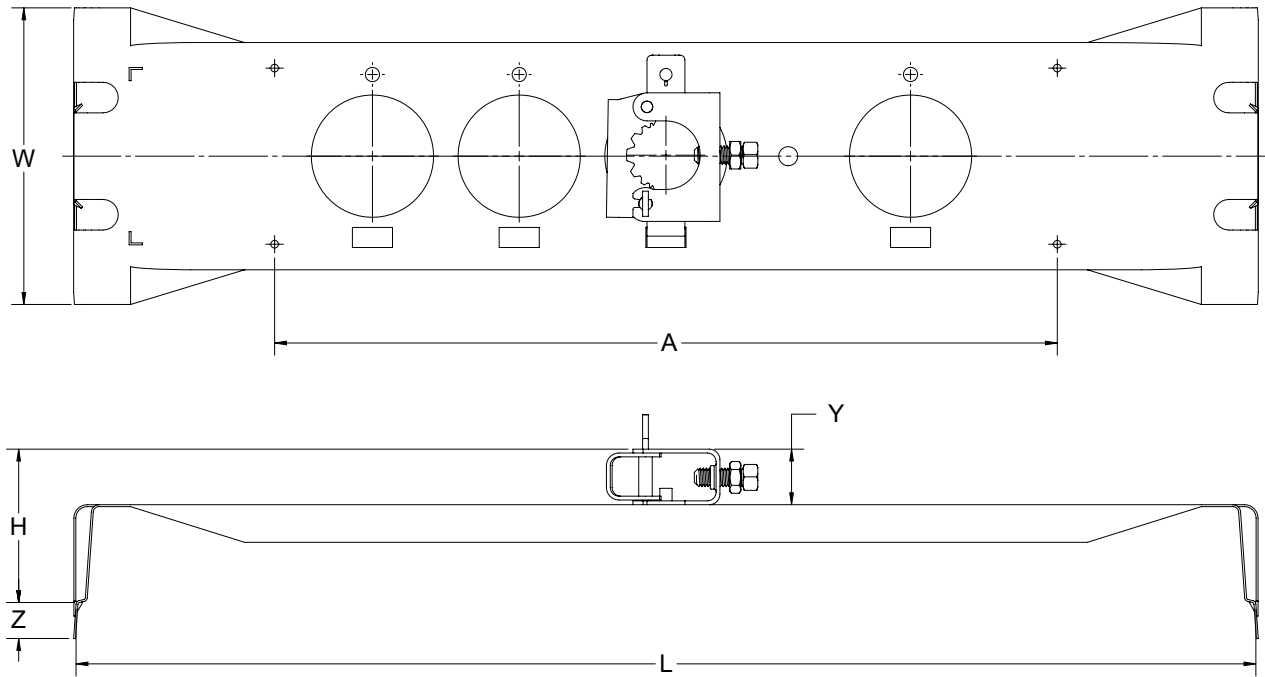


Fig. BKT-MPO Dimensions & Model Number

L	W	H	A	Y	Z	FlexHead Historical Model Number
in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	
24 610	6.00 152.4	3.14 79.7	16.0 406.4	1.13 28.7	0.75 19.1	MPO24BKT2

Multiport Open Hub Bracket Fig. BKT-MPO

Installation Instructions

Connection to Suspended Ceiling T-bar

1. Determine the location of the sprinkler above the suspended ceiling tile.
Position the bracket legs and hub in the desired location on suspended ceiling T-bar.
Note: The hub and self-drilling mounting screws are in the true center of the bracket.
2. Install one bracket leg at a time, applying a downward pressure on the bracket leg and T-bar.
3. Install the self-drilling mounting screw into the suspended ceiling T-bar using the tamperproof head drive provided. Repeat on both sides of the bracket.



Connection to Wood Frames or Steel Studs in Gypsum or Drywall

1. Determine the location of the sprinkler between the wood frames or steel studs.
2. Adjust the position of the bracket hub to the desired position if necessary. The hub may be placed on the top or bottom of the bracket body.
3. Install two (2) screws into each structural stud (wood or steel). Four (4) screws total per bracket.
 - a. Wood Frames: ¼-20 Self Tapping Screw
 - b. Steel Frames: ¼-20 Self Tapping Screw

Connection to the Flexible Sprinkler Hose

1. Open the hinge door on the bracket hub by rotating the locking shaft ¼ turn.
2. Slide the flexible hose drop into the hub.
3. Close the hinge door and re-lock the locking shaft with a ¼ turn.
4. Ensure the flexible hose drop is straight and not applying a substantial moment on the bracket which may cause sprinkler misalignment.
5. Adjust the flexible hose drop to the desired height and tighten the set screw hand-tight plus a ¾ turn (130 in-lbs).

Adjusting the Bracket Hub

1. Loosen the mounting screws holding the hub to the bracket body.
2. Slide the hub along the bracket body to the desired position and tighten the mounting screws.

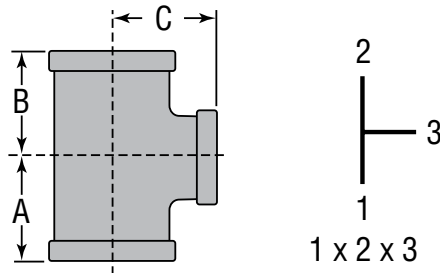
General Notes

Installation & maintenance of FlexHead products shall be in accordance with applicable local and federal codes (E.g. NFPA 13, NFPA 13R, NFPA 13D, NFPA 25, FM Datasheets, IBC).

THREADED FITTINGS

FIG. 3205R

Reducing Tee



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

FIGURE 3205R - REDUCING TEE

Nominal Size	Max. Working Pressure▲	Dimensions			Approx. Wt. Each
		A	B	C	
1 x 2 x 3					
<i>In. (mm)</i>	<i>PSI (kPa)</i>	<i>In. (mm)</i>	<i>In. (mm)</i>	<i>In. (mm)</i>	<i>Lbs. (kg)</i>
1 x ½ x 1 <i>25 x 15 x 25</i>	500 <i>3450</i>	1.50 <i>38.10</i>	1.36 <i>34.54</i>	1.50 <i>38.10</i>	0.64 <i>0.29</i>
1 x ¾ x 1 <i>25 x 20 x 25</i>	500 <i>3450</i>	1.50 <i>38.10</i>	1.45 <i>36.83</i>	1.50 <i>38.10</i>	0.73 <i>0.33</i>
1 x 1 x ½ <i>25 x 25 x 15</i>	500 <i>3450</i>	1.26 <i>32.00</i>	1.26 <i>32.00</i>	1.36 <i>34.54</i>	0.71 <i>0.32</i>
1 x 1 x ¾ <i>25 x 25 x 20</i>	500 <i>3450</i>	1.37 <i>34.80</i>	1.37 <i>34.80</i>	1.45 <i>36.83</i>	0.76 <i>0.34</i>
1 x 1 x 1¼* <i>25 x 25 x 32</i>	500 <i>3450</i>	1.67 <i>42.41</i>	1.67 <i>42.41</i>	1.58 <i>40.13</i>	0.98 <i>0.44</i>
1 x 1 x 1½* <i>25 x 25 x 40</i>	500 <i>3450</i>	1.80 <i>45.72</i>	1.80 <i>45.72</i>	1.65 <i>41.91</i>	1.16 <i>0.53</i>
1¼ x 1 x ½* <i>32 x 25 x 15</i>	500 <i>3450</i>	1.34 <i>34.04</i>	1.26 <i>32.00</i>	1.53 <i>38.86</i>	0.82 <i>0.37</i>
1¼ x 1 x ¾ <i>32 x 25 x 20</i>	500 <i>3450</i>	1.45 <i>36.83</i>	1.37 <i>34.80</i>	1.62 <i>41.15</i>	0.90 <i>0.41</i>
1¼ x 1 x 1 <i>32 x 25 x 25</i>	500 <i>3450</i>	1.58 <i>40.13</i>	1.50 <i>38.10</i>	1.67 <i>42.42</i>	1.00 <i>0.45</i>
1¼ x 1 x 1¼ <i>32 x 25 x 32</i>	500 <i>3450</i>	1.75 <i>44.45</i>	1.67 <i>42.42</i>	1.75 <i>44.45</i>	1.08 <i>0.49</i>
1¼ x 1 x 1½ <i>32 x 25 x 40</i>	500 <i>3450</i>	1.88 <i>47.75</i>	1.80 <i>45.72</i>	1.82 <i>46.22</i>	1.42 <i>0.64</i>
1¼ x 1¼ x ½ <i>32 x 32 x 15</i>	500 <i>3450</i>	1.34 <i>34.04</i>	1.34 <i>34.04</i>	1.53 <i>38.86</i>	0.86 <i>0.39</i>

▲ Working Pressure Ratings are for reference only and based on Sch. 40 pipe. For the latest UL/ULC, and FM pressure ratings versus pipe schedule, please visit anvilintl.com or contact your local Anvil Representative.

* Part supplied as "Bull Head Tee".

MATERIAL SPECIFICATIONS

Dimensions: ASME B16.3

Material: ASTM A536 Grade 65-45-12

Finish: Black

Threads: NPT per ASME B1.20.1

Agency Approvals: All ductile iron threaded fittings are UL/ULC Listed and FM Approved.

NOTICE: Ductile iron fittings have higher tensile strength than that of steel pipe. Therefore, over tightening can cause damage to pipe threads which may cause leakage. Ductile iron fittings should be tightened approximately three turns beyond hand tight, but no more than four turns.

FIGURE 3205R - REDUCING TEE

Nominal Size	Max. Working Pressure▲	Dimensions			Approx. Wt. Each
		A	B	C	
1 x 2 x 3					
<i>In. (mm)</i>	<i>PSI (kPa)</i>	<i>In. (mm)</i>	<i>In. (mm)</i>	<i>In. (mm)</i>	<i>Lbs. (kg)</i>
1¼ x 1¼ x ¾ <i>32 x 32 x 20</i>	500 <i>3450</i>	1.45 <i>36.83</i>	1.45 <i>36.83</i>	1.62 <i>41.15</i>	0.92 <i>0.42</i>
1¼ x 1¼ x 1 <i>32 x 32 x 25</i>	500 <i>3450</i>	1.58 <i>40.13</i>	1.58 <i>40.13</i>	1.67 <i>42.42</i>	0.95 <i>0.43</i>
1¼ x 1¼ x 1½* <i>32 x 32 x 40</i>	500 <i>3450</i>	1.88 <i>47.75</i>	1.88 <i>47.75</i>	1.82 <i>46.22</i>	1.45 <i>0.66</i>

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. 3205R

Reducing Tee

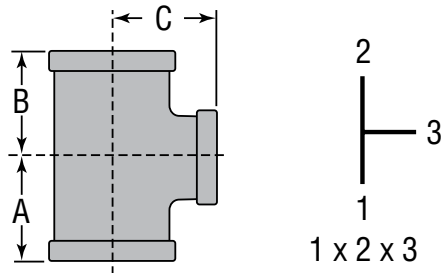


FIGURE 3205R - REDUCING TEE					
Nominal Size	Max. Working Pressure▲	Dimensions			Approx. Wt. Each
1 x 2 x 3		A	B	C	
<i>In. (mm)</i>	<i>PSI (kPa)</i>	<i>In. (mm)</i>	<i>In. (mm)</i>	<i>In. (mm)</i>	<i>Lbs. (kg)</i>
1¼ x 1¼ x 2*	500 3450	2.10 53.34	2.10 53.34	1.90 48.26	1.75 0.79
1½ x 1 x ½	500 3450	1.41 35.81	1.34 34.04	1.66 42.16	0.95 0.43
1½ x 1 x ¾	500 3450	1.52 38.61	1.37 34.80	1.75 44.45	1.14 0.52
1½ x 1 x 1	500 3450	1.65 41.91	1.50 38.10	1.80 45.72	1.17 0.53
1½ x 1 x 1¼	500 3450	1.82 46.23	1.67 42.42	1.88 47.75	1.34 0.61
1½ x 1 x 1½	500 3450	1.94 49.28	1.80 45.72	1.94 49.28	1.45 0.66
1½ x 1¼ x ½	500 3450	1.41 35.81	1.34 34.04	1.66 42.16	1.05 0.48
1½ x 1¼ x ¾	500 3450	1.52 38.61	1.45 36.83	1.75 44.45	1.15 0.5
1½ x 1¼ x 1	500 3450	1.65 41.91	1.58 40.13	1.80 45.72	1.25 0.57
1½ x 1¼ x 2*	500 3450	2.16 54.86	2.10 53.34	2.02 51.30	1.90 0.86
1½ x 1½ x ½	500 3450	1.41 35.81	1.41 35.81	1.16 29.46	1.15 0.52
1½ x 1½ x ¾	500 3450	1.52 38.61	1.52 38.61	1.75 44.45	1.24 0.56
1½ x 1½ x 1	500 3450	1.65 41.91	1.65 41.91	1.80 45.72	1.30 0.59
1½ x 1½ x 1¼	500 3450	1.82 46.23	1.82 46.23	1.88 47.75	1.48 0.67

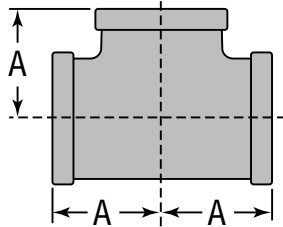
FIGURE 3205R - REDUCING TEE					
Nominal Size	Max. Working Pressure▲	Dimensions			Approx. Wt. Each
1 x 2 x 3		A	B	C	
<i>In. (mm)</i>	<i>PSI (kPa)</i>	<i>In. (mm)</i>	<i>In. (mm)</i>	<i>In. (mm)</i>	<i>Lbs. (kg)</i>
1½ x 1½ x 2*	500 3450	2.16 54.86	2.16 54.86	2.02 51.30	1.98 0.90
2 x 1 x 2	500 3450	2.25 57.15	2.02 51.31	2.25 57.15	2.15 0.98
2 x 1¼ x 2	500 3450	2.25 57.15	2.10 53.34	2.25 57.15	2.30 1.04
2 x 1½ x ½	500 3450	1.49 37.85	1.41 35.81	1.88 47.75	1.50 0.68
2 x 1½ x ¾	500 3450	1.60 40.64	1.52 38.61	1.97 50.04	1.62 0.73
2 x 1½ x 1	500 3450	1.73 43.94	1.65 41.91	2.02 51.31	1.64 0.74
2 x 1½ x 1¼	500 3450	1.90 48.26	1.82 46.23	2.10 53.34	1.80 0.82
2 x 1½ x 1½	500 3450	2.02 51.31	1.94 49.28	2.16 54.86	2.00 0.91
2 x 1½ x 2	500 3450	2.25 57.15	2.16 54.86	2.25 57.15	2.35 1.07
2 x 2 x ½	500 3450	1.49 37.85	1.49 37.85	1.88 47.75	1.60 0.73
2 x 2 x ¾	500 3450	1.60 40.64	1.60 40.64	1.97 50.04	1.68 0.76
2 x 2 x 1	500 3450	1.73 43.94	1.73 43.94	2.02 51.31	1.85 0.84
2 x 2 x 1¼	500 3450	1.90 48.26	1.90 48.26	2.10 53.34	2.04 0.93
2 x 2 x 1½	500 3450	2.02 51.31	2.02 51.31	2.16 54.86	2.18 0.99

▲ Working Pressure Ratings are for reference only and based on Sch. 40 pipe. For the latest UL/ULC, and FM pressure ratings versus pipe schedule, please visit anvilintl.com or contact your local Anvil Representative.

* Part supplied as "Bull Head Tee".

FIG. 3205

Straight Tee



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

FIGURE 3205 - STRAIGHT TEE

Nominal Size	Maximum Working Pressure [▲]	Dimension A	Approx. Wt. Each
<i>In. (mm)</i>	<i>PSI (kPa)</i>	<i>In. (mm)</i>	<i>Lbs. (kg)</i>
1 <i>25</i>	500 <i>3450</i>	1.50 <i>38.10</i>	0.85 <i>0.39</i>
1¼ <i>32</i>	500 <i>3450</i>	1.75 <i>44.45</i>	1.22 <i>0.55</i>
1½ <i>40</i>	500 <i>3450</i>	1.94 <i>49.27</i>	1.55 <i>0.70</i>
2 <i>50</i>	500 <i>3450</i>	2.25 <i>57.15</i>	2.45 <i>1.11</i>

▲ – Working Pressure Ratings are for reference only and based on Sch. 40 pipe. For the latest UL/ULC, and FM pressure ratings versus pipe schedule, please visit [anvilintl.com](http://www.anvilintl.com) or contact your local Anvil Representative.

MATERIAL SPECIFICATIONS

Dimensions: ASME B16.3

Material: ASTM A536 Grade 65-45-12

Finish: Black

Threads: NPT per ASME B1.20.1

Agency Approvals: All ductile iron threaded fittings are UL/ULC Listed and FM Approved.

NOTICE: Ductile iron fittings have higher tensile strength than that of steel pipe. Therefore, over tightening can cause damage to pipe threads which may cause leakage. Ductile iron fittings should be tightened approximately three turns beyond hand tight, but no more than four turns.

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:	