Fire Sprinkler Pipe

Schedule 10 and Schedule 40

Submittal Data Sheet

FM Approved and Fully Listed Sprinkler Pipe
Wheatland Tube's Schedule 10 and Schedule 40 steel fire sprinkler pipe is FM Approved and UL® and C-UL Listed.

Approvals and Specifications
Schedule 10 and Schedule 40 meet or exceed the following standards:

- ASTM A135, Type E, Grade A (Schedule 10, 1–8 NPS)
- ASTM A795, Type E, Grade A (Schedule 40, 1–2 NPS)
- ASTM A53, Type E, Grade B (Schedule 40, 2–8 NPS)
- ASTM A53, Type F, Grade A (Schedule 40, 1–4 NPS)
- NFPA® 13 and NFPA 14

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 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 hot-dip galvanized, to meet FM/UL requirements for dry systems that meet the zinc coating specifications of ASTM A795 or A53.

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

SUBMITTAL INFORMATION

PROJECT: _____ CONTRACTOR: _____ DATE: _____

ENGINEER: _____ SPECIFICATION REFERENCE: _____ SYSTEM TYPE: _____

LOCATIONS: _____ COMMENTS: _____

☐ BLACK ☐ HOT-DIP GALVANIZED

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Wheatland Tube
A DIVISION OF ZEKELMAN INDUSTRIES

Fire Sprinkler Pipe

Schedule 10 and Schedule 40

Submittal Data Sheet

SCHEDULE 10 WEIGHTS AND DIMENSIONS

NPS	NOMINAL OD		NOMINAL ID		NOMINAL WALL		WT./FT.	WT./FT. H_2O FILLED	PCS./LIFT	WT./LIFT 21'	WT./LIFT 24'	WT./LIFT 25'	UL
	in.	mm	in.	mm	in.	mm	lbs.	lbs.		lbs.	lbs.	lbs.	CRR*
1	1.315	33.4	1.097	27.9	0.109	2.77	1.405	1.814	70	2065	2360	2459	11.4
1¼	1.660	42.2	1.442	36.6	0.109	2.77	1.807	2.514	61	2315	2645	2756	7.3
1½	1.900	48.3	1.682	42.7	0.109	2.77	2.087	3.049	61	2673	3055	3183	5.8
2	2.375	60.3	2.157	54.8	0.109	2.77	2.640	4.222	37	2051	2344	2442	4.7
2½	2.875	73.0	2.635	66.9	0.120	3.05	3.354	5.895	30	2226	2544	2651	3.5
3	3.500	88.9	3.260	82.8	0.120	3.05	4.336	7.949	19	1730	1977	2060	2.6
4	4.500	114.3	4.260	108.2	0.120	3.05	5.619	11.789	19	2242	2562	2669	1.6
5	5.563	141.3	5.295	134.5	0.134	3.40	7.780	17.309	13	2124	2427	2529	1.5
6	6.625	168.3	6.357	161.5	0.134	3.40	9.298	23.038	10	1953	2232	2325	1.0
8	8.625	219.1	8.249	209.5	0.188	4.78	16.960	40.086	7	2493	2849	2968	2.1

SCHEDULE 40 WEIGHTS AND DIMENSIONS

NPS	NOMINAL OD		NOMINAL ID		NOMINAL WALL		WT./FT.	WT./FT. H_2O FILLED	PCS./LIFT	WT./LIFT 21'	WT./LIFT 24'	WT./LIFT 25'	UL
	in.	mm	in.	mm	in.	mm	lbs.	lbs.		lbs.	lbs.	lbs.	CRR*
1	1.315	33.4	1.049	26.6	0.133	3.38	1.68	2.055	70	2470	2822	2940	1.000
1¼	1.660	42.2	1.380	35.1	0.140	3.56	2.27	2.922	51	2431	2778	2894	1.000
1½	1.900	48.3	1.610	40.9	0.145	3.68	2.72	3.602	44	2513	2872	2992	1.000
2	2.375	60.3	2.067	52.5	0.154	3.91	3.66	5.109	24	1845	2108	2196	1.000
2½	2.875	73.0	2.469	62.7	0.203	5.16	5.80	7.871	20	2436	2784	2900	1.000
3	3.500	88.9	3.068	77.9	0.216	5.49	7.58	10.783	13	2069	2365	2464	1.000
3½	4.000	101.6	3.548	90.1	0.226	5.74	9.12	13.400	10	1915	2189	2280	1.000
4	4.500	114.3	4.026	102.3	0.237	6.02	10.80	16.311	10	2268	2592	2700	1.000
5	5.563	141.3	5.047	158.2	0.258	6.55	14.63	23.262	7	2151	2458	2560	1.000
6	6.625	168.3	6.065	154.1	0.280	7.11	18.99	31.498	5	1994	2279	2374	1.000
8**	8.625	219.1	7.981	202.7	0.322	8.18	28.58	50.240	5	3001	3430	3573	1.000

** 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).*

*** 8 NPS Schedule 40 is FM Approved but not UL Listed.*

WFS-081619

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Fire Sprinkler Pipe

A53 Schedule 40

Submittal Data Sheet

FM Approved and Fully Listed Sprinkler Pipe
Wheatland's A53 Schedule 40 steel fire sprinkler pipe is UL® Listed and FM Approved, sizes 1–6 NPS, for use in fire sprinkler pipe applications, and is suitable for welding, threading and grooving. 8 NPS Schedule 40 is FM Approved but not UL Listed.

Approvals and Specifications
The product meets or exceeds the following standards:

- ASTM A53, Type F, Grade A, 1–4"
- ASTM A53, Type E, Grade B, 2–8"
- ASME B36.10M
- Federal Specification WW-P-404

Manufacturing Protocols
The weld seam of Wheatland's A53 ERW Grade B is heat-treated after welding to 1,400° F; we slowly cool the steel in order to toughen it and reduce its brittleness. Our products are subjected to the toughest possible testing protocols to ensure the highest quality and long-lasting performance.

Wheatland's SureThread™ standard steel pipe is hot-formed and heated during tube formation—not just the edges. As the coiled steel reaches 2,450° F, rollers bend the steel into a cylindrical shape, and the pressure and heat fuse the edges together. There are no flash forms in this process, allowing for a continuous weld. It all adds up to an extremely strong yet easily machinable pipe. Our 1–4" SureThread product is a full-bodied annealed product.

Finishes and Coatings
The average weight of zinc coating shall not be less than 1.8 ounces per square foot of surface (inside and outside). When galvanized pipe is bent or otherwise fabricated to a degree that causes zinc coating to stretch or compress beyond the limit of elasticity, some flaking of the coating may occur.

Wheatland's MIC SHIELD™ antimicrobial coating, when initially applied to the inner wall of the pipe, acts as a sanitizing agent to clean the contact surface. MIC SHIELD coating thereafter adheres to the pipe wall, serving as a protective coating that guards against contamination by impeding the attachment of microbes to the pipe wall. This limits the opportunities for corrosion from microbiological organisms in the water supply when the sprinkler pipe is initially installed. The integrity and benefits of this protection can be preserved through a combination of additional and routine treatment options outlined in NFPA 13. MIC SHIELD coating is available for Wheatland black steel pipe, sizes 1–6" and 8" upon request.

WEIGHTS AND DIMENSIONS CHART

NPS	NOM. OD INCHES	NOMINAL WALL	WT./FT. H_2O FILLED	WT./LBS. FT.
1	1.315	0.133	2.052	1.68
1¼	1.660	0.140	2.919	2.27
1½	1.990	0.145	3.601	2.72
2	2.375	0.154	5.109	3.66
2½	2.875	0.203	7.871	5.80
3	3.500	0.216	10.783	7.58
4	4.500	0.237	16.311	10.88
5	5.563	0.258	23.262	14.63
6	6.625	0.280	31.498	18.99
8*	8.625	0.322	50.210	28.58

**8 NPS Schedule 40 is FM Approved but not 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. Bar coding is acceptable as a supplementary identification method.

SUBMITTAL INFORMATION

PROJECT: _____ CONTRACTOR: _____ DATE: _____

ENGINEER: _____ SPECIFICATION REFERENCE: _____ SYSTEM TYPE: _____

LOCATIONS: _____ COMMENTS: _____

WFS-080416

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Victaulic® FireLock™ Fittings

10.03

1.0 PRODUCT DESCRIPTION

Available Sizes

- 1 ¼ – 8"/DN32 – DN200

Maximum Working Pressure

- Pressure ratings for Victaulic FireLock™ Fittings conform to the ratings of Victaulic FireLock EZ™ Style 009N couplings (refer to publication 10.64 for more information).

Application

- FireLock™ fittings are designed for use exclusively with Victaulic couplings that have been Listed or Approved for Fire Protection Services. Use of other couplings or flange adapters may result in bolt pad interference.
- Connects pipe, provides change in direction and adapts sizes or components

Pipe Materials

- Carbon steel

2.0 CERTIFICATION/LISTINGS

EN 10311
Regulation (EU)
No. 305/2011

3.0 SPECIFICATIONS – MATERIAL

Fitting: Ductile iron conforming to ASTM A536, Grade 65-45-12.

Fitting Coating:

- ☐ Orange enamel.
- ☐ Red enamel in Europe, Middle East, Africa, and India.
- ☐ Optional: Hot dipped galvanized.

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

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

1.0 PRODUCT DESCRIPTION

Available Sizes

- 1 ¼ – 8"/DN32 – DN200

Maximum Working Pressure

- Pressure ratings for Victaulic FireLock™ Fittings conform to the ratings of Victaulic FireLock EZ™ Style 009N couplings (refer to publication 10.64 for more information).

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- FireLock™ fittings are designed for use exclusively with Victaulic couplings that have been Listed or Approved for Fire Protection Services. Use of other couplings or flange adapters may result in bolt pad interference.
- Connects pipe, provides change in direction and adapts sizes or components

Pipe Materials

- Carbon steel

2.0 CERTIFICATION/LISTINGS

EN 10311
Regulation (EU)
No. 305/2011

3.0 SPECIFICATIONS – MATERIAL

Fitting: Ductile iron conforming to ASTM A536, Grade 65-45-12.

Fitting Coating:

- ☐ Orange enamel.
- ☐ Red enamel in Europe, Middle East, Africa, and India.
- ☐ Optional: Hot dipped galvanized.

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

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

Victaulic® FireLock™ Installation-Ready™ Fittings No. 101, 102, 103, 143

No. 101

No. 102

No. 103

No. 143

1.0 PRODUCT DESCRIPTION

Function

- Installation-Ready™ Fittings for Fire Protection Systems.

Available Sizes

- 1 ¼ – 2 ½"/32 – 65 mm, and 76.1 mm

Pipe Material

- Carbon steel, Schedule 10, Schedule 40. For use with alternative materials please contact Victaulic.

Maximum Working Pressure

- Up to 365 psi/2517 kPa/25 BAR

Pipe Preparation

- Roll Grooved, Cut Grooved

2.0 CERTIFICATION/LISTINGS

c UL us LISTED FM LPCB VdS

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

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

3.0 SPECIFICATIONS - MATERIAL

Fitting Housing: Ductile iron conforming to ASTM A536, Grade 65-45-12

Housing Coating:

- ☐ Orange enamel (North America, Asia Pacific)
- ☐ Red enamel (Europe)
- ☐ Optional: Hot dipped galvanized

Gasket:

- ☐ **Grade "E" EPDM Type A Vic-Plus™ Gasket System**
  EPDM (Violet color code). FireLock products have been Listed by UL LLC and Approved by FM Approvals LLC for fire sprinkler services up to the rated working pressure using the Grade "E" Type A Vic-Plus™ Gasket System, requiring no field lubrication for most installation conditions.

Bolts/Nuts: Carbon steel oval neck track bolts meeting the physical and chemical requirements of ASTM A449 (imperial) and ISO 898-1 Class 9.8 (metric). Carbon steel hex nuts meeting the physical and chemical requirements of ASTM A563 Grade B (imperial) and ASTM A563M Class 9 (metric). Track bolts and hex nuts are zinc electroplated per ASTM B633 ZN/FE5, finish Type III (imperial) or Type II (metric).

Victaulic FireLock™ Innovative Groove System | IGS™ for 1"/DN25 Sprinkler Pipe

IGS™


No. 142
Welded Outlet


Style 922
Outlet-T


Style 920N
Mechanical-T Outlet


No. 101
Installation-Ready™
90° Elbow


Style 108
Installation-Ready™
Rigid Coupling


No. 102
Installation-Ready™
Tee


Style 115
OGS x IGS™
Reducing Coupling


No. 148 Sprinkler
Reducer, NPT or
BSPT sprinkler outlet


No. 65
Grooved End
of Run Fitting


No. 144
OGS x IGS™ Grooved
Concentric Reducer


No. 145 Female NPT
or BSPT Threaded x
Groove 90° Elbow


No. 143
Close Nipple


No. 140
Male NPT or BSPT
Threaded x Groove
Adapter


No. 141
Female NPT or BSPT
Threaded x Groove
Adapter


No. 146 Cap


RG2100 Roll
Grooving Tool


VicFlex™ Series
AH2-CC Braided
Flexible Hose
with Captured
Coupling (Refer to
publication 10.85)


VicFlex™ Series
AH1-CC Braided
Flexible Hose
with Captured
Coupling (Refer to
publication 10.95)

1.0 PRODUCT DESCRIPTION

Pipe Material

- Carbon steel, Schedule 10, Schedule 40. For use with alternative materials please contact Victaulic.

Maximum Working Pressure

- Up to 365 psi/2517 kPa/25 bar

Pipe Preparation

- Cut (Sch. 40) or roll (Sch. 10 or Sch. 40) grooved in accordance with publication 25.14: Victaulic *IGS* Groove Specifications.

RG2100 Grooving Capability

- 1"/DN25
- Workstation designed to cut, ream and form a roll groove on carbon steel, Sch. 10 or Sch. 40 pipe.
- This tool has a minimum pipe length requirement of 4 ½"/114 mm.

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

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

2.0 CERTIFICATION/LISTINGS

NOTES

- Approvals listed above do not apply to the RG2100 Roll Grooving Tool.

3.0 SPECIFICATIONS – MATERIAL

Housing: Ductile iron conforming to ASTM A536, Grade 65-45-12

Housing Coating:

☐ Orange enamel

☐ Red enamel (Europe)

☐ Optional: Hot dipped galvanized

Gasket:

☐ **Grade "E" EPDM (Type A) Vic-Plus™ Pre-lubricated Gasket**
EPDM (Violet Color Code). Applicable for wet and dry (oil-free air) fire protection systems only. Listed/Approved for continuous use in wet and dry systems. Listed/Approved for dry systems at -40°F/-40°C and above. NOT COMPATIBLE FOR USE WITH HOT WATER SERVICES OR STEAM SERVICES.

NOTES:

- Reference should always be made to publication I-100, Victaulic Field Installation Handbook for gasket lubrication instructions.
- Services listed are General Service Guidelines only. It should be noted that there are services for which these gaskets are not compatible. Reference should always be made to publication 05.01, Victaulic Gasket Selection Guide for specific gasket service guidelines and for a listing of services which are not compatible.

Bolts/Nuts:

☐ Carbon steel oval neck track bolts meeting the mechanical property requirements of ASTM A449 (imperial) and ISO 898-1 Class 9.8 (M10-M16) Class 8.8 (M20 and greater). Carbon steel hex nuts meeting the mechanical property requirements of ASTM A563 Grade B (imperial - heavy hex nuts) and ASTM A563M Class 9 (metric - hex nuts). Track bolts and hex nuts are zinc electroplated per ASTM B633 Fe/Zn 5, finish Type III (imperial) or Type II (metric).

Coupling Linkage: High Strength Steel with comparable physical properties to that of the Track Bolt (ASTM A449). Linkage is zinc electroplated per ASTM B633 Fe/Zn 5, Type III Finish

No. 140, 141, 142, 143, 144, 148: Carbon steel meeting the chemical and mechanical property requirements of ASTM A53 Grade A

No. 65, 145, 146: Ductile iron conforming to ASTM A536, Grade 65-45-12

RG2100 Roll Grooving Tool:

Required Power Supply: Power Drive with Foot Switch (½ HP, Universal reversible motor, single-phase, 25-60 HZ)

Accessories/Components:

☐ Tool head assembly

☐ Carriage assembly - accepts RG2100 tool head assembly, Standard Cutter, Standard Reamer and Standard Lever

No. 20 Tee

No. 10 Elbow

1.0 PRODUCT DESCRIPTION

Available Sizes

- ¾ – 60"/DN20 – DN1500

Maximum Working Pressure

- Pressure ratings for Victaulic standard fittings conform to the ratings of Victaulic Style 177N couplings (refer to publication 06.24 for more information).

Application

- Connects pipe, provides change in direction and adapts sizes or components
- Supplied with Victaulic OGS grooves
- Exclusively for use with Victaulic couplings, valves, accessories and pipe which feature ends formed with the Victaulic OGS groove profile

Pipe Materials

- Carbon steel or stainless steel

NOTE

- These fittings are not intended for use with Victaulic plain end couplings. Intended for use only in grooved piping systems. When connecting wafer or lug type butterfly valves directly to Victaulic fittings using Style 741 or Style 743 flange adapters, be sure to check disc clearance dimensions with I.D. dimension of fitting.

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

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

1.0 PRODUCT DESCRIPTION (Continued)

Other Fitting Styles

AGS - Advanced Groove System
from 14 – 60"/DN350 – DN1500
Publication 20.05

Stainless Steel
Publication 17.16

Galvanized
Publication 07.01 for Original Groove Fittings
Publication 20.05 for AGS Fittings

Extra Heavy EndSeal "ES"
Publication 07.03

Copper
Publication 22.04

Ductile Iron for AWWA size pipe
Publication 23.05

XL fittings for abrasive services
Publication 07.07

Aluminum
Publication 21.03

Shouldered Ends
Publication 07.06

Plain End
Publication 14.04

2.0 CERTIFICATION/LISTINGS

NOTES

- When supplied as “hot dip galvanized” the following fittings are UL Classified in accordance with ANSI/NSF 61 and for use on cold +86°F/+30°C potable water service and ANSI/NSF 372: No. 10 90° Elbow, No. 11 45° Elbow, No. 12 22½° Elbow, No. 13 11¼° Elbow, No. 100 90° Long Radius Elbow, No. 110 45° Long Radius Elbow, No. 20 Tee, No. 25 Tee with Grooved Branch, No. 30 45° Lateral, No. 60 Cap, No. 50 Concentric Reducers, No. 51 Eccentric Reducers.
- The following Victaulic fittings are VdS approved: No.10 90° Elbow, No.11 45° Elbow, No.20 Tee and No.60 Cap.
- The following Victaulic fittings are LPCB approved: No.10 90° Elbow, No.11 45° Elbow, No.12 22 ½ Elbow, No.13 11 ¼° Elbow, No.30 45° Lateral, No.30-R Reducing Lateral, No.100 Long Radius Elbow, No.110 Long Radius Elbow, No.20 Tee, No.35 Cross, No.60 Cap, No.25 Reducing Tee, No.33 True Wye, No.50 Concentric Reducer, No.51 Eccentric Reducer and No.29M Tee with Threaded Branch.
- The following Victaulic fittings are FM approved: No.10 90° Elbow, No.11 45° Elbow, No.12 22½ Elbow, No.13 11¼° Elbow, No.30 45° Lateral, No.100 Long Radius Elbow, No.20 Tee, No.35 Cross, No.60 Cap, No.25 Reducing Tee and No.50 Concentric Reducer.

3.0 SPECIFICATIONS - MATERIAL

Fitting: (specify choice)

- ☐ Standard: Ductile iron conforming to ASTM A536, Grade 65-45-12.
- ☐ Optional: Segmentally welded steel as shown under nipples

Nipples: (specify choice)

- ☐ ¾ – 4"/DN20 – DN100: Carbon steel, Schedule 40, conforming to ASTM A53, Type F
- ☐ 5 – 6"/DN125 – DN150: Carbon steel, Schedule 40, conforming to ASTM A53, Type E or S, Gr. B
- ☐ 8 – 12"/DN200 – DN300: Carbon steel, Schedule 30 or 40, conforming to ASTM A53, Type E or S, Gr. B

Flanged Adapter Nipples: (specify choice)

- ☐ Class 125 Flange: Cast iron conforming to ANSI B16.1
- ☐ Class 150 Flange: Carbon steel conforming to ANSI B16.5, raised or flat face
- ☐ Class 300 Flange: Carbon steel conforming to ANSI B16.5, raised or flat face

Fitting Coating: (specify choice)

- ☐ Standard: Orange enamel
- ☐ Optional: Hot dip galvanized and others. Some fittings supplied electroplated as standard – see product specifications

Flanged Adapter Nipple Coating: (specify choice)

- ☐ Standard: None (Unfinished)
- ☐ Optional: Orange enamel, hot dip galvanized and others

90° ELBOW

AnvilStar™
Fire Products Division of Anvil International

SPF/ANVIL

Ductile Iron

MATERIAL SPECIFICATIONS

Ductile iron threaded fittings are UL & ULC Listed & Factory Mutual Approved for 500 psi service.

Ductile iron per ASTM A536 Class 65-45-12.

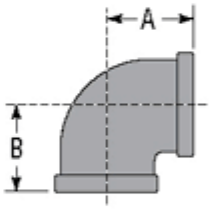
Dimensions conform to ASME B16.14

Threads are NPT per ANSI/ASME B1.20.1.

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 three turns beyond hand tight, but no more than four turns.

APPROVED

For Listing/Approval Details and Limitations visit our Web Site *www.anvilintl.com* or contact an Anvil®/AnvilStar™ Sales Representative.



90° ELBOW						
Nominal Size	Anvil Item Number	Universal Number	Max. Working Pressure*	Dimensions		Approx. Wt. Each
				A	B	
In. (mm)			PSI (kPa)	In. (mm)	In. (mm)	Lbs. (kg)
1 20	840000004	0B90033	500 3450	1.50 38.10	1.50 38.10	0.62 0.28
1¼ 32	840000012	0B90044	500 3450	1.75 44.45	1.75 44.45	0.90 0.41
1½ 40	840000020	0B90055	500 3450	1.94 49.276	1.94 49.276	1.20 0.54
2 50	840000038	0B90066	500 3450	2.25 57.15	2.25 57.15	1.85 0.84

* UL, ULC & FM Pressure Ratings

For additional listings and approvals, see the technical data section.

CAP

SPF/ANVIL

ANVILSTAR
Fire Products Division of Anvil International

Ductile Iron

MATERIAL SPECIFICATIONS

Ductile iron threaded fittings are UL & ULC Listed & Factory Mutual Approved for 500 psi service.

Ductile iron per ASTM A536 Class 65-45-12.

Dimensions conform to ASME B16.14

Threads are NPT per ANSI/ASME B1.20.1.

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 three turns beyond hand tight, but no more than four turns.

APPROVED

For Listing/Approval Details and Limitations visit our Web Site *www.anvilintl.com* or contact an Anvil®/AnvilStar™ Sales Representative.

CAP

Nominal Size	Anvil Item Number	Universal Number	Max. Working Pressure*	Dimensions A	Approx. Wt. Each
In. (mm)			*PSI (kPa)*	*In. (mm)*	*Lbs. (kg)*
1 *25*	840005615	DCP003	500 *3450*	1.16 *29.46*	0.32 *0.15*
1¼ *32*	840005623	DCP004	500 *3450*	1.28 *32.51*	0.43 *0.20*
1½ *40*	840005631	DCP005	500 *3450*	1.33 *33.78*	0.60 *0.27*
2 *50*	840005649	DCP006	500 *3450*	1.45 *36.83*	0.91 *0.41*

* UL, ULC & FM Pressure Ratings

For additional listings and approvals, see the technical data section.

CROSS

SPF/ANVIL

AnvilStar
Fire Products Division of Anvil International

Ductile Iron

MATERIAL SPECIFICATIONS

Ductile iron threaded fittings are UL & ULC Listed & Factory Mutual Approved for 500 psi service.

Ductile iron per ASTM A536 Class 65-45-12.

Dimensions conform to ASME B16.14

Threads are NPT per ANSI/ASME B1.20.1.

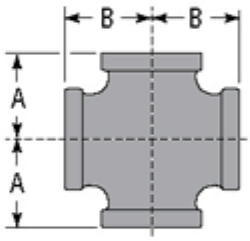
NOTICE: Ductile iron fittings have higher tensile strength than that of steel pipe. Therefore, over tightening can cause damage to pipe threads which may cause leakage. Ductile iron fittings should be tightened three turns beyond hand tight, but no more than four turns.

APPROVED

For Listing/Approval Details and Limitations visit our Web Site *www.anvilintl.com* or contact an Anvil®/AnvilStar™ Sales Representative.

CROSS

Nominal Size	Anvil Item Number	Universal Number	Max. Working Pressure*	Dimensions		Approx. Wt. Each
				A	B	
In. (mm)			*PSI (kPa)*	*In. (mm)*	*In. (mm)*	*Lbs. (kg)*
1 *25*	840006647	DX033	500 *3450*	1.50 *38.10*	1.50 *38.10*	0.98 *0.44*
1¼ *32*	840006654	DX044	500 *3450*	1.75 *44.45*	1.75 *44.45*	1.50 *0.68*
1½ *40*	840006662	DX055	500 *3450*	1.94 *49.27*	1.94 *49.27*	1.90 *0.86*
2 *50*	840006670	DX066	500 *3450*	2.25 *57.15*	2.25 *57.15*	2.95 *1.34*
1¼ x 1 *32 x 25*	840007678	DX043	500 *3450*	1.58 *40.13*	1.67 *42.41*	1.27 *0.58*
1½ x 1 *40 x 25*	840007686	DX053	500 *3450*	1.65 *41.91*	1.80 *45.72*	1.48 *0.67*
2 x 1 *50 x 25*	840007694	DX063	500 *3450*	1.73 *43.94*	2.02 *51.30*	2.10 *0.95*



* UL, ULC & FM Pressure Ratings

For additional listings and approvals, see the technical data section.

REDUCING COUPLING

AnvilStar
Fire Products Division of Anvil International

SPF/ANVIL

Ductile Iron

MATERIAL SPECIFICATIONS

Ductile iron threaded fittings are UL & ULC Listed & Factory Mutual Approved for 500 psi service.

Ductile iron per ASTM A536 Class 65-45-12.

Dimensions conform to ASME B16.14

Threads are NPT per ANSI/ASME B1.20.1.

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 three turns beyond hand tight, but no more than four turns.

APPROVED

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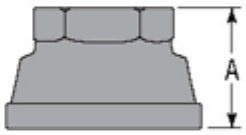
REDUCING COUPLING

Nominal Size	Anvil Item Number	Universal Number	Max. Working Pressure*	Dimensions A	Approx. Wt. Each
In. (mm)			*PSI (kPa)*	*In. (mm)*	*Lbs. (kg)*
1 x ⅜ *25 x 15*	840010755	DRC031	500 *3450*	1.69 *42.92*	0.39 *0.18*
1 x ¼ *25 x 20*	840010763	DRC032	500 *3450*	1.69 *42.92*	0.53 *0.24*

* UL, ULC & FM Pressure Ratings

For additional listings and approvals, see the technical data section.



REDUCING 90° ELBOW

AnvilStar™
Fire Products Division of Anvil International

SPF/ANVIL

Ductile Iron

MATERIAL SPECIFICATIONS

Ductile iron threaded fittings are UL & ULC Listed & Factory Mutual Approved for 500 psi service.

Ductile iron per ASTM A536 Class 65-45-12.

Dimensions conform to ASME B16.14

Threads are NPT per ANSI/ASME B1.20.1.

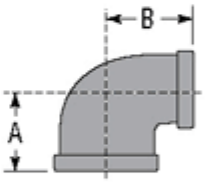
NOTICE: Ductile iron fittings have higher tensile strength than that of steel pipe. Therefore, over tightening can cause damage to pipe threads which may cause leakage. Ductile iron fittings should be tightened three turns beyond hand tight, but no more than four turns.

APPROVED

For Listing/Approval Details and Limitations visit our Web Site *www.anvilintl.com* or contact an Anvil®/AnvilStar™ Sales Representative.

REDUCING 90° ELBOW

Nominal Size	Anvil Item Number	Universal Number	Max. Working Pressure*	Dimensions		Approx. Wt. Each
				A	B	
In. (mm)			*PSI (kPa)*	*In. (mm)*	*In. (mm)*	*Lbs. (kg)*
1 x ½ *25 x 15*	840001036	0690031	500 *3450*	1.26 *32.00*	1.36 *34.54*	0.44 *0.20*
1 x ¾ *25 x 20*	840001044	0690032	500 *3450*	1.37 *34.79*	1.45 *36.83*	0.52 *0.24*
1¼ x ½ *32 x 15*	840001051	0690041	500 *34550*	1.34 *34.03*	1.53 *38.86*	0.64 *0.29*
1¼ x ¾ *32 x 20*	840001069	0690042	500 *3450*	1.45 *36.83*	1.62 *41.14*	0.72 *0.33*
1¼ x 1 *32 x 25*	840001077	0690043	500 *3450*	1.58 *40.13*	1.67 *42.41*	0.75 *0.34*
1½ x 1 *40 x 25*	840001085	0690053	500 *3450*	1.65 *41.91*	1.80 *45.72*	0.92 *0.42*
1½ x 1¼ *40 x 32*	840001093	0690054	500 *3450*	1.82 *46.22*	1.88 *47.75*	1.08 *0.49*
2 x ½ *50 x 15*	840001101	0690061	500 *3450*	1.49 *37.84*	1.88 *47.75*	1.08 *0.49*
2 x ¾ *50 x 20*	840001119	0690062	500 *3450*	1.60 *40.64*	1.97 *50.03*	1.24 *0.56*
2 x 1 *50 x 25*	840001127	0690063	500 *3450*	1.73 *43.94*	2.02 *51.30*	1.40 *0.64*
2 x 1¼ *50 x 32*	840001135	0690064	500 *3450*	1.90 *48.26*	2.10 *53.34*	1.52 *0.70*
2 x 1½ *50 x 40*	840001143	0690065	500 *3450*	2.02 *51.30*	2.16 *54.86*	1.65 *0.75*



* UL, ULC & FM Pressure Ratings

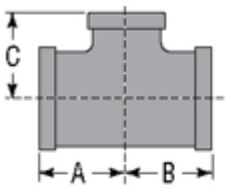
For additional listings and approvals, see the technical data section.

REDUCING TEE

ANVILSTAR™
Fire Products Division of Anvil International

SPF/ANVIL

Ductile Iron



MATERIAL SPECIFICATIONS

Ductile iron threaded fittings are UL & ULC Listed & Factory Mutual Approved for 500 psi service.

Ductile iron per ASTM A536 Class 65-45-12.

Dimensions conform to ASME B16.14

Threads are NPT per ANSI/ASME B1.20.1.

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 three turns beyond hand tight, but no more than four turns.

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UL FM ULC APPROVED

* UL, ULC & FM Pressure Ratings

For additional listings and approvals, see the technical data section.

REDUCING TEE

Nominal Size	Anvil Item Number	Universal Number	Max. Working Pressure*	Dimensions			Approx. Wt. Each
				A	B	C	
In. (mm)			PSI (kPa)	In. (mm)	In. (mm)	In. (mm)	Lbs. (kg)
1 x ½ x 1 25 x 15 x 25	840004196	DT313	500 3450	1.50 38.10	1.36 34.54	1.50 38.10	0.64 0.29
1 x ¾ x 1 25 x 20 x 25	840004204	DT323	500 3450	1.50 38.10	1.45 36.83	1.50 38.10	0.73 0.33
1 x 1 x ½ 25 x 25 x 15	840004212	DT331	500 3450	1.26 32.00	1.26 32.00	1.36 34.54	0.71 0.32
1 x 1 x ¾ 25 x 25 x 20	840004220	DT332	500 3450	1.37 34.80	1.37 34.80	1.45 36.83	0.76 0.34
1 x 1 x 1¼ 25 x 25 x 32	840004238	DT334	500 3450	1.67 42.41	1.67 42.41	1.58 40.13	0.98 0.44
1 x 1 x 1½ 25 x 25 x 40	840004246	DT335	500 3450	1.80 45.72	1.80 45.72	1.65 41.91	1.16 0.53
1¼ x 1 x ½ 32 x 25 x 15	840004253	DT431	500 3450	1.34 34.04	1.26 32.00	1.53 38.86	0.82 0.37
1¼ x 1 x ¾ 32 x 25 x 20	840004261	DT432	500 3450	1.45 36.83	1.37 34.80	1.62 41.15	0.90 0.41
1¼ x 1 x 1 32 x 25 x 25	840004279	DT433	500 3450	1.58 40.13	1.50 38.10	1.67 42.42	1.00 0.45
1¼ x 1 x 1¼ 32 x 25 x 32	840004287	DT434	500 3450	1.75 44.45	1.67 42.42	1.75 44.45	1.08 0.49
1¼ x 1 x 1½ 32 x 25 x 40	840004295	DT435	500 3450	1.88 47.75	1.80 45.72	1.82 46.22	1.42 0.64
1¼ x 1¼ x ½ 32 x 32 x 15	840004303	DT441	500 3450	1.34 34.04	1.34 34.04	1.53 38.86	0.86 0.39
1¼ x 1¼ x ¾ 32 x 32 x 20	840004311	DT442	500 3450	1.45 36.83	1.45 36.83	1.62 41.15	0.92 0.42
1¼ x 1¼ x 1 32 x 32 x 25	840004329	DT443	500 3450	1.58 40.13	1.58 40.13	1.67 42.42	0.95 0.43
1¼ x 1¼ x 1½ 32 x 32 x 40	840004337	DT445	500 3450	1.88 47.75	1.88 47.75	1.82 46.22	1.45 0.66
1¼ x 1¼ x 2 32 x 32 x 50	840004345	DT446	500 3450	2.10 53.34	2.10 53.34	1.90 48.26	1.75 0.79
1½ x 1 x ½ 40 x 25 x 15	840004352	DT531	500 3450	1.41 35.81	1.34 34.04	1.66 42.16	0.95 0.43
1½ x 1 x ¾ 40 x 25 x 20	840004360	DT532	500 3450	1.52 38.61	1.37 34.80	1.75 44.45	1.14 0.52
1½ x 1 x 1 40 x 25 x 25	840004378	DT533	500 3450	1.65 41.91	1.50 38.10	1.80 45.72	1.17 0.53
1½ x 1 x 1¼ 40 x 25 x 32	840004386	DT534	500 3450	1.82 46.23	1.67 42.42	1.88 47.75	1.34 0.61
1½ x 1 x 1½ 40 x 25 x 40	840004394	DT535	500 3450	1.94 49.28	1.80 45.72	1.94 49.28	1.45 0.66
1½ x 1¼ x ½ 40 x 32 x 15	840004402	DT541	500 3450	1.41 35.81	1.34 34.04	1.66 42.16	1.05 0.48
1½ x 1¼ x ¾ 40 x 32 x 20	840004410	DT542	500 3450	1.52 38.61	1.45 36.83	1.75 44.45	1.15 0.5
1½ x 1¼ x 1 40 x 32 x 25	840004428	DT543	500 3450	1.65 41.91	1.58 40.13	1.80 45.72	1.25 0.57

REDUCING TEE

Nominal Size	Anvil Item Number	Universal Number	Max. Working Pressure*	Dimensions			Approx. Wt. Each
				A	B	C	
In. (mm)			PSI (kPa)	In. (mm)	In. (mm)	In. (mm)	Lbs. (kg)
1½ x 1¼ x 2 40 x 32 x 50	840004436	DT546	500 3450	2.16 54.86	2.10 53.34	2.02 51.30	1.90 0.86
1½ x 1½ x ½ 40 x 40 x 15	840004444	DT551	500 3450	1.41 35.81	1.41 35.81	1.16 29.46	1.15 0.52
1½ x 1½ x ¾ 40 x 40 x 20	840004451	DT552	500 3450	1.52 38.61	1.52 38.61	1.75 44.45	1.24 0.56
1½ x 1½ x 1 40 x 40 x 25	840004469	DT553	500 3450	1.65 41.91	1.65 41.91	1.80 45.72	1.30 0.59
1½ x 1½ x 1¼ 40 x 40 x 32	840004477	DT554	500 3450	1.82 46.23	1.82 46.23	1.88 47.75	1.48 0.67
1½ x 1½ x 2 40 x 40 x 50	840004485	DT556	500 3450	2.16 54.86	2.16 54.86	2.02 51.30	1.98 0.90
2 x 1 x 2 50 x 25 x 50	840004493	DT636	500 3450	2.25 57.15	2.02 51.31	2.25 57.15	2.15 0.98
2 x 1¼ x 2 50 x 32 x 50	840004501	DT646	500 3450	2.25 57.15	2.10 53.34	2.25 57.15	2.30 1.04
2 x 1½ x ½ 50 x 40 x 15	840004519	DT651	500 3450	1.49 37.85	1.41 35.81	1.88 47.75	1.50 0.68
2 x 1½ x ¾ 50 x 40 x 20	840004527	DT652	500 3450	1.60 40.64	1.52 38.61	1.97 50.04	1.62 0.73
2 x 1½ x 1 50 x 40 x 25	840004535	DT653	500 3450	1.73 43.94	1.65 41.91	2.02 51.31	1.64 0.74
2 x 1½ x 1¼ 50 x 40 x 32	840004543	DT654	500 3450	1.90 48.26	1.82 46.23	2.10 53.34	1.80 0.82
2 x 1½ x 1½ 50 x 40 x 40	840004550	DT655	500 3450	2.02 51.31	1.94 49.28	2.16 54.86	2.00 0.91
2 x 1½ x 2 50 x 40 x 50	840004568	DT656	500 3450	2.25 57.15	2.16 54.86	2.25 57.15	2.35 1.07
2 x 2 x ½ 50 x 50 x 15	840004576	DT661	500 3450	1.49 37.85	1.49 37.85	1.88 47.75	1.60 0.73
2 x 2 x ¾ 50 x 50 x 20	840004584	DT662	500 3450	1.60 40.64	1.60 40.64	1.97 50.04	1.68 0.76
2 x 2 x 1 50 x 50 x 25	840004592	DT663	500 3450	1.73 43.94	1.73 43.94	2.02 51.31	1.85 0.84
2 x 2 x 1¼ 50 x 50 x 32	840004600	DT664	500 3450	1.90 48.45	1.90 42.42	2.10 48.45	2.04 0.93
2 x 2 x 1½ 50 x 50 x 40	840004618	DT665	500 3450	2.02 48.45	2.02 42.42	2.16 48.45	2.18 0.99
2 x 2 x 2½ 50 x 50 x 65	-	DT667	500 3450	2.60 48.45	2.60 42.42	2.39 48.45	3.61 1.64
2½ x 2 x ¾ 65 x 50 x 20	-	DT762	500 3450	1.74 48.45	1.60 42.42	2.32 48.45	2.28 1.03

STRAIGHT TEE

ANVILSTAR
Fire Products Division of Anvil International

SPF/ANVIL

Ductile Iron

MATERIAL SPECIFICATIONS

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Ductile iron per ASTM A536 Class 65-45-12.

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Threads are NPT per ANSI/ASME B1.20.1.

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APPROVED

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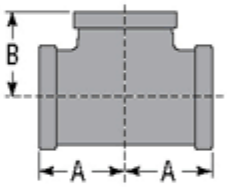
STRAIGHT TEE

Nominal Size	Anvil Item Number	Universal Number	Max. Working Pressure*	Dimensions		Approx. Wt. Each
				A	B	
In. (mm)			*PSI (kPa)*	*In. (mm)*	*In. (mm)*	*Lbs. (kg)*
1 *25*	840003164	DT333	500 *3450*	1.50 *38.10*	1.50 *38.10*	0.85 *0.39*
1¼ *32*	840003172	DT444	500 *3450*	1.75 *44.45*	1.75 *44.45*	1.22 *0.55*
1½ *40*	840003180	DT555	500 *3450*	1.94 *49.27*	1.94 *49.27*	1.55 *0.70*
2 *50*	840003198	DT666	500 *3450*	2.25 *57.15*	2.25 *57.15*	2.45 *1.11*



* UL, ULC & FM Pressure Ratings

For additional listings and approvals, see the technical data section.

Series AH2

Series AH2-CC

1.0 PRODUCT DESCRIPTION

Available Sizes by Component

Series AH2 1"/DN25 ID Braided Hose: 31, 36, 48, 60, 72"/790, 915, 1220, 1525, 1830 mm. Note: length includes adapter nipple and 5.75"/140 mm straight reducer.

Series AH2-CC 1"/DN25 ID Braided Hose: 31, 36, 48, 60, 72"/790, 915, 1220, 1525, 1830 mm.
Note: length includes captured coupling and 5.75"/140 mm straight reducer.

Connections

- **From Branchline**
  - ¾"/20mm BSPT female thread (VdS only)
  - 1 ¼"/32mm BSPT female thread (LPCB only)
  - 1"/25mm NPT or BSPT female Thread
  - 1"/25mm Grooved IGS (refer to Submittal 10.54 for additional IGS connections)
    - No. 116 CPVC Adapter (1"/25mm Female CPVC Socket x 1"/25mm Grooved IGS)
    - No. 142 Welded Outlet
    - Style 922 Outlet-T
    - Style 920N Mechanical-T Outlet
    - No. 65 Grooved End of Run Fitting
- **Hose Inlet**
  - 1"/25mm Grooved IGS
  - 1"/25mm NPT or BSPT male thread
  - ¾"/20mm BSPT male thread (VdS only)
  - 1 ¼"/32mm BSPT male thread (LPCB only)

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

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

1.0 PRODUCT DESCRIPTION (CONTINUED)

- **Sprinkler Reducer**
  - Sprinkler Connection: ½" and ¾"/15mm and 20mm NPT or BSPT female thread
  - Straight Lengths: 5.75", 9", 13"/140mm, 230mm, 330mm
  - 90˚ Elbows
    - Standard Short
    - Low Profile Short
    - Standard Long
    - Low Profile Long

  (Short elbows typically used with concealed sprinklers. Long elbows typically used with recessed pendent sprinklers)

Brackets

- Style AB2 for suspended and hard-lid ceilings and sidewalls, allows for vertical sprinkler adjustment, and installation before most ceiling tiles in place
- Style AB3 for surface mount applications, wood, metal and block walls, or ceilings
- Style AB4 for hard-lid ceilings with hat furring channel grid systems, allows for vertical sprinkler adjustment
- Style AB5 for hard-lid ceilings and sidewalls, allows for vertical sprinkler adjustment
- Style AB7 for suspended and hard-lid ceilings
- Style AB7 Adjustable for suspended and hard-lid ceilings
- Style AB10 for Armstrong® TechZone™ ceilings
- Style AB11 for lay-in panel suspended t-grid ceilings or drywall suspended t-grid ceilings, allows for low profile installations (use only with 90° low profile elbows)
- Style AB12 for suspended and hard-lid ceilings, allows for vertical sprinkler adjustment, and allows for low profile installation down to 4"/100mm.
- Style ABBA bracket for suspended, exposed, and hard-lid ceilings
- Style ABMM bracket for surface mount and stand off-mount applications, wood, metal and block walls, or ceilings and hard-lid ceilings
- Strut channel and pipe clamp, not supplied by Victaulic

Maximum Working Temperature

- 225°F/107°C
- 150°F/65°C (No. 116 CPVC Adapter)

Maximum Working Pressure

- 200 psi/1375 kPa (FM Approval)
- 175 psi/1206 kPa (cULus Listed)
- 1600 kPa/232 psi (VdS/LPCB Approved)
- 1.4 MPa (CCCf Approved)
- 175 psi/1206 kPa (No. 116 CPVC Adapter)

Minimum Bend Radius

- 7"/178 mm (FM/CCCf Approval)
- 2"/51 mm (cULus Listed)
- 3"/76.2 mm (VdS/LPCB Approved)

1.0 PRODUCT DESCRIPTION (CONTINUED)

Maximum Allowable Sprinkler K-Factors

- FM (½"/15 mm reducer) K5.6/8,1 (S.I.), (¾"/20 mm reducer) K14.0/20,2 (S.I.)
- cULus (½"/15 mm reducer) K8.0/11,5 (S.I.), (¾"/20 mm reducer) K14.0/20,2 (S.I.)
- VdS/LPCB (½"/15 mm reducer) K5.6/8,1 (S.I.), (¾"/20 mm reducer) K8.0/11,5 (S.I.)

2.0 CERTIFICATION/LISTINGS

LPS 1261: Issue 1.2
Cert/LPCB Ref. 104l/01
104l/04

NOTE

- The *VicFlex* Series AH2 Hose has been tested and evaluated by Spears® for acceptable use with Spears® CPVC Products and is therefore covered under the Spears® FlameGuard® Installer Protection Plan.

3.0 SPECIFICATIONS – MATERIAL

Series AH2:

Flexible Hose: 300-series Stainless Steel
Collar/Weld Fitting: 300-series Stainless Steel
Gasket Seal: Victaulic EPDM
Isolation Ring: Nylon
Nut and Nipple: Carbon Steel, Zinc-Plated
Reducer (½"/15 mm or ¾"/20 mm): Carbon Steel, Zinc-Plated
Low Profile Elbows: Ductile Iron, Zinc-Plated

Brackets: Carbon Steel, Zinc-Plated

Series AH2-CC:

Flexible Hose: 300-series Stainless Steel
Collar/Weld Fitting: 300-series Stainless Steel
Gasket Seal: Victaulic EPDM
Isolation Ring: Nylon
Coupling Retainer Ring: Polyethelene
Nut: Carbon Steel, Zinc-Plated
Reducer (½"/15 mm or ¾"/20 mm): Carbon Steel, Zinc-Plated
Low Profile Elbows: Ductile Iron, Zinc-Plated
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.

Coupling Housing Coating:

- Orange enamel (North America, Asia Pacific).
- Red enamel (Europe).
- Hot dipped galvanized.

Gasket:[1]

Grade "E" EPDM (Type A)
FireLock EZ products have been Listed by Underwriters Laboratories Inc., Underwriters Laboratories of Canada Limited, and Approved by Factory Mutual Research for wet and dry (oil free air) sprinkler services within the rated working pressure.

[1] Services listed are General Service Guidelines only. It should be noted that there are services for which these gaskets are not compatible. Reference should always be made to the latest Victaulic Gasket Selection Guide for specific gasket service guidelines and for a listing of services which are not compatible.

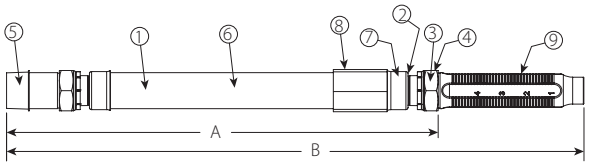
Bolts/Nut: Zinc electroplated carbon steel, trackhead meeting the physical and chemical requirements of ASTM A 449 and physical requirements of ASTM A 183.

Linkage: CrMo Alloy Steel zinc electroplated per ASTM B633 Zn/Fe 5, Type III Finish

No. 116 Adapter Fitting: CPVC and Brass
Seal: Victaulic EPDM

4.0 DIMENSIONS

Product Details - Series AH2 Braided Hose

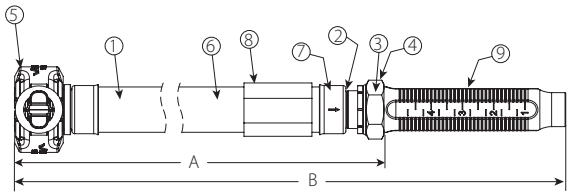


Item	Description
1	Flexible Hose
2	Isolation Ring
3	Gasket
4	Nut
5	Adapter Nipple
6	Braid
7	Collar/Weld Fitting
8	Sleeve
9	Reducer

Hose Length Dimensions

Hose Length inches mm	A inches mm	B inches mm
31 790	25.3 641	31 790
36 915	31.3 794	36 915
48 1219	42.3 1073	48 1220
60 1525	54.3 1378	60 1525
72 1830	66.3 1683	72 1830

Series AH2-CC Braided Hose



Item	Description
1	Flexible Hose
2	Isolation Ring
3	Gasket
4	Nut
5	Captured Coupling
6	Braid
7	Collar/Weld Fitting
8	Sleeve
9	Reducer

Hose Length inches mm	A inches mm	B inches mm
31 790	24.5 622	29.8 757
36 915	29.5 749	34.8 884
48 1219	41.5 1054	46.8 1189
60 1525	53.5 1359	58.8 1494
72 1830	65.5 1664	70.8 1798

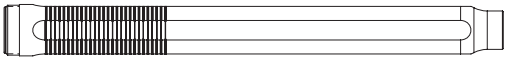
4.0 DIMENSIONS (CONTINUED)

Standard Reducer

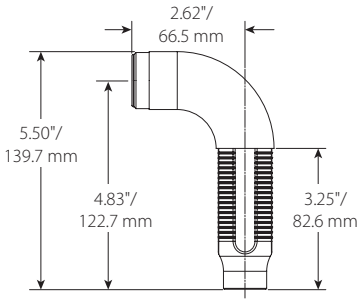
5.75"/140 mm straight reducer

Optional Reducers

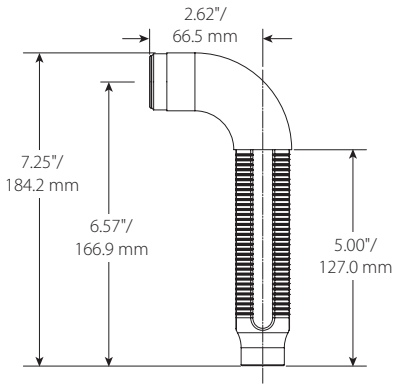
9.0"/229 mm straight reducer



13.0"/330 mm straight reducer



Short 90° elbow reducer

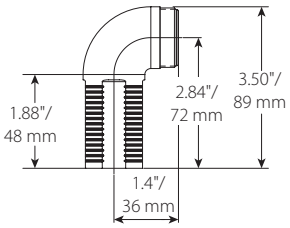


Long 90° elbow reducer

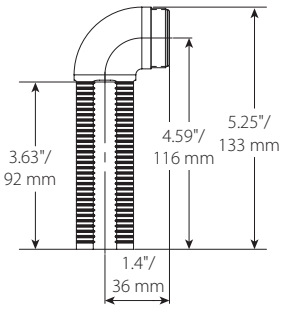
NOTE

- The Short 90° elbow reducer is typically used with concealed sprinklers while the longer 90 elbow is typically used in the installation of recessed pendent sprinklers.
- FM/VdS Approved only.

Low Profile



Short 90° elbow reducer

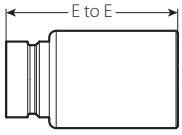


Long 90° elbow reducer

NOTE

- Style AB11: When low profiles elbows are with the Style AB11 bracket, the Low Profile Short Elbow is typically used with concealed sprinklers while the Low Profile Long Elbow is typically used in the installation of recessed pendent sprinklers.

No. 116 CPVC Adapter



NOTES

- E to E is 3.0"/76.0 mm
- The No. 116 CPVC Adapter has 2 ft. (0.6 m) EQL of 1" Schedule 40 pipe.

4.1 DIMENSIONS

VicFlex Brackets

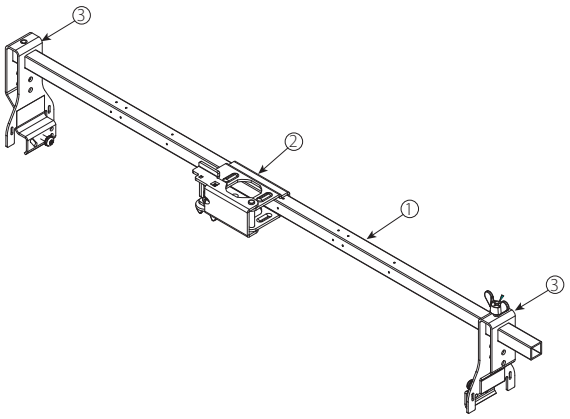
Style AB2

- Suspended Ceilings
- Hard-Lid Ceilings

Item	Description
1	24"/610 mm or 48"/1219 mm Square Bar
2	Patented Vertically Adjustable Center Bracket
3	End Bracket

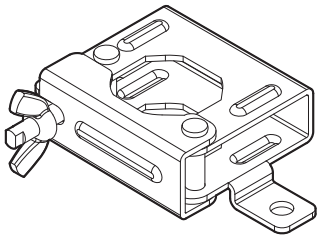
NOTE

- Both sizes FM/VdS/LPCB Approved, cULus listed



Style AB3

- Surface Mount Applications
- FM/LPCB Approved



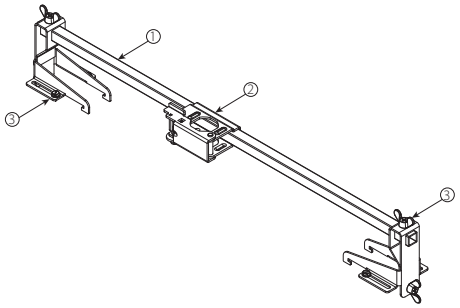
Style AB4

- Hard-Lid Ceilings with Hat furring channel grid system

Item	Description
1	24"/610 mm or 48"/1219 mm Square Bar
2	Patented Vertically Adjustable Center Bracket
3	End Bracket for Hat Furring Channel

NOTE

- Both sizes FM/VdS/LPCB Approved, cULus listed.



4.2 DIMENSIONS

VicFlex Brackets

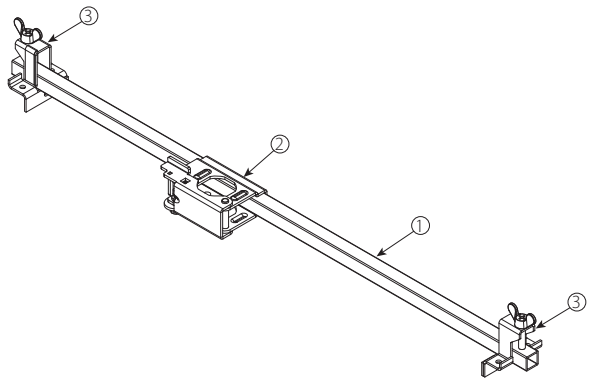
Style AB5

- Hard-Lid Ceilings

Item	Description
1	24"/610 mm or 48"/1219 mm Square Bar
2	Patented Vertically Adjustable Center Bracket
3	End Bracket

NOTE

- Both sizes FM/VdS/LPCB Approved, cULus listed.



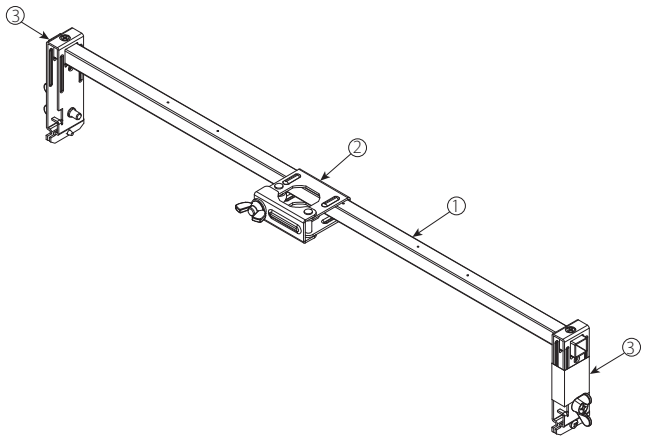
Style AB7

- Suspended Ceilings
- Hard-Lid Ceilings

Item	Description
1	24"/610 mm or 48"/1219 mm Square Bar
2	Patented 1-Bee2® Center Bracket
3	End Bracket

NOTE

- Both sizes FM/VdS/LPCB Approved.



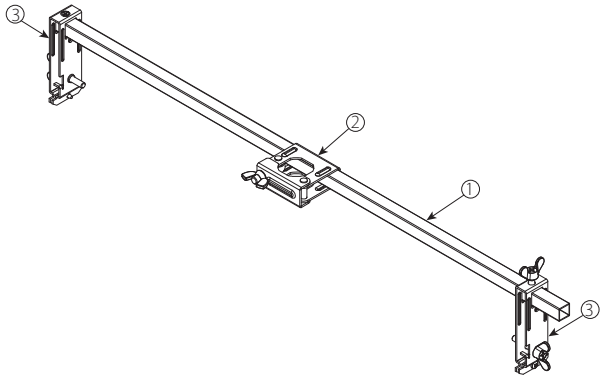
Style AB7 Adjustable

- Suspended Ceilings
- Hard-Lid Ceilings

Item	Description
1	700 mm or 1400 mm Square Bar
2	Patented 1-Bee2® Center Bracket
3	End Bracket (adjustable)

NOTE

- Both sizes FM/VdS/LPCB Approved.

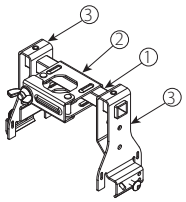


4.3 DIMENSIONS

VicFlex Brackets

Style AB10

- Suspended ceilings
- Armstrong® TechZone™



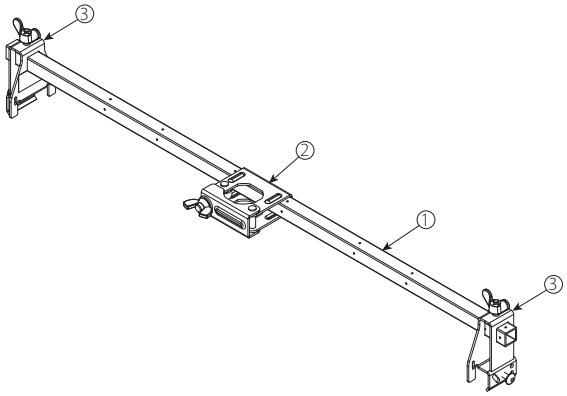
Item	Description
1	6"/152 mm Square Bar
2	Patented 1-Bee2® Center Bracket
3	End Bracket

NOTE

- FM/VdS/LPCB Approved, cULus listed.

Style AB11

- Suspended ceilings
- Hard-Lid ceilings



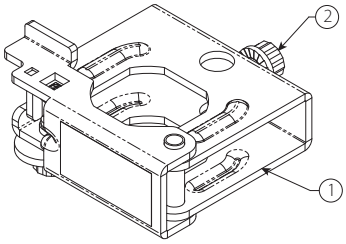
Item	Description
1	24"/610 mm or 48"/1219 mm Square Bar
2	Patented 1-Bee2® Center Bracket
3	End Bracket

NOTE

- FM/VdS Approved, cULus listed.

Style AB12

- Suspended ceilings
- Hard-Lid ceilings



Item	Description
1	Style AB12 Bracket Body
2	#2 Square Drive Set Screw

NOTE

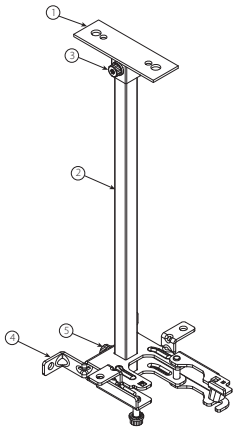
- FM/VdS Approved.

4.3 DIMENSIONS (CONTINUED)

VicFlex Brackets

Style ABBA

- Floor-above mount
- Cantilever mount
- Temporary mount in exposed ceilings



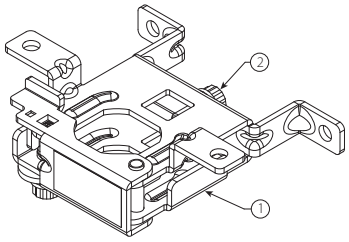
Item	Description
1	Style ABBA Mounting Plate
2	Style ABBA Square Bar
3	Cap Screw, Serated Flange, M6 x 1 x 20, T25 Torx Drive Recessed
4	Style ABMM Bracket Body
5	Cap Screw, Serated Flange, M6 x 1 x 15.24, T25 Torx Drive Recessed

NOTE

- FM Approved.

Style ABMM

- Surface mount
- Stand-off mount



Item	Description
1	Style ABMM Bracket Body
2	Cap Screw, Serated Flange, M6 x 1 x 15.24, T25 Torx Drive Recessed

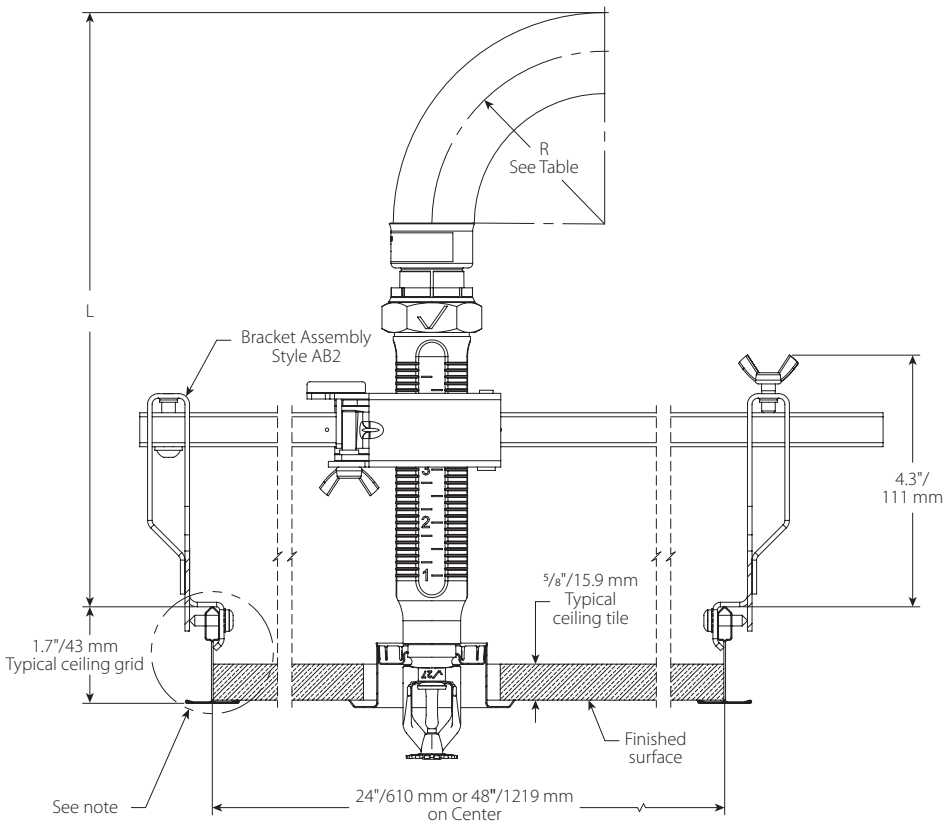
NOTE

- FM Approved.

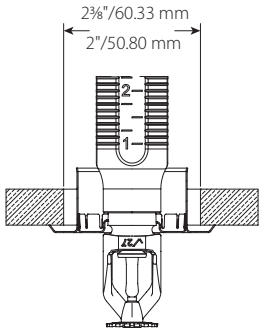
4.4 DIMENSIONS

Clearances

Series AH2 Braided Hose and Style AB2 Bracket



V2707 ¾"/19 MM MAX. RECESS



V2707 MAX. EXTENSION

Hose Clearance Chart								
	Straight Reducer						Long Elbow	Short Elbow
	V2707 ¾" Max Recess inches mm	V3802 ½" Max Recess inches mm	V2707 ¾" Max Recess inches mm	V3802 ½" Max Recess inches mm	V2707 ¾" Max Recess inches mm	V3802 ½" Max Recess inches mm	V2707 ¾" Max Recess inches mm	V3802 ½" Max Recess inches mm
"R" Minimum Bend Radius	2.0 50		3.0 80		7.0 175		–	
"A" Minimum Required Installation Space	8.6 218	10.1 269	9.6 244	11.1 281	13.6 345	15.1 383	5.8 147	5.8 147

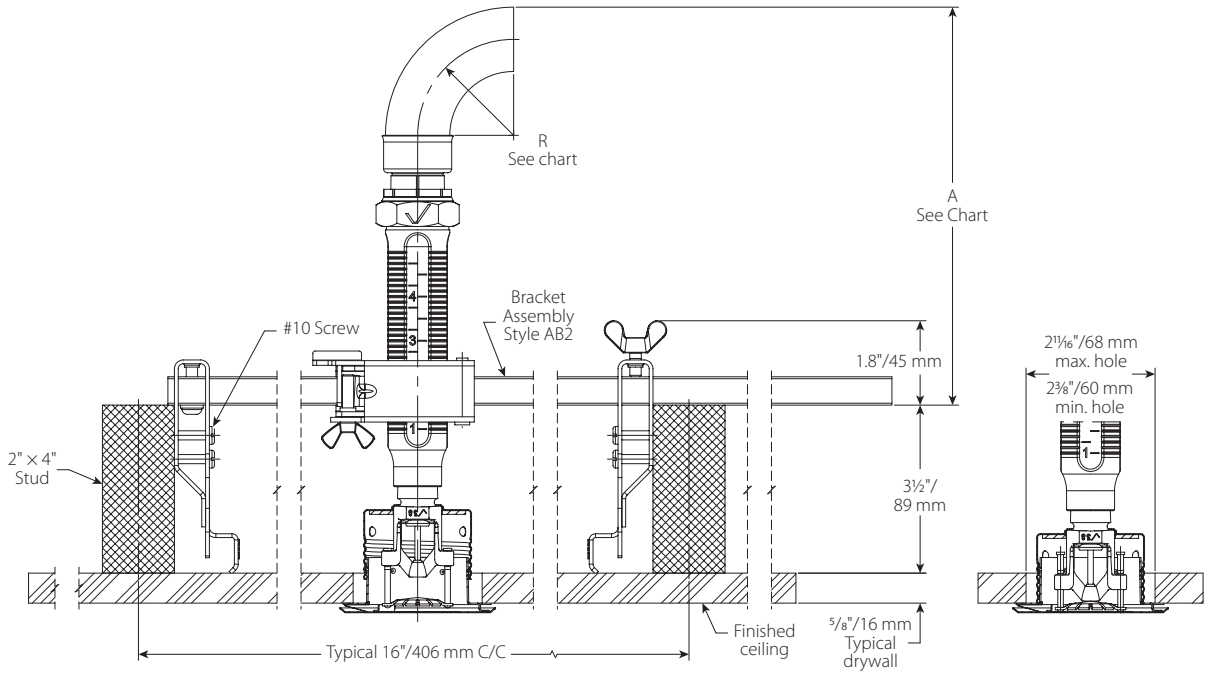
NOTE

- Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.

4.5 DIMENSIONS

Clearances

Series AH2 Braided Hose and Style AB2 Bracket



V38 ½"/13 mm MAX. RECESS **V38 MAX. EXTENSION**

Hose Clearance Chart									
	Straight Reducer								
	V2707 ¾" I 20 mm Max Recess" inches mm	**V3802 ½" I 13 mm Max Recess** inches mm	**V2709 ¾" I 20 mm Sidewall** inches mm	**V2707 ¾" I 20 mm Max Recess** inches mm	**V3802 ½" I 13 mm Max Recess** inches mm	**V2709 ¾" I 20 mm Sidewall** inches mm	**V2707 ¾" I 20 mm Max Recess** inches mm	**V3802 ½" I 13 mm Max Recess** inches mm	**V2709 ¾" I 20 mm Sidewall** inches mm
"R" Minimum Bend Radius	2.0 50			3.0 80			7.0 175		
"A" Minimum Required Installation Space	6.2 158	7.6 193	6.1 155	7.2 183	8.6 218	7.1 180	11.2 285	12.6 320	11.1 282

Hose Clearance Chart			
	Long Elbow		Short Elbow
	V2707 ¾" I 20 mm Max Recess inches mm	**V2709 ¾" I 20 mm Sidewall** inches mm	**V3802 ½" I 13 mm Max Recess** inches mm
"R" Minimum Bend Radius	–		
"A" Minimum Required Installation Space	3.3 84	3.6 91	3.3 84

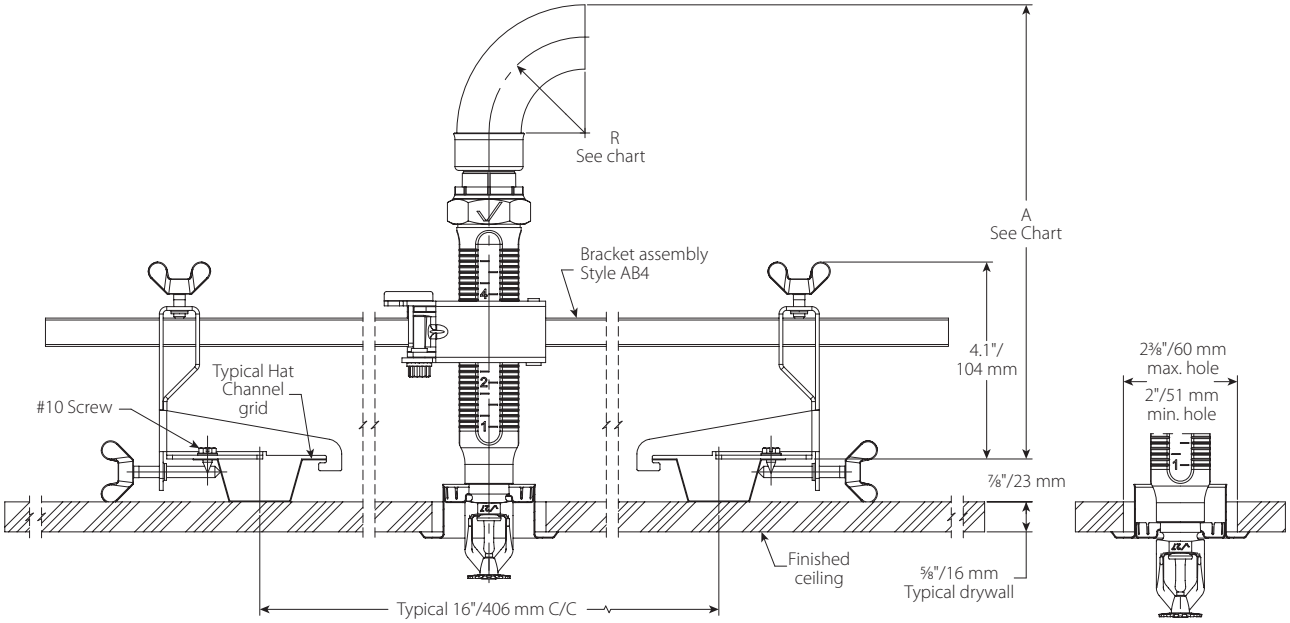
NOTE

- Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.

4.6 DIMENSIONS

Clearances

Series AH2 Braided Hose and Style AB4 Bracket



V27 ¾"/19 mm MAX. RECESS

V27 MAX. EXTENSION

Hose Clearance Chart								
	Straight Reducer						Long Elbow	Short Elbow
	V2707 ¾" Max Recess inches mm	**V3802 ½" Max Recess** inches mm	**V2707 ¾" Max Recess** inches mm	**V3802 ½" Max Recess** inches mm	**V2707 ¾" Max Recess** inches mm	**V3802 ½" Max Recess** inches mm	**V2707 ¾" Max Recess** inches mm	**V3802 ½" Max Recess** inches mm
"R" Minimum Bend Radius	2.0 50	2.0 50	3.0 80	3.0 80	7.0 175	7.0 175	–	
"A" Minimum Required Installation Space	8.8 224	10.2 259	9.8 249	11.2 285	13.8 351	15.2 386	8.0 203	5.9 150

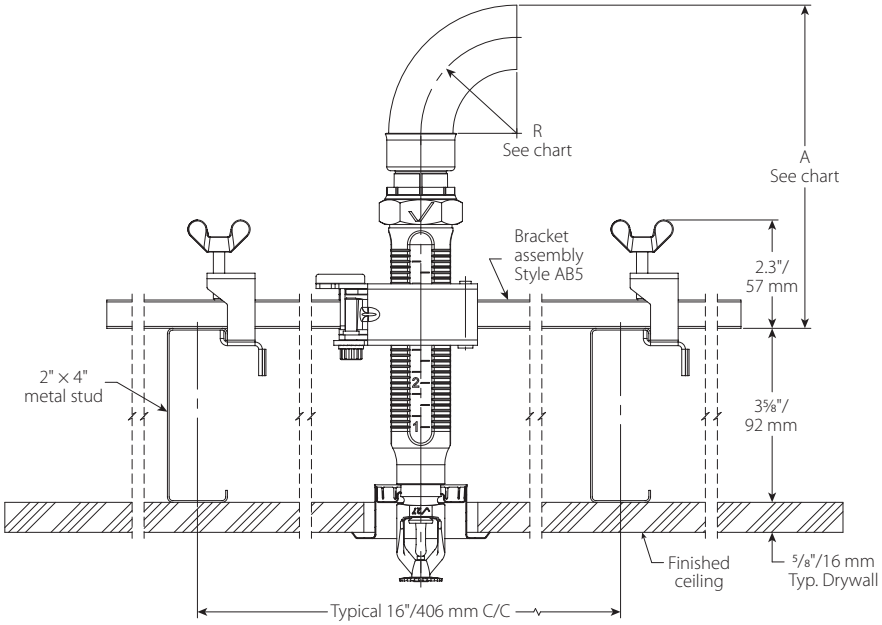
NOTE

Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.

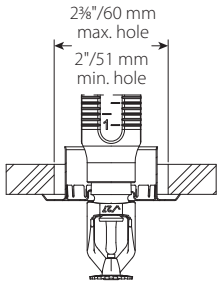
4.7 DIMENSIONS

Clearances

Series AH2 Braided Hose and Style AB5 Bracket



V27 ¾"/19 mm MAX. RECESS



V27 MAX. EXTENSION

Hose Clearance Chart									
	Straight Reducer								
	"V2707 ¾" I 20 mm Max Recess" inches mm	V3802 ½" I 13 mm Max Recess inches mm	V2709 ¾" I 20 mm Sidewall inches mm	V2707 ¾" I 20 mm Max Recess inches mm	V3802 ½" I 13 mm Max Recess inches mm	V2709 ¾" I 20 mm Sidewall inches mm	V2707 ¾" I 20 mm Max Recess inches mm	V3802 ½" I 13 mm Max Recess inches mm	V2709 ¾" I 20 mm Sidewall inches mm
"R" Minimum Bend Radius	2.0 50			3.0 80			7.0 175		
"A" Minimum Required Installation Space	6.0 158	7.7 196	6.1 155	7.0 178	8.7 221	7.1 180	11.0 279	12.7 323	11.1 282

Hose Clearance Chart					
	Long Elbow			Low-Profile Long Elbow	Short Elbow
	V2707 ¾" I 20 mm Max Recess inches mm	V3802 ½" I 13 mm Max Recess inches mm	V2709 ¾" I 20 mm Sidewall inches mm	V3802 ½" I 13 mm Max Recess inches mm	V3802 ½" I 13 mm Max Recess inches mm
"R" Minimum Bend Radius	–				
"A" Minimum Required Installation Space	3.5 89	4.9 124	3.6 91	2.9 74	3.3 84

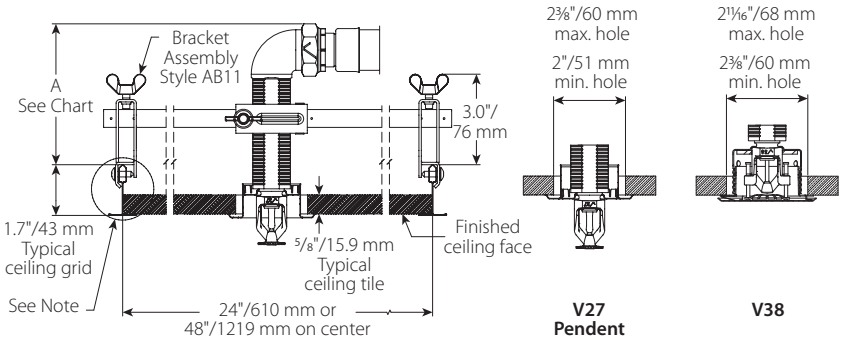
NOTE

- Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.

4.8 DIMENSIONS

Clearances

Series AH2 Braided Hose and Style AB11 Bracket (LOW PROFILE SOLUTION)



Hose Clearance Chart		
	Low-Profile Long Elbow	**Low-Profile Short Elbow**
	V2707 ¾" I 20 mm Max Recess" inches mm	**V3802 ½" I 13 mm Max Recess** inches mm
"A" Minimum Required Installation Space	4.0 102	3.9 99

NOTE

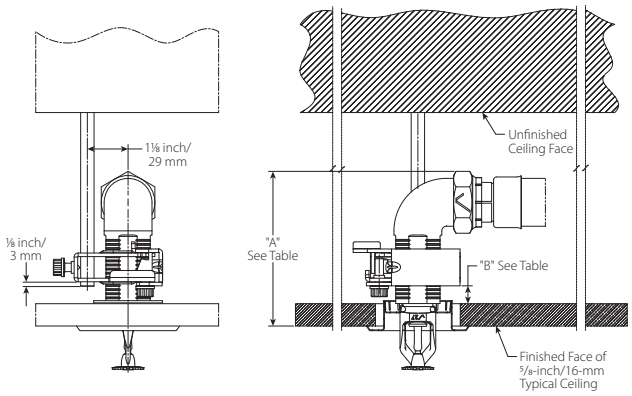
- Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.

4.9 DIMENSIONS

Clearances

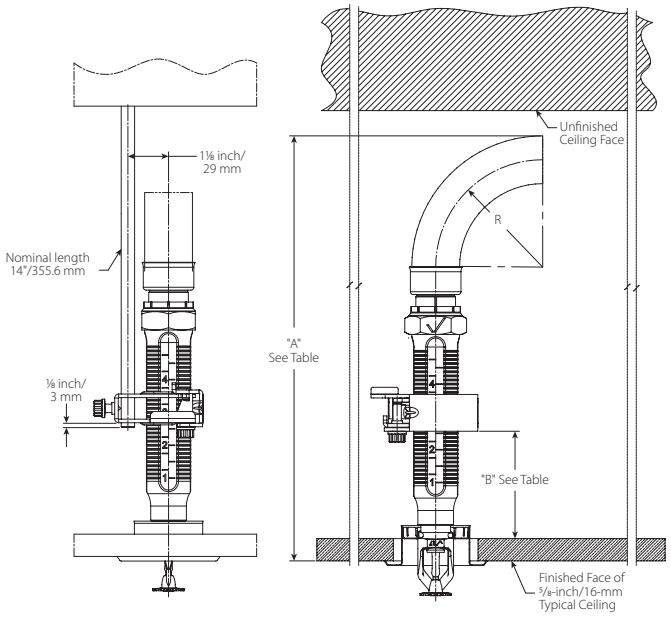
Style AB12 and ABBA Bracket

Suspended Ceiling Grid with Recessed Sprinkler with Low Profile Short Elbow



V2707 ½"/12.7 mm MAX. RECESS

Suspended Ceiling Grid with Recessed Sprinkler and Straight 5.75"/140 mm Reducer



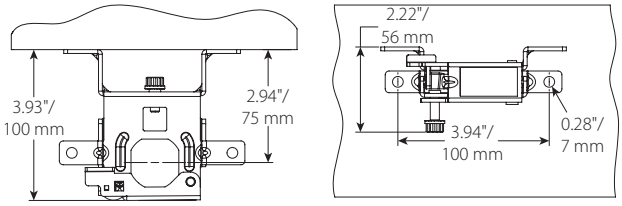
V2707 ¾"/19 mm MAX. RECESS

Dimension		Low Profile Short Elbow		Low Profile Long Elbow		Standard Short Elbow		Standard Long Elbow		Standard Straight Reducer	
		¾"/19 mm Recessed* inches mm	Concealed inches mm	¾"/19 mm Recessed inches mm	Concealed inches mm	¾"/19 mm Recessed inches mm	Concealed inches mm	¾"/19 mm Recessed inches mm	Concealed inches mm	¾"/19 mm Recessed inches mm	Concealed inches mm
A	Minimum Required Installation Space	4.0 101.6	5.5 139.7	5.6 142.2	7.2 182.9	5.9 149.9	7.5 190.5	7.7 195.6	9.3 236.2	15.0 381.0	16.6 421.6
B	Distance from Top of Typical Ceiling Tile to Bottom of Gate	0.5 12.7	2.0 50.8	1.5 38.1	1.5 38.1	1.5 38.1	1.5 38.1	3.0 76.2	3.0 76.2	3.0 76.2	3.0 76.2

* Adjustability will be limited

Style ABMM Bracket

Stand-off Dimensions

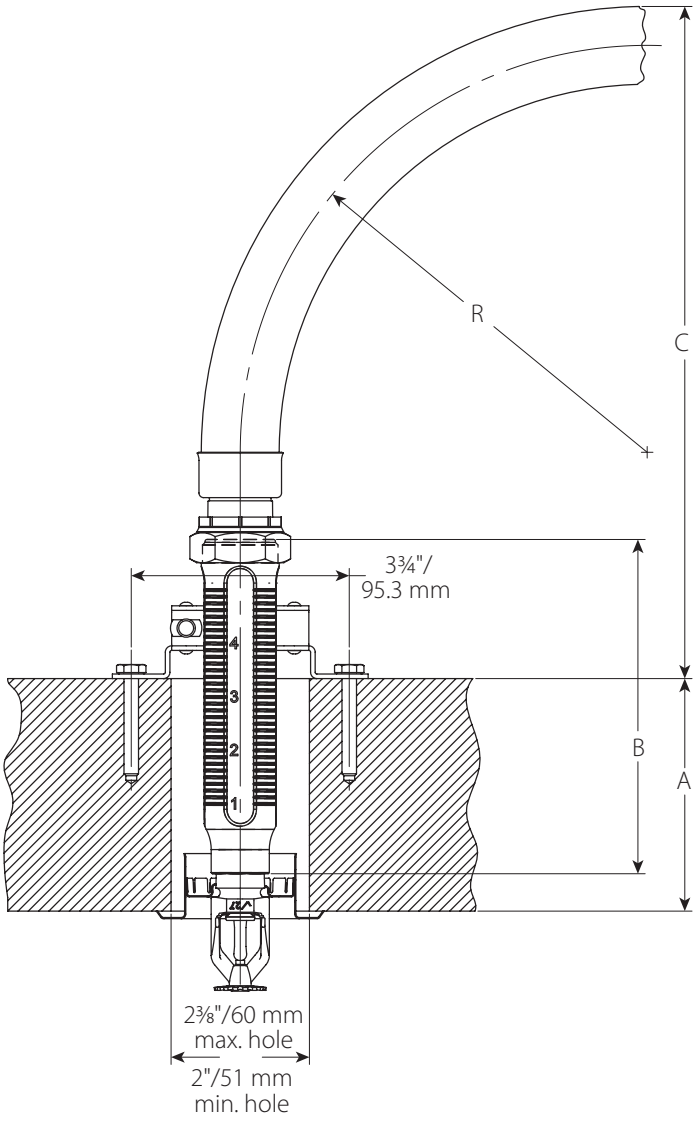


4.10 DIMENSIONS

Clearances

Style AB3 and ABMM Bracket

Surface Mount Application with Recessed Sprinkler



Hose Clearances																					
Dimension	inches mm			inches mm			inches mm		inches mm	inches mm	inches mm				inches mm			inches mm			inches mm	inches mm
Wall Thickness "A"	2 50			4 100			6 150		8 200	10 250	2 50				4 100			6 150			8 200	10 250
Outlet Length "B"	5.75 146.1	9 228.6	13 330.2	5.75 146.1	9 228.6	13 330.2	9 228.6	13 330.2	13 330.2	13 330.2	5.75 146.1	9 228.6	13 330.2		5.75 146.1	9 228.6	13 330.2	9 228.6	13 330.2		13 330.2	13 330.2
Hose Clearance "C"	11.6 294	14.8 376	18.8 478	9.6 243	12.8 325	16.8 427	10.8 275	14.8 376	12.8 325	10.8 275	12.6 319	15.8 402	19.8 503		10.6 268	13.8 351	17.8 452	11.8 300	15.8 402		13.8 351	11.8 300
Bend Radius "R"	7 175										8 200											

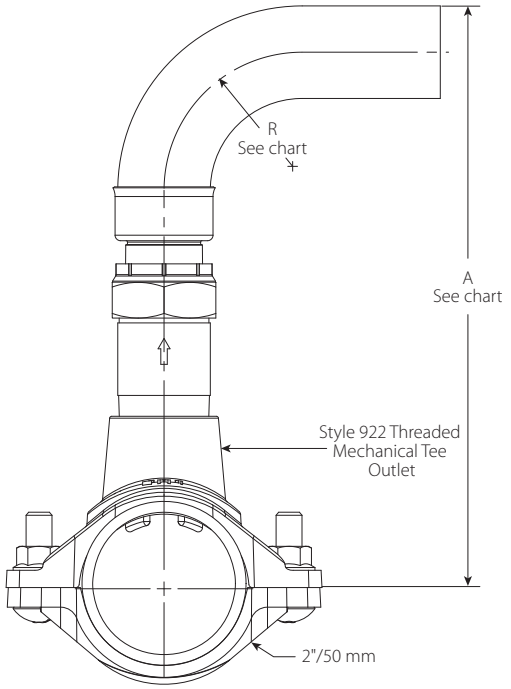
NOTE

- Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.

4.11 DIMENSIONS

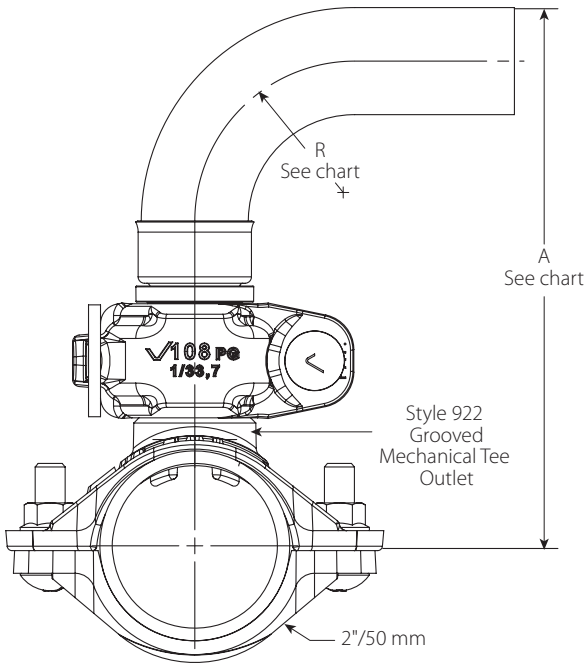
BRANCHLINE CLEARANCES

Series AH2 Braided Hose with Style 922 threaded outlet



Hose Clearance Chart						
Dimension		inches mm	inches mm	inches mm	inches mm	inches mm
R	Minimum Bend Radius	3 80	4 100	5 125	6 150	7 175
A	Min.	9.4 238	10.4 263	11.4 289	12.4 314	13.4 339

Series AH2-CC Braided Hose with Style 922 grooved outlet

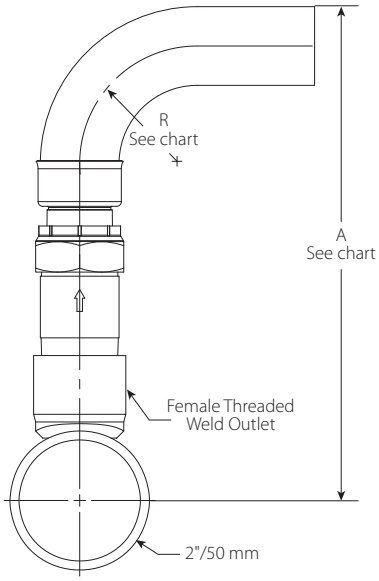


Hose Clearance Chart						
Dimension		inches mm	inches mm	inches mm	inches mm	inches mm
R	Minimum Bend Radius	3 80	4 100	5 125	6 150	7 175
A	Min.	7.7 197	8.7 222	9.7 247	10.7 273	11.7 298

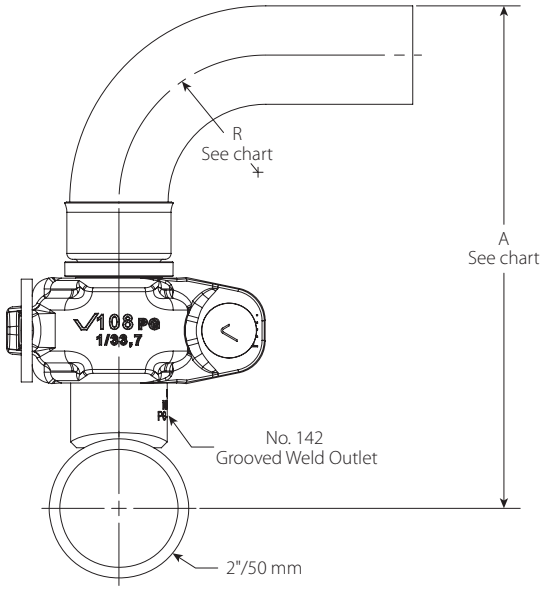
4.12 DIMENSIONS

BRANCHLINE CLEARANCES

Series AH2 Braided Hose with female threaded outlet



Series AH2-CC Braided Hose with grooved outlet



Hose Clearance Chart						
Dimension		inches mm	inches mm	inches mm	inches mm	inches mm
R	Minimum Bend Radius	3 80	4 100	5 125	6 150	7 175
A	Min.	9.4 239	10.4 264	11.4 290	12.4 315	13.41 341

Hose Clearance Chart						
Dimension		inches mm	inches mm	inches mm	inches mm	inches mm
R	Minimum Bend Radius	3 80	4 100	5 125	6 150	7 175
A	Min.	8.1 205	9.1 231	10.1 256	11.1 281	12.1 307

5.0 PERFORMANCE – FRICTION LOSS DATA

Series AH2 and AH2-CC Braided Hoses with Straight 5.75"/140 mm Reducers Style AB2, AB4, AB5 and AB10 Brackets

Hose	Reducer		UL	
Length inches mm	**Type**	**Nominal Outlet Size** inches DN	**Equivalent Length of 1"/33.7mm Sch. 40 pipe** feet meters	**Max Bends**
31 790	Straight	½ DN15	15.0 4.6	3
31 790	Straight	½ DN15	16.0 4.9	4
31 790	Straight	¾ DN20	19.0 5.8	3
31 790	Straight	¾ DN20	20.0 6.1	4
36 915	Straight	½ DN15	18.0 5.5	3
36 915	Straight	½ DN15	21.0 6.4	5
36 915	Straight	¾ DN20	21.0 6.4	3
36 915	Straight	¾ DN20	23.0 7.0	5
48 1220	Straight	½ DN15	21.0 6.4	3
48 1220	Straight	½ DN15	32.0 9.8	8
48 1220	Straight	¾ DN20	26.0 7.9	3
48 1220	Straight	¾ DN20	37.0 11.3	8
60 1525	Straight	½ DN15	27.0 8.2	3
60 1525	Straight	½ DN15	46.0 14.0	10
60 1525	Straight	¾ DN20	27.0 8.2	3
60 1525	Straight	¾ DN20	46.0 14.0	10
72 1830	Straight	½ DN15	31.0 9.4	3
72 1830	Straight	½ DN15	55.0 16.8	12
72 1830	Straight	¾ DN20	30.0 9.1	3
72 1830	Straight	¾ DN20	60.0 18.3	12

5.0 PERFORMANCE – FRICTION LOSS DATA (CONTINUED)

Series AH2 and AH2-CC Braided Hose with 90° Low Profile Elbows
Style AB11 *VicFlex* Bracket

Hose	Reducer		UL	
Length inches mm	**Type**	**Nominal Outlet Size** inches DN	**Equivalent Length of 1"/33.7mm Sch. 40 pipe** feet meters	**Max Bends**
31 790	LP Elbow	½ DN15	18.0 5.5	3
31 790	LP Elbow	½ DN15	24.0 7.3	4
31 790	LP Elbow	¾ DN20	21.0 6.4	3
31 790	LP Elbow	¾ DN20	24.0 7.3	4
36 915	LP Elbow	½ DN15	19.0 5.8	3
36 915	LP Elbow	½ DN15	26.0 7.9	5
36 915	LP Elbow	¾ DN20	23.0 7.0	3
36 915	LP Elbow	¾ DN20	28.0 8.5	5
48 1220	LP Elbow	½ DN15	23.0 7.0	3
48 1220	LP Elbow	½ DN15	43.0 13.1	8
48 1220	LP Elbow	¾ DN20	30.0 9.1	3
48 1220	LP Elbow	¾ DN20	42.0 12.8	8
60 1525	LP Elbow	½ DN15	28.0 8.5	3
60 1525	LP Elbow	½ DN15	49.0 14.9	10
60 1525	LP Elbow	¾ DN20	31.0 9.4	3
60 1525	LP Elbow	¾ DN20	50.0 15.2	10
72 1830	LP Elbow	½ DN15	31.0 9.4	3
72 1830	LP Elbow	½ DN15	65.0 19.8	12
72 1830	LP Elbow	¾ DN20	36.0 11.0	3
72 1830	LP Elbow	¾ DN20	63.0 19.2	12

5.0 PERFORMANCE – FRICTION LOSS DATA (CONTINUED)

Series AH2 and AH2-CC Braided Hoses Equivalent Length Design Guide

Equivalent length values at various numbers of 90 degree bends at 2"/51 mm center line bend radius

Length inches mm	**Nominal Outlet Size** inches DN	**1 Bend** feet meters	**2 Bends** feet meters	**3 Bends** feet meters	**4 Bends** feet meters	**5 Bends** feet meters	**6 Bends** feet meters	**7 Bends** feet meters	**8 Bends** feet meters	**9 Bends** feet meters	**10 Bends** feet meters	**11 Bends** feet meters	**12 Bends** feet meters
31 790	½ DN15	11.0 3.4	13.0 4.0	15.0 4.6	16.0 4.9	–	–	–	–	–	–	–	–
31 790	¾ DN20	12.0 3.7	14.0 4.3	19.0 5.8	20.0 6.1	–	–	–	–	–	–	–	–
36 915	½ DN15	14.0 4.3	16.0 4.9	18.0 5.5	19.0 5.8	21.0 6.4	–	–	–	–	–	–	–
36 915	¾ DN20	17.0 5.2	19.0 5.8	21.0 6.4	22.0 6.7	23.0 7.0	–	–	–	–	–	–	–
48 1220	½ DN15	18.0 5.5	19.0 5.8	21.0 6.4	23.0 7.0	25.0 7.6	27.0 8.2	30.0 9.1	32.0 9.8	–	–	–	–
48 1220	¾ DN20	21.0 6.4	24.0 7.3	26.0 7.9	28.0 8.5	31.0 9.4	33.0 10.1	35.0 10.7	37.0 11.3	–	–	–	–
60 1525	½ DN15	21.0 6.4	24.0 7.3	27.0 8.2	30.0 9.1	32.0 9.8	35.0 10.7	37.0 11.3	40.0 12.2	43.0 13.1	46.0 14.0	–	–
60 1525	¾ DN20	23.0 7.0	25.0 7.6	27.0 8.2	29.0 8.8	32.0 9.8	34.0 10.4	37.0 11.3	40.0 12.2	43.0 13.1	46.0 14.0	–	–
72 1830	½ DN15	27.0 8.2	29.0 8.8	31.0 9.4	34.0 10.4	37.0 11.3	40.0 12.2	43.0 13.1	46.0 14.0	48.0 14.6	50.0 15.2	52.0 15.8	55.0 16.8
72 1830	¾ DN20	26.0 7.9	28.0 8.5	30.0 9.1	33.0 10.1	37.0 11.3	40.0 12.2	44.0 13.4	48.0 14.6	51.0 15.5	54.0 16.5	57.0 17.4	60.0 18.3

NOTES:

- Values for use with 5.75"/140 mm straight reducers.
- The values in this table are provided by the manufacturer for reference only. For friction loss data in accordance with the UL Certification, please refer to pages 19 and 20 of this publication.

How to use this Design Guide:

- For some systems, it may be advantageous for the designer to calculate the system hydraulics using shorter equivalent lengths associated with fewer than the maximum allowable number of bends. In this case, the designer may select a design number of bends for the job and use the associated equivalent length from the design guide to determine the system hydraulics.
- It is possible that the actual installed condition of some of the flexible drops may have more bends than the designer selected. When this happens, the design guide may be used to find equivalent lengths based on the actual installed number of bends for particular sprinkler installations. The system hydraulics can be recalculated using actual equivalent lengths to verify the performance of the system.

5.1 PERFORMANCE – FRICTION LOSS DATA

Series AH2 and AH2-CC Braided Hoses
Style AB2, AB3, AB4, AB5, AB7, AB7 Adj., AB8, AB10, AB12, ABBA and ABMM *VicFlex* Brackets

Length of Stainless Steel Flexible Hose inches mm	K-Factor Imperial S.I.	Outlet Size inches mm type	Equivalent Length of 1"/33.7 mm Sch. 40 Pipe feet meters	Maximum Number of 90° Bends at 7"/178 mm Bend Radius
31 790	5.6 8.1	½ 15 Straight	13.8 4.2	2
		½ 15 90˚ Elbow	23.5 7.1	
36 915	5.6 8.1	½ 15 Straight	16.6 5.1	2
		½ 15 90˚ Elbow	25.6 7.8	
48 1220	5.6 8.1	½ 15 Straight	23.4 7.1	3
		½ 15 90˚ Elbow	30.7 9.3	
60 1525	5.6 8.1	½ 15 Straight	30.2 9.2	4
		½ 15 90˚ Elbow	35.9 10.9	
72 1830	5.6 8.1	½ 15 Straight	37.0 11.3	4
		½ 15 90˚ Elbow	41.1 12.5	
31 790	8.0 11.5	¾ 20 Straight	16.8 5.1	2
		¾ 20 90˚ Elbow	16.8 5.1	
36 915	8.0 11.5	¾ 20 Straight	20 6.0	2
		¾ 20 90˚ Elbow	19.7 6.0	
48 1220	8.0 11.5	¾ 20 Straight	27.8 8.4	3
		¾ 20 90˚ Elbow	26.6 8.1	

FM NOTES:

- The Series AH2 hose has been tested and Approved by FM Global for use in wet, dry and preaction systems per NFPA 13, 13R, and 13D and FM data sheets 2-0, 2-5, and 2-8. FM 1637 standard for safety include, but are not limited to, pressure cycling, corrosion resistance, flow characterisitics, vibration resistance, leakage, mechanical and hydrostatic strength.
- EXAMPLE: A 48-inch hose installed with two 30° bends and two 90° bends is permitted and considered equivalent to the data in the table shown above. In this example, the total number of degrees is 240°, which is less than the allowable 270°.

5.1 PERFORMANCE – FRICTION LOSS DATA (CONTINUED)

FM

Series AH2 and AH2-CC Braided Hoses
Style AB2, AB3, AB4, AB5, AB7, AB7 Adj., AB8, AB10, AB12, ABBA and ABMM *VicFlex* Brackets

Length of Stainless Steel Flexible Hose inches mm	K-Factor Imperial S.I.	Outlet Size inches mm type	Equivalent Length of 1"/33.7 mm Sch. 40 Pipe feet meters	Maximum Number of 90° Bends at 7"/178 mm Bend Radius
60 1525	8.0 11.5	¾ 20 Straight	35.7 10.9	4
		¾ 20 90° Elbow	33.6 10.2	
72 1830	8.0 11.5	¾ 20 Straight	43.5 13.2	4
		¾ 20 90° Elbow	40.6 12.2	
31 790	11.2 16.1	¾ 20 Straight	16.5 5.0	2
		¾ 20 90° Elbow	17.8 5.4	
36 915	11.2 16.1	¾ 20 Straight	19.5 5.9	2
		¾ 20 90° Elbow	20.7 6.3	
48 1220	11.2 16.1	¾ 20 Straight	26.7 8.1	3
		¾ 20 90° Elbow	27.9 8.5	
60 1525	11.2 16.1	¾ 20 Straight	33.9 10.3	4
		¾ 20 90° Elbow	35 10.7	
72 1830	11.2 16.1	¾ 20 Straight	41.3 12.5	4
		¾ 20 90° Elbow	42.2 12.8	
31 790	14.0 20.2	¾ 20 Straight	14.9 4.5	2
		¾ 20 90° Elbow	15.5 4.72	

FM NOTES:

- The Series AH2 hose has been tested and Approved by FM Global for use in wet, dry and preaction systems per NFPA 13, 13R, and 13D and FM data sheets 2-0, 2-5, and 2-8. FM 1637 standard for safety include, but are not limited to, pressure cycling, corrosion resistance, flow characterisitics, vibration resistance, leakage, mechanical and hydrostatic strength.
- EXAMPLE: A 48-inch hose installed with two 30° bends and two 90° bends is permitted and considered equivalent to the data in the table shown above. In this example, the total number of degrees is 240°, which is less than the allowable 270°.

5.1 PERFORMANCE – FRICTION LOSS DATA (CONTINUED)

FM

Series AH2 and AH2-CC Braided Hoses
Style AB2, AB3, AB4, AB5, AB7, AB7 Adj., AB8, AB10, AB12, ABBA and ABMM *VicFlex* Brackets

Length of Stainless Steel Flexible Hose inches mm	K-Factor Imperial S.I.	Outlet Size inches mm type	Equivalent Length of 1"/33.7 mm Sch. 40 Pipe feet meters	Maximum Number of 90° Bends at 7"/178 mm Bend Radius
36 915	14.0 20.2	¾ 20 Straight	19.4 5.9	2
		¾ 20 90˚ Elbow	19.6 5.9	
48 1220	14.0 20.2	¾ 20 Straight	30.3 9.2	3
		¾ 20 90˚ Elbow	29.5 8.9	
60 1525	14.0 20.2	¾ 20 Straight	33.9 10.3	4
		¾ 20 90˚ Elbow	34.1 10.4	
72 1830	14.0 20.2	¾ 20 Straight	37.5 11.4	4
		¾ 20 90˚ Elbow	38.6 11.7	

FM NOTES:

- The Series AH2 hose has been tested and Approved by FM Global for use in wet, dry and preaction systems per NFPA 13, 13R, and 13D and FM data sheets 2-0, 2-5, and 2-8. FM 1637 standard for safety include, but are not limited to, pressure cycling, corrosion resistance, flow characterisitics, vibration resistance, leakage, mechanical and hydrostatic strength.
- EXAMPLE: A 48-inch hose installed with two 30° bends and two 90° bends is permitted and considered equivalent to the data in the table shown above. In this example, the total number of degrees is 240°, which is less than the allowable 270°.

5.2 PERFORMANCE – FRICTION LOSS DATA

Series AH2 Braided Hose with 90° Low Profile Elbows Style AB5, AB11, AB12, ABBA and ABMM *VicFlex* Bracket

Length of Stainless Steel Flexible Hose inches mm	K-Factor Imperial S.I.	Outlet Size inches mm	Equivalent Length of 1"/33.7mm Sch. 40 Pipe feet meters	Maximum Number of 90° Bends at 7"/178mm Bend Radius
31 790	5.6 8.1	½ 15	13.7 4.2	2
36 915	5.6 8.1	½ 15	17.0 5.2	2
48 1220	5.6 8.1	½ 15	25.0 7.6	3
60 1525	5.6 8.1	½ 15	33.0 10.1	4
72 1830	5.6 8.1	½ 15	41.1 12.5	4
31 790	8.0 11.5	¾ 20	13.6 4.14	2
36 915	8.0 11.5	¾ 20	16.9 5.2	2
48 1220	8.0 11.5	¾ 20	27.8 8.5	3
60 1525	8.0 11.5	¾ 20	32.6 9.9	4
72 1830	8.0 11.5	¾ 20	40.6 12.4	4
31 790	11.2 16.1	¾ 20	13.7 4.2	2
36 915	11.2 16.1	¾ 20	17.0 5.2	2
48 1220	11.2 16.1	¾ 20	24.9 7.6	3
60 1525	11.2 16.1	¾ 20	32.9 10.0	4
72 1830	11.2 16.1	¾ 20	40.9 12.5	4
31 790	14.0 20.2	¾ 20	13.5 4.1	2
36 915	14.0 20.2	¾ 20	16.8 5.1	2
48 1220	14.0 20.2	¾ 20	24.7 7.5	3
60 1525	14.0 20.2	¾ 20	32.7 9.9	4
72 1830	14.0 20.2	¾ 20	40.7 12.4	4

FM NOTES:

- The Series AH2 hose has been tested and Approved by FM Global for use in wet, dry and preaction systems per NFPA 13, 13R, and 13D and FM data sheets 2-0, 2-5, and 2-8. FM 1637 standard for safety include, but are not limited to, pressure cycling, corrosion resistance, flow characterisitics, vibration resistance, leakage, mechanical and hydrostatic strength.
- EXAMPLE: A 48-inch hose installed with two 30° bends and two 90° bends is permitted and considered equivalent to the data in the table shown above. In this example, the total number of degrees is 240°, which is less than the allowable 270°.

5.3 PERFORMANCE – FRICTION LOSS DATA

VdS

Series AH2 and AH2-CC Braided Hose
Style AB2, AB4, AB5, AB7, AB7 Adj., AB8, AB10, AB11 and AB12 Brackets

Length of Stainless Steel Flexible Hose mm inches	Outlet Size DN inches	Equivalent Length of steel pipe according to EN 10255 DN 25 (33,7 x 3,25) meters feet	Maximum Number of 90° Bends at 3"/76.2 mm Bend Radius
790 31	DN15 ½	5.5 18.0	3
	DN20 ¾		
915 36	DN15 ½	6.4 21.0	3
	DN20 ¾		
1220 48	DN15 ½	8.5 27.9	3
	DN20 ¾		
1525 60	DN15 ½	10.7 35.1	4
	DN20 ¾		
1830 72	DN15 ½	12.8 42.0	4
	DN20 ¾		

VdS Ceiling Manufacturers List

AB2, AB7, AB10 ,AB11

1. AMF
2. Armstrong
3. Chicago Metallic
4. Dipling
5. Durlum
6. Geipel
7. Gema-Armstrong
8. Hilti
9. Knauf
10. Lafarge
11. Linder
12. Odenwald
13. Richter
14. Rigips
15. Rockfon Pagos
16. Suckow & Fischer
17. USG Donn

AB4

No specific approval

AB5, AB8

1. Hilti
2. Knauf
3. Lafarge
4. Lindner
5. Rigips

5.3 PERFORMANCE – FRICTION LOSS DATA

LPS 1261: Issue 1.2
Cert/LPCB Ref. 104I/01
104I/04

Series AH2 and AH2-CC Braided Hose Style AB2, AB3, AB4, AB5, AB7, AB8, and AB10 Brackets

Length of Stainless Steel Flexible Hose mm inches	Outlet Size mm inches type	Equivalent Length of steel pipe according to EN 10255 DN 25 (33,7 x 3,25) meters feet	Maximum Number of 90° Bends at 3"/76.2 mm Bend Radius
790 31	15 mm ½ Straight	1.8 6.0	2
	20 mm ¾ Straight		
915 36	15 mm ½ Straight	3.6 11.9	3
	20 mm ¾ Straight		
1220 48	15 mm ½ Straight	4.3 14.0	3
	20 mm ¾ Straight		
1525 60	15 mm ½ Straight	4.1 13.6	3
	20 mm ¾ Straight		
1830 72	15 mm ½ Straight	5.5 18.1	3
	20 mm ¾ Straight		

Series AH2 Braided Hose Style AB2, AB3, AB4, AB5, AB7, AB8, AB10 and AB12 Brackets

Length of Flexible Hose mm inches	Equivalent Length of 1"/33.7 mm Sch. 40 Pipe	
	Straight Configuration meters feet	Bend Configuration meters feet
790 31	0.87 2.9	2.70 8.9
915 36	1.00 3.3	2.80 9.2
1220 48	2.23 7.3	4.66 15.3
1525 60	2.90 9.5	6.5 21.3
1830 72	3.31 10.9	7.16 23.5

CCCF NOTE

- Friction loss data is in accordance with GB5135.16 tested at a flow rate of 114 liters per minute (30 gallons per minute).

6.0 NOTIFICATIONS

⚠ WARNING

- **Read and understand all instructions before attempting to install any Victaulic products.**
- **Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.**
- **Wear safety glasses, hardhat, and foot protection.**

- **These products shall be used only in fire protection systems that are designed and installed in accordance with current, applicable National Fire Protection Association (NFPA 13, 13D, 13R, etc.) standards, or equivalent standards, and in accordance with applicable building and fire codes. These standards and codes contain important information regarding protection of systems from freezing temperatures, corrosion, mechanical damage, etc.**
- **The installer shall understand the use of this product and why it was specified for the particular application.**
- **The installer shall understand common industry safety standards and potential consequences of improper product installation.**

⚠ WARNING

- **It is the responsibility of the system designer to verify suitability of 300-series stainless steel flexible hose for use with the intended fluid media within the piping system and external environments.**
- **The effect of chemical composition, pH level, operating temperature, chloride level, oxygen level, and flow rate on 300-series stainless steel flexible hose must be evaluated by the material specifier to confirm system life will be acceptable for the intended service.**
- **It is the responsibility of the owner of a building or their authorized agent to provide the sprinkler system installer with any knowledge that the water supply might be contaminated with or conducive to the development of microbiologically influenced corrosion (MIC), including as required by NFPA 13. Failure to identify adverse water quality issues may affect the VicFlex product and void the manufacturer's warranty.**

Failure to follow these instructions could cause product failure, resulting in serious personal injury and/or property damage.

Victaulic VicFlex Series AH2 and AH2-CC Flexible Sprinkler Fittings may be painted provided the paint is compatible with stainless steel and zinc-plated carbon steel or ductile iron. Care should be taken to ensure the sprinkler and associated escutcheon or coverplate are not painted.

Victaulic VicFlex Series AH2 and AH2-CC penetrating through non-fire rated gypsum wall (drywall) will function as designed, provided the components are installed in accordance with the respective installation instructions referenced in this document.

7.0 REFERENCE MATERIALS – CHARACTERISTICS

VicFlex Maximum Load Values

Series AH2 Hose with 24" Bracket

Model Size	Actual Length ft m	Total Load lb	Total Load N	Max. Uniform Load lb/linear ft	Max. Uniform Load N/linear m
31/790	2.6 0.8	5.2	23	2.6	38
36/915	3 0.9	5.5	25	2.8	40
48/1220	4 1.2	6.3	28	3.1	46
60/1525	5 1.5	7.0	31	3.5	51
72/1830	6 1.8	7.7	34	3.9	57

Series AH2 Hose with 48" Bracket

Model Size	Actual Length ft m	Total Load lb	Total Load N	Max. Uniform Load lb/linear ft	Max. Uniform Load N/linear m
31/790	2.6 0.8	6.1	27	1.5	22
36/915	3 0.9	6.4	29	1.6	23
48/1220	4 1.2	7.2	32	1.8	26
60/1525	5 1.5	7.9	35	2.0	29
72/1830	6 1.8	8.7	39	2.2	32

Total Load is defined as the sum of the weights of the following:

- water-filled flexible sprinkler hose with threaded end fittings, including a typical fire sprinkler
- bracket assembly (any applicable Victaulic bracket model of the relevant associated size)

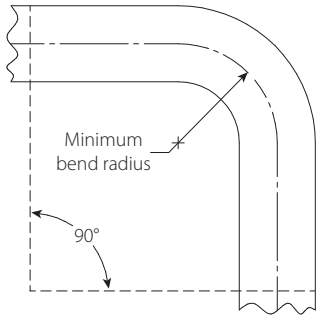
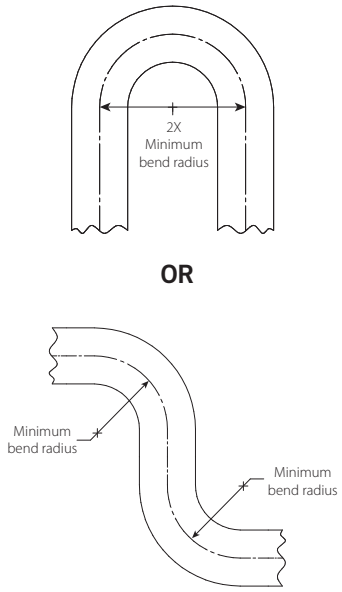
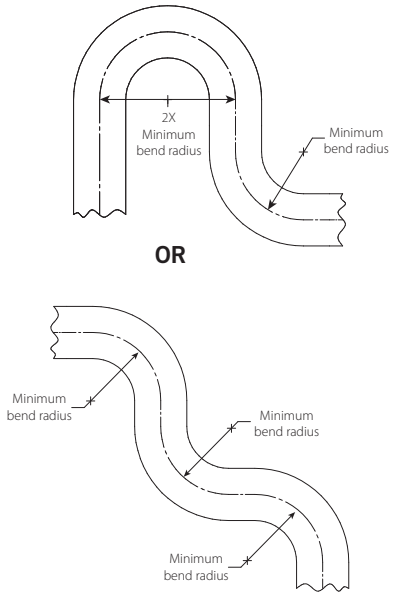
ASTM C 635: Suspension System Load-Carrying Capabilities (excerpted)

Suspension System	Actual Length ft/m	Min. Allowable Uniform Load lb/linear ft	Min. Allowable Uniform Load N/linear m
Direct Hung	Light	5.0	75.7
	Intermediate	12.0	181.0
	Heavy	16.0	241.7

SUMMARY: All direct-hung suspension system duty classifications per ASTM C 635 are able to withstand the maximum water-filled weight of the *VicFlex* sprinkler hose and bracket.

7.0 REFERENCE MATERIALS – CHARACTERISTICS (CONTINUED)

Flexible Hose In-Plane Bend Characteristics

One Bend	Two Bends	Three Bends
		

NOTE

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

I-VicFlex-AB1-AB2
I-VicFlex-AB3
I-VicFlex-AB4
I-VicFlex-AB5
I-VicFlex-AB7
I-VicFlex-AB12
I-VicFlex-ABBA
I-VicFlex-ABMM
I-RES

Victaulic® FireLock™ Series FL-QR
Standard Coverage, Quick Response
Upright, Pendent and Recessed Pendent Sprinklers
K2.8 (4.0), K4.2 (6.1), K5.6 (8.1), K8.0 (11.5)

41.01




1.0 PRODUCT DESCRIPTION

QUICK RESPONSE UPRIGHT SPRINKLERS				
SIN	**V2815**	**V4215**	**V2704**	**V3402**
ORIENTATION	UPRIGHT	UPRIGHT	UPRIGHT	UPRIGHT
K-FACTOR[1]	2.8 Imp./4.0 S.I.	4.2 Imp./6.1 S.I.	5.6 Imp./8.1 S.I.	8.0 Imp./11.5 S.I.
CONNECTION	½" NPT/15mm BSPT	½" NPT/15mm BSPT	½" NPT/15mm BSPT/IGS	¾" NPT/20mm BSPT/IGS
MAX. WORKING PRESSURE	175 psi/1200 kPa	175 psi/1200 kPa	175 psi/1200 kPa cULus 250 psi /1725 kPa	175 psi/1200 kPa
GLOBE RE-DESIGNATION	GL2815	GL4215	–	–
GLOBE EQUIVALENT	–	–	GL5615	GL8118

QUICK RESPONSE PENDENT SPRINKLERS				
SIN	**V2801**	**V4201**	**V2708**	**V3406**
ORIENTATION	PENDENT	PENDENT	PENDENT	PENDENT
K-FACTOR[1]	2.8 Imp./4.0 S.I.	4.2 Imp./6.1 S.I.	5.6 Imp./8.1 S.I.	8.0 Imp./11.5 S.I.
CONNECTION	½" NPT/15mm BSPT	½" NPT/15mm BSPT	½" NPT/15mm BSPT/IGS	¾" NPT/20mm BSPT/IGS
MAX. WORKING PRESSURE	175 psi /1200 kPa	175 psi /1200 kPa	175 psi /1200 kPa cULus 250 psi/1725 kPa	175 psi/1200 kPa
GLOBE RE-DESIGNATION	GL2801	GL4201	–	–
GLOBE EQUIVALENT	–	–	GL5601	GL8101

QUICK RESPONSE RECESSED PENDENT SPRINKLERS				
SIN	**V2801**	**V4201**	**V2708**	**V3406**
ORIENTATION	PENDENT	PENDENT	PENDENT	PENDENT
K-FACTOR[1]	2.8 Imp./4.0 S.I.	4.2 Imp./6.1 S.I.	5.6 Imp./8.1 S.I.	8.0 Imp./11.5 S.I.
CONNECTION	½" NPT/15mm BSPT	½" NPT/15mm BSPT	½" NPT/15mm BSPT/IGS	¾" NPT/20mm BSPT/IGS
MAX. WORKING PRESSURE	175 psi/1200 kPa	175 psi/1200 kPa	175 psi/1200 kPa cULus 250 psi/1725 kPa	175 psi/1200 kPa
ESCUTCHEON	Recessed	Recessed	Recessed	Recessed
GLOBE RE-DESIGNATION	GL2801	GL4201	–	–
GLOBE EQUIVALENT	–	–	GL5601	GL8101

AVAILABLE GUARDS/SHIELDS				
SPRINKLER	**V28**	**V42**	**V27**	**V34**
Upright			■	■
Pendent			■	■

AVAILABLE WRENCHES							
SPRINKLER	**V56-2 Recessed**	**V56 Open End**	**V27-2 Recessed**	**V27 Open End**	**V34-2 Recessed**	**V34 Open End**	**3/16 Hex-Bit**
V2815 and V4215		■					
V2707 and V2704				■			■
V3402						■	■
V2801, and V4201	■	■					
V2706 and V2708			■	■			■
V3406					■	■	■

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

Factory Hydrostatic Test: 100% @ 500 psi/3447 kPa/34 Bar
Min. Operating Pressure: UL/FM: 7 psi/48 kPa/.5 Bar
VdS: 5 psi/35 kPa/.35 Bar (Upright only)
Temperature Rating: See tables in section 2.0

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

2.0 CERTIFICATIONS/LISTINGS

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UPRIGHT APPROVALS/LISTINGS				
SIN	**V2815**	**V4215**	**V2704**	**V3402**
Nominal K Factor Imperial	2.8	4.2	5.6	8.0
Nominal K Factor S.I.[2]	4.0	6.1	8.1	11.5
Orientation	UPRIGHT	UPRIGHT	UPRIGHT	UPRIGHT
	Approved Temperature Ratings F°/C°			
cULus	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C
FM	–	–	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C
LPCB/UKCA	–	–	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C
VdS/CE	–	–	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C
CCC K-ZSTZ	–	–	155°F/68°C 175°F/79°C 286°F/141°C	155°F/68°C 286°F/141°C

[2] For K-Factor when pressure is measured in Bar, multiply S.I. units by 10.

PENDENT APPROVALS/LISTINGS				
SIN	**V2801**	**V4201**	**V2708**	**V3406**
Nominal K Factor Imperial	2.8	4.2	5.6	8.0
Nominal K Factor S.I.[2]	4.0	6.1	8.1	11.5
Orientation	PENDENT	PENDENT	PENDENT	PENDENT
Escutcheon	Flush/Extended	Flush/Extended	Flush/Extended	Flush/Extended
	Approved Temperature Ratings F°/C°			
cULus	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C
FM	–	–	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C
CCC K-ZSTX	–	–	155°F/68°C 200°F/93°C 286°F/141°C	155°F/68°C 286°F/141°C

[2] For K-Factor when pressure is measured in Bar, multiply S.I. units by 10.

NOTES

- Reference the specific agency website listings for the most up-to-date certification information.
- Where cULus Listed, Polyester and VC-250 Coatings Listed as Corrosion Resistant (V3402 with VC-250 Only)
- Where FM Approved, VC-250 Coating Approved as Corrosion Resistant
- New York City Acceptance - All UL Listed and/or FM Approved sprinklers acceptable to NYC per section 28-113 of the Administrative Code and the OTCR Rule.

2.0 CERTIFICATIONS/LISTINGS (CONTINUED)

RECESSED PENDENT APPROVALS/LISTINGS				
SIN	**V2801**	**V4201**	**V2708**	**V3406**
Nominal K Factor Imperial	2.8	4.2	5.6	8.0
Nominal K Factor S.I.[2]	4.0	6.1	8.1	11.5
Orientation	PENDENT	PENDENT	PENDENT	PENDENT
Escutcheon	Recessed	Recessed	Recessed	Recessed
Approved Temperature Ratings F°/C°				
cULus	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C
FM WITH ½" ADJUSTMENT ESCUTCHEON ONLY	–	–	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C
CCC K-ZSTX	–	–	155°F/68°C 200°F/93°C 286°F/141°C	155°F/68°C 286°F/141°C

[2] For K-Factor when pressure is measured in Bar, multiply S.I. units by 10.

NOTES

- Reference the specific agency website listings for the most up-to-date certification information.
- Where cULus Listed, Polyester and VC-250 Coatings Listed as Corrosion Resistant (V3402 with VC-250 Only)
- Where FM Approved, VC-250 Coating Approved as Corrosion Resistant
- New York City Acceptance - All UL Listed and/or FM Approved sprinklers acceptable to NYC per section 28-113 of the Administrative Code and the OTCR Rule.

3.0 SPECIFICATIONS – MATERIAL

Deflector: Bronze

Bulb Nominal Diameter: 3.0 mm

Load Screw: Bronze

Pip Cap: Bronze

Spring Seal: PTFE coated Beryllium nickel alloy

Frame: Brass

Lodgement Spring: Stainless steel

Installation Wrench: Ductile iron

Sprinkler Frame Finishes:

- Plain brass
- Chrome plated
- White polyester painted[3, 4]
- Flat black polyester painted[3, 4]
- Custom polyester painted[3, 4]
- VC-250[5]

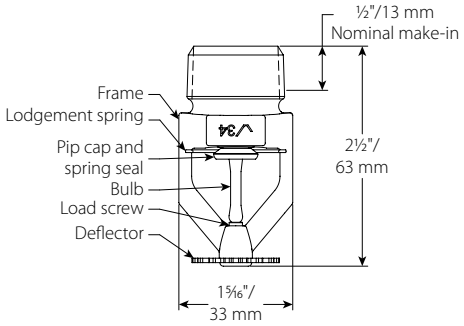
[3] Not available on the Intermediate Level Style Pendent.

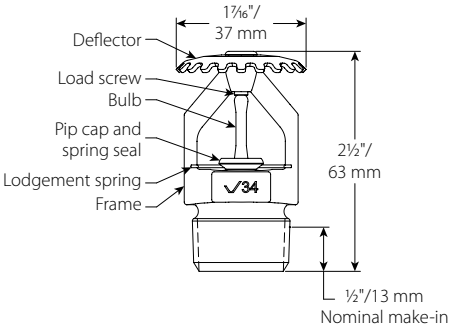
[4] UL Listed for corrosion resistance.

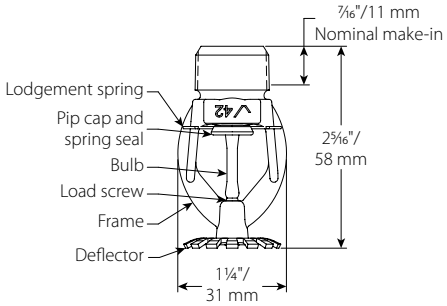
[5] UL Listed and FM Approved for corrosion resistance.

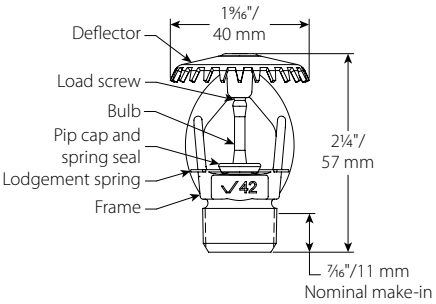
NOTE

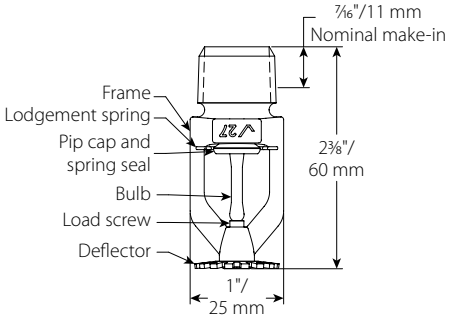
- For cabinets and other accessories, refer to separate sheet.

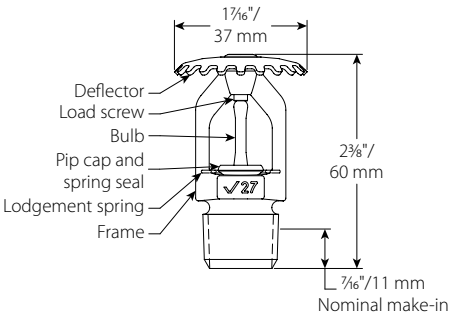




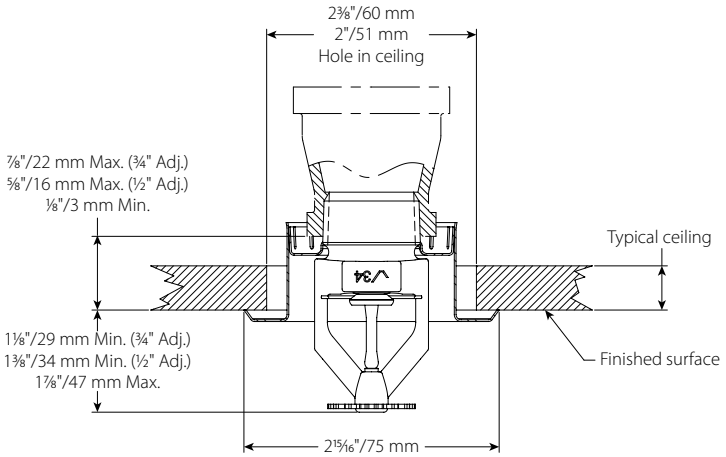


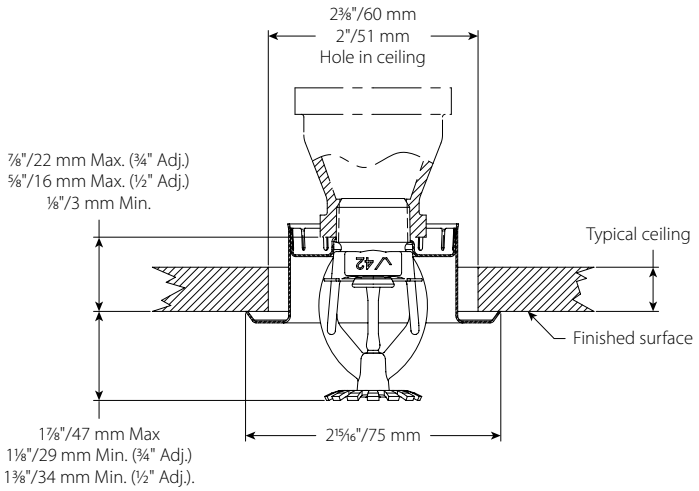


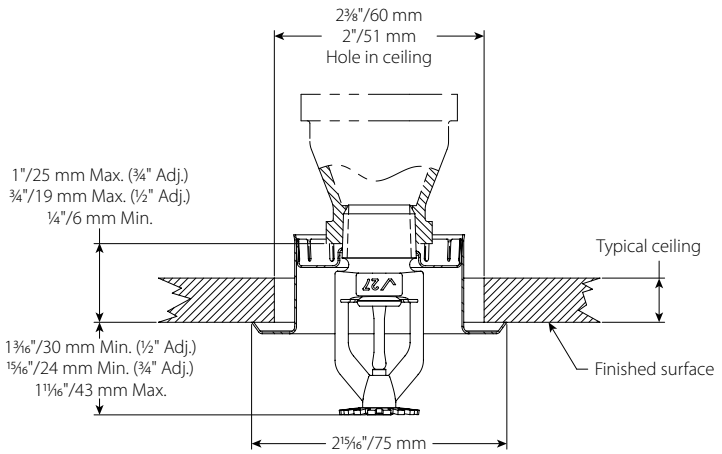




4.0 DIMENSIONS







5.0 PERFORMANCE

Sprinkler systems are to be designed to and installed per NFPA, FM Datasheets, and any local standards.

6.0 NOTIFICATIONS

⚠ WARNING

- **Read and understand all instructions before attempting to install any Victaulic products.**
- **Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.**
- **Wear safety glasses, hardhat, and foot protection.**

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

- **These products shall be used only in fire protection systems that are designed and installed in accordance with current, applicable National Fire Protection Association (NFPA) standards, or equivalent standards, and in accordance with applicable building and fire codes. These standards and codes contain important information regarding protection of systems from freezing temperatures, corrosion, mechanical damage, etc.**
- **The installer shall understand the use of this product and why it was specified for the particular application.**
- **The installer shall understand common industry safety standards and potential consequences of improper product installation.**
- **It is the system designer's responsibility to verify suitability of materials for use with the intended fluid media within the piping system and external environment.**
- **The material specifier shall evaluate the effect of chemical composition, pH level, operating temperature, chloride level, oxygen level, and flow rate on materials to confirm system life will be acceptable for the intended service.**

Failure to follow installation requirements and local and national codes and standards could compromise system integrity or cause system failure, resulting in death or serious personal injury and property damage.

7.0 REFERENCE MATERIALS

Ratings: All glass bulbs are rated for temperatures from -67°F/-55°C.

I-40: Victaulic FireLock™ Automatic Sprinklers Installation and Maintenance Instructions

I-V9: Style V9 Victaulic FireLock™ IGS™ Installation-Ready™ Sprinkler Coupling Installation Instructions

Victaulic® FireLock™ Series FL-SR
Standard Coverage, Standard Response
Upright Pendent and Recessed Pendent Sprinklers, K2.8 (4.0), K4.2 (6.1), K5.6 (8.1), K8.0 (11.5)

1.0 PRODUCT DESCRIPTION

STANDARD RESPONSE UPRIGHT SPRINKLERS				
SIN	**V2861**	**V4261**	**V2703**	**V3401**
ORIENTATION	UPRIGHT	UPRIGHT	UPRIGHT	UPRIGHT
K-FACTOR[1]	2.8 Imp./4.0 S.I.	4.2 Imp./6.1 S.I.	5.6 Imp./8.1 S.I.	8.0 Imp./11.5 S.I.
CONNECTION	½" NPT/15mm BSPT	½" NPT/15mm BSPT	½" NPT/15mm BSPT/IGS	¾" NPT/20mm BSPT/IGS
MAX. WORKING PRESSURE	175 psi (1200 kPa)	175 psi (1200 kPa)	175 psi (1200 kPa) cULus 250 psi (1725 kPa)	175 psi (1200 kPa)
GLOBE RE-DESIGNATION	GL2861	GL4261		
GLOBE EQUIVALENT			GL5661	GL8164

STANDARD RESPONSE PENDENT SPRINKLERS				
SIN	**V2851**	**V4251**	**V2707**	**V3405**
ORIENTATION	PENDENT	PENDENT	PENDENT	PENDENT
K-FACTOR[1]	2.8 Imp./4.0 S.I.	4.2 Imp./6.1 S.I.	5.6 Imp./8.1 S.I.	8.0 Imp./11.5 S.I.
CONNECTION	½" NPT/15mm BSPT	½" NPT/15mm BSPT	½" NPT/15mm BSPT/IGS	¾" NPT/20mm BSPT/IGS
MAX. WORKING PRESSURE	175 psi (1200 kPa)	175 psi (1200 kPa)	175 psi (1200 kPa) cULus 250 psi (1725 kPa)	175 psi (1200 kPa)
GLOBE RE-DESIGNATION	GL2851	GL4251		
GLOBE EQUIVALENT			GL5651	GL8156

STANDARD RESPONSE RECESSED PENDENT SPRINKLERS				
SIN	**V2851**	**V4251**	**V2707**	**V3405**
ORIENTATION	PENDENT	PENDENT	PENDENT	PENDENT
K-FACTOR[1]	2.8 Imp./4.0 S.I.	4.2 Imp./6.1 S.I.	5.6 Imp./8.1 S.I.	8.0 Imp./11.5 S.I.
CONNECTION	½" NPT/15mm BSPT	½" NPT/15mm BSPT	½" NPT/15mm BSPT	¾" NPT/20mm BSPT
MAX. WORKING PRESSURE	175 psi (1200 kPa)	175 psi (1200 kPa)	175 psi (1200 kPa) cULus 250 psi (1725 kPa)	175 psi (1200 kPa)
ESCUTCHEON	Recessed	Recessed	Recessed	Recessed
GLOBE RE-DESIGNATION	GL2851	GL4251		
GLOBE EQUIVALENT			GL5651	GL8156

AVAILABLE GUARDS/SHIELDS				
SPRINKLER	**V28**	**V42**	**V27**	**V34**
UPRIGHT			■	■
PENDENT			■	■

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

1.0 PRODUCT DESCRIPTION (CONTINUED)

	AVAILABLE WRENCHES						
SPRINKLER	**V56-2 Recessed**	**V56 Open End**	**V27-2 Recessed**	**V27 Open End**	**V34-2 Recessed**	**V34 Open End**	**3⁄16 Hex-Bit**
V2861 and V4261		■					
V2703 and V2707				■			■
V3401						■	■
V2851 and V4251	■	■					
V2707			■	■			■
V3405					■	■	■

Factory Hydrostatic Test: 100% @ 500 psi/3447 kPa/34 bar

Min. Operating Pressure: UL/FM: 7psi/48 kPa/.5 bar
VdS: 5psi/35 kPa/.35 bar (Upright only)

Temperature Rating: See tables in section 2.0

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

2.0 CERTIFICATION/LISTINGS

UPRIGHT APPROVALS/LISTINGS				
SIN	**V2861**	**V4261**	**V2703**	**V3401**
Nominal K Factor Imperial	2.8	4.2	5.6	8.0
Nominal K Factor S.I.[2]	4.0	6.1	8.1	11.5
Orientation	UPRIGHT	UPRIGHT	UPRIGHT	UPRIGHT
	Approved Temperature Ratings F°/C°			
cULus	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C 500°F/260°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C
FM	–	–	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C
LPCB	–	–	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C
CE, UKCA	–	–	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C
VdS	–	–	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C
CCC ZSTZ-15	–	–	155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	155°F/68°C – – 286°F/141°C

[2] For K-Factor when pressure is measured in Bar, multiply S.I. units by 10.

NOTES

- Listings and approval as of printing.
- Where cULus Listed, Polyester and VC-250 Coatings Listed as Corrosion Resistant (V3401 with VC-250 Only)
- Where FM Approved, VC-250 Coating Approved as Corrosion Resistant
- New York City Acceptance - All UL Listed and/or FM Approved sprinklers acceptable to NYC per section 28-113 of the Administrative Code and the OTCR Rule.

2.0 CERTIFICATION/LISTINGS (CONTINUED)

PENDENT APPROVALS/LISTINGS				
SIN	**V2851**	**V4251**	**V2707**	**V3405**
Nominal K Factor Imperial	2.8	4.2	5.6	8.0
Nominal K Factor S.I.[2]	4.0	6.1	8.1	11.5
Orientation	PENDENT	PENDENT	PENDENT	PENDENT
Escutcheon	Flush|Extended	Flush|Extended	Flush|Extended	Flush|Extended
	Approved Temperature Ratings F°/C°			
cULus	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C 500°F/260°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C
FM	–	–	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C 360°F/182°C
CCC ZSTX-15	–	–	155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	155°F/68°C – – 286°F/141°C

RECESSED PENDENT APPROVALS/LISTINGS				
SIN	**V2851**	**V4251**	**V2707**	**V3405**
Nominal K Factor Imperial	2.8	4.2	5.6	8.0
Nominal K Factor S.I.[2]	4.0	6.1	8.1	11.5
Orientation	PENDENT	PENDENT	PENDENT	PENDENT
Escutcheon	Recessed	Recessed	Recessed	Recessed
	Approved Temperature Ratings F°/C°			
cULus	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C
FM With ½" Adjustment Escutcheon Only	–	–	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C
CCC ZSTX-15	–	–	155°F/68°C 175°F/79°C 200°F/93°C 286°F/141°C	155°F/68°C – – 286°F/141°C

[2] For K-Factor when pressure is measured in Bar, multiply S.I. units by 10.

NOTES

- Listings and approval as of printing.
- Where cULus Listed, Polyester and VC-250 Coatings Listed as Corrosion Resistant (V3401 with VC-250 Only)
- Where FM Approved, VC-250 Coating Approved as Corrosion Resistant
- New York City Acceptance - All UL Listed and/or FM Approved sprinklers acceptable to NYC per section 28-113 of the Administrative Code and the OTCR Rule.

3.0 SPECIFICATIONS – MATERIAL

Deflector: Bronze

Bulb Nominal Diameter: 5.0mm

Load Screw: Bronze

Pip Cap: Bronze

Spring Seal: PTFE coated Beryllium nickel alloy

Frame: Brass

Lodgement Spring: Stainless steel

Installation Wrench: Ductile iron

Sprinkler Frame Finishes:

- Plain brass
- Chrome plated
- White polyester painted[3, 4]
- Flat black polyester painted[3, 4]
- Custom polyester painted[3, 4]
- VC-250[5]

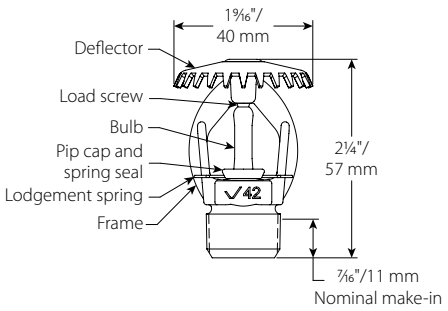
[3] Not available on the Intermediate Level Style Pendent.

[4] UL Listed for corrosion resistance.

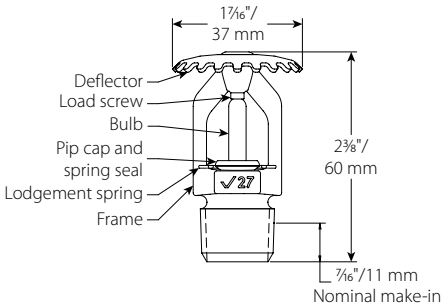
[5] UL Listed and FM Approved for corrosion resistance.

NOTE

- For cabinets and other accessories refer to separate sheet.



V2861, V4261



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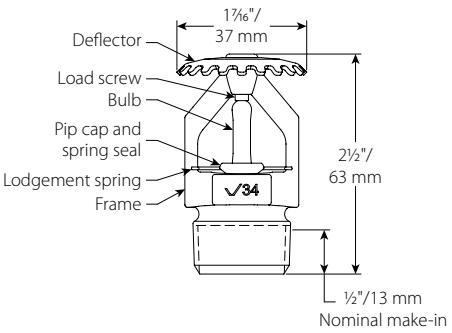
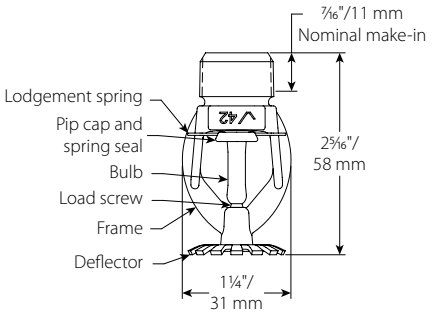
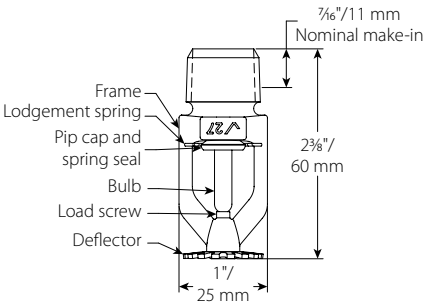


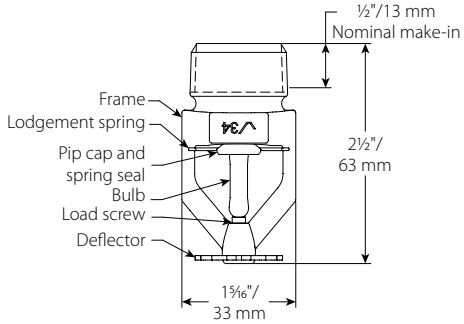
V3401



V2851, V4251

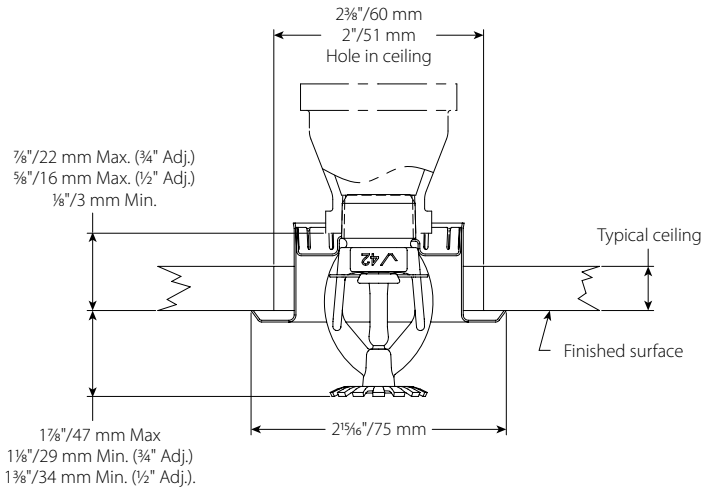


V2707

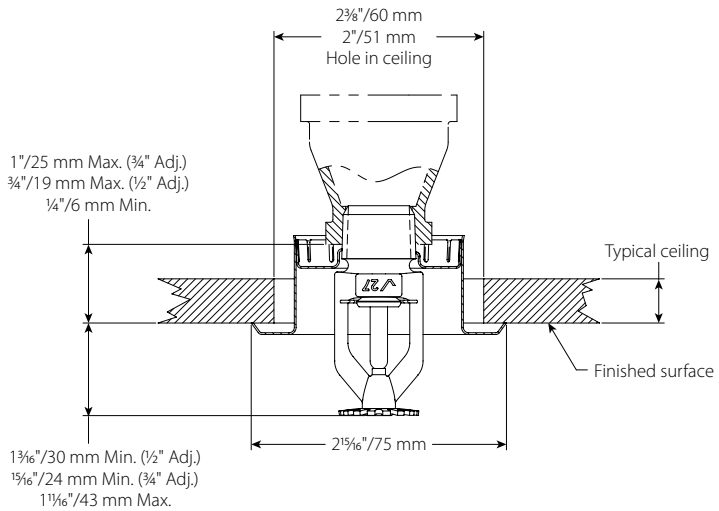


V3405

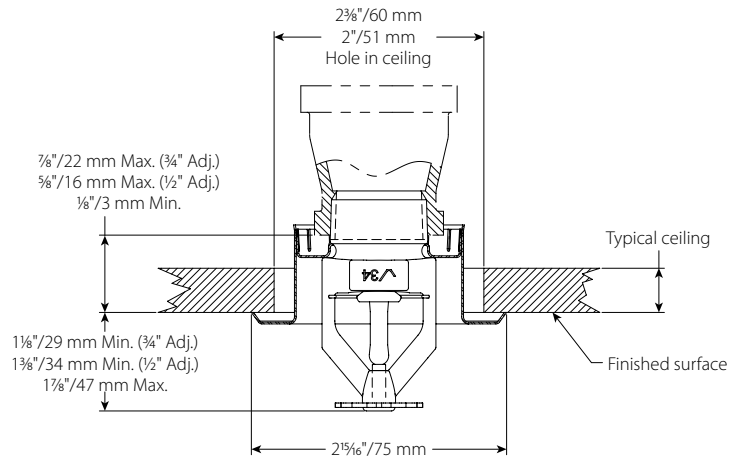
4.0 DIMENSIONS



V2851, V4251



V2707



V3405

5.0 PERFORMANCE

Sprinkler is to be installed and designed as per NFPA, FM Datasheets, or any local standards.

6.0 NOTIFICATIONS

⚠ WARNING

- **Read and understand all instructions before attempting to install any Victaulic products.**
- **Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.**
- **Wear safety glasses, hardhat, and foot protection.**

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

- **These products shall be used only in fire protection systems that are designed and installed in accordance with current, applicable National Fire Protection Association (NFPA 13, 13D, 13R, etc.) standards, or equivalent standards, and in accordance with applicable building and fire codes. These standards and codes contain important information regarding protection of systems from freezing temperatures, corrosion, mechanical damage, etc.**
- **The installer shall understand the use of this product and why it was specified for the particular application.**
- **The installer shall understand common industry safety standards and potential consequences of improper product installation.**
- **It is the system designer's responsibility to verify suitability of materials for use with the intended fluid media within the piping system and external environment.**
- **The material specifier shall evaluate the effect of chemical composition, pH level, operating temperature, chloride level, oxygen level, and flow rate on materials to confirm system life will be acceptable for the intended service.**

Failure to follow installation requirements and local and national codes and standards could compromise system integrity or cause system failure, resulting in death or serious personal injury and property damage.

7.0 REFERENCE MATERIALS

Ratings: All glass bulbs are rated for temperatures from -67°F/-55°C.

1-40: Victaulic FireLock™ Automatic Sprinklers Installation and Maintenance Instructions

I-V9: Style V9 Victaulic FireLock™ IGS™ Installation-Ready™ Sprinkler Coupling Installation Instructions

Fig. 92 (Formerly Afcon Fig. 100) Universal C-type Clamp (Standard Throat)

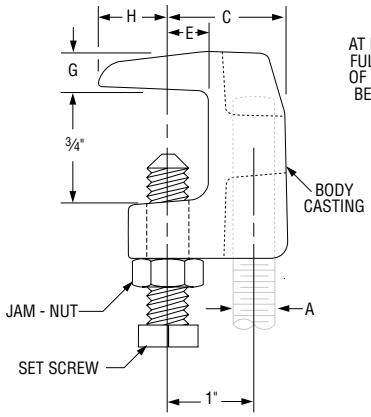
Size Range: 3/8" and 1/2"
Material: Ductile iron, hardened steel cup point set screw and locknut.
Finish: ☐ Plain or ☐ Zinc Plated (Hot-Dip Galvanized optional)
Service: Recommended for use under roof installations with bar joist type construction, or for attachment to the top or bottom flange of structural shapes where the vertical hanger rod is required to be offset from the edge of the flange and where the thickness of joist or flange does not exceed 3/4".
Approvals: Complies with Federal Specification A-A-1192A (Type 19 & 23) *WW-H-171-E (Type 23)*, ANSI/MSS SP-69 and MSS SP-58 (Type 19 & 23).
UL, ULC Listed and FM Approved.
How to size: Size of clamp is determined by size of rod to be used.
Installation: Follow recommended set screw torque values per MSS-SP-69.
Features:

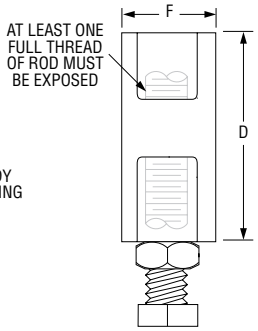
- They may be attached to horizontal flanges of structural members in either the top beam or bottom beam positions.
- Secured in place by a cup-pointed Set Screw tightened against the flange. A Jam Nut is provided for tightening the Set Screw against the Body Casting.
- Thru tapping of the body casting permits extended adjustment of the threaded rod.
- Can be used with Fig 89X retaining clip for seismic applications.

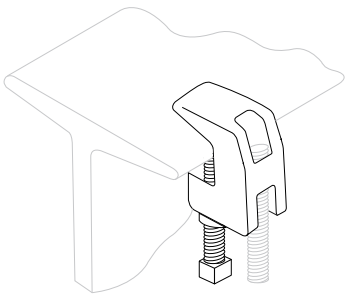
Ordering: Specify rod size, figure number, name of clamp and finish.

c UL us LISTED

FM APPROVED







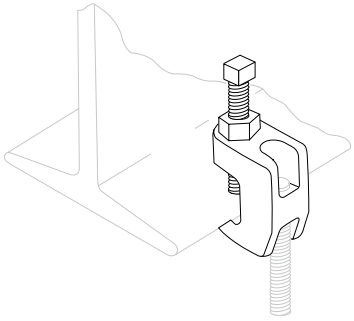


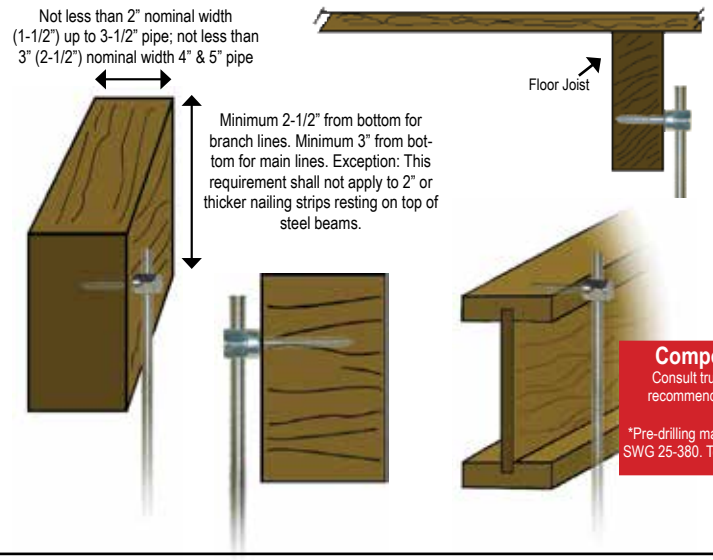
FIG. 92: DIMENSIONS (IN) • LOAD (LBS) • TORQUE (IN-LBS) • WEIGHT (LBS)											
Rod Size A	Set Screw Size	Torque Value	Max Loads ■		Weight	C	D	E	F	G	H
			Top	Bottom							
3/8	3/8	60	500	250	0.34	1 5/16	1 9/16	9/16	1 3/16	3/8	1/2
1/2	1/2	125	950	760	0.63	1 3/8	1 13/16	1/2	1 1/16	7/16	23/32

■ Maximum temperature of 450° F

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

SIDEWINDER® FOR WOOD - Horizontal Application

Application



Composite / Truss
Consult truss manufacturer for recommended installation point.

*Pre-drilling may be required for Model SWG 25-380. Tool available on page 11.

Product Features

- No pre-drilling required.
- Quick to install using the Sammy Nut Driver with an 18V cordless drill/driver.
- Saves time from traditional methods.
- Reduces installation costs.
- Assembled in the U.S.A.

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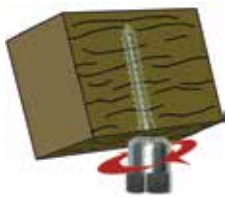
YouTube

Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Shear (lbs)	UL Test Load (lbs)	Box Qty	Case Qty
HORIZONTAL MOUNT								
	3/8"	8020957	SWG 10	1/4 x 1"	622 (Fir)	300	25	125
	3/8"	8021957	SWG 20	1/4 x 2"	1725 (Fir)	1050	25	125
	3/8"	8022925	SWG 25-380	3/8 x 2-1/2"	2249 (Fir)	1500	25	125
	3/8"**	8023925	SWG 30	1/4 x 3"	1884 (Fir)		25	125

#14 SW Red Nut Driver Part # 8114910

SAMMYS SWIVEL HEAD™ FOR WOOD - Swivel Application

Application



Product Features

- Eliminates distortion of threaded rod.
- Accommodates up to 3 ½" x 12 pitch roof.
- Allows 17° deflection from vertical.
- Saves time from traditional methods.
- Reduces installation costs.
- Assembled in the U.S.A.

Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)	UL Test Load (lbs)	FM Test Load (lbs)	Min Thickness	Box Qty	Case Qty
SWIVEL MOUNT										
	3/8"	8139957	SH-GST 20	1/4 x 2"	1257 (Fir)	1050	1475		25	125
	3/8"*	8269957	SH-GST/CST 20	5/16 x 1-3/4"	1903 Dim. Lumber 1406 @ 45°off vertical Dim. Lumber	1500 850 @ 45°			25	125

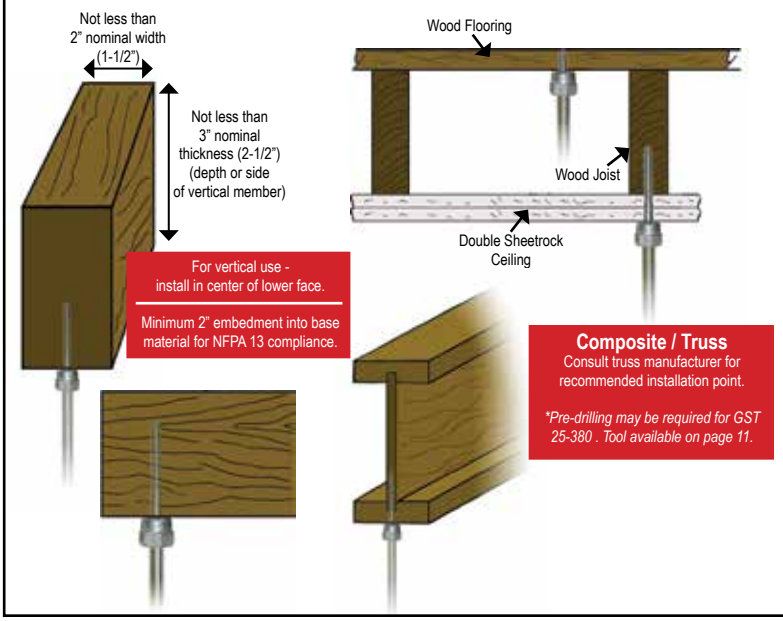
#14 Black Nut Driver Part # 8113910

#14 SH Orange Nut Driver Part # 8273910

* May require pre-drilling; consult joist manufacturer.
** Will not swivel until installed with black nut driver.

SAMMYS® FOR WOOD - Vertical Application

Application



Product Features

- No pre-drilling required.
- Quick to install using the Sammy Nut Driver with an 18V cordless drill.
- Saves time from traditional methods.
- Reduces installation costs.
- Assembled in the U.S.A.

View our installation videos!
YouTube

#14 Black
Nut Driver
Part # 8113910

#14 SW Red
Nut Driver
Part # 8114910

Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)	UL Test Load (lbs)	FM Test Load (lbs)	Box Qty	Case Qty
VERTICAL MOUNT									
	1/4"	8002957	GST 100	1/4 x 1"	210 (7/16" OSB) 670 (3/4" Ply)			25	125
	1/4"	8003957	GST 200	1/4 x 2"	1760 (Fir)			25	125
	3/8"	8007957	GST 10	1/4 x 1"	210 (7/16" OSB) 670 (3/4" Ply)	300		25	125
	3/8"	8008957	GST 20	1/4 x 2"	1760 (Fir)	850	1475	25	125
	3/8"	8068925	GST 20-SS	1/4 x 2"	1760 (Fir)	850		25	125
	3/8"	8009925	GST 25-380	3/8 x 2-1/2"	2113 (Fir)	1500		25	125
	3/8"	8010957	GST 30	1/4 x 3"	2060 (Fir)	1500	1475	25	125
	1/2"	8013925	GST 2	1/4 x 2"	1760 (Fir)			25	125
	1/2"	8015925	GST 3	1/4 x 3"	2275 (Fir)			25	125

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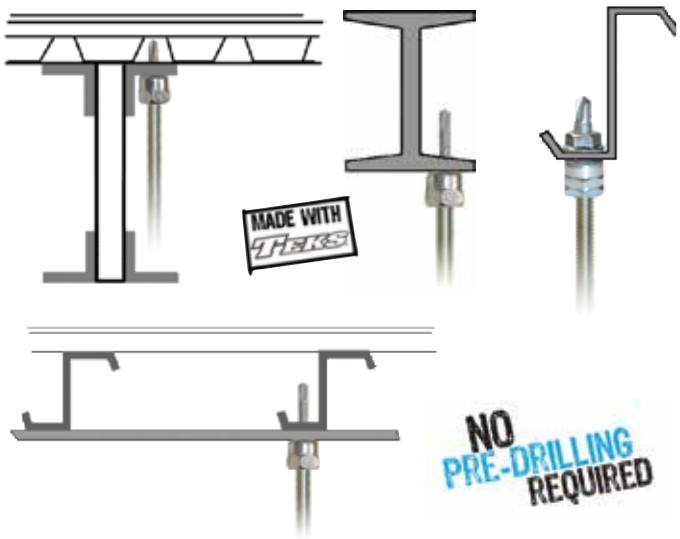
SPECIAL NUT DRIVER SYSTEM: The nut drivers were designed with a unique spin-off feature which provides a fast and safe installation each time. When the face of the driver comes into contact with the material you are installing into, continue drilling until nut driver spins free. Installation is then complete. Warranty requires the use of the appropriate nut driver for installations.

SAMMYS® FOR STEEL - Vertical Application

Application



Product Features

- Made with Teks® self-drilling fasteners - no pre-drilling required.
- Installs into steel range from 20 gauge – 1/2" thicknesses.
- Saves time from traditional methods.
- Reduces installation costs.
- Quick to install using the Sammys Nut Driver with an 18V cordless drill/driver.
- A standard screwgun with a depth sensitive nosepiece should be used to install Teks. For optimal fastener performance, the screwgun should be a minimum of 6 amps and have an RPM range of 0-2500.
- Assembled in the U.S.A.

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Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)	UL Test Load (lbs)	FM Test Load (lbs)	Min Thick	Max Thick	Box Qty	Case Qty
VERTICAL MOUNT											
	1/4"	8024957	DSTR 100 *	1/4-20 x 1" TEKS 3	1510 (20 ga.)			.036"-20 ga	3/16"	25	125
	1/4"	8025957	DST 100	1/4-14 x 1" TEKS 3	446 (20 ga.)			.036"-20 ga	3/16"	25	125
	1/4"	8026957	DST 150	1/4-14 x 1-1/2" TEKS 3	970 (16 ga.)			.036"-20 ga	3/16"	25	125
	1/4"	8027957	DST 200	1/4-14 x 2" TEKS 3	446 (20 ga.)			.036"-20 ga	3/16"	25	125
	3/8"	8038957	DSTR 1 *	1/4-20 x 1" TEKS 3	1510 (20 ga.)	1500	1475	.036"-20 ga	3/16"	25	125
	3/8"	8037957	DSTR 1-1/2 *	12-24 x 1-1/2" TEKS 5	1510 (3/16")	1500	1475	.060"-16 ga.	1/2"	25	125
	3/8"	8039957	DSTR 516 *	5/16-18 x 1-1/4" TEKS 3	2200 (20 ga.)	1500	1475	.036"-20 ga	3/16"	25	125
	3/8"	8040957	DST 10	1/4-14 x 1" TEKS 3	446 (20 ga.) 970 (16 ga.)			.036"-20 ga	3/16"	25	125
	3/8"	8041957	DST 15	1/4-14 x 1-1/2" TEKS 3	446 (20 ga.) 970 (16 ga.)			.036"-20 ga	3/16"	25	125
	3/8"	8044957	DST 30	1/4-14 x 3" TEKS 3	446 (20 ga.) 970 (16 ga.)			.036"-20 ga	3/16"	25	125
	3/8"	8045957	DST 516	5/16-18 x 1-1/4" TEKS 3	1500 (3/16")	1500	1475	.125"-1/8"	3/16"	25	125
	3/8"	8046957	TEK 50	12-24 x 1-1/2" TEKS 5	3125 (3/16")	1500	1475	.250"-1/4"	1/2"	25	125
	1/2"	8031925	DST 2.0	1/4-14 x 2" TEKS 3	446 (20 ga.) 970 (16 ga.)			.188"-3/16"	1/4"	25	125
	1/2"	8036925	TEK 5.0	12-24 x 1-1/2" TEKS 5	3125 (3/16")			.188"-3/16"	1/2"	25	125

*Includes retaining nut

#14 Black Nut Driver Part # 8113910

#14 SW Red Nut Driver Part # 8114910

ASSEMBLED U.S.A.

SPECIAL NUT DRIVER SYSTEM: The nut drivers were designed with a unique spin-off feature which provides a fast and safe installation each time. When the face of the driver comes into contact with the material you are installing into, continue drilling until nut driver spins free. Installation is then complete. Warranty requires the use of the appropriate nut driver for installations.

SIDEWINDER® FOR STEEL - Horizontal Application

Application

Product Features

- Made with Teks® self-drilling fasteners - no pre-drilling required.
- Installs into steel range from 20 gauge – 1/2" thicknesses.
- A standard screwgun with a depth sensitive nosepiece should be used to install Teks. For optimal fastener performance, the screwgun should be a minimum of 6 amps and have an RPM range of 0-2500.
- Saves time from traditional methods.
- Reduces installation costs.
- Quick to install using the Sammys Nut Driver with an 18V cordless drill/driver.
- Asembled in the U.S.A.

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Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Shear (lbs)	UL Test Load (lbs)	FM Test Load (lbs)	Min Thickness	Max Thickness	Box Qty	Case Qty
HORIZONTAL MOUNT											
	3/8"	8050957	SWD 10	1/4-14 x 1" TEKS 3	1477 (16 ga.)			.060"-16 ga	3/16"	25	125
	3/8"	8052957	SWD 20	1/4-14 x 2" TEKS 3	1477 (16 ga.)			.060"-16 ga	3/16"	25	125
	3/8"	8055957	SWDR 1 *	1/4-20 x 1" TEKS 3	1900 (20 ga.)	1500	1475	.036"-20 ga	3/16"	25	125
	3/8"	8054957	SWDR 1-1/2 *	12-24 x 1-1/2" TEKS 5	2375 (3/16")	1500	1475	.188"-3/16"	1/2"	25	125
	3/8"	8056957	SWDR 516 *	5/16-18 x 1-1/4" TEKS 3	2480 (20 ga.)	1500	1475	.036"-20 ga	3/16"	25	125

*Includes retaining nut

#14 SW Red Nut Driver Part # 8114910

SAMMYS SWIVEL HEAD™ FOR STEEL - Swivel Application

Application

Product Features

- Eliminates distortion of threaded rod in sloped roof applications.
- Accommodates 3-1/2 x 12 pitch.
- Installs into angled z-purlin; allows threaded rod to hang plumb.
- Allows 17° deflection from vertical.
- Asembled in the U.S.A.

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Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)	UL Test Load (lbs)	FM Test Load (lbs)	Min Thick	Max Thick	Box Qty	Case Qty
SWIVEL MOUNT											
	3/8"	8137957	SH-DSTR 1*	1/4-20 X 1" TEKS 3	3220 (3/16")	1500	1475	.035"	3/16"	25	125
	3/8"	8268957	SH-TEK 50	12-24 x 1-5/8" TEKS 5	2368 (1/2" steel Vertical) 1306 (45° off Vertical) 2281 (3/16" HSS) 1585 (3/16" HSS 45° off Vertical)	1500 (Vertical) 850 (45° off Vertical)	4" 2-1/2"	3/16"	1/2"	25	125

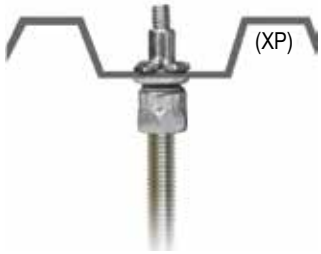
*Does not comply with ROHS requirements / Includes retaining nut

#14 Black Nut Driver Part # 8113910

#14 SH Orange Nut Driver Part # 8273910

SAMMY X-PRESS® - Vertical Application

Application



Product Features

- The ***Sammy X-Press*** expands to provide direct vertical attachment in:
  - light gauge steel deck or purlin (22 ga. - 1/8").
- Installs in seconds with Sammy X-Press It® Tool, saving time & installation costs.
- Use in applications where access to the back of the installed fastener is prohibited. ie. metal roof deck, tubular steel, or vapor barrier fabric.
- Less jobsite material needed.
- No retaining nut required.
- Provides design flexibility.
- Assembledin the U.S.A.

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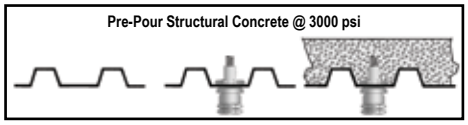
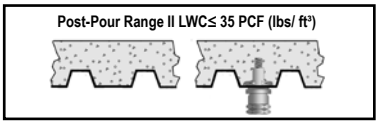
Approvals	Rod Size	Part Number	Model	Description	Ultimate Pullout (lbs)	UL Test Load (lbs)	UL Min Thick	FM Test Load (lbs)	FM Min Thick	Max Thick	Box Qty	Case Qty	Application
VERTICAL MOUNT													
	1/4"	8181922	XP 200	Sammy X-Press 200	1146 (22 ga)	185 (Luminaire) 250 (Luminaire)	.027" .056"			.125"	25	125	Metal Deck
	3/8"	8150922	XP 20	Sammy X-Press 20	1146 (22 ga)	850 (2½" Pipe) 185 (Luminaire) 250 (Luminaire) 283 (Conduit & Cable)	.027" .027" .056" .029"	940 (2" Pipe) 1475 (4" Pipe)	.029" .104"	.125"	25	125	Metal Deck
	3/8"	8153922	XP 35	Sammy X-Press 35	1783 (16 ga)	1500 (4" Pipe) 185 (Luminaire) 250 (Luminaire) 416 (Conduit & Cable)	.060" .029" .056" .059"	940 (2" Pipe) 1475 (4" Pipe)	.029" .104"	.125"	25	125	Purlin
	3/8"	8150922	XP 20	Sammy X-Press 20	1146 (22 ga)	850 (2½ Pipe)		Pre-Pour Structural Concrete@ 3000 psi Post-Pour Range II LWC≤ 35 PCF (lbs/ft³)			25	125	Metal Deck (Pre-Pour) Metal Deck (Post-Pour)





SAMMY X-PRESS SIDEWINDER™ - Horizontal Application

Application

Product Features

- The ***Sammy X-Press Sidewinder*** expands to provide horizontal attachment in:
  - 16 ga - 3/16" steel - purlin, tubular steel.
- Installs in seconds with Sammy X-Press It® Tool, saving time & installation costs.
- Use in applications where access to the back of the installed fastener is prohibited; ie. metal roof deck, tubular steel, or vapor barrier fabric.
- Less jobsite material needed.
- No retaining nut required.
- Provides design flexibility.
- Assembled in U.S.A. of Canadian Steel

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Approvals	Rod Size	Part Number	Model	Description	Ultimate Shear (lbs)	UL Test Load (lbs)	UL Min Thick	FM Test Load (lbs)	Max Thick	Box Qty	Case Qty	Application
HORIZONTAL MOUNT												
	3/8"	8293957	SWXP 35	Sidewinder X-Press 35	1798 (16 ga)	1250 (3½" Pipe) 80 (Luminaire) 416 (Conduit & Cable)	.059"		.125"	25	125	Metal Deck/ Purlin

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SAMMY X-PRESS SWIVEL™ - Swivel Application

Application

Product Features

- The ***Sammy X-Press Swivel*** allows you to hang plumb in extreme roof pitches:
  - 89° in z-purlin
  - 45° in metal deck for 12/12 pitch
- Installs in seconds with Sammy X-Press It® Tool, saving time & installation costs.
- Use in applications where access to the back of the installed fastener is prohibited. ie. metal roof deck, tubular steel, or vapor barrier fabric.
- Less jobsite material needed.
- No retaining nut required.
- Provides design flexibility.
- Assembled in the U.S.A.

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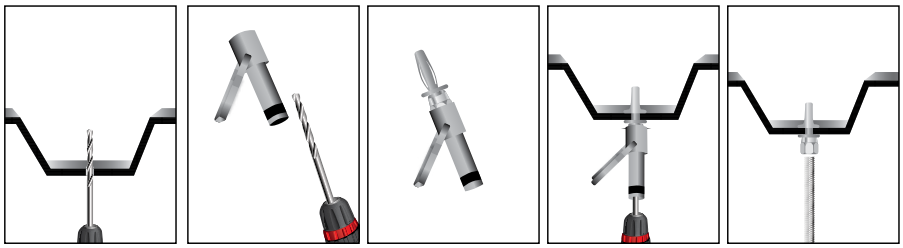
Approvals	Rod Size	Part Number	Model	Description	Ultimate Pullout (lbs)	UL Test Load (lbs)	UL Min Thick	FM Test Load (lbs)	FM Min Thick	Max Thick	Box Qty	Case Qty	Application
SWIVEL MOUNT													
UL FM	3/8"	8294922	SXP 20	Swivel X-Press 20	1061 (22 ga Vert) 829 (45° Off Vert)	750 (2" Pipe) 170 Vertical (Luminaire) 80 @ 45° (Luminaire) 283 Vertical (Conduit & Cable) 233 @ 45° (Conduit & Cable)	.029"	635 (2" Pipe)	.029"	.125"	25	125	Metal Deck/ Purlin
UL MEA	3/8"	8295922	SXP 35	Swivel X-Press 35	1675 (16 ga Vert) 1558 (89° Off Vert)	1250 (3-1/2" Pipe) 250 Vertical (Luminaire) 80 @ 90° (Luminaire) 500 Vertical (Conduit & Cable) 333 @ 89° (Conduit & Cable)	.059"	635 (2" Pipe)	.029"	.125"	25	125	Metal Deck/ Purlin
	1/2"	8272957	SXP 2.0	Swivel X-Press 2.0	1061 (22 ga Vert) 829 (45° Off Vert)		.027"	.125"			25	125	Metal Deck/ Purlin
	1/2"	8271957	SXP 3.5	Swivel X-Press 3.5	1675 (16 ga Vert) 1558 (89° Off Vert)		.060"	.125"			25	125	Metal Deck/ Purlin

SAMMY X-PRESS IT® Installation Tool

Application



Product Features

- The ***Sammy X-Press*** expands to provide direct vertical attachment in:
  - metal deck (22-16 gauge)
  - z-purlin (18-16 gauge)
- Assembled in the U.S.A.

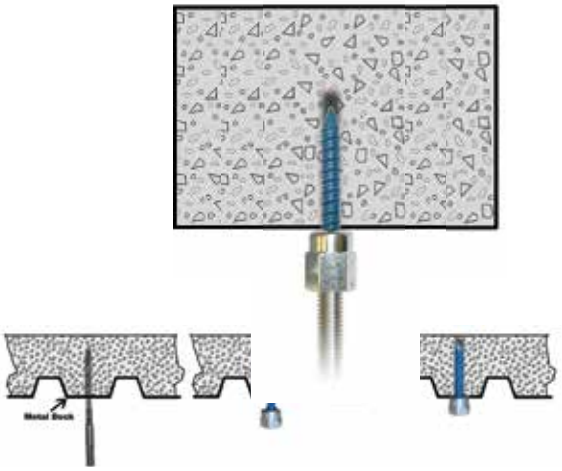
View our installation videos! YouTube

Part Number	Model	Description	Qty
8194910	UXPIT*	Universal X-Press It Tool	1
8152910	XPDB	25/64" Drill Bit	1

*Tool Includes: Sleeve, Bit Receiver, Hex Wrench, and 25/64" Drill Bit.

SAMMYS® FOR CONCRETE - Vertical Application

Application



Product Features

- Easy two step process (Drill hole & drive Sammys concrete anchor).
- ¼" pre-drilled pilot hole required.
- Concrete Installation Tool available for a one tool installation process.
- Assembled in the U.S.A.

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Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)*	FM Test Load (lbs)	Box Qty	Case Qty
VERTICAL MOUNT								
	1/4"	8058957	CST 200	5/16 x 1-3/4"	2400		25	125
FM	3/8"	8059957	CST 20	5/16 x 1-3/4"	2400	1475	25	125
	1/2"	8060925	CST 2	5/16 x 1-3/4"	2400		25	125
FM ICC-ESR 3699+FM	3/8"	8306957	CCST 516	5/16-14 x 2-1/2"	857**		25	125

#14 Black Nut Driver Part # 8113910

#14SW Red Nut Driver Part # 8114910

For complete performance data see ICC Report ESR-3699

* Tested in 3000 PSI concrete ** Pullout strength for Cracked Concrete and Seismic Zones A-F

SIDEWINDER® FOR CONCRETE - Horizontal Application

Application

Product Features

- Easy two step process (Drill hole & drive Sammys concrete anchor).
- ¼" pre-drilled pilot hole required.
- Concrete Installation Tool available for a one tool installation process.
- Assembleded in the U.S.A.

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Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Shear (lbs)*	FM Test Load (lbs)	Box Qty	Case Qty
HORIZONTAL MOUNT								
FM	3/8"	8061957	SWC 20	5/16 x 1-3/4"	2450	1475	25	125
FM ICC-ESR 3699+FM	3/8"	8307957	SW-CCST 516	5/16-14 x 2-1/2"	857**		25	125

#14SW Red Nut Driver Part # 8114910

* Tested in 3000 PSI concrete ** Pullout strength for cracked concrete and Seismic Zones A-F

ASSEMBLED U.S.A.

RoHS Compliant

SPECIAL NUT DRIVER SYSTEM: The nut drivers were designed with a unique spin-off feature which provides a fast and safe installation each time. When the face of the driver comes into contact with the material you are installing into, continue drilling until nut driver spins free. Installation is then complete. Warranty requires the use of the appropriate nut driver for installations.

SAMMYS SWIVEL HEAD™ FOR CONCRETE - Swivel Application

Application

Product Features

- Installs vertically and swivels up to 89° in wood & concrete structures.
- Eliminates distortion of threaded rod.
- 1/4" pre-drilled pilot hole required.
- Concrete installation tool available for a one piece installation process.
- Assembled in the U.S.A.

Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Shear (lbs)*	Box Qty	Case Qty
SWIVEL MOUNT							
	3/8"	8269957	SH-GST/CST 20	5/16 x 1-3/4"	2537 in 3000 psi concrete 1459 @ 45°off vertical in 3000 psi concrete 2852 in 6000 psi concrete 1636 @ 45°off vertical in 6000 psi concrete	25	125
FM	3/8"	8308957	SH-CCST 516	5/16-14 x 2-1/2"	857**	25	125

#14 SH Orange Nut Driver Part # 8273910

Note: UL Listed for wood - see page 5

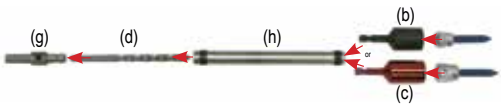
* Tested in 3000 PSI concrete ** Pullout strength for cracked concrete and Seismic Zones A-F

CONCRETE / WOOD INSTALLATION KIT

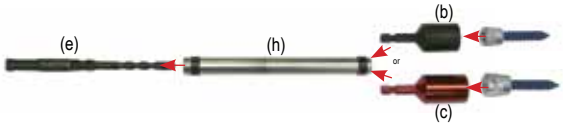
(a)

Application

Rotary Hammer Drill into concrete



Hammer Drill into concrete



Part Number	Description	Each Qty
8122910	**Concrete Installation Kit (a)**	**1**

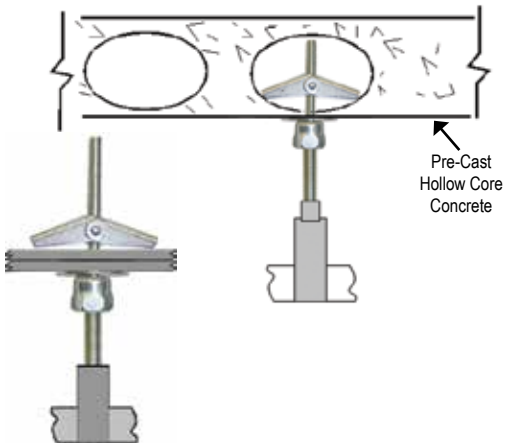
Kit includes the following items:

8113910	#14 Black Nut Driver (b)	1
8114910	#14 SW Red Nut Driver (c)	1
8116910c	#250 Bit (1/4") (d)	1
8117910	SDS Bit (1/4") (e)	1
8118910	7/32 Wood Bit (f)	1
8120910	HEX 250 Bit Receiver (1/4") (g)	1
8098910	SL 250 Sleeve (h)	1

ACCESSORIES

SAMMYS TOGGLE™

Application



Installation Steps

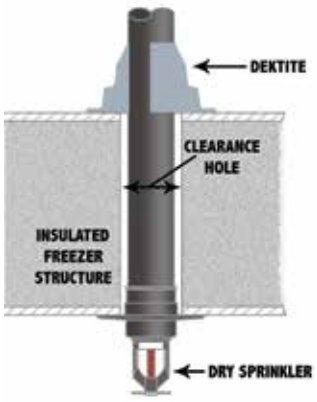
1. Pre-drill a 5/8" hole with a regular drill or hole saw.
2. Insert SST screw into #14 black nut driver. With wing nut and washer on bolt, insert wing nut through surface, and begin installation.
3. When bolt is secure and nut driver spins free, stop drill motor and remove.
4. SST screw is now ready to receive 1/4", 3/8", or Metric all thread rod or bolt stock.

#14 Black
Nut Driver
Part # 8113910

Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)	Box Qty	Case Qty
3/8"	8064925	SST 30	1/4 x 3"	450 (Lath & Plaster) 404 (2 Layers 5/8 Rock)	25	125

DEKTITE® PIPE FLASHING

Application



STAY UP TO CODE!
with a quicker, more efficient way to flash your refrigeration/freezer units.

Product Features

- Complies with NFPA 13 Code Changes.
- Flashing for dry pendant sprinklers subject to extreme temperature changes.
- One piece construction is easy to install.
- Pipe diameter markings ensure accurate fit.
- EPDM temperature range of -65°F to +250°F.

Part Number	Description	Pipe Outside Diameter	Dektite Base Diameter	Dektite Height	Box Qty
4003910	1	1/4" - 2"	4-3/4"	3"	10
4004910	2	1-3/4" - 3-1/4"	6-1/4"	4"	10

SAMMY X-PRESS POLE TOOL KIT™

Application

For use installing Sammy X-Press anchors from the ground up!

Product Features

- Speed your labor by 25%
- Work from the ground up
- No scaffolding, ladders, or lifts
- Perfect for working in tight spaces, through ceiling grid, and high vaulted ceilings
- Works with any Sammy X-Press product

View our installation videos!
YouTube

Part Number	Model	Description	Box Qty
XPKIT*	XPKIT	Sammy X-Press Pole Tool Kit	1

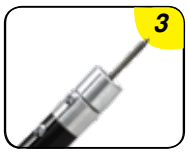
* 3/4" electrical conduit needed for pole tool assembly

SAMMYS POLE TOOL™

Installation Instructions

Adjust the Pole Tool to length. The adjusting pin must be 18" below the base or the pin may interfere with the rod.

Load rod and Sammys into Pole Tool.



The socket will spin free when the screw is completely installed. Pull down to remove the Pole Tool.

Product Features

- Speed your labor by 25%
- Work from the ground up
- No scaffolding, ladders, or lifts
- Perfect for working in tight spaces, through ceiling grid, and high vaulted ceilings
- Works with any Vertical SAMMYS: Wood, Steel, or Concrete

Part Number	Description	Box Qty
SP6	Speedy Pole 6'-18'	1

APPROVALS

Part Number	Model	Rod Size	Mount Direction	UL Max Pipe Size	UL Test Load (lbs)	UL Min Wood Thickness	FM Max Pipe Size	FM Test Load (lbs)	FM Min Wood Thickness
SAMMYS FOR WOOD - PIPE HANGER									
8007957	GST 10	3/8"	Vertical	CPVC 1-1/2"	300	1-1/2"			
8020957	SWG 10	3/8"	Horizontal	CPVC 1-1/2"	300	1-1/2"			
8008957	GST 20	3/8"	Vertical	2-1/2"	850	1-1/2"	4"	1475	1-1/2"
8068925	GST 20-SS	3/8"	Vertical	2-1/2"	850	1-1/2"			
8010957	GST 30	3/8"	Vertical	4"	1500	1-1/2"	4"	1475	1-1/2"
8009925	GST 25-380	3/8"	Vertical	4"	1500	1-1/2"			
8022925	SWG 25-380	3/8"	Horizontal	3-1/2" - 4"*	1500	1-1/2"			
8021957	SWG 20	3/8"	Horizontal	2-1/2" - 3"**	1050	1-1/2"			
8073925	SWG 20-SS	3/8"	Horizontal	2-1/2"	850	1-1/2"			
8269957	SH-GST/CST 20	3/8"	45° Angle off Vertical	2-1/2"	850	1-1/2"			
8269957	SH-GST/CST 20	3/8"	45° Angle off Vertical	4"	1500	1-1/2"			
8139957	SH-GST 20	3/8"	17° Angle off Vertical	3"	1050	1-1/2"	4"	1475	1-1/2"
SAMMYS FOR STEEL - PIPE HANGER						**Min Steel Thick**			**Max Steel Thick**
8038957	DSTR 1	3/8"	Vertical	4"	1500	.035"	4"	1475	.105"
8037957	DSTR 1-1/2	3/8"	Vertical	4"	1500	.035"	4"	1475	.105"
8039957	DSTR 516	3/8"	Vertical	4"	1500	.037"	4"	1475	.105"
8045957	DST 516	3/8"	Vertical	4"	1500	.188"	4"	1475	.188"
8046957	TEK 50	3/8"	Vertical	4"	1500	.250"	4"	1475	.188"
8055957	SWDR 1	3/8"	Horizontal	4"	1500	.037"	4"	1475	.060"
8056957	SWDR 516	3/8"	Horizontal	4"	1500	.037"	4"	1475	.060"
8054957	SWDR 1-1/2	3/8"	Horizontal	4"	1500	.037"	4"	1475	.060"
8137957	SH-DSTR 1	3/8"	17° Angle off Vertical	4"	1500	.035"	4"	1475	.105"
8268957	SH-TEK 50	3/8"	Vertical 70° Angle off Vertical	2-1/2" 4"	850 1500				
8150922	XP 20	3/8"	Vertical	2-1/2"	850	.027"	2" 4"	940 1475	.029" .105"
8153922	XP 35	3/8"	Vertical	4"	1500	.060"	2" 4"	940 1475	.029" .125"
8294922	SXP 20	3/8"	Vertical or up to 45°	2"	750	.027"	2"	635	.029"
8295922	SXP 35	3/8"	Vertical or up to 89°	3-1/2"	1250	.060"	2"	635	.029"
8293957	SWXP 35	3/8"	Horizontal	3-1/2"	1250	.060"			
SAMMYS FOR CONCRETE - PIPE HANGER									
8059957	CST 20	3/8"	Vertical				4"	1475	3000
8061957	SWC 20	3/8"	Horizontal				4"	1475	3000
8150922	XP 20	3/8"	Vertical	2-1/2"	850	Pre-Pour Structural @ 3000psi			
8150922	XP 20	3/8"	Vertical	2-1/2"	850	Post-Pour Range II LWC ≤ 35 PCF (lbs/ft^3)			

Part Number	Model	Rod Size	Mount Direction	UL Load Rating (lbs)	UL Min Steel Thickness
SAMMYS FOR STEEL - LUMINAIRE FITTING					
8150922	XP 20	3/8"	Vertical	185 250	.027" .035"
8153922	XP 35	3/8"	Vertical	185 250	.027" .035"
8181922	XP 200	1/4"	Vertical	185 250	.027" .035"
8294922	SXP 20	3/8"	Vertical 45°	170 80	.027" .027"
8295922	SXP 35	3/8"	Vertical 90°	250 80	.060" .060"
8293957	SWXP 35	3/8"	Horizontal	80	.060"

Part Number	Model	Rod Size	Mount Direction	UL Load Rating (lbs)	UL Min. Steel Thickness	Listed Application
SAMMYS FOR STEEL - CONDUIT, TUBING, AND CABLE						
8150922	XP 20	3/8"	Vertical	283	.027"	Max 4 trade size EMT, RMC, and IMC & 5 trade size rigid PVC conduit
8153922	XP 35	3/8"	Vertical	500	.060"	Max 4 trade size EMT & 6 trade sze RMC, IMC, and rigid PVC conduit
8294922	SXP 20	3/8"	Vertical	283	.027"	Max 4 trade size EMT, RMC, and IMC & 5 trade size rigid PVC conduit
8295922	SXP 35	3/8"	Vertical	500	.060"	Max 4 trade size EMT & 6 trade sze RMC, IMC, and rigid PVC conduit
8293957	SWXP 35	3/8"	Horizontal	500	.060"	Max 4 trade size EMT & 6 trade sze RMC, IMC, and rigid PVC conduit
8149957	CZ2000	1/4" or 3/8"	Onto Vertical Rod			UL Listed 4S16 - Cable Hanger, Cat. No. C-Z2000 Plenum Rated, Complies w/ NEC Standards

Sheet Steel Gauges

Gauge No.	22 ga.	20 ga.	18 ga.	16 ga.	14 ga.	12 ga.	1/8"	3/16"	1/4"
Nominal Decimal Equivalent	.030"	.036"	.048"	.060"	.075"	.105"	.125"	.188"	.250"

*SWG 25-380 Maximum pipe size in composite wood joist allowed by UL is 3-1/2"
*SWG 25-380 Maximum pipe size in wood timber or joist allowed by UL is 4"
**SWG 20 Maximum pipe size in composite wood joist allowed by UL is 2-1/2"
**SWG 20 Maximum pipe size in wood timber or joist allowed by UL is 3"

UL compliance with NEC Standards.
UL and FM tests were performed in compliance with NFPA 13 Standards.
Fastening requirement: 5 times weight of water-filled schedule 40 pipe plus 250 pounds.

SPECIAL NOTES

Engineering Note
In 1996, the anchors listed by UL were tested in plate steel that measured .188" and .118". Subsequent testing was done for z-purlin applications in May 1997 using (.037") or 20 gauge steel. Most recently in 2008, testing with the new Sammy X-Press® was completed using (.030") or 22 gauge steel metal deck.

Sammys® Nut Drivers
Special nut drivers were designed to be used with Sammys. When the appropriate nut drivers are used for installation, the driver spins freely on the screw after installation is complete and eliminates the expected wrist snap, reduces over-torque, and prevents screw failure.

Steel Screws
Due to variations in hardness of certain metals, it should be noted that our self-drilling screws for steel will experience different drill speeds. 500-1500 RPM drill speed should be used.

Metric Products
Metric versions of the Sammy anchors are available at www.itwbuildex.com

Sammys for Seismic
Please visit www.itwbuildex.com for our current Seismic product offerring.

Vibratory Environments
For attaching or anchoring in high vibratory environments, special care should be taken not just for building attachments but also for the hangers or assemblies being supported. Consult local code authorities for accepted anchoring devices.

Composite Joist/Truss
Truss manufacturers vary installation recommendations for composite joist. UL testing was completed to validate that Sammys and Sidewinders SWG 20 and SWG 25-380 can be installed into the top cord of a truss. Sammy GST 20 can be installed into the center of the lower cord of a composite joist. Penetration of the upright center web is permitted by some joist manufacturers. Consult truss manufacturer for recommended installation point.

Pre-drilling may be required by joist manufacturers. If so, pre-drill pilot hole 1/8" smaller than root diameter of fastener.

Consult the table below:

Model	Root Diameter	Hole Size
GST 20	.182"	1/8"
GST 25-380	.280"	7/32"
SWG 20	.182"	1/8"
SWG 25-380	.280"	7/32"

To increase efficiency of the installation process, sleeve tools, bit receivers, and wood bits are available for pre-drilling.

NFPA/NEC Standards
All UL and FM testing complies with NFPA 13 and NEC standards. Check with your local (AHJ) Authority Having Jurisdiction to confirm application and usage.

UL Listings / FM Approvals
UL and FM reports are available at www.itwbuildex.com

c UL us
LISTED
PIPE HANGER
ALSO LISTED AS CONDUIT AND CABLE HARDWARE
ALSO LISTED AS ANCHOR FOR LUMINAIRE
9R21

FM APPROVED

Technical Drawings
Technical drawings are available and can be downloaded at www.itwbuildex.com in the following formats: .dwg, .dxf, and .igs.

Assembled in the U.S.A. Products


Assembled U.S.A.

Contact Information
Technical Assistance: (800) 848-5611 Option #6 (x 3259)
Customer Service: (800) 848-5611 Option #1

Fig. 146 (Formerly Afcon Fig. 650) Continuous Threaded Rod

Size Range: 1/4" through 1 1/2" Stocked in six, ten, and twelve foot lengths. Other even foot lengths can be furnished to order.
Material: Carbon steel or Stainless Steel Gr 304
Threads: National Coarse (USS), rod threaded complete length.
Finish: ☐ Plain or ☐ Zinc Plated (Hot-Dip Galvanized optional)
Maximum Temperature: Zinc Plated 450˚F, Stainless Steel 650˚ F
Approvals: Complies with MSS SP-58.
Ordering: Specify rod diameter and length, figure number, name and finish.
Note: The acceptability of galvanized coatings at temperatures above 450˚F is at the discretion of the end user.

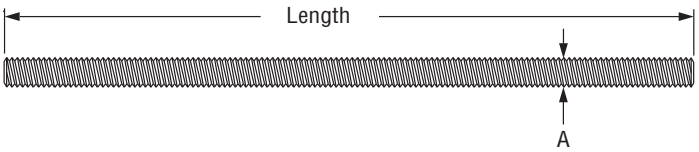


FIG. 146:
DIMENSIONS (IN) • LOADS (LBS) • WEIGHTS (LBS)

Rod Size A	Threads per Inch	Max Load 650˚ F	Weight per Ft.
1/4	20	240	0.12
3/8	16	730	0.30
1/2	13	1,350	0.53
5/8	11	2,160	0.84
3/4	10	3,230	1.20
7/8	9	4,480	1.70
1	8	5,900	2.30
1 1/4	7	9,500	3.60
1 1/2	6	13,800	5.10

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

Fig. 69 (Formerly Afcon Fig. 300) Adjustable Swivel Ring, Tapped Per NFPA Standards

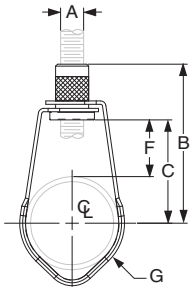
Size Range: 1/2" through 8"
Material: Carbon steel
Finish: Strap is Pre-Galvanized Zinc Material. Nut is Zinc Plated.
Service: Recommended for suspension of non-insulated **stationary** pipe line.
Maximum Temperature: 450° F
Approvals: Complies with Federal Specification A-A-1192A (Type 10), *WW-H-171-E (Type 10)*, and ANSI/MSS SP-58 (Type 10). UL Listed and FM Approved (Sizes 3/4" - 8").
Features:

- 1/2" - 2" sizes designed for use with steel and CPVC piping and manufactured with FBC System Compatible oil.
- Threads are countersunk so that they cannot become burred or damaged.
- Knurled swivel nut provides vertical adjustment after piping is in place.
- Captured swivel nut in the 1/2" through 6" sizes. The capture is permanent in the bottom portion of the band, allowing the hanger to be opened during installation if desired, but not allowing the nut to fall completely out.

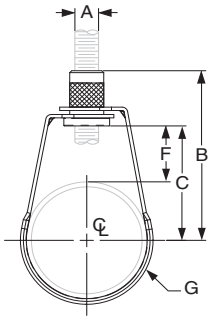
Ordering: Specify size, figure number and name.
Non-captured nut also available upon request.

1/2" through 2" Size
Rounded Edge Design

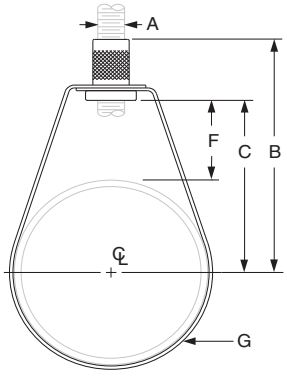
c UL us LISTED FM APPROVED



1/2" through 1" pipe



1 1/4" through 2" pipe



2 1/2" through 8" pipe

2 1/2" through 8" Size

FIG. 69: DIMENSIONS (IN) • LOADS (LBS) • WEIGHT (LBS)

Pipe Size	Max Load	Weight	Rod Size A	B	C	F	G Width
1/2	300	0.10	3/8	2 7/8	2	1 9/16	5/8
3/4		0.10		2 3/4	1 7/8	1 5/16	
1		0.10		2 9/16	1 11/16	1	
1 1/4		0.10		2 5/8	1 3/4	7/8	
1 1/2		0.10		2 3/4	1 7/8		
2		0.11		3 1/4	2 3/8	1 1/8	
2 1/2	525	0.20		4	2 3/4	1 5/16	3/4
3		0.20		3 13/16	2 15/16	1 3/16	
4	650	0.30		4 11/16	3 13/16	1 9/16	
5	1,000	0.54	1/2	5 5/16	4 3/8		
6		0.65		6 11/16	5 9/16	2 1/4	
8		1.00		8 9/16	7 9/16	3 1/4	

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

LA-CO®

Proven Every Day // Proven Everywhere®

Slic-tite® Paste with PTFE

Premium Thread Sealant

USDA approved for use in federally inspected meat and poultry plants.

FEATURES:

- Slic-tite® contains more PTFE than other national brands. The higher concentration of PTFE particles provides greater sealing power on all tapered pipe threads including those that are damaged.
- Brushes easily on wet or oily threads.
- Sticks to hot, oily threads, will not run off. Ideal for use on production lines using high speed pipe threading machines.
- The non-toxic, non-drying formula will not harden or crack in the pipe joint. Provides easy disassembly and break out.
- Seals to high pressures: 10,000 PSI for Liquids, 3,000 PSI for Gases.
- Sealing temperature range: -50˚ to 500˚F (-46˚C to 260˚C).
- Meets Fed. Spec. TT-S-1732
- Slic-tite contains a product made from PTFE and other PTFE resins to assure high performance.

TYPICAL APPLICATIONS:

- Slic-tite seals all types of pipe threads: steel, stainless steel, brass, aluminum, iron, and PVC, CPVC and ABS plastic.
- Recommended Services: water, natural gas, LP gases, steam, air, gasoline, kerosene, Refrigerants, ammonia, caustics, and acids. Contact factory for specific use recommendations. NOT RECOMMENDED FOR USE WITH OXYGEN SERVICE. Use OXY-TITE®.

NSF · CLASSIFIED C UL US · UPC · CSA US · FGG =BM= CZ SYSTEM COMPATIBLE

FGG/BM®, FlowGuard Gold®, BlazeMaster® and Corzan® are registered trademarks of The Lubrizol Corporation.

RECOMMENDED INDUSTRIES:

- Plumbing
- AC/R
- Industrial Piping
- Chemical Processing Plants
- Manufacturing Plants
- Gas Utilities
- Fire Sprinkler Piping
- Irrigation Systems

ORDERING INFORMATION

Part No.	Size	QTY/Case
41209	1/4 pt. BIC	12
42009	1/4 pt. BIC	24
41219	1/2 pt. BIC	12
42019	1/2 pt. BIC	24
42012	1 pt. Flat Top	24
42029	1 pt. BIC	24

Part No.	Size	QTY/Case
42013	1 qt. Flat Top	12
42049	1 qt. BIC	12
42014	1 gal.	4
42015	5 gal.	1
42069	55 gal.	1

BIC = Brush in Cap

LP97R00010 • CG 10/08 5M • LA-CO Industries, Inc. • Printed in U.S.A.

LA-CO®

Call, write or email for additional information

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Family owned and operated since 1934

SPEC SHEET #S00043/44
March 2002

Cutting Oil

Oils and Lubricants

DESCRIPTION

Application specific lubricants for both manual and machine metal working operations. Used for sawing, drilling, turning or thread cutting with all types of metals. These are superior quality cutting oils formulated to produce consistent results under all weather conditions. **Hercules Cutting Oils** contain activated sulfur to provide anti-weld properties, reduce friction and prevent excessive heat generation, thus minimizing material expansion resulting in ill-fitting joints. The high film strength of **Hercules Cutting Oils** maintains a continuous contact of the lubricant with the work assuring quick, accurate and high quality cuts with minimal tool wear. Lubricants contain no nitrosamine forming compounds or chlorinated oils.

Clear Cutting Oil
A blend of high quality mineral oils with sulfur base. Used for cutting clean, unbroken threads during manual or low rpm threading machine operations on small sizes of steel and brass pipe. Also applicable for hacksawing and light drilling. Will not stain copper or brass materials.

Dark Cutting Oil
Extra heavy blend of high quality mineral oils with sulfur-lard base. Compounded to keep tooling and work cool when used on high speed threading machines. Enables operators to cut clean, sharp threads on steel or brass pipe. Ideal for thread cutting, tapping, broaching, drilling or any application where high speeds and quality finishes are required. A superior quality product that significantly extends tool life and reduces labor time.

SIZES AND PACKING

STOCK NO.	SIZE	PACKING	WEIGHT/CASE
Clear			
40-110	1 pt.	24	28.6 lbs.
40-115	1 qt.	12	28.0 lbs.
40-120	1 gal.	6	49.4 lbs.
40-125	5 gal.	1	40.2 lbs.
40-140	55 gal.	1	452.0 lbs.
Dark			
40-210	1 pt.	24	28.6 lbs.
40-215	1 qt.	12	28.0 lbs.
40-220	1 gal.	6	49.4 lbs.
40-225	5 gal.	1	40.2 lbs.
40-240	55 gal.	1	452.0 lbs.

HERCULES®

specifications

Cutting Oil

Cutting Oil
Oils and Lubricants

APPROVALS AND LISTINGS

USDA Listed

SPECIFIC USES

Use **Clear Cutting Oil** for the cutting of clean, unbroken threads during manual or low rpm threading machine operations. Also for hack sawing or light drilling. Use **Dark Cutting Oil** for high-speed tapping/threading, broaching, turning or drilling applications.

SPECIFIC APPLICATIONS*

Hercules Cutting Oils are designed to improve quality and through-put of work, reduce friction, be an effective coolant and significantly increase tool life.

PHYSICAL PROPERTIES

	Clear	Dark
Specific Gravity:	at 25°C .906	at 25°C .906
Solubility in water:	Insoluble	Insoluble
Boiling Point:	465-900°F	465-900°F
Appearance/color:	Light amber liquid	Dark brownish amber liquid
Odor:	Petroleum odor	Petroleum odor
Viscosity:	30-35 centipoises	45-50 centipoises

WARNINGS OR CAUTIONS

- Read all cautions and directions carefully before using this product.
- **KEEP OUT OF REACH OF CHILDREN.**
- Avoid contact with eyes or skin. Prolonged or repeated skin contact may cause irritation.
- Avoid breathing vapor, mist or fumes. Use with adequate ventilation.
- Wash thoroughly after handling.

DIRECTIONS FOR USE

1. Wear safety glasses with side shields to protect eyes from metal shavings.
2. Be sure to start the flow of oil before tooling is in contact with the work.
3. Oil flow should hit the point of friction for best results.
4. Always use properly ground chasers and dies with this quality cooling lubricant to obtain sharp, clean threads without burrs.

MATERIAL SAFETY INFORMATION

FOR MORE INFORMATION ON THIS PRODUCT, REQUEST
MATERIAL SAFETY DATA SHEET- Clear (MSDS) #43
MATERIAL SAFETY DATA SHEET- Dark (MSDS) #44

For Delivery by Fax	Call 1-800-942-4636
Internet	See MSDS section of **www.herchem.com**
Mail	Contact Hercules at address below or any Hercules representative

HMIS Hazard Warning 1-1-0-A

CLEAR INGREDIENTS	**CAS#**
Petroleum-Based Lubricating Oil	64742-53-6
or	64742-52-5
Sulfurized Aliphatic Hydrocarbon	67762-55-4

DARK INGREDIENTS	**CAS#**
Petroleum-Based Lubricating Oil	64742-53-6
or	64742-52-5
Sulfurized Aliphatic Hydrocarbon	67762-55-4
Sulfurized Fatty Oil Esters	n/a

* For special applications which may not be covered on this or other Hercules literature, please contact Hercules Technical Services Department by phone at 1-800-221-9330 or send a fax to 1-800-333-3456.

HERCULES®

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http://www.herchem.com

HERCULES®
AN EMPLOYEE OWNERSHIP CORPORATION

High-performance intumescent firestop sealant FS-ONE MAX

Applications

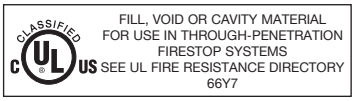
- For effectively sealing most common through penetrations in a variety of base materials
- For use on concrete, masonry and drywall
- Mixed and multiple penetrations
- Metal pipe penetrations: copper, steel and EMT
- Insulated metal pipe penetrations: steel and copper
- Plastic pipe penetrations: closed or vented

Advantages

- US-produced: “Buy American” compliant
- One product for a variety of common through penetrations
- Cost-effective, easy-to-use solution
- Water-based and paintable
- Industry-leading VOC results
- Ethylene glycol-free

Chemical resistant

Mold and mildew resistant



Technical data	
Chemical basis	Water-based acrylic dispersion
Approx. Density	84.3 lb/ft³
Color	Red
Application temperature range	41 - 104 °F
Approx. cure time[1)]	4 mm/3 days
Temperature resistance range	-4 to 212 °F
Mold and mildew performance	Class 0 (ASTM G21-96)
Mold and mildew resistance	Yes
Surface burning characteristics UL 723 (ASTM E84)	Flame spread: 0 Smoke development: 10
Tested in accordance with	UL 1479, ASTM E814, ASTM E84, CAN/ ULC-S115, ASTM G21, ASTM E90
California State fire marshal approval	CSFM Listing 4485-1200:0108 for FS-ONE MAX Intumescent Firestop Sealant
Expansion ratio (unrestricted, up to)	1:5

[1)] at 75°F/24°C, 50% relative humidity

Order Designation	Package Content	Item number
FS-ONE MAX 20oz foil (3 case + disp)	1x Foil pack dispenser manual CS 270-P1, 75x Firestop sealant FS-ONE MAX 20 oz foil	**3530252**
FS-ONE MAX 10oz tube (1 case)	12x Firestop sealant FS-ONE MAX 10 oz cartridge	**3530249**
FS-ONE MAX 5 gallon (18 pails)	18x Firestop sealant FS-ONE MAX 5 gallon pail	**3530263**
FS-ONE MAX 20oz foil (1 case)	25x Firestop sealant FS-ONE MAX 20 oz foil	**3530250**
FS-ONE MAX 20oz foil (3 cases)	75x Firestop sealant FS-ONE MAX 20 oz foil	**3530251**
FS-ONE MAX 20oz Foil-Pallet	600x FSONE-MAX 20 oz foil, 290x Bulk Shipping Condition	**3534713**
FS-ONE MAX 10 oz cartridge		**2101531**
FS-ONE MAX 5 gallon pail		**2101533**

Identification Signs For Sprinkler Systems and Devices NFPA 13 Signing Requirements

General Description

Identification Signs (Ref. Figure 1) are designed to provide information to the end user about the sprinkler system and its components. They are available with a variety of wording combinations to meet the signing requirements of NFPA 13.

The five basic types of Identification Signs are:

Type A – Control Valve Sign

Type B – Multi-Purpose Text Signs available with the following text options:

AIR CONTROL
AIR LINE
ALARM TEST
ANTIFREEZE SYSTEM
AUXILIARY DRAIN
CONTROL VALVE
DRAIN
DRAIN VALVE
INSPECTORS TEST
MAIN CONTROL
MAIN DRAIN

Type D – Fire Alarm Sign

Type E – Hydraulic Calculation Sign

NOTICE

The Identification Signs 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 (NFPA), in addition to the standards of any other authorities having jurisdiction. Failure to do so may impair the performance of these devices.

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

Technical Data

Material & Finish
18 gauge aluminum with mylar facing.

	Width x Height	
	Inches	mm
Type A	9 x 7	229 x 178
Type B	6 x 2	152 x 51
Type D Rectangular	9 x 7	229 x 178
Type D Round	7-1/4 Dia.	184 Dia.
Type E	5 x 7	127 x 178

Installation

The Identification Signs are provided with 1/8 Inch (3,2 mm) diameter or larger holes (or slots) in the corners for easy attachment using standard hardware chain, wire, plastic lock ties, or light gauge metal strap (not included).

Care and Maintenance

The following inspection procedure must be performed as indicated, in addition to any specific requirements of the NFPA, and any impairments must be immediately corrected.

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. Contact the installing contractor or product manufacturer with 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.

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

Inspection Procedure
Annual visual inspections are recommended to ensure that Identification Signs are properly located.

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

TYPE A

TYPE D
RECTANGULAR OR ROUND

TYPE B
AVAILABLE TEXT OPTIONS:

AIR CONTROL	DRAIN
AIR LINE	DRAIN VALVE
ALARM TEST	INSPECTORS TEST
ANTIFREEZE SYSTEM	MAIN CONTROL
AUXILIARY DRAIN	MAIN DRAIN
CONTROL VALVE	

TYPE E

FIGURE 1
IDENTIFICATION SIGNS

Limited Warranty

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

Ordering Procedure

Orders must include the description and Part Number (P/N). Contact your local distributor for availability.

Hardware for hanging is not supplied with Signs. It must be obtained separately.

Identification Signs
Specify: Type (specify A, D, or E) Identification Sign, P/N (specify):

Type A 2300A
Type D (Rectangle) 2316
Type D (Round) 2329
Type E. 2317

Identification Signs (Type B)
Specify: Type B Identification Sign, inscribed (specify), P/N (specify):

AIR CONTROL 2328
AIR LINE. 2302
ALARM TEST 2304A
ANTIFREEZE SYSTEM. 2306
AUXILIARY DRAIN 2307
CONTROL VALVE 2310
DRAIN 2311
DRAIN VALVE. 2327
INSPECTORS TEST 2313
MAIN CONTROL 2319
MAIN DRAIN 2320

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Johnson Controls