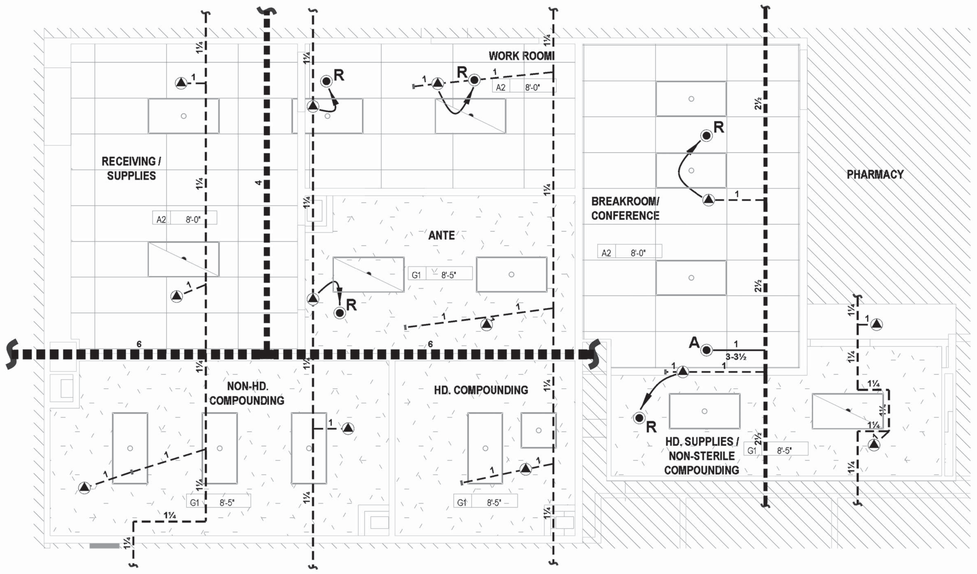


FIRE PROTECTION REMODEL PLAN

NORTH

0 1 2 4
1/4" = 1'-0"

CONCRETE STRUCTURE: 13'-9" AFF
PIPE: 10'-7" AFF

REMODEL LEGEND

- EXISTING SPRINKLER PIPE
- NEW SPRINKLER PIPE
- Ⓐ EXISTING QR SSP SPRINKLER
- ⊗ EXISTING QR SSU SPRINKLER
- Ⓡ R RELOCATE EXISTING QR SSP SPRINKLER (5)
- Ⓐ A ADD NEW QR SSP SPRINKLER (1)

PIPE SPECIFICATIONS

PER NFPA 13 2016 EDITION AND MANUFACTURERS' DATA SHEETS

NOMINAL PIPE SIZE (IN.)	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"
INSIDE DIAMETER	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.	I.D.
MEGA THREAD	N/A	1.087	1.416	1.650	2.117					
MEGA FLOW	N/A	N/A	1.530	1.740	2.215	2.707	3.316	4.316	N/A	6.395
EDDYTHREAD	.0856	1.083	1.418	1.654	2.123					
EDDYFLOW	N/A	N/A	1.530	1.728	2.203	2.705	3.334	4.310	N/A	N/A
SCH 40	N/A	1.049	1.380	1.610	2.067	2.469	3.068	4.026	5.047	6.065
SCH 10	N/A	1.097	1.442	1.682	2.157	2.635	3.260	4.260	5.295	6.357
CPVC	0.874	1.101	1.394	1.598	2.003	N/A	N/A	N/A	N/A	N/A
COPPER (TYPE M)	0.811	1.055	1.291	1.527	2.009	2.495	2.981	3.935	N/A	N/A

HANGER SPACING LEGEND

PER NFPA 13 TABLE 9.2.2.1 2016 EDITION

NOMINAL PIPE SIZE (IN.)	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"
STEEL PIPE SCH 40, SCH 10, DF, EF	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0
THREADED LIGHTWALL	N/A	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A	N/A
COPPER	8-0	8-0	10-0	10-0	12-0	12-0	12-0	15-0	15-0	15-0
CPVC	5-6	6-0	6-6	7-0	8-0	9-0	10-0	N/A	N/A	N/A

WHERE STATIC OR OPERATING PRESSURES EXCEED 100 PSI HANGERS SHALL BE PER NFPA 13 9.2.3.5.2.1 2016 EDITION

GENERAL NOTES

01. SEE THE FIRE PROTECTION EQUIPMENT DATA FOR ALL APPLICABLE MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT.

02. THIS SET OF FIRE PROTECTION PLANS HAVE BEEN DESIGNED BY ARAPAHOE FIRE PROTECTION IN THEIR ENTIRETY, AND HAVE BEEN SEALED BY A PROFESSIONAL ENGINEER AS REQUIRED BY THE STATE OF COLORADO.

03. THESE FIRE PROTECTION PLANS HAVE BEEN DESIGNED PER NFPA 13, 2013, PROJECT SPECIFICATIONS, AND APPLICABLE STATE CODES AND REGULATIONS.

04. ALL NEW MATERIALS AND DEVICES INSTALLED UNDER THIS CONTRACT SHALL BE UL LISTED AND/OR FACTORY MUTUAL APPROVED.

05. ALL NEW MATERIALS, DEVICES, AND HANGERS SHALL BE INSTALLED IN ACCORDANCE WITH THEIR LISTINGS AND MINIMUM APPLICABLE NFPA 13, 2013 ENGINEERING STANDARDS.

06. SCOPE OF WORK IS TO MODIFY THE EXISTING HYDRAULICALLY CALCULATED FIRE SPRINKLER SYSTEM TO ACCOMMODATE THE NEW TENANT FINISH AREA. THE MODIFICATIONS SHOWN ON THESE PLANS WILL NOT ADVERSELY AFFECT THE HYDRAULICS OF THE EXISTING SPRINKLER SYSTEM CURRENTLY INSTALLED.

07. VALVES CONTROLLING WATER SUPPLY TO 20 OR MORE SPRINKLERS SHALL BE ELECTRICALLY SUPERVISED AND SHALL BE MONITORED BY AN APPROVED MONITORING AGENCY. ANY AND ALL ELECTRICAL AND/OR ALARM WIRING, CONNECTIONS AND TERMINATIONS, OR HORN AND STROBE(S) SHALL BE BY OTHERS. FIRE ALARM SYSTEMS (BY OTHERS) SHALL BE INTERCONNECTED WITH FIRE SPRINKLER SYSTEMS FLOW SWITCH AND HORN AND STROBE(S).

08. IT IS THE RESPONSIBILITY OF THE OWNER OR OTHERS TO PROVIDE, INSTALL AND MAINTAIN AN APPROVED MONITORING SYSTEM OF ALL FIRE PROTECTION SYSTEM COMPONENTS ELECTRICAL OR OTHERWISE INSTALLED UNDER THIS CONTRACT.

09. IT SHALL BE THE SOLE RESPONSIBILITY OF THE OWNER TO PROVIDE ADEQUATE HEAT THROUGHOUT THE FACILITY WHERE WET PIPE SPRINKLER SYSTEMS ARE PRESENT, TO PREVENT FREEZING OF SPRINKLER SYSTEM COMPONENTS (MIN 40° F).

10. THE OWNER SHALL MAINTAIN A CLEAR SPACE OF 18" BETWEEN THE TOP OF STORAGE AND STANDARD SPRAY SPRINKLERS.

11. ALL NEW SPRINKLER PIPING PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE SEALED WITH AN APPROVED MATERIAL EQUAL TO THE RATING OF SUCH ASSEMBLY PENETRATED.

12. ALL NEW SPRINKLER PIPING UNDER THIS CONTRACT SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH ALL APPLICABLE NFPA ENGINEERING STANDARDS AND STATE AND LOCAL CODES.

13. UPON SUCCESSFUL INSTALLATION AND COMPLETION:
-24 HOUR EMERGENCY PHONE NUMBER SHALL BE POSTED.
-OPERATIONS AND MAINTENANCE MANUALS SHALL BE PROVIDED.
-CONTRACTORS MATERIALS AND TEST CERTIFICATES SHALL BE PROVIDED.
-ALL SYSTEM CONTROL VALVES SHALL BE ACCESSIBLE, LEFT OPEN, AND IN SERVICE.
-ALL SYSTEM DEVICES SHALL BE IDENTIFIED PER MINIMUM NFPA 13 REQUIREMENTS.

14. ADEQUATE DRAINAGE OF FIRE PROTECTION PIPING SHALL BE PROVIDED PER MINIMUM NFPA 13 REQUIREMENTS.

15. SEISMIC BRACING IS NOT PART OF THIS CONTRACT.

16. CHLORINATION OF FIRE PROTECTION PIPING IS NOT PART OF THIS CONTRACT.

17. PAINTING OF FIRE PROTECTION PIPING IS NOT PART OF THIS CONTRACT.

18. FIRE EXTINGUISHERS AND CABINETS ARE NOT PART OF THIS CONTRACT.

19. FIRE PROTECTION IDENTIFICATION IS NOT PART OF THIS CONTRACT.

20. NEW SPRINKLERS AND SPRINKLERS RELOCATED FOR CODE COMPLIANCE SHALL BE LOCATED CENTER OF 2' X 2' CEILING TILE, OR QUARTER POINT OF 2'X 4' CEILING TILE.

21. PROTECTION OF ELECTRICAL DEVICES, SUCH AS CIRCUIT BREAKER PANELS FROM WATER DISCHARGE, SHALL BE BY OTHERS.

22. ALL KNOX EQUIPMENT IS NOT PART OF THIS CONTRACT AND SHALL BE PROVIDED AND INSTALLED BY OTHERS.

23. ALL REQUIRED SIGNAGE NOT PER MINIMUM NFPA 13 REQUIREMENTS SHALL BE PROVIDED AND INSTALLED BY OTHERS.

24. PROVISIONS FOR FLUSHING FIRE SPRINKLER PIPING INSTALLED UNDER THIS CONTRACT WILL BE MADE BY ARAPAHOE FIRE PROTECTION, INC. ARAPAHOE FIRE PROTECTION WILL PERFORM ALL TESTING AND PROVIDE ALL TESTING EQUIPMENT REQUIRED BY THE LIFE SAFETY INSPECTOR.

25. PIPE AND FITTING NOTES:
-ALL NEW PIPING SHALL BE IN ACCORDANCE WITH NFPA STANDARDS.
-ALL NEW THREADABLE PIPING SHALL BE EDDYTHREAD 40 BLACK STEEL PIPING PER ASTM A135/A795 WITH COMPATIBLE DUCTILE IRON FITTINGS, UNLESS NOTED OTHERWISE.
-ALL GROOVABLE PIPING SHALL BE EDDYFLOW BLACK STEEL PIPING PER ASTM A135/A795 WITH WELDED OUTLET FITTINGS, AND ROLL GROOVED JOINTS, COMPATIBLE WITH FITTINGS USED.
-ALL NEW SCREWED FITTINGS SHALL MEET ANSI B.16.4 REQUIREMENTS.
-ALL NEW FLANGED FITTINGS SHALL MEET ANSI B.16.1 REQUIREMENTS.
-ALL NEW GROOVED FITTINGS SHALL MEET ASTM A536 REQUIREMENTS.
-ALL METHODS OF JOINING PIPE SHALL BE IN ACCORDANCE WITH NFPA 13 SECTIONS 2-5.

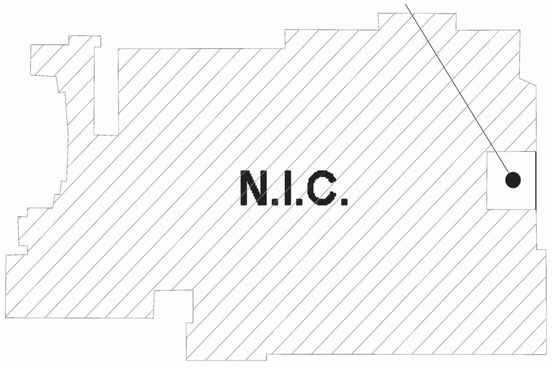
26. ALL AREAS IN THE SCOPE OF WORK ARE LIGHT HAZARD, USE 225 SQ FT MAX. FOR SPRINKLER AREA COVERAGE.

27. EXISTING SPRINKLERS AND LOCATIONS ARE TO REMAIN AS IS UNLESS NOTED OTHERWISE.

28. ALL CEILING HEIGHTS ARE 9'-1" UNLESS OTHERWISE NOTED. ALL WALLS GO TO DECK UNLESS OTHERWISE NOTED.

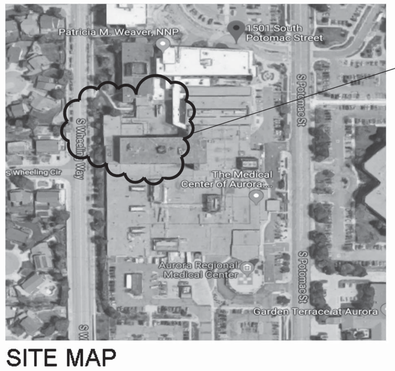
29. WE SHALL UTILIZE THE SMALL ROOM RULE AS ALLOWED PER NFPA 13, 2013 PARAGRAPH 8.6.3.2.4.

AREA OF WORK



SITE PLAN

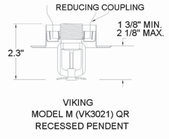
NORTH N.T.S.



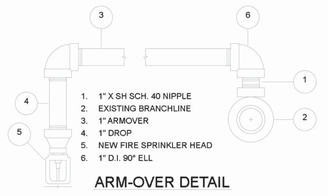
AREA OF WORK

SITE MAP

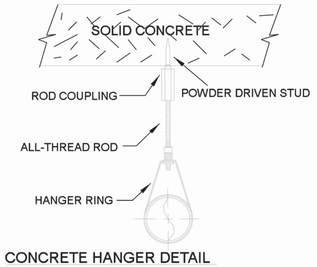
N.T.S.



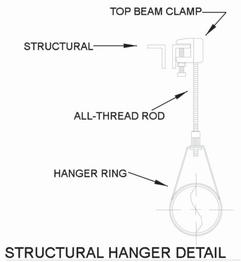
VIKING
MODEL M (VK3021) QR
RECESSED PENDENT



ARM-OVER DETAIL



CONCRETE HANGER DETAIL
POWDER DRIVEN STUD
STEEL AND/OR CPVC PIPING UP TO 8" DIA.



STRUCTURAL HANGER DETAIL
TBC
STEEL AND/OR CPVC PIPING UP TO 8" DIA.

City of Aurora Building Division
Counter Permit intake by: TAC
Date: Oct 31, 2019
RSN: 1415969
Permit: 2019-1720006-CT
2019-INTERNATIONAL CODES & 2017 NEC Scope of Permit to be field verified.

SPRINKLER SCHEDULE & LEGEND

SYM	SPRINKLER MAKE, MODEL, TRIM, NPT	ORIFICE	K	TEMP.	FINISH	QUANTITY
Ⓡ	VIKING VK3021 QR SSP SPRINKLER	1/2"	5.6	155°F	CHRO.	6

HEAD CAB'T & WRENCH(ES) PROVIDED
TOTAL COUNT THIS SHEET - 6
TOTAL COUNT THIS JOB - 6

COLORADO LICENSED
JON L. SULLIVAN
44429
10/25/19
PROFESSIONAL ENGINEER

Arapahoe FIRE PROTECTION INC
11901 East 14th Ave.
Aurora, Colorado 80010
Voice:(303)366-4905 Fax:(303)366-4966
Email: office@arapahoefire.com Colorado State Registration #19-S-00034

PHARMACY RENO. @ TMCA SOUTH

1501 S. POTOMAC ST.
AURORA, CO 80012

FIRE SPRINKLER REMODEL PLAN	
CONTRACT NO.	9473
DESIGNED BY	EE
SUBMIT REVIEW BY	JS
FAB. REVIEW BY	
SCALE	1/4" = 1'-0"
DATE	23OCT19
REVISED PLOTTED 10/23/19	FP1 OF 1

MATERIAL SUBMITTAL

Arapahoe FIRE PROTECTION INC
11901 East 14th Avenue
Aurora, Colorado 80010
Phone: (303) 366-4905
Fax:(303) 366-4966

FOR
PHARMACY RENOVATION
@ TMCA SOUTH
1501 S. POTOMAC ST.
AURORA, CO 80012

JOB# 9473

EMANUEL EVERETT

VIKING®

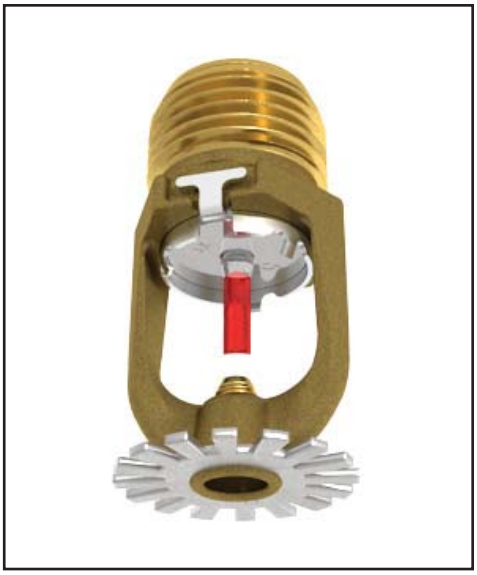
TECHNICAL DATA

VK3021 QUICK RESPONSE PENDENT SPRINKLER (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com
Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com

1. DESCRIPTION

The Viking VK3021 Quick Response Pendent Sprinkler is a small thermosensitive glass bulb spray sprinkler available with various finishes and temperature ratings to meet design requirements. The special Polyester and Electroless Nickel PTFE (ENT) coatings can be used in decorative applications where colors are desired. In addition, these coatings have been investigated for installation in corrosive environments and are Listed and Approved as indicated in the Approval Chart.



WARNING: Cancer and Reproductive Harm- www.P65Warnings.ca.gov

2. LISTINGS AND APPROVALS

c UL us — UL Listed: Category VNIV

FM APPROVED — FM Approved: Classes 2017, 2015, 2043

Refer to the Approval Chart and Design Criteria for requirements that must be followed.

3. TECHNICAL DATA

Specifications:
Minimum Operating Pressure: 7 psi (0.5 bar)
Rated to: 175 psi (12 bar) water working pressure.
Factory tested hydrostatically to 500 psi (34.5 bar).
Thread size: 1/2" NPT (15 mm BSP)
Nominal K-factor: 5.6 U.S. (80.6 metric*)
Glass-bulb fluid temperature rated to -65 °F (-55 °C)

* Metric K-factor measurement shown is in Bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

Material Standards:
Sprinkler Body: Brass CW602N, UNS-C84400 or QM Brass
Deflector: Stainless Steel UNS S30400
Pip Cap Shell - Stainless Steel UNS-S44400
Pip Cap Disc - Stainless Steel UNS-S30100
Belleville Spring - Nickel Alloy
Pip Cap Seal - Polytetrafluoroethylene (PTFE)
Compression Screw: Brass CW612N, CW508L, UNS-C36000 or UNS-C26000
Shipping Cap: Polyethylene
Bulb: Glass, nominal 3 mm diameter

Finishes and Temperatures:

Finish	Brass	Chrome	White Polyester	Black Polyester	ENT	--
Suffix	A	F	M-/W	M-/B	JN	--
Temperature	135 °F (57 °C)	155 °F (68 °C)	175 °F (79 °C)	200 °F (93 °C)	286 °F (141 °C)	Open
Suffix	A	B	D	E	G	Z

Ordering Information: (Refer to Table 1 and the current Viking List Price Book.)

4. INSTALLATION

Refer to appropriate NFPA, FM Global, and/or any other applicable installation standards.

5. OPERATION

During fire conditions, when the temperature around the sprinkler reaches its operating temperature, the heat-sensitive liquid in the glass bulb expands, causing the bulb to shatter, releasing the pip cap assembly. Water flowing through the sprinkler orifice strikes the sprinkler deflector, forming a uniform spray pattern to extinguish or control the fire.

6. INSPECTIONS, TESTS AND MAINTENANCE

Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

7. AVAILABILITY

Viking Sprinkler Model VK3021 is available through a network of domestic and international distributors. See The Viking Corporation web site for the closest distributor or contact The Viking Corporation.

8. GUARANTEE

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.

VIKING®

TECHNICAL DATA

VK3021 QUICK RESPONSE PENDENT SPRINKLER (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com
Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com

TABLE 1: ORDERING INFORMATION

Instructions: Using the sprinkler base part number,
(1) add the suffix for the desired Finish
(2) add the suffix for the desired Temperature Rating.

Sprinkler Base Part No.	Size		1: Finishes		2: Temperature Ratings			
	NPT Inch	BSP mm	Description	Suffix[1]	Nominal Rating	Bulb Color	Max. Ambient Ceiling Temperature[3]	Suffix
19917	1/2	--	Brass	A	135 °F (57 °C)	Orange	100 °F (38 °C)	A
19929	--	15	Chrome	F	155 °F (68 °C)	Red	100 °F (38 °C)	B
			White Polyester [4,6]	M-/W	175 °F (79 °C)	Yellow	150 °F (65 °C)	D
			Black Polyester [4,6]	M-/B	200 °F (93 °C)	Green	150 °F (65 °C)	E
			ENT [4,5,6]	JN	286 °F (141 °C)	Blue	225 °F (107 °C)	G
					Open	--	--	Z

Example: 19917MB/W = VK3021 with White Polyester Finish and 155 °F (68 °C) Nominal temperature rating. This sprinkler is to be installed into an area with a maximum ambient temperature of 100 °F (38 °C) meaning if the area will experience temperatures above the maximum ambient rating, you shall use a higher temperature-rated sprinkler.

Accessories

Sprinkler Wrenches (see Figure 1):

A. Installer Wrench: Part No. 22055 (available since 2017).
B. Cabinet Wrench: Part No. 20901M/B (available since 2017).
C. Recessed Socket Wrench: Part No. 20951M/B[2] (available since 2017).

Sprinkler Cabinet:

A. Up to 6 sprinklers: Part number 01724A (available since 1971).
B. 6-12 Sprinklers: Part number 01725A (available since 1971).

Footnotes

1. Where a dash (-) is shown in the Finish suffix designation, insert the desired Temperature Rating suffix. See example above.
2. Requires a 1/2" ratchet which is not available from Viking.
3. Based on NFPA 13, NFPA 13R, and NFPA 13D. Other limits may apply, depending on fire loading, sprinkler location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.
4. UL Listed as corrosion resistant.
5. FM Approved as a corrosion proofing coating for installation in corrosive environments.
6. The corrosion resistant and corrosion proofing coatings have passed the standard corrosion test required by the approving agencies indicated in the Approval Chart. These tests cannot and do not represent all possible corrosive environments. Prior to installation, verify through the end-user that the coatings are compatible with or suitable for the proposed environment. For automatic sprinklers, the ENT coating is applied to all exposed exterior surfaces, including the waterway.

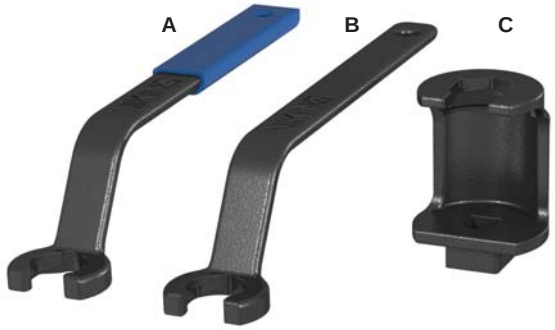


Figure 1: Sprinkler Wrenches

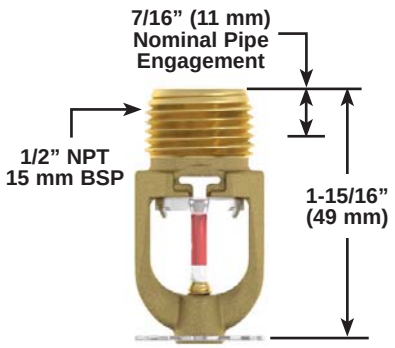


Figure 2: Sprinkler Dimensions

TECHNICAL DATA

VK3021 QUICK RESPONSE PENDENT SPRINKLER (K5.6)

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APPROVAL CHART
Viking Quick Response Pendent Sprinkler
VK3021 K5.6 (80.6 metric)
Maximum 175 PSI (12 Bar) WWP

Finish(es) → A 1 X ← Temperature(s)
Escutcheon(s), If applicable → KEY

Sprinkler Base Part Number[1]	Thread Size		Listings and Approvals[2]	
	NPT Inch	BSP mm	UL	FM
19917	1/2	--	A1, B2X, B3Y	A1, B2X, B3Y
19929	--	15	A1, B2X, B3Y	A1, B2X, B3Y

Approved Temperature Rating Code:

A = 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), and 286 °F (141 °C)
B = 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), and 200 °F (93 °C)

Approved Finish Code:

1 = Brass, Chrome, White Polyester [3,4], Black Polyester [3,4], and ENT [4,5]
2 = Brass, Chrome, White Polyester [3,4], and Black Polyester [3,4]
3 = ENT [4,5]

Approved Escutcheon Code:

X = Installed with Viking Recessed Escutcheons Models NP-1, NP-2, and NP-3, Viking Adjustable Escutcheon Model NP-4, or Viking Standard Surface Mounted Escutcheons
Y = Installed with Viking Model NP-1 Recessed Escutcheon OR Standard Surface Mounted Escutcheons

Footnotes

1. Base Part number is shown. For complete part number, refer to Viking's current price schedule.
2. This table shows the listings and approvals available at the time of printing. Check with the manufacturer for any additional approvals.
3. Other colors are available upon request with the same Listings and Approvals as the standard colors.
4. cULus Listed as corrosion resistant.
5. FM Approved as corrosion proofing for corrosive environments.

DESIGN CRITERIA - UL

cULus Listing Requirements:
The Viking VK3021 Quick Response Pendent Sprinkler is cULus Listed as indicated in Approval Chart for installation in accordance with the latest edition of NFPA 13 for standard spray sprinklers.

- Designed for use in Light and Ordinary occupancies.
- The sprinkler installation rules contained in NFPA 13 for standard spray Pendent sprinklers shall be followed.

IMPORTANT: Always refer to Form No. F_091699 - Care and Handling of Sprinklers. Also refer to Form No. F_080614 for general care, installation, and maintenance information. Viking sprinklers are to be installed in accordance with the latest edition of Viking Technical Data, the appropriate standards of NFPA, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.

DESIGN CRITERIA - FM

FM Approval Requirements:
The Viking VK3021 Quick Response Pendent Sprinkler is FM Approved as standard response Non-Storage Pendent sprinkler as indicated in the FM Approval Guide. For specific application and installation requirements, reference the latest applicable FM Loss Prevention Data Sheets (including Data Sheet 2-0). FM Global Loss Prevention Data Sheets contain guidelines relating to, but not limited to: minimum water supply requirements, hydraulic design, ceiling slope and obstructions, minimum and maximum allowable spacing, and deflector distance below the ceiling.
NOTE: The FM Installation guidelines may differ from UL and/or NFPA criteria.

IMPORTANT: Always refer to Form No. F_091699 - Care and Handling of Sprinklers. Also refer to Form No. F_080614 for general care, installation, and maintenance information. Viking sprinklers are to be installed in accordance with the latest edition of Viking Technical Data, the appropriate standards of NFPA, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.

TECHNICAL DATA

VK3021 QUICK RESPONSE PENDENT SPRINKLER (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com
Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com

1. Install the escutcheon inner ring onto the sprinkler threads.
2. Carefully slide the wrench** sideways around the protective cap then push upwards to engage with the sprinkler wrench flats.
3. Install the sprinkler and escutcheon assembly into the pipe fitting. Be sure the escutcheon outer ring contacts the surface of the finished ceiling.

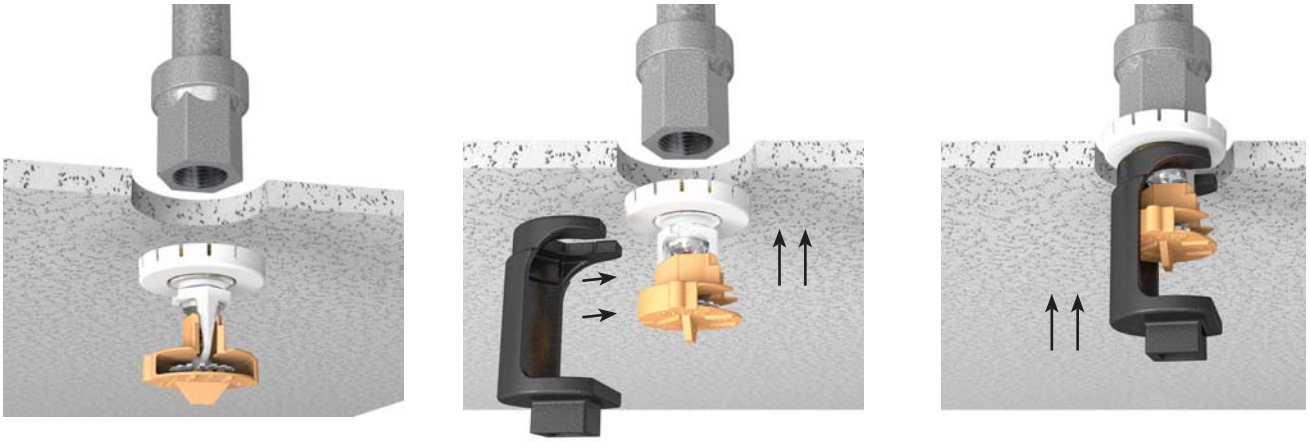


Figure 3: Recessed Installation (with Recessed Socket Wrench)

**A 1/2" ratchet is required (not available from Viking).

1. Install the escutcheon inner ring onto the sprinkler threads.
2. Carefully slide the wrench sideways around the protective cap then push upwards to engage with the sprinkler wrench flats.
3. Install the sprinkler and escutcheon assembly into the pipe fitting. Be sure the escutcheon outer ring contacts the surface of the finished ceiling.

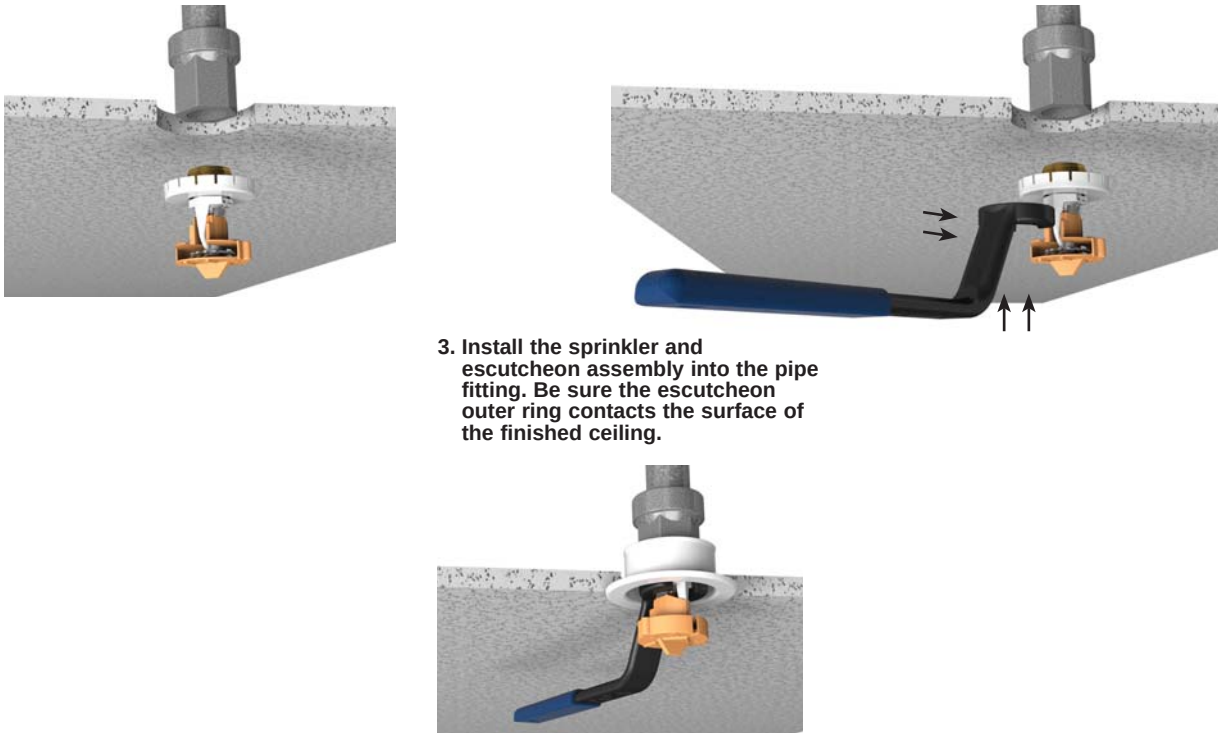


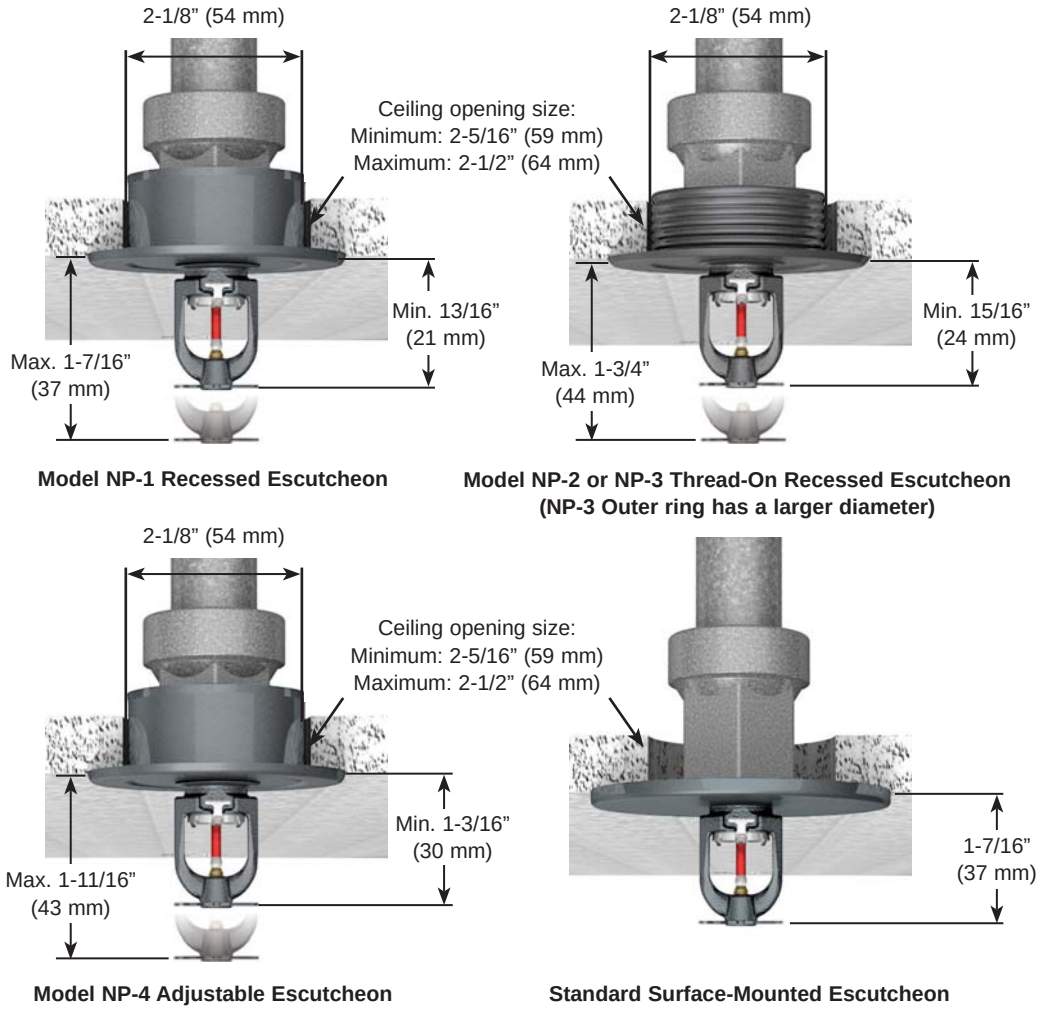
Figure 4: Recessed Installation (with standard Installer's Wrench)

VIKING®

TECHNICAL DATA

VK3021 QUICK RESPONSE PENDENT SPRINKLER (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com
Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com



Model NP-1 Recessed Escutcheon

Model NP-2 or NP-3 Thread-On Recessed Escutcheon (NP-3 Outer ring has a larger diameter)

Model NP-4 Adjustable Escutcheon

Standard Surface-Mounted Escutcheon

Figure 5: Installation Dimensions with Viking Escutcheons

Eddythread 40

A Lightweight Schedule 40 Replacement Pipe That Has a Corrosion Resistance Ratio of 1.0

Bull Moose Tube Company has been making pipe for a long time and is recognized as a producer of quality pipe products. Eddythread 40 is designed with the same thoroughness as our other fine pipe products and now our customers have an option to buy a carefully designed replacement for Schedule 40 that:

- Has a Corrosion Resistance Ratio of 1.0
- Has a Pressure Rating of 300 psi
- Is Lighter Weight Than Schedule 40
- Is Approved by Factory Mutual and Listed by Underwriters Laboratories
- Is Produced in Accordance to ASTM A-135 and A-795
- Can be Used With Standard Schedule 40 Threaded Fittings, Couplings and Valves
- Is Produced From Steel With Excellent Properties of Strength and Threadability
- Can be Used in Wet, Dry, Preaction, and Deluge Type Sprinkler Systems*
- Offers Lower Freight Costs

EDDYTHREAD 40 SPECIFICATIONS

NOMINAL PIPE SIZE (in)	WEIGHT (lbs/ft)	I.D. (in)	BUNDLE SIZE
1	1.461	1.083	70
1 1/4	2.070	1.418	51
1 1/2	2.547	1.654	44
2	3.308	2.123	30

CORROSION RESISTANCE RATIOS

NOMINAL PIPE SIZE (in)	SCHEDULE 40	EDDYTHREAD 40
1	1.00	1.00
1 1/4	1.00	1.00
1 1/2	1.00	1.00
2	1.00	1.00

** Eddythread 40 can be hot dipped galvanized to meet FM's requirement for dry systems*

BULL MOOSE TUBE COMPANY
A CAPARO company

1819 Clarkson Road
Chesterfield, MO 63017
(800) 325-4467
FAX: (636) 537-2645
www.bullmoosetube.com
e-mail:sales@bullmoosetube.com

For additional information, contact your salesperson today at (800) 325-4467 or (636) 537-2600 in the USA, or from Canada call (800) 882-4666

All information contained herein is accurate as known at the time of publication. Bull Moose Tube reserves the right to change product specifications without notice and without incurring obligation.

Eddy Flow

The Cost Effective Replacement for Schedule 10

Realizing the growing need of fire protection systems in commercial and residential construction, Bull Moose Tube has added Eddy Flow to its comprehensive line of sprinkler pipe products.

Eddy Flow is a specially engineered replacement for schedule 10, offering better flow characteristics while providing design flexibility. This product is FM approved, as well as UL listed (for U.S. and Canada) for roll grooving and welding for use in fire protection systems with a working pressure of 300 psi or less. Please check with appropriate sources for up-to-date listings and approval information.

As an added benefit, it is more economical to use than schedule 10 due to reduced delivery costs and ease of handling. Furthermore, Eddy Flow's larger ID provides an opportunity for downsizing and further cost savings.

COMPARISON

		INSIDE DIAMETER			C.R.R.*	
Nominal Pipe Size (in)	O.D. (in)	Eddy Flow (in)	Schedule 10 (in)	Schedule 40 (in)	Eddy Flow	Schedule 40
1 1/4	1.660	1.530	1.442	1.380	1.98	1.00
1 1/2	1.900	1.728	1.682	1.610	3.44	1.00
2	2.375	2.203	2.157	2.067	2.78	1.00
2 1/2	2.875	2.705	2.635	2.469	1.66	1.00
3	3.500	3.334	3.260	3.068	1.00	1.00
4	4.500	4.310	4.260	4.026	1.00	1.00

* *Corrosion Resistance Ratio*

BENEFITS

- ***Dual Certified to ASTM A135 and A795.***
- ***FM Approved for roll grooved, and welded, and plain-end application in wet systems.***
- ***UL Listed (for U.S. and Canada) for joining by welding or by listed rubber gasketed fittings for use in wet, dry, preaction, and deluge type sprinkler systems.***
- ***UL Listed (for US and Canada) and FM Approved for use with Victaulic® FIT® Fittings in plain end applications.***
- ***Lightweight - saves shipping costs, and offers easier handling.***
- ***Can be used with roll grooved couplings or welded outlets for pressures up to 300 psi.***
- ***Floor stock available in various lengths produced in Casa Grande (AZ), Gerald (MO), and Masury (OH). Also can be ordered in custom lengths..***
- ***Can be used for wet and dry* systems.***

** Eddy Flow can be hot dipped galvanized to meet FM's requirement for dry systems.*

PIPE PREPARATION

For proper operation, all pipe surfaces should be cleaned prior to installation. In order to provide a leak-tight seat for the gasket, pipe surfaces should be free from indentations and projections from the end of the pipe to the groove. All loose paint, scale, dirt, chips, grease, and rust must be removed prior to installation. Failure to take these important steps may result in improper coupling assembly, causing leakage. Also, check the manufacturer's instructions for the specific fitting used.

BULL MOOSE TUBE COMPANY
A CAPARO company

1819 Clarkson Road
Chesterfield, MO 63017
(800) 325-4467
FAX: (636) 537-2645
www.bullmoosetube.com
e-mail:sales@bullmoosetube.com

For additional information, contact your salesperson today at (800) 325-4467 or (636) 537-2600 in the USA, or from Canada call (800) 882-4666

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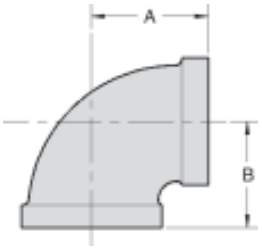
D.I. THREADED FITTINGS

S.P FITTINGS
A Division of Star Pipe Products

LISTED LISTED APPROVED

For fire protection services request submittal GRS 1.3

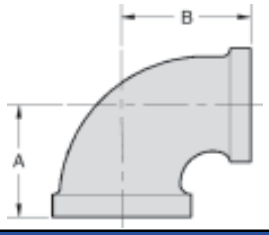


DUCTILE IRON THREADED FITTINGS ARE UL, ULC LISTED AND FACTORY MUTUAL APPROVED FOR 500 PSI SERVICE. DUCTILE IRON PER ASTM A 536 GRADE 65-45-12. DIMENSIONS CONFORM TO ANSI B16.3 CLASS 150. THREADS ARE NPT PER ANSI/ASME B1.20.1

NOTICE: DUCTILE IRON FITTINGS HAVE HIGHER TENSILE STRENGTH THEN THAT OF STEEL PIPE. THEREFORE, OVER TIGHTENING CAN CAUSE DAMAGE TO PIPE THREADS WHICH MAY CAUSE LEAKAGE. DUCTILE IRON FITTINGS SHOULD BE TIGHTENED THREE TURNS BEYOND HAND TIGHT, BUT NO MORE THAN FOUR TURNS.

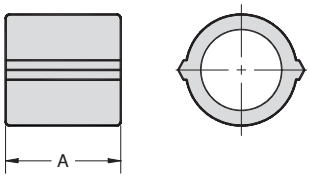
DUCTILE IRON 90 DEG. ELBOW

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I.	DIMENSIONS A	DIMENSIONS B	WEIGHT EACH PIECE
1	DB90033	500	1.50	1.50	0.62
1 1/4	DB90044	500	1.75	1.75	0.90
1 1/2	DB90055	500	1.94	1.94	1.20
2	DB90066	500	2.25	2.25	1.85



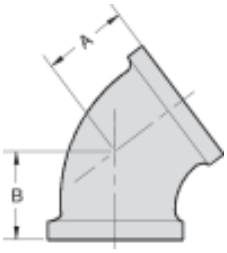
DUCTILE IRON RED.90 DEG. ELBOW

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I.	DIMENSIONS A	DIMENSIONS B	WEIGHT EACH PIECE
1X1/2	DB90031	500	1.26	1.36	0.44
1X3/4	DB90032	500	1.37	1.45	0.52
1 1/4X1/2	DB90041	500	1.34	1.53	0.64
1 1/4X3/4	DB90042	500	1.45	1.62	0.72
1 1/4X1	DB90043	500	1.58	1.67	0.75
1 1/2X1	DB90053	500	1.65	1.80	0.92
1 1/2X1 1/4	DB90054	500	1.82	1.88	1.08
2X1/2	DB90061	500	1.49	1.88	1.08
2X3/4	DB90062	500	1.60	1.97	1.24
2X1	DB90063	500	1.73	2.02	1.40
2X1 1/4	DB90064	500	1.90	2.10	1.52
2X1 1/2	DB90065	500	2.02	2.16	1.65



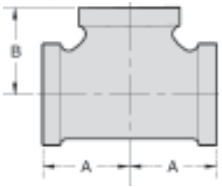
DUCTILE IRON COUPLING

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I.	DIMENSION A	WEIGHT EACH PIECE
1	DCL033	500	1.67	0.40
1 1/4	DCL044	500	1.93	0.57
1 1/2	DCL055	500	2.15	0.75
2	DCL066	500	2.53	1.15



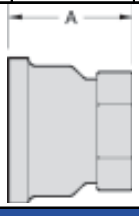
DUCTILE IRON 45 DEG. ELBOW

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I.	DIMENSIONS A	DIMENSIONS B	WEIGHT EACH PIECE
1	DB45033	500	1.12	1.12	0.46
1 1/4	DB45044	500	1.29	1.29	0.73
1 1/2	DB45055	500	1.43	1.43	0.92
2	DB45066	500	1.68	1.68	1.50



DUCTILE IRON STRAIGHT TEE

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I.	DIMENSIONS A	DIMENSIONS B	WEIGHT EACH PIECE
1	DT333	500	1.50	1.50	0.85
1 1/4	DT444	500	1.75	1.75	1.22
1 1/2	DT555	500	1.94	1.94	1.55
2	DT666	500	2.25	2.25	2.45



DUCTILE IRON RED. COUPLING

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I.	DIMENSION A	WEIGHT EACH PIECE
1X1/2	DRC031	500	1.69	0.39
1X3/4	DRC032	500	1.69	0.53

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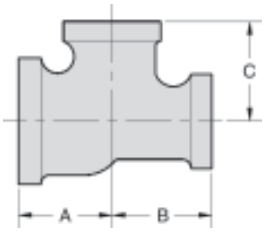
D.I. THREADED FITTINGS

S.P FITTINGS
A Division of Star Pipe Products

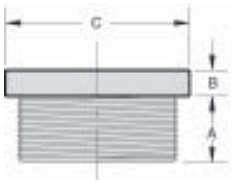
LISTED LISTED APPROVED

For fire protection services request submittal GRS 1.3

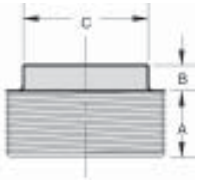


DUCTILE IRON REDUCING TEE

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I.	DIMENSIONS A	B	C	WEIGHT EACH PIECE
1X1X1/2	DT331	500	1.26	1.26	1.36	0.64
1X1X3/4	DT332	500	1.37	1.37	1.45	0.73
1X1/2X1	DT313	500	1.50	1.36	1.50	0.71
1X3/4X1	DT323	500	1.50	1.45	1.50	0.76
1X1X1 1/4	DT334	500	1.67	1.67	1.58	0.98
1X1X1 1/2	DT335	500	1.80	1.80	1.65	1.16
1 1/4X1X1/2	DT431	500	1.34	1.26	1.53	0.82
1 1/4X1X3/4	DT432	500	1.45	1.37	1.62	0.90
1 1/4X1X1	DT433	500	1.58	1.50	1.67	1.00
1 1/4X1X1 1/4	DT434	500	1.75	1.67	1.75	1.08
1 1/4X1X1 1/2	DT435	500	1.88	1.80	1.82	1.42
1 1/4X1 1/4X1/2	DT441	500	1.34	1.34	1.53	0.86
1 1/4X1 1/4X3/4	DT442	500	1.45	1.45	1.62	0.92
1 1/4X1 1/4X1	DT443	500	1.58	1.58	1.67	0.95
1 1/4X1 1/4X1 1/2	DT445	500	1.88	1.88	1.82	1.45
1 1/4X1 1/4X2	DT446	500	2.10	2.10	1.90	1.75
1 1/2X1X1/2	DT531	500	1.41	1.34	1.66	0.95
1 1/2X1X3/4	DT532	500	1.52	1.37	1.75	1.14
1 1/2X1X1	DT533	500	1.65	1.50	1.80	1.17
1 1/2X1X1 1/4	DT534	500	1.82	1.67	1.88	1.34
1 1/2X1X1 1/2	DT535	500	1.94	1.80	1.94	1.45
1 1/2X1 1/4X1/2	DT541	500	1.41	1.34	1.66	1.05
1 1/2X1 1/4X3/4	DT542	500	1.52	1.45	1.75	1.15
1 1/2X1 1/4X1	DT543	500	1.65	1.58	1.80	1.25
1 1/2X1 1/4X2	DT546	500	2.16	2.10	2.02	1.90
1 1/2X1 1/2X1/2	DT551	500	1.41	1.41	1.16	1.15
1 1/2X1 1/2X3/4	DT552	500	1.52	1.52	1.75	1.24
1 1/2X1 1/2X1	DT553	500	1.65	1.65	1.80	1.30
1 1/2X1 1/2X1 1/4	DT554	500	1.82	1.82	1.88	1.48
1 1/2X1 1/2X2	DT556	500	2.16	2.16	2.02	1.98
2X1X2	DT636	500	2.25	2.02	2.25	2.15
2X1 1/4X2	DT646	500	2.25	2.10	2.25	2.30
2X1 1/2X1/2	DT651	500	1.49	1.41	1.88	1.50
2X1 1/2X3/4	DT652	500	1.60	1.52	1.97	1.62
2X1 1/2X1	DT653	500	1.73	1.65	2.02	1.64
2X1 1/2X1 1/4	DT654	500	1.90	1.82	2.10	1.80
2X1 1/2X1 1/2	DT655	500	2.02	1.94	2.16	2.00
2X1 1/2X2	DT656	500	2.25	2.16	2.25	2.35
2X2X1/2	DT661	500	1.49	1.49	1.88	1.60
2X2X3/4	DT662	500	1.60	1.60	1.97	1.68
2X2X1	DT663	500	1.73	1.73	2.02	1.85
2X2X1 1/4	DT664	500	1.90	1.90	2.10	2.04
2X2X1 1/2	DT665	500	2.02	2.02	2.16	2.18
2X2X2 1/2	DT667	500	2.60	2.60	2.39	3.61
2 1/2X2X3/4	DT762	500	1.74	1.60	2.32	2.28



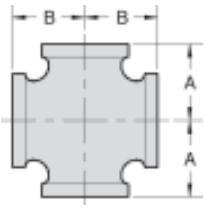
OUTSIDE HEAD



INSIDE HEAD

DUCTILE IRON BUSHINGS

NOMINAL SIZE (INCH)	ITEM CODE #	DIMENSIONS A	B	C	STYLE	WT. EACH
1x1/2	DBUSH31	0.75	0.25	1.42	OUT	0.22
1x3/4	DBUSH32	0.75	0.25	1.42	OUT	0.17
1 1/4x1	DBUSH43	0.80	0.28	1.76	OUT	0.28
1 1/2x1	DBUSH53	0.83	0.31	2.00	OUT	0.44
1 1/2x1 1/4	DBUSH54	0.83	0.31	2.00	OUT	0.30
2x1	DBUSH63	0.88	0.41	1.95	IN	0.66
2x1 1/4	DBUSH64	0.88	0.34	2.48	OUT	0.72
2x1 1/2	DBUSH65	0.88	0.34	2.48	OUT	0.61



DUCTILE IRON CROSS

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I	DIMENSIONS A	B	WEIGHT EACH PIECE
1	DX033	500	1.50	1.50	0.98
1 1/4	DX044	500	1.75	1.75	1.50
1 1/2	DX055	500	1.94	1.94	1.90
2	DX066	500	2.25	2.25	2.95
1 1/4X1	DX043	500	1.58	1.67	1.27
1 1/2X1	DX053	500	1.65	1.80	1.48
2X1	DX063	500	1.73	2.02	2.10

DUCTILE IRON CAP

NOMINAL SIZE (INCH)	ITEM CODE #	MAX. WORKING P.S.I.	DIMENSION A	WEIGHT EACH PIECE
1	DCP003	500	1.16	0.32
1 1/4	DCP004	500	1.28	0.43
1 1/2	DCP005	500	1.33	0.60
2	DCP006	500	1.45	0.91

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FIG. MT-30 Threaded Mechanical Branch Tee

AnvilStar™ Fire Products Division of Anvil® International

SPF/ANVIL

Submittal Sheet

Model MT-30 mechanical tee serves the same function as MT-1 & MT-8 but uses a steel electro-plated U-Bolt to save space and for easier installation in tight places. It is ideal for direct connections with sprinkler heads and drop nipples.

UL ULC FM
APPROVED
For Listing / Approval details contact your AnvilStar™ Representative.

⚠ WARNING

For dry pipe systems and freezer applications lubrication of the gasket is required, Gruvlok® Xtreme™ Lubricant is recommended.

MATERIAL SPECIFICATIONS

HOUSING:
Ductile Iron conforming to ASTM A-536, Grade 65-45-12.

U-BOLT & NUTS:
U-bolt is carbon steel SAE Grade 2, Zinc Plated with plated hex nuts carbon steel ASTM A-194, Zinc Plated.

THREADS:
MT-30 NPT per ANSI/ASME B1.20.1

COATINGS:
❑ Zinc Electroplated
❑ Other (Specify): _____ Example: RAL3000 or RAL9000 Series
For other Coating requirements contact an AnvilStar Representative.

GASKETS: Materials
Properties as designated in accordance with ASTM D-2000.
❑ **Grade "E" EPDM** (Green color code)
-40°F to 230°F (Service Temperature Range) (-40°C to 110°C)
Recommended for water service, diluted acids, alkalies solutions, salts, oil-free air and many chemical services not involving hydrocarbons, oils or gases.
NOT FOR USE WITH HYDROCARBONS.
❑ Other_____

PROJECT INFORMATION:		APPROVAL STAMP:
Project:		
Date:	**Phone:**	
Architect / Engineer:		
Contractor:		
Address:		
Notes 1:		
Notes 2:		

For the latest UL/ULC Listed and FM Approved pressure ratings, versus pipe schedule, go to **www.anvilstar.com** or contact your local AnvilStar representative

ANVIL INTERNATIONAL, INC.

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RSN: 1415969
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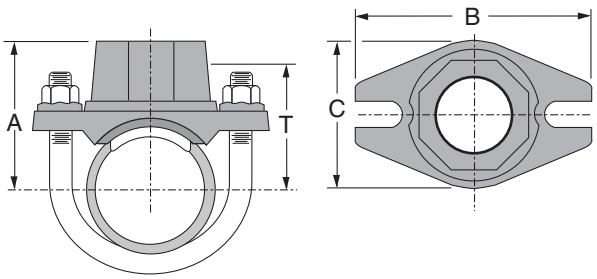
FIG. MT-30 Threaded Mechanical Branch Tee

AnvilStar™
Fire Products Division of Anvil® International

SPF/ANVIL™

Submittal Sheet



MT-30 MECHANICAL TEES

Nominal Size	O.D.	Hole Diameter		Max. Wk. Pressure	Dimensions				Approx. Wt. Ea.
		Min. Diameter	Max. Diameter		A	B	C	T Take-Out	
In./DN(mm)	*In./mm*	*In./mm*	*In./mm*	*PSI/bar*	*In./mm*	*In./mm*	*In./mm*	*In./mm*	*Lbs./kg*
1¼ x ½	1.660 x 0.840	1 3/16	1 5/16	300	2⅛	3½	2¼	1⅝	0.8
32 x 12	*42.4 x 21.3*	*30*	*33*	*20.7*	*54*	*89*	*57.2*	*42*	*0.4*
1¼ x ¾	1.660 x 1.050	1 3/16	1 5/16	300	2⅛	3½	2¼	1⅝	0.8
32 x 19	*42.4 x 26.7*	*30*	*33*	*20.7*	*54*	*89*	*57.2*	*42*	*0.4*
1¼ x 1	1.660 x 1.315	1 3/16	1 5/16	300	2¼	3½	2¼	1⅝	1.1
32 x 25	*42.4 x 33.7*	*30*	*33*	*20.7*	*58*	*89*	*57.2*	*41*	*0.5*
1½ x ½	1.900 x 0.840	1 3/16	1 5/16	300	2¼	3½	2¼	1¾	0.8
40 x 12	*48.3 x 21.3*	*30*	*33*	*20.7*	*57*	*89*	*57.2*	*48*	*0.4*
1½ x ¾	1.900 x 1.050	1 3/16	1 5/16	300	2¼	3½	2¼	1¾	0.9
40 x 19	*48.3 x 26.7*	*30*	*33*	*20.7*	*57*	*89*	*57.2*	*48*	*0.4*
1½ x 1	1.900 x 1.315	1 3/16	1 5/16	300	2⅜	3½	2¼	1¾	1.1
40 x 25	*48.3 x 33.7*	*30*	*33*	*20.7*	*61*	*89*	*57.2*	*44*	*0.5*
2 x ½	2.375 x 0.840	1 3/16	1 5/16	300	2½	3¾	2¼	2	0.9
50 x 12	*60.3 x 21.3*	*30*	*33*	*20.7*	*64*	*95*	*57.2*	*51*	*0.4*
2 x ¾	2.375 x 1.050	1 3/16	1 5/16	300	2½	3¾	2¼	2	0.9
50 x 19	*60.3 x 26.7*	*30*	*33*	*20.7*	*64*	*95*	*57.2*	*51*	*0.4*
2 x 1	2.375 x 1.315	1 3/16	1 5/16	300	2⅝	3¾	2¼	2	1.1
50 x 25	*60.3 x 33.7*	*30*	*33*	*20.7*	*67*	*95*	*57.2*	*50*	*0.5*
2½ x ½	2.875 x 0.840	1 3/16	1 5/16	300	2¾	4¼	2¼	2¼	0.9
65 x 12	*73.0 x 21.3*	*30*	*33*	*20.7*	*70*	*108*	*57.2*	*57*	*0.4*
2½ x ¾	2.875 x 1.050	1 3/16	1 5/16	300	2¾	4¼	2¼	2¼	0.9
65 x 19	*73.0 x 26.7*	*30*	*33*	*20.7*	*70*	*108*	*57.2*	*57*	*0.4*
2½ x 1	2.875 x 1.315	1 3/16	1 5/16	300	2⅞	4¼	2¼	2¼	1.1
65 x 25	*73.0 x 33.7*	*30*	*33*	*20.7*	*73*	*108*	*57.2*	*56*	*0.5*

BSP equivalent is available as a MT-90.

NOTE: Tighten nuts alternatively to a recommended torque of 18 -22 ft-lbs (25 - 30 N-m) on pipe wall less than schedule 10 or 23 -27 ft-lbs (31 - 37 N-m) on pipe walls schedule 10 and above.

For the latest UL/ULC Listed and FM Approved pressure ratings, versus pipe schedule, go to **www.anvilstar.com** or contact your local AnvilStar representative

ANVIL INTERNATIONAL, INC.

Fig. 200 - "Trimline" Adjustable Band Hanger

Size Range — 1/2" thru 8" pipe

Material — Carbon Steel, Mil. Galvanized to G90 specifications

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

Features —

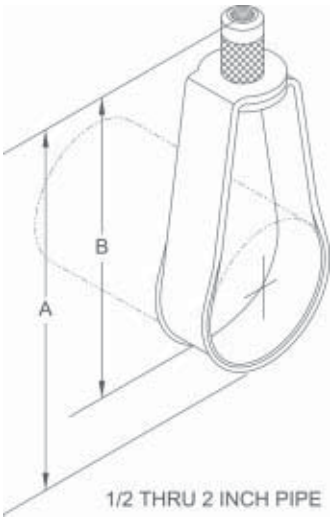
- (1/2" thru 2") Flared edges ease installation for all pipe types and protect CPVC plastic pipe from abrasion. Captured design keeps adjusting nut from separating with hanger. Hanger is easily installed around pipe.
- ($2^1/_2$" thru 8" Spring tension on nut holds it securely in hanger before installation. Adjusting nut is easily removed.

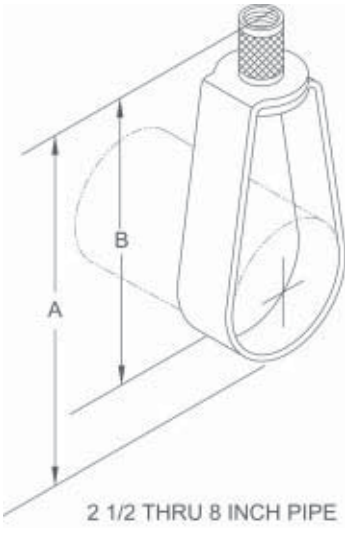
Approvals — Underwriters' Laboratories listed (1/2" thru 8") in the USA **(UL)** and Canada **(cUL)** for steel and CPVC plastic pipe and Factory Mutual Engineering Approved (3/4" thru 8"). Conforms to Federal Specifications WW-H-171E, Type 10 and Manufacturers Standardization Society SP-69, Type 10.

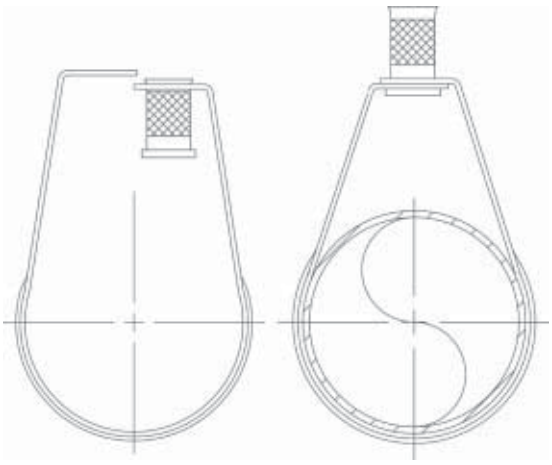
Maximum Temperature — 650°F

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

Order By — Figure number and pipe size







Dimensions • Weights

Pipe Size	Rod Size Inch	Rod Size Metric	A	B	Max. Rec. Load Lbs.	Approx. Length
1/2	3/8	8mm or 10mm	$3^1/_8$	$2^5/_8$	400	11
3/4	3/8	8mm or 10mm	$3^1/_8$	$2^1/_2$	400	11
1	3/8	8mm or 10mm	$3^3/_8$	$2^5/_8$	400	12
$1^1/_4$	3/8	8mm or 10mm	$3^3/_4$	$2^7/_8$	400	13
$1^1/_2$	3/8	8mm or 10mm	$3^7/_8$	$2^7/_8$	400	14
2	3/8	8mm or 10mm	$4^1/_2$	3	400	15
$2^1/_2$	3/8	10mm	$5^5/_8$	$4^1/_8$	600	27
3	3/8	10mm	$5^7/_8$	4	600	29
$3^1/_2$	3/8	10mm	$7^3/_8$	$5^1/_4$	600	34
4	3/8	10mm	$7^3/_8$	5	1000	35
5	1/2	12mm	$9^1/_8$	$6^1/_4$	1250	66
6	1/2	12mm	$10^1/_8$	$6^3/_4$	1250	73
8	1/2	12mm	$13^1/_8$	$8^3/_4$	1250	136

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Fig. 65 and Fig. 66
Reversible C-Type Beam Clamps 3/4" and 1¼" Throat Openings

Component of State of California OSHPD Approved Seismic Restraints System

Size Range — (Fig. 65 and Fig. 66) 3/8", 1/2" and 5/8" rod

Material — Carbon Steel with hardened cup point set screw and jam nut

Function — Recommended for hanging from steel beam where flange thickness does not exceed 3/4" (Fig. 65) or 1¼" (Fig. 66).

Features — All steel construction eliminates structural deficiencies associated with casting type beam clamps. May be used on top or bottom flange of the beam. (Beveled lip allows hanging from top flange where clearance is limited.) May be installed with set screw in up or down position. Offset design permits unlimited rod adjustment by allowing the rod to be threaded completely through the clamp. Open design permits inspection of thread engagement.

Approvals — Underwriters' Laboratories Listed in the USA **(UL)** and Canada **(cUL)**. Factory Mutual Engineering approved. Conforms to Federal Specification WW-H-171E, Type 23 and Manufacturers Standardization Society SP-69, Type 19. Exceeds requirements of the National Fire Protection Association (NFPA), Pamphlet 13, 3/8" rod will support 1/2" thru 4" pipe, 1/2" rod will support 1/2" thru 8" pipe. Included in our Seismic Restraints Catalog approved by the State of California Office of Statewide Health Planning and Development (OSHPD). For additional load, spacing and placement relating to OSHPD projects, please refer to the TOLCO Seismic Restraint Systems Guidelines.

Finish — Plain

Note — Available in Electro-Galvanized and HDG finish.

Order By — Figure number, rod size and finish

Fig. 65 Patent #4,570,885

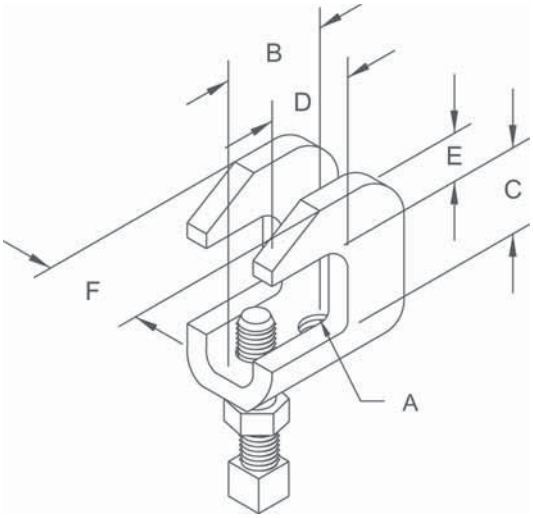

Fig. 65

Dimensions • Weights

Rod Size A	B	C	D	E	F	Max. Rec. Load Lbs.*	Approx. Wt./100
3/8	1 3/16	3/4	1	7/16	1	610	28
1/2	1 1/2	3/4	1	9/16	1 1/4	1130	55
5/8	1 1/2	3/4	1	9/16	1 1/4	1130	55

* Max. loads for clamp with set screw in up or down position.

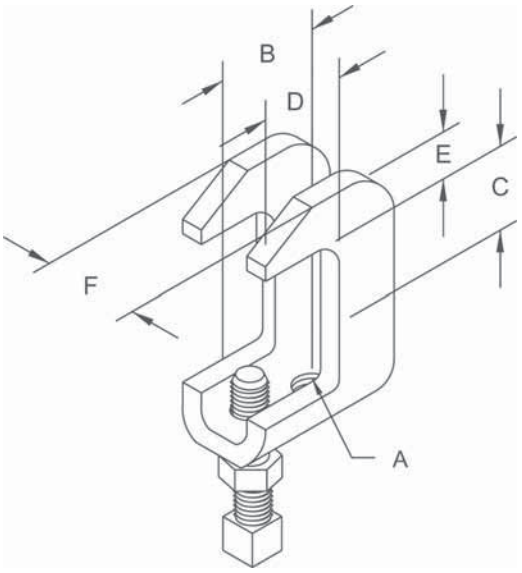

Fig. 66

Dimensions • Weights

Rod Size A	B	C	D	E	F	Max. Rec. Load Lbs.*	Approx. Wt./100
3/8	1 3/16	1 1/4	1	7/16	1	610	28
1/2	1 1/2	1 1/4	1	9/16	1 1/4	1130	55
5/8	1 1/2	1 1/4	1	9/16	1 1/4	1130	55

* Max. loads for clamp with set screw in up or down position.

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SSS05

Expands to provide direct vertical attachment in:

- Metal Deck (22-16 gauge)
- Purlin (18-16 gauge)

U.S. Patent No. 6,935,821

- Installs in seconds, saves time & installation costs.
- Use in applications where easy access to the back of the installed fastener is prohibited.
- No retaining nut required.

Pipe Hanger

Approvals	Min Steel Ga.	Part #	Model	Screw Description	Rod Size	Pipe Size	Test Load
FM	12 ga	8150922	XP 20	Sammy X-Press 20	3/8 - 16"	3/4 - 4"	1475 Lbs.
	12 ga	8153922	XP 35	Sammy X-Press 35	3/8 - 16"	3/4 - 4"	1475 Lbs.
UL 9R21	22 ga	8150922	XP 20	Sammy X-Press 20	3/8 - 16"	3/4 - 2"	750 Lbs.
	18 ga	8153922	XP 35	Sammy X-Press 35	3/8 - 16"	3/4 - 3-1/2"	1250 Lbs.

Luminaire Fitting

Approvals	Min Steel Ga.	Part #	Model	Screw Description	Rod Size	Load Rating
UL 25ES	22 ga	8150922	XP 20	Sammy X-Press 20	3/8 - 16"	185 Lbs.
		8153922	XP 35	Sammy X-Press 35	3/8 - 16"	185 Lbs.
		8181922	XP 200	Sammy X-Press 200	1/4 - 20"	185 Lbs.
	16 ga	8150922	XP 20	Sammy X-Press 20	3/8 - 16"	250 Lbs.
		8153922	XP 35	Sammy X-Press 35	3/8 - 16"	250 Lbs.
		8181922	XP 200	Sammy X-Press 200	1/4 - 20"	250 Lbs.
		8151910	XPIT	Sammy X-Press It® Installation Tool		
		8152910	XPDB	25/64" Drill Bit		