

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

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 ₂ O 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 ₂ O 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.



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

WEIGHTS AND DIMENSIONS CHART

NPS	NOM. OD INCHES	NOMINAL WALL	WT./FT. H ₂ O 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.



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.

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:



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

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- 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



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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:

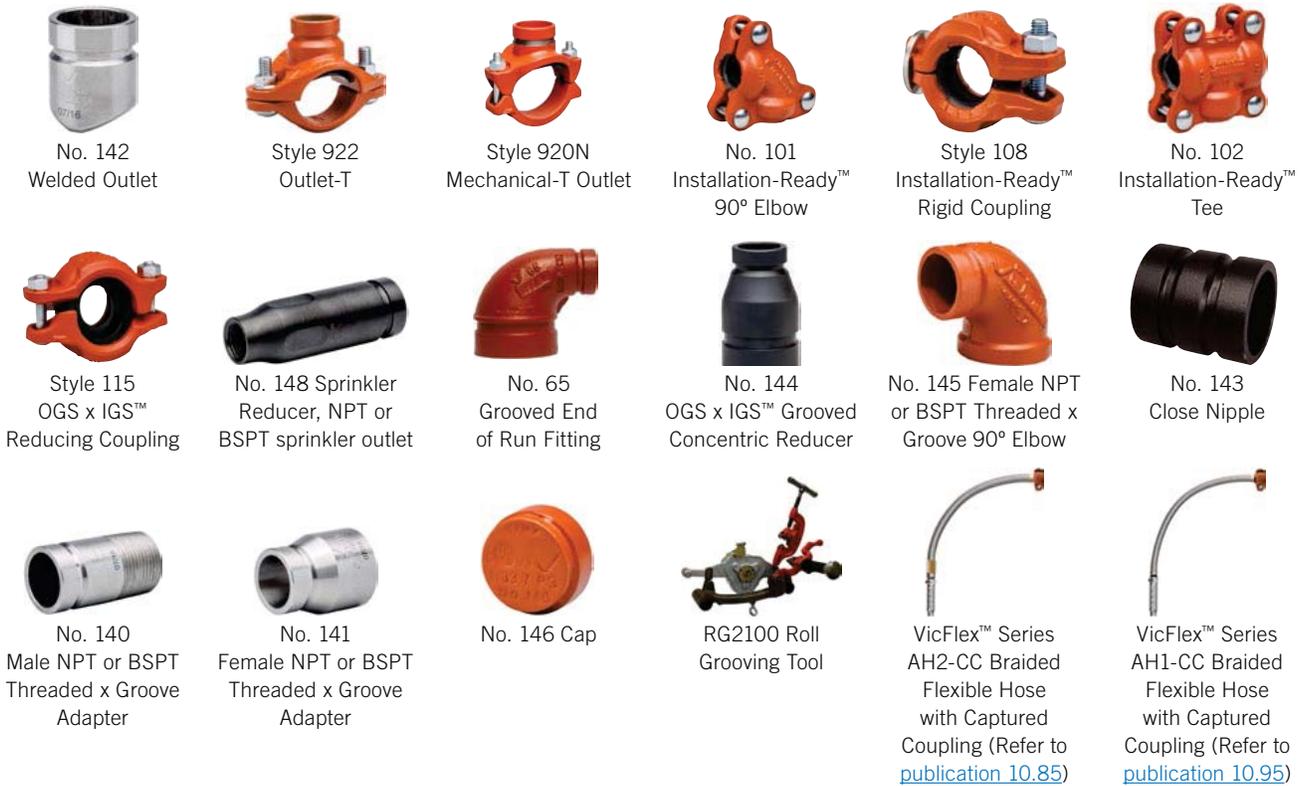
- Orange enamel (North America, Asia Pacific)
- Red enamel (Europe)
- Optional: Hot dipped galvanized

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).



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.

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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](#)



Ductile Iron for AWWA size pipe
[Publication 23.05](#)



Stainless Steel
[Publication 17.16](#)



XL fittings for abrasive services
[Publication 07.07](#)



Galvanized
[Publication 07.01](#) for Original Groove Fittings
[Publication 20.05](#) for AGS Fittings



Aluminum
[Publication 21.03](#)



Extra Heavy EndSeal "ES"
[Publication 07.03](#)



Shouldered Ends
[Publication 07.06](#)



Copper
[Publication 22.04](#)



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 22 ½° Elbow, No. 13 11 ¼° 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 22 ½° Elbow, No.13 11 ¼° 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



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

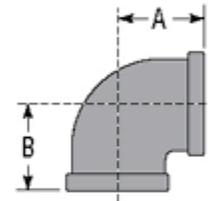
Threads are NPT per ANSI/ASME B1.20.1.

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	
<i>In. (mm)</i>			<i>PSI (kPa)</i>	<i>In. (mm)</i>	<i>In. (mm)</i>	<i>Lbs. (kg)</i>
1 20	84000004	0890033	500 3450	1.50 38.10	1.50 38.10	0.62 0.28
1 1/4 32	840000012	0890044	500 3450	1.75 44.45	1.75 44.45	0.90 0.41
1 1/2 40	840000020	0890055	500 3450	1.94 49.276	1.94 49.276	1.20 0.54
2 50	840000038	0890066	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.



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.

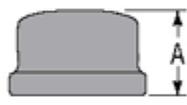
NOTICE Ductile iron fittings have higher tensile strength than that of steel pipe. Therefore, over tightening can cause damage to pipe threads which may cause leakage. Ductile iron fittings should be tightened three turns beyond hand tight, but no more than four turns.



APPROVED
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CAP					
Nominal Size	Anvil Item Number	Universal Number	Max. Working Pressure*	Dimensions	Approx. Wt. Each
				A	
<i>In. (mm)</i>			<i>PSI (kPa)</i>	<i>In. (mm)</i>	<i>Lbs. (kg)</i>
1 25	840005615	DCP003	500 3450	1.16 29.46	0.32 0.15
1 1/4 32	840005623	DCP004	500 3450	1.28 32.51	0.43 0.20
1 1/2 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



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

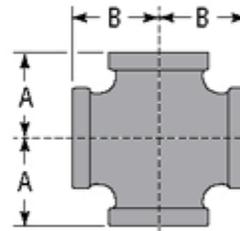
Threads are NPT per ANSI/ASME B1.20.1.

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	
<i>In. (mm)</i>			<i>PSI (kPa)</i>	<i>In. (mm)</i>	<i>In. (mm)</i>	<i>Lbs. (kg)</i>
1	840006647	IK033	500	1.50	1.50	0.98
25			3450	38.10	38.10	0.44
1¼	840006654	IK044	500	1.75	1.75	1.50
32			3450	44.45	44.45	0.68
1½	840006662	IK055	500	1.94	1.94	1.90
40			3450	49.27	49.27	0.86
2	840006670	IK066	500	2.25	2.25	2.95
50			3450	57.15	57.15	1.34
1¼ x 1	840007678	IK043	500	1.58	1.67	1.27
32 x 25			3450	40.13	42.41	0.58
1½ x 1	840007686	IK053	500	1.65	1.80	1.48
40 x 25			3450	41.91	45.72	0.67
2 x 1	840007694	IK063	500	1.73	2.02	2.10
50 x 25			3450	43.94	51.30	0.95

* UL, ULC & FM Pressure Ratings

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



REDUCING COUPLING



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.

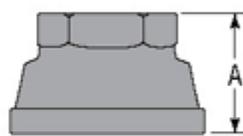
NOTICE Ductile iron fittings have higher tensile strength than that of steel pipe. Therefore, over tightening can cause damage to pipe threads which may cause leakage. Ductile iron fittings should be tightened three turns beyond hand tight, but no more than four turns.



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

REDUCING COUPLING					
Nominal Size	Anvil Item Number	Universal Number	Max. Working Pressure*	Dimensions	Approx. Wt. Each
				A	
in. (mm)			PSI (kPa)	in. (mm)	Lbs. (kg)
1 x 3/4 25 x 15	840010755	DRC031	500 3450	1.69 42.92	0.39 0.18
1 x 3/4 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



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

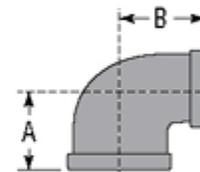
Threads are NPT per ANSI/ASME B1.20.1.

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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REDUCING 90° ELBOW

Nominal Size	Anvil Item Number	Universal Number	Max. Working Pressure*	Dimensions		Approx. Wt. Each
				A	B	
<i>In. (mm)</i>			<i>PSI (kPa)</i>	<i>In. (mm)</i>	<i>In. (mm)</i>	<i>Lbs. (kg)</i>
1 x 3/4 25 x 15	840001036	0890031	500 3450	1.26 32.00	1.36 34.54	0.44 0.20
1 x 3/4 25 x 20	840001044	0890032	500 3450	1.37 34.79	1.45 36.83	0.52 0.24
1 1/4 x 3/4 32 x 15	840001051	0890041	500 34550	1.34 34.03	1.53 38.86	0.64 0.29
1 1/4 x 3/4 32 x 20	840001069	0890042	500 3450	1.45 36.83	1.62 41.14	0.72 0.33
1 1/4 x 1 32 x 25	840001077	0890043	500 3450	1.58 40.13	1.67 42.41	0.75 0.34
1 1/4 x 1 40 x 25	840001085	0890053	500 3450	1.65 41.91	1.80 45.72	0.92 0.42
1 1/4 x 1 1/4 40 x 32	840001093	0890054	500 3450	1.82 46.22	1.88 47.75	1.08 0.49
2 x 3/4 50 x 15	840001101	0890061	500 3450	1.49 37.84	1.88 47.75	1.08 0.49
2 x 3/4 50 x 20	840001119	0890062	500 3450	1.60 40.64	1.97 50.03	1.24 0.56
2 x 1 50 x 25	840001127	0890063	500 3450	1.73 43.94	2.02 51.30	1.40 0.64
2 x 1 1/4 50 x 32	840001135	0890064	500 3450	1.90 48.26	2.10 53.34	1.52 0.70
2 x 1 1/2 50 x 40	840001143	0890065	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.

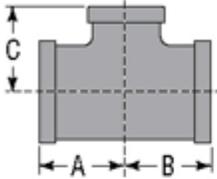




REDUCING TEE



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.

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



* 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 1/2 x 1/2 25 x 15 x 25	840004196	D1313	500 3450	1.50 38.10	1.36 34.54	1.50 38.10	0.64 0.29
1 x 3/4 x 1/2 25 x 20 x 25	840004204	D1323	500 3450	1.50 38.10	1.45 36.83	1.50 38.10	0.73 0.33
1 x 1 x 1/2 25 x 25 x 15	840004212	D1331	500 3450	1.26 32.00	1.26 32.00	1.36 34.54	0.71 0.32
1 x 1 x 3/4 25 x 25 x 20	840004220	D1332	500 3450	1.37 34.80	1.37 34.80	1.45 36.83	0.76 0.34
1 x 1 x 1 1/4 25 x 25 x 32	840004238	D1334	500 3450	1.67 42.41	1.67 42.41	1.58 40.13	0.98 0.44
1 x 1 x 1 1/2 25 x 25 x 40	840004246	D1335	500 3450	1.80 45.72	1.80 45.72	1.65 41.91	1.16 0.53
1 1/4 x 1 x 1/2 32 x 25 x 15	840004253	D1431	500 3450	1.34 34.04	1.26 32.00	1.53 38.86	0.82 0.37
1 1/4 x 1 x 3/4 32 x 25 x 20	840004261	D1432	500 3450	1.45 36.83	1.37 34.80	1.62 41.15	0.90 0.41
1 1/4 x 1 x 1 32 x 25 x 25	840004279	D1433	500 3450	1.58 40.13	1.50 38.10	1.67 42.42	1.00 0.45
1 1/4 x 1 x 1 1/4 32 x 25 x 32	840004287	D1434	500 3450	1.75 44.45	1.67 42.42	1.75 44.45	1.08 0.49
1 1/4 x 1 x 1 1/2 32 x 25 x 40	840004295	D1435	500 3450	1.88 47.75	1.80 45.72	1.82 46.22	1.42 0.64
1 1/4 x 1 1/4 x 1/2 32 x 32 x 15	840004303	D1441	500 3450	1.34 34.04	1.34 34.04	1.53 38.86	0.86 0.39
1 1/4 x 1 1/4 x 3/4 32 x 32 x 20	840004311	D1442	500 3450	1.45 36.83	1.45 36.83	1.62 41.15	0.92 0.42
1 1/4 x 1 1/4 x 1 32 x 32 x 25	840004329	D1443	500 3450	1.58 40.13	1.58 40.13	1.67 42.42	0.95 0.43
1 1/4 x 1 1/4 x 1 1/4 32 x 32 x 40	840004337	D1445	500 3450	1.88 47.75	1.88 47.75	1.82 46.22	1.45 0.66
1 1/4 x 1 1/4 x 2 32 x 32 x 50	840004345	D1446	500 3450	2.10 53.34	2.10 53.34	1.90 48.26	1.75 0.79
1 1/4 x 1 1/4 x 1 1/2 40 x 25 x 15	840004352	D1531	500 3450	1.41 35.81	1.34 34.04	1.66 42.16	0.95 0.43
1 1/4 x 1 1/4 x 3/4 40 x 25 x 20	840004360	D1532	500 3450	1.52 38.61	1.37 34.80	1.75 44.45	1.14 0.52
1 1/4 x 1 x 1 40 x 25 x 25	840004378	D1533	500 3450	1.65 41.91	1.50 38.10	1.80 45.72	1.17 0.53
1 1/4 x 1 x 1 1/4 40 x 25 x 32	840004386	D1534	500 3450	1.82 46.23	1.67 42.42	1.88 47.75	1.34 0.61
1 1/4 x 1 x 1 1/2 40 x 25 x 40	840004394	D1535	500 3450	1.94 49.28	1.80 45.72	1.94 49.28	1.45 0.66
1 1/4 x 1 1/4 x 1/2 40 x 32 x 15	840004402	D1541	500 3450	1.41 35.81	1.34 34.04	1.66 42.16	1.05 0.48
1 1/4 x 1 1/4 x 3/4 40 x 32 x 20	840004410	D1542	500 3450	1.52 38.61	1.45 36.83	1.75 44.45	1.15 0.5
1 1/4 x 1 1/4 x 1 40 x 32 x 25	840004428	D1543	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)
1 1/2 x 1 1/4 x 2 40 x 32 x 50	840004436	D1546	500 3450	2.16 54.86	2.10 53.34	2.02 51.30	1.90 0.86
1 1/2 x 1 1/4 x 1 1/2 40 x 40 x 15	840004444	D1551	500 3450	1.41 35.81	1.41 35.81	1.16 29.46	1.15 0.52
1 1/2 x 1 1/4 x 3/4 40 x 40 x 20	840004451	D1552	500 3450	1.52 38.61	1.52 38.61	1.75 44.45	1.24 0.56
1 1/2 x 1 1/4 x 1 40 x 40 x 25	840004469	D1553	500 3450	1.65 41.91	1.65 41.91	1.80 45.72	1.30 0.59
1 1/2 x 1 1/4 x 1 1/4 40 x 40 x 32	840004477	D1554	500 3450	1.82 46.23	1.82 46.23	1.88 47.75	1.48 0.67
1 1/2 x 1 1/4 x 2 40 x 40 x 50	840004485	D1556	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 20	840004493	D1636	500 3450	2.25 57.15	2.02 51.31	2.25 57.15	2.15 0.98
2 x 1 1/4 x 2 50 x 32 x 20	840004501	D1646	500 3450	2.25 57.15	2.10 53.34	2.25 57.15	2.30 1.04
2 x 1 1/4 x 1 1/2 50 x 40 x 15	840004519	D1651	500 3450	1.49 37.85	1.41 35.81	1.88 47.75	1.50 0.68
2 x 1 1/4 x 3/4 50 x 40 x 20	840004527	D1652	500 3450	1.60 40.64	1.52 38.61	1.97 50.04	1.62 0.73
2 x 1 1/4 x 1 50 x 40 x 25	840004535	D1653	500 3450	1.73 43.94	1.65 41.91	2.02 51.31	1.64 0.74
2 x 1 1/4 x 1 1/4 50 x 40 x 32	840004543	D1654	500 3450	1.90 48.26	1.82 46.23	2.10 53.34	1.80 0.82
2 x 1 1/4 x 1 1/2 50 x 40 x 50	840004550	D1655	500 3450	2.02 51.31	1.94 49.28	2.16 54.86	2.00 0.91
2 x 1 1/4 x 2 50 x 40 x 25	840004568	D1656	500 3450	2.25 57.15	2.16 54.86	2.25 57.15	2.35 1.07
2 x 2 x 1/2 50 x 50 x 15	840004576	D1661	500 3450	1.49 37.85	1.49 37.85	1.88 47.75	1.60 0.73
2 x 2 x 1/4 50 x 50 x 20	840004584	D1662	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	D1663	500 3450	1.73 43.94	1.73 43.94	2.02 51.31	1.85 0.84
2 x 2 x 1 1/4 50 x 50 x 32	840004600	D1664	500 3450	1.90 48.26	1.90 48.26	2.10 53.34	2.04 0.93
2 x 2 x 1 1/2 50 x 50 x 40	840004618	D1665	500 3450	2.02 51.31	2.02 51.31	2.16 49.28	2.18 0.99
2 x 2 x 2 1/4 50 x 50 x 65	-	D1667	500 3450	2.60 66.03	2.60 66.03	2.39 53.61	3.61 1.64
2 1/2 x 2 x 3/4 65 x 50 x 20	-	D1762	500 3450	1.74 44.15	1.60 40.64	2.32 58.43	2.28 1.03

SPF Cast & Ductile Iron Fittings

www.anvilstar.com



STRAIGHT TEE



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.

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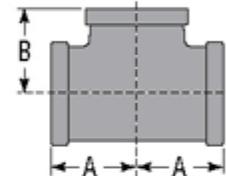
APPROVED

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

STRAIGHT TEE						
Nominal Size	Anvil Item Number	Universal Number	Max. Working Pressure*	Dimensions		Approx. Wt. Each
				A	B	
<i>in. (mm)</i>			<i>PSI (kPa)</i>	<i>in. (mm)</i>	<i>in. (mm)</i>	<i>Lbs. (kg)</i>
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.



Victaulic® VicFlex™ Sprinkler Fittings

Series AH2 and AH2-CC Braided Flexible Hoses



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



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.

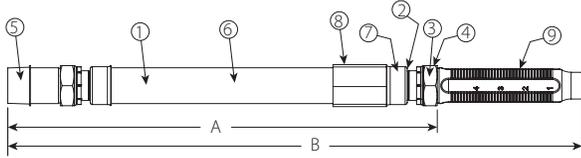
Linkage: CrMo Alloy Steel zinc electroplated per ASTM B633 Zn/Fe 5, Type III Finish

No. 116 Adapter Fitting: CPVC and Brass

Seal: Victaulic EPDM

4.0 DIMENSIONS

Product Details - Series AH2 Braided Hose

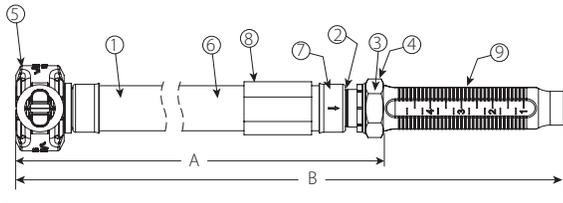


Item	Description
1	Flexible Hose
2	Isolation Ring
3	Gasket
4	Nut
5	Adapter Nipple
6	Braid
7	Collar/Weld Fitting
8	Sleeve
9	Reducer

Hose Length Dimensions

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

Series AH2-CC Braided Hose

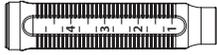


Item	Description
1	Flexible Hose
2	Isolation Ring
3	Gasket
4	Nut
5	Captured Coupling
6	Braid
7	Collar/Weld Fitting
8	Sleeve
9	Reducer

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

4.0 DIMENSIONS (CONTINUED)

Standard Reducer

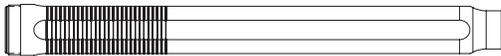


5.75"/140 mm straight reducer

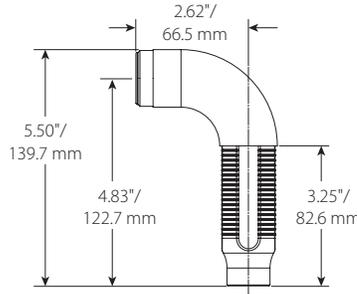
Optional Reducers



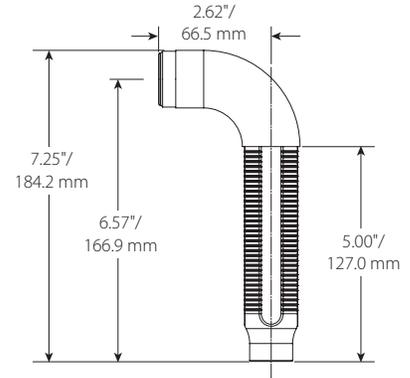
9.0"/229 mm straight reducer



13.0"/330 mm straight reducer



Short 90° elbow reducer

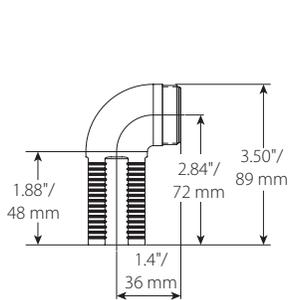


Long 90° elbow reducer

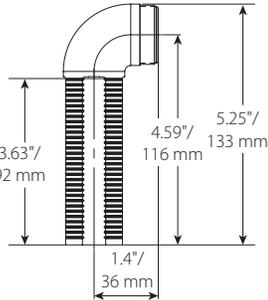
NOTE

- 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

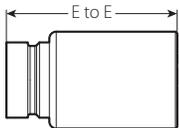


Long 90° elbow reducer

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

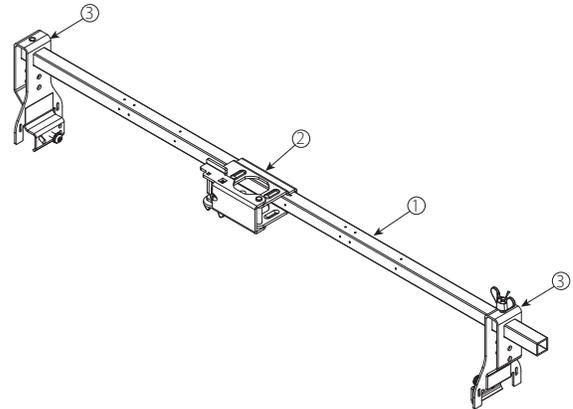
Style AB2

- 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

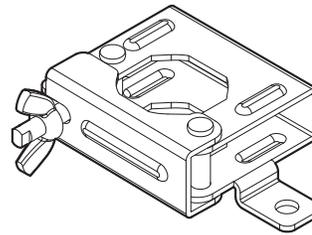
NOTE

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



Style AB3

- Surface Mount Applications
- FM/LPCB Approved



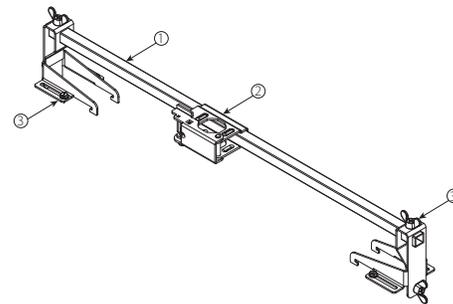
Style AB4

- 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

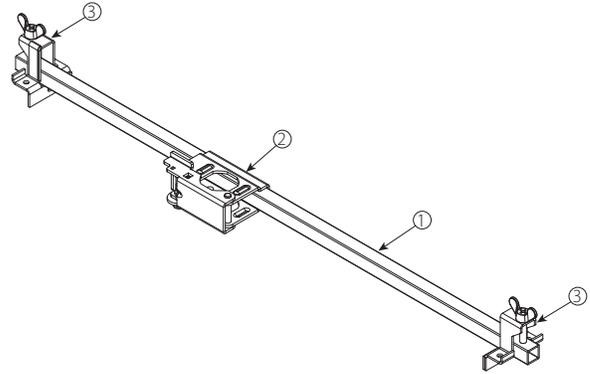
Style AB5

- 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.



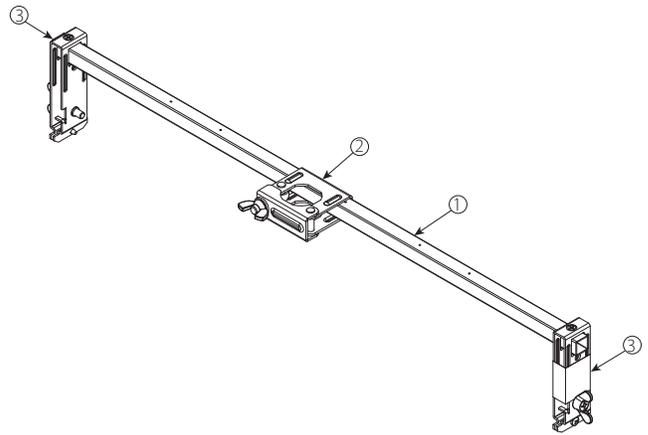
Style AB7

- 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.



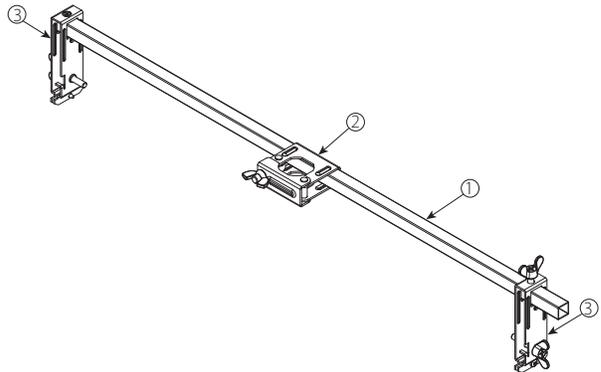
Style AB7 Adjustable

- 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.



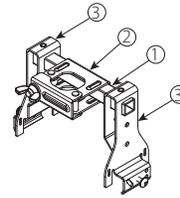
4.3 DIMENSIONS

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



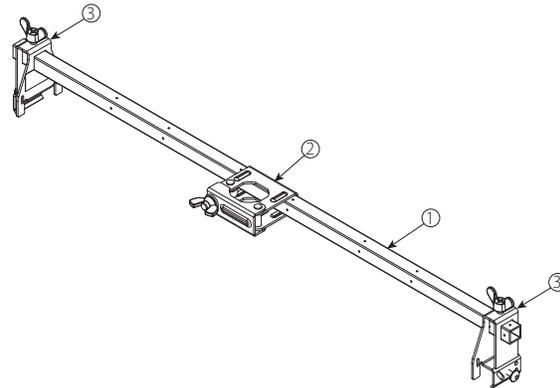
NOTE

- 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



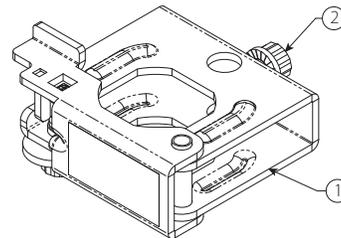
NOTE

- 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.

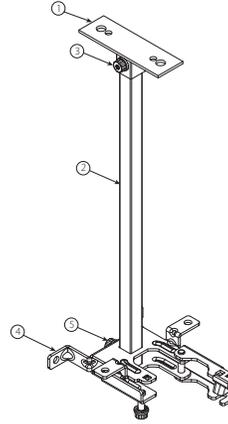
4.3 DIMENSIONS (CONTINUED)

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



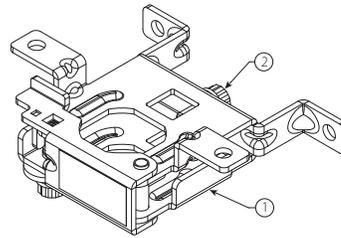
NOTE

- 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



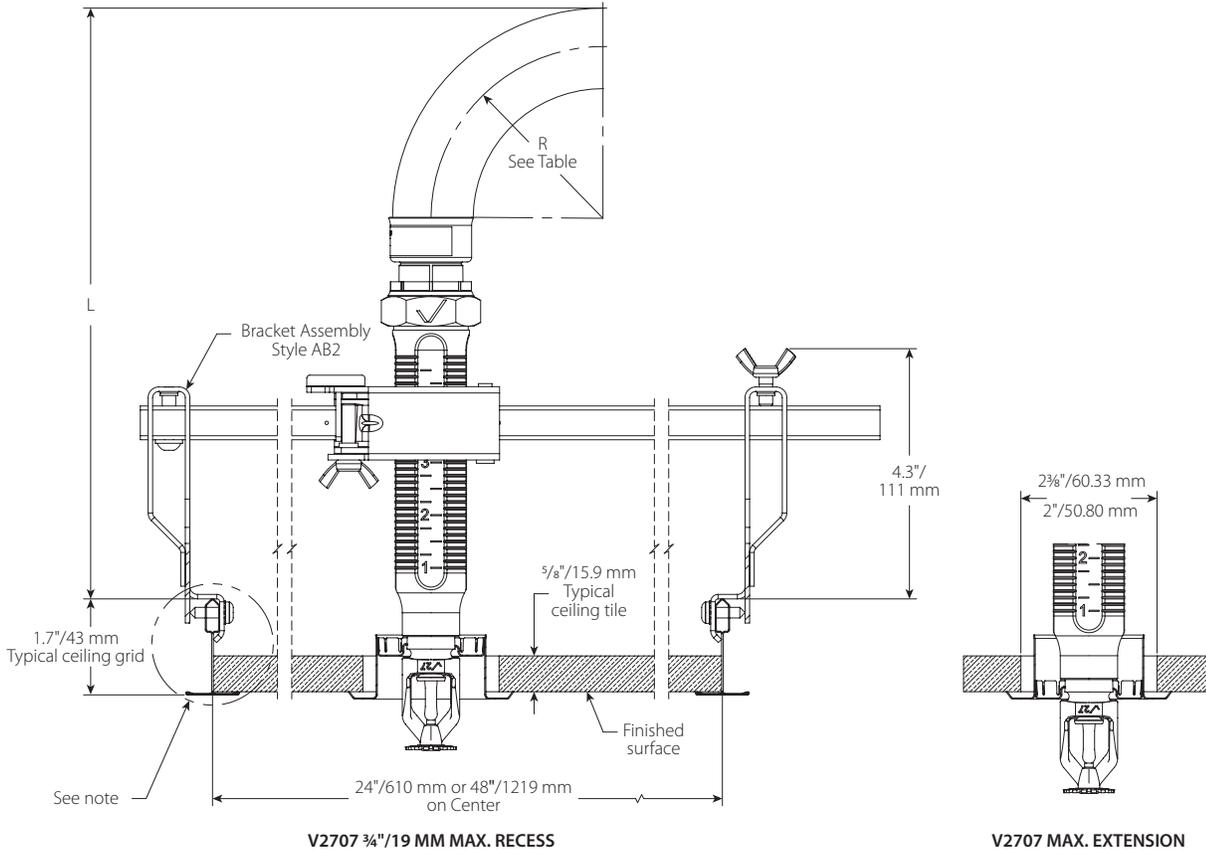
NOTE

- FM Approved.

4.4 DIMENSIONS

Clearances

Series AH2 Braided Hose and Style AB2 Bracket



Hose Clearance Chart								
	Straight Reducer						Long Elbow	Short Elbow
	V2707 3/4" Max Recess inches mm	V3802 1/2" Max Recess inches mm	V2707 3/4" Max Recess inches mm	V3802 1/2" Max Recess inches mm	V2707 3/4" Max Recess inches mm	V3802 1/2" Max Recess inches mm	V2707 3/4" Max Recess inches mm	V3802 1/2" 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

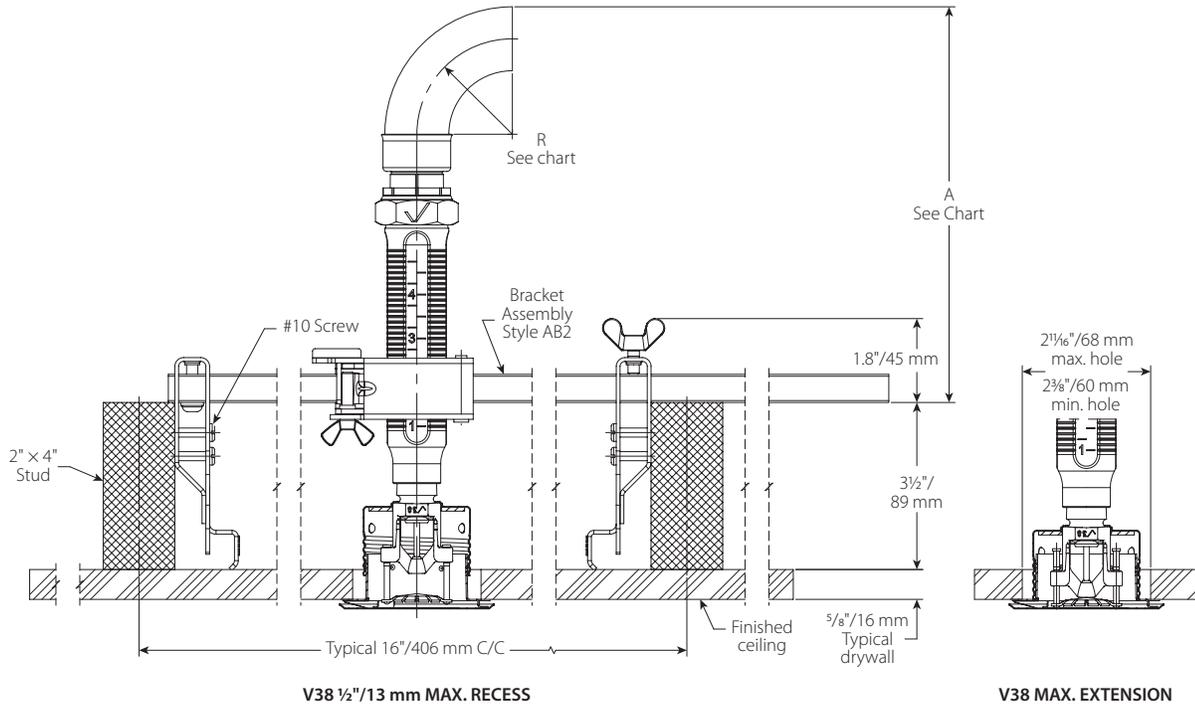
NOTE

- 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



Hose Clearance Chart									
	Straight Reducer								
	V2707 ¾" 20 mm Max Recess" inches mm	V3802 ½" 13 mm Max Recess inches mm	V2709 ¾" 20 mm Sidewall inches mm	V2707 ¾" 20 mm Max Recess inches mm	V3802 ½" 13 mm Max Recess inches mm	V2709 ¾" 20 mm Sidewall inches mm	V2707 ¾" 20 mm Max Recess inches mm	V3802 ½" 13 mm Max Recess inches mm	V2709 ¾" 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" 20 mm Max Recess inches mm	V2709 ¾" 20 mm Sidewall inches mm	V3802 ½" 13 mm Max Recess inches mm
"R" Minimum Bend Radius	-		
"A" Minimum Required Installation Space	3.3 84	3.6 91	3.3 84

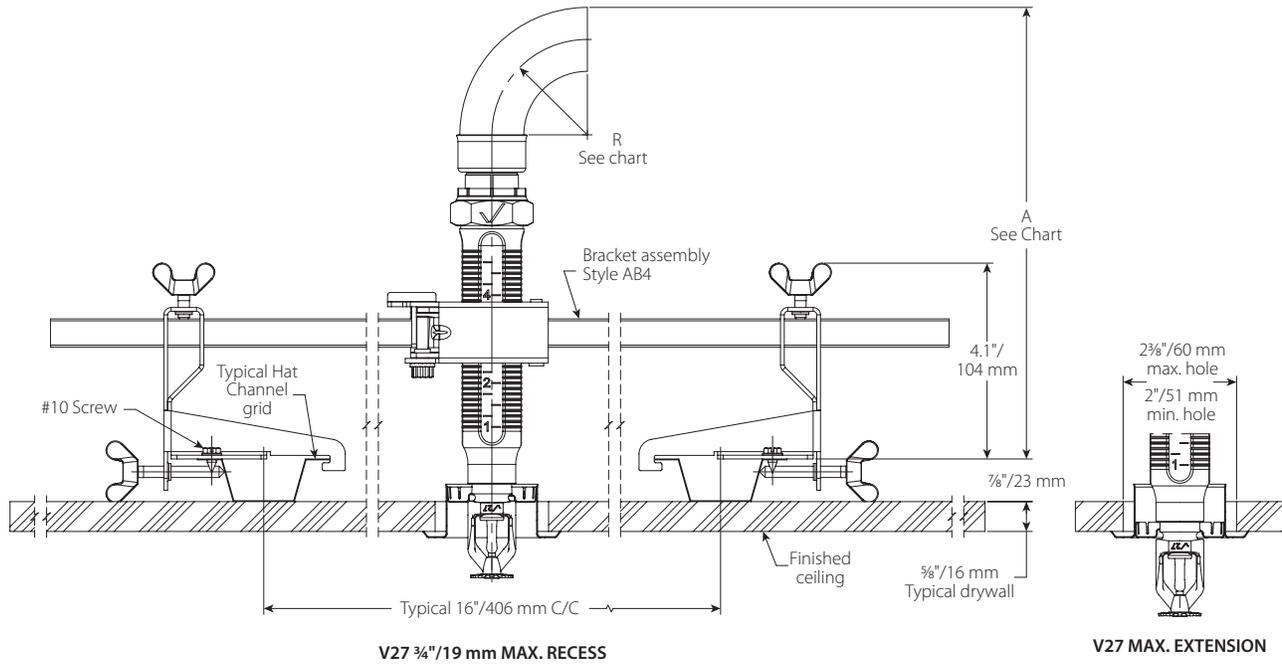
NOTE

- 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



Hose Clearance Chart

	Straight Reducer						Long Elbow	Short Elbow
	V2707 3/4" Max Recess inches mm	V3802 1/2" Max Recess inches mm	V2707 3/4" Max Recess inches mm	V3802 1/2" Max Recess inches mm	V2707 3/4" Max Recess inches mm	V3802 1/2" Max Recess inches mm	V2707 3/4" Max Recess inches mm	V3802 1/2" 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

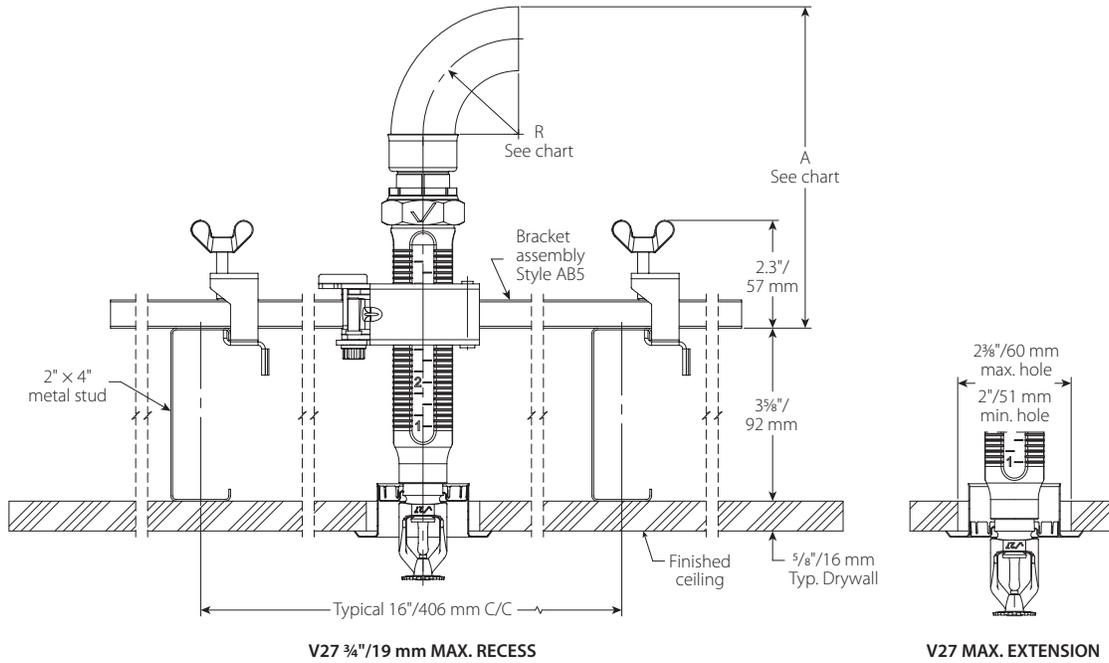
NOTE

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



Hose Clearance Chart									
	Straight Reducer								
	"V2707 ¾" 20 mm Max Recess" inches mm	V3802 ½" 13 mm Max Recess inches mm	V2709 ¾" 20 mm Sidewall inches mm	V2707 ¾" 20 mm Max Recess inches mm	V3802 ½" 13 mm Max Recess inches mm	V2709 ¾" 20 mm Sidewall inches mm	V2707 ¾" 20 mm Max Recess inches mm	V3802 ½" 13 mm Max Recess inches mm	V2709 ¾" 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" 20 mm Max Recess inches mm	V3802 ½" 13 mm Max Recess inches mm	V2709 ¾" 20 mm Sidewall inches mm	V3802 ½" 13 mm Max Recess inches mm	V3802 ½" 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

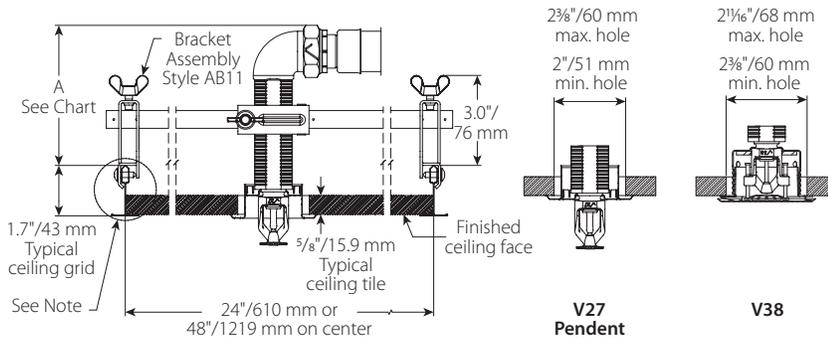
NOTE

- 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	V3802
	¾" 20 mm	½" 13 mm
	Max Recess"	Max Recess
	inches	inches
	mm	mm
"A" Minimum Required Installation Space	4.0 102	3.9 99

NOTE

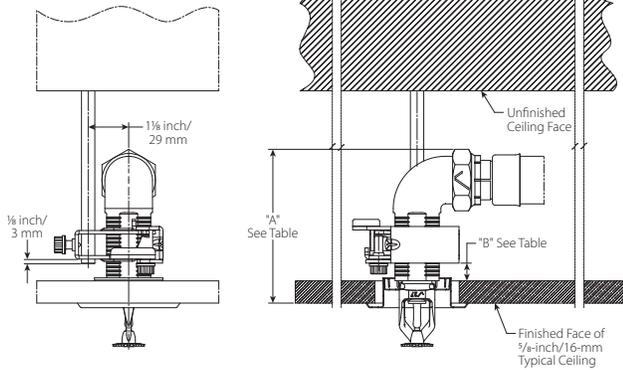
- Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.

4.9 DIMENSIONS

Clearances

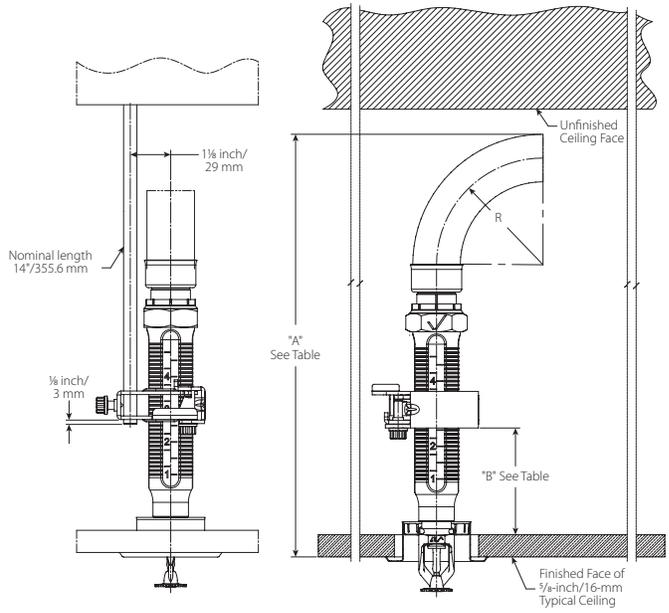
Style AB12 and ABBA Bracket

Suspended Ceiling Grid with Recessed Sprinkler with Low Profile Short Elbow



V2707 1/2" / 12.7 mm MAX. RECESS

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



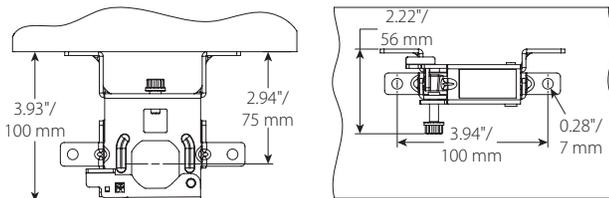
V2707 3/4" / 19 mm MAX. RECESS

Dimension	Low Profile Short Elbow		Low Profile Long Elbow		Standard Short Elbow		Standard Long Elbow		Standard Straight Reducer		
	3/4" / 19 mm Recessed*	Concealed	3/4" / 19 mm Recessed	Concealed	3/4" / 19 mm Recessed	Concealed	3/4" / 19 mm Recessed	Concealed	3/4" / 19 mm Recessed	Concealed	
	inches	inches	inches	inches	inches	inches	inches	inches	inches	inches	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	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

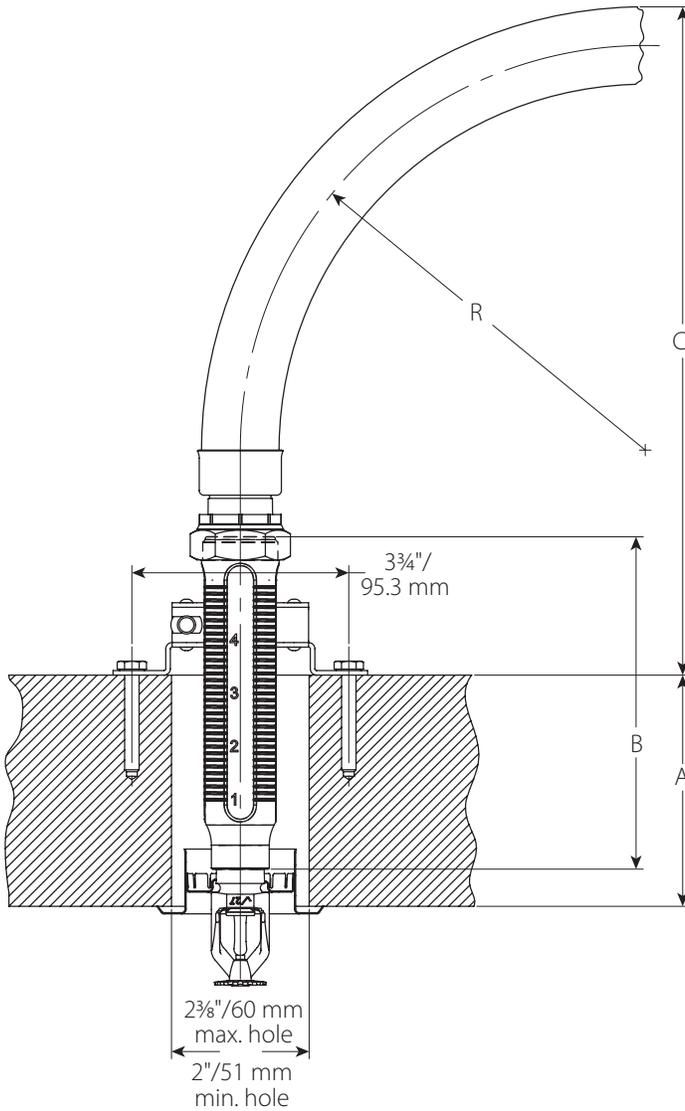


4.10 DIMENSIONS

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		
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	9	13	5.75	9	13	9	13	13	13	5.75	9	13	5.75	9	13	9	13	13	13
Hose Clearance "C"	11.6	14.8	18.8	9.6	12.8	16.8	10.8	14.8	12.8	10.8	12.6	15.8	19.8	10.6	13.8	17.8	11.8	15.8	13.8	11.8
Bend Radius "R"	7 175										8 200									

NOTE

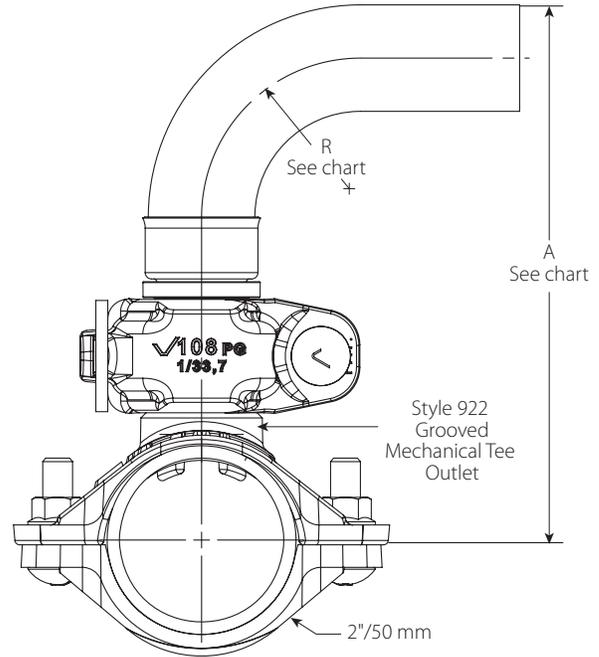
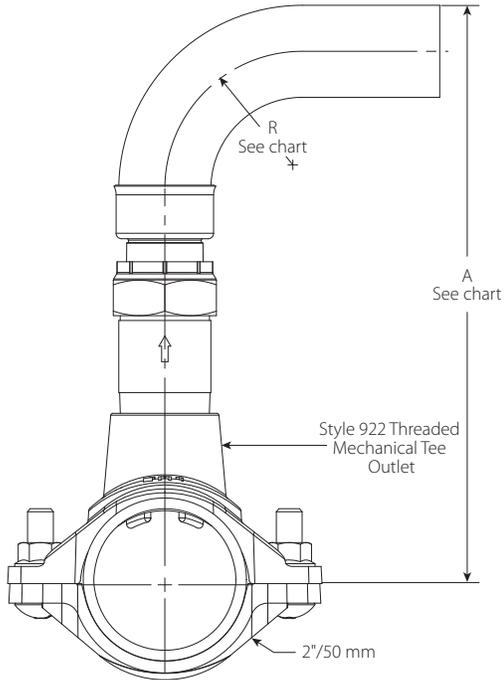
- Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.

4.11 DIMENSIONS

BRANCHLINE CLEARANCES

Series AH2 Braided Hose with Style 922 threaded outlet

Series AH2-CC Braided Hose with Style 922 grooved outlet



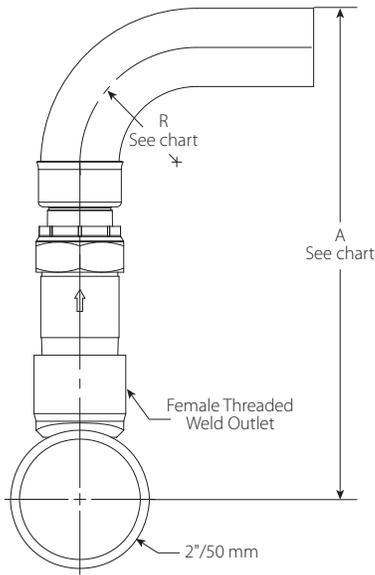
Hose Clearance Chart						
Dimension		inches	inches	inches	inches	inches
		mm	mm	mm	mm	mm
R	Minimum Bend Radius	3	4	5	6	7
		80	100	125	150	175
A	Min.	9.4	10.4	11.4	12.4	13.4
		238	263	289	314	339

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

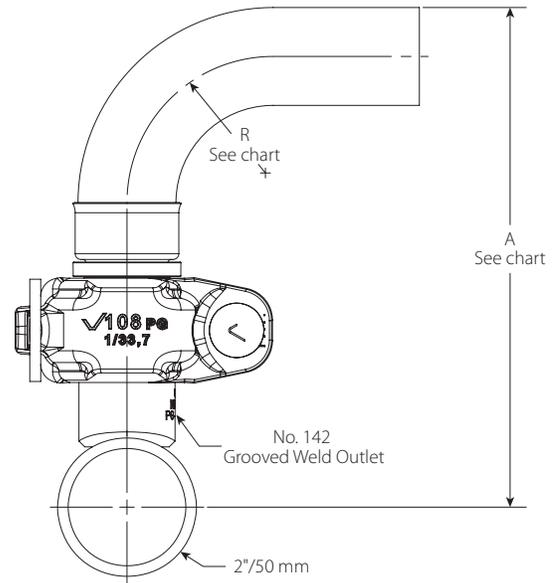
4.12 DIMENSIONS

BRANCHLINE CLEARANCES

Series AH2 Braided Hose with female threaded outlet



Series AH2-CC Braided Hose with grooved outlet



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

Hose Clearance Chart						
Dimension		inches				
		mm	mm	mm	mm	mm
R	Minimum Bend Radius	3	4	5	6	7
		80	100	125	150	175
A	Min.	8.1	9.1	10.1	11.1	12.1
		205	231	256	281	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 Length inches mm	Reducer		UL	
	Type	Nominal Outlet Size inches DN	Equivalent Length of 1"/33.7mm Sch. 40 pipe feet meters	Max Bends
31 790	Straight	1/2 DN15	15.0 4.6	3
31 790	Straight	1/2 DN15	16.0 4.9	4
31 790	Straight	3/4 DN20	19.0 5.8	3
31 790	Straight	3/4 DN20	20.0 6.1	4
36 915	Straight	1/2 DN15	18.0 5.5	3
36 915	Straight	1/2 DN15	21.0 6.4	5
36 915	Straight	3/4 DN20	21.0 6.4	3
36 915	Straight	3/4 DN20	23.0 7.0	5
48 1220	Straight	1/2 DN15	21.0 6.4	3
48 1220	Straight	1/2 DN15	32.0 9.8	8
48 1220	Straight	3/4 DN20	26.0 7.9	3
48 1220	Straight	3/4 DN20	37.0 11.3	8
60 1525	Straight	1/2 DN15	27.0 8.2	3
60 1525	Straight	1/2 DN15	46.0 14.0	10
60 1525	Straight	3/4 DN20	27.0 8.2	3
60 1525	Straight	3/4 DN20	46.0 14.0	10
72 1830	Straight	1/2 DN15	31.0 9.4	3
72 1830	Straight	1/2 DN15	55.0 16.8	12
72 1830	Straight	3/4 DN20	30.0 9.1	3
72 1830	Straight	3/4 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 Length inches mm	Reducer		UL	
	Type	Nominal Outlet Size inches DN	Equivalent Length of 1"/33.7mm Sch. 40 pipe feet meters	Max Bends
31 790	LP Elbow	1/2 DN15	18.0 5.5	3
31 790	LP Elbow	1/2 DN15	24.0 7.3	4
31 790	LP Elbow	3/4 DN20	21.0 6.4	3
31 790	LP Elbow	3/4 DN20	24.0 7.3	4
36 915	LP Elbow	1/2 DN15	19.0 5.8	3
36 915	LP Elbow	1/2 DN15	26.0 7.9	5
36 915	LP Elbow	3/4 DN20	23.0 7.0	3
36 915	LP Elbow	3/4 DN20	28.0 8.5	5
48 1220	LP Elbow	1/2 DN15	23.0 7.0	3
48 1220	LP Elbow	1/2 DN15	43.0 13.1	8
48 1220	LP Elbow	3/4 DN20	30.0 9.1	3
48 1220	LP Elbow	3/4 DN20	42.0 12.8	8
60 1525	LP Elbow	1/2 DN15	28.0 8.5	3
60 1525	LP Elbow	1/2 DN15	49.0 14.9	10
60 1525	LP Elbow	3/4 DN20	31.0 9.4	3
60 1525	LP Elbow	3/4 DN20	50.0 15.2	10
72 1830	LP Elbow	1/2 DN15	31.0 9.4	3
72 1830	LP Elbow	1/2 DN15	65.0 19.8	12
72 1830	LP Elbow	3/4 DN20	36.0 11.0	3
72 1830	LP Elbow	3/4 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	1/2 DN15	11.0 3.4	13.0 4.0	15.0 4.6	16.0 4.9	–	–	–	–	–	–	–	–
31 790	3/4 DN20	12.0 3.7	14.0 4.3	19.0 5.8	20.0 6.1	–	–	–	–	–	–	–	–
36 915	1/2 DN15	14.0 4.3	16.0 4.9	18.0 5.5	19.0 5.8	21.0 6.4	–	–	–	–	–	–	–
36 915	3/4 DN20	17.0 5.2	19.0 5.8	21.0 6.4	22.0 6.7	23.0 7.0	–	–	–	–	–	–	–
48 1220	1/2 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	3/4 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	1/2 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	3/4 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	1/2 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	3/4 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	K-Factor	Outlet Size	Equivalent Length of 1"/33.7 mm Sch. 40 Pipe		Maximum Number of 90° Bends at 7"/178 mm Bend Radius
			inches mm	feet meters	
31 790	5.6 8.1	1/2 15 Straight	13.8 4.2	23.5 7.1	2
		1/2 15 90° Elbow			
36 915	5.6 8.1	1/2 15 Straight	16.6 5.1	25.6 7.8	2
		1/2 15 90° Elbow			
48 1220	5.6 8.1	1/2 15 Straight	23.4 7.1	30.7 9.3	3
		1/2 15 90° Elbow			
60 1525	5.6 8.1	1/2 15 Straight	30.2 9.2	35.9 10.9	4
		1/2 15 90° Elbow			
72 1830	5.6 8.1	1/2 15 Straight	37.0 11.3	41.1 12.5	4
		1/2 15 90° Elbow			
31 790	8.0 11.5	3/4 20 Straight	16.8 5.1	16.8 5.1	2
		3/4 20 90° Elbow			
36 915	8.0 11.5	3/4 20 Straight	20 6.0	19.7 6.0	2
		3/4 20 90° Elbow			
48 1220	8.0 11.5	3/4 20 Straight	27.8 8.4	26.6 8.1	3
		3/4 20 90° Elbow			

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 characteristics, 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)



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



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	K-Factor	Outlet Size	Equivalent	Maximum Number of 90° Bends at 7"/178 mm Bend Radius
			Length of 1"/33.7 mm Sch. 40 Pipe	
inches mm	Imperial S.I.	inches mm type	feet meters	
36 915	14.0 20.2	3/4 20 Straight	19.4 5.9	2
		3/4 20 90° Elbow	19.6 5.9	
48 1220	14.0 20.2	3/4 20 Straight	30.3 9.2	3
		3/4 20 90° Elbow	29.5 8.9	
60 1525	14.0 20.2	3/4 20 Straight	33.9 10.3	4
		3/4 20 90° Elbow	34.1 10.4	
72 1830	14.0 20.2	3/4 20 Straight	37.5 11.4	4
		3/4 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 characteristics, 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	1/2 15	13.7 4.2	2
36 915	5.6 8.1	1/2 15	17.0 5.2	2
48 1220	5.6 8.1	1/2 15	25.0 7.6	3
60 1525	5.6 8.1	1/2 15	33.0 10.1	4
72 1830	5.6 8.1	1/2 15	41.1 12.5	4
31 790	8.0 11.5	3/4 20	13.6 4.14	2
36 915	8.0 11.5	3/4 20	16.9 5.2	2
48 1220	8.0 11.5	3/4 20	27.8 8.5	3
60 1525	8.0 11.5	3/4 20	32.6 9.9	4
72 1830	8.0 11.5	3/4 20	40.6 12.4	4
31 790	11.2 16.1	3/4 20	13.7 4.2	2
36 915	11.2 16.1	3/4 20	17.0 5.2	2
48 1220	11.2 16.1	3/4 20	24.9 7.6	3
60 1525	11.2 16.1	3/4 20	32.9 10.0	4
72 1830	11.2 16.1	3/4 20	40.9 12.5	4
31 790	14.0 20.2	3/4 20	13.5 4.1	2
36 915	14.0 20.2	3/4 20	16.8 5.1	2
48 1220	14.0 20.2	3/4 20	24.7 7.5	3
60 1525	14.0 20.2	3/4 20	32.7 9.9	4
72 1830	14.0 20.2	3/4 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 characteristics, 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



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"/76.2mm 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



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



Series AH2 Braided Hose
Style AB2, AB3, AB4, AB5, AB7, AB8, AB10
and AB12 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
915 36	15 mm 1/2 Straight 20 mm 3/4 Straight	3.6 11.9	3
1220 48	15 mm 1/2 Straight 20 mm 3/4 Straight	4.3 14.0	3
1525 60	15 mm 1/2 Straight 20 mm 3/4 Straight	4.1 13.6	3
1830 72	15 mm 1/2 Straight 20 mm 3/4 Straight	5.5 18.1	3

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	
	<ul style="list-style-type: none"> • 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.
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • 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 micro-biologically 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. 	
<p>Failure to follow these instructions could cause product failure, resulting in serious personal injury and/or property damage.</p>	

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		Max. Uniform Load	
		lb	N	lb/linear ft	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		Max. Uniform Load	
		lb	N	lb/linear ft	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)

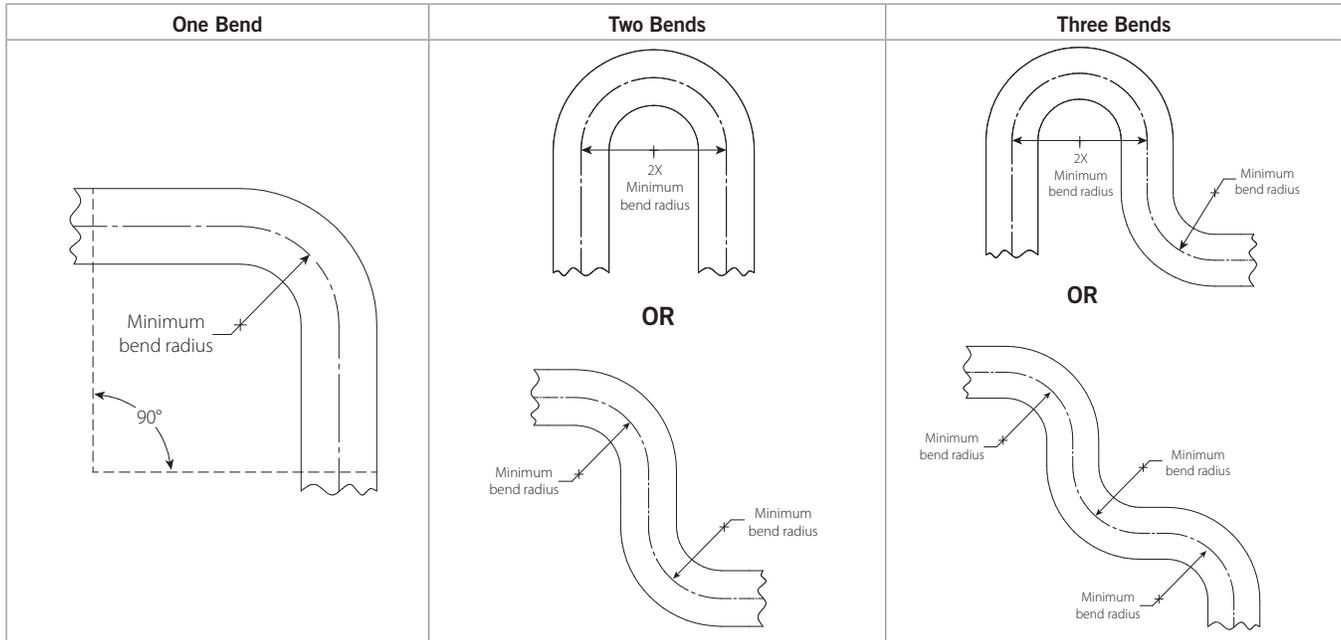
ASTM C 635: Suspension System Load-Carrying Capabilities (excerpted)

Suspension System	Actual Length ft/m	Min. Allowable Uniform Load	
		lb/linear ft	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



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](#)

User Responsibility for Product Selection and Suitability

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

Intellectual Property Rights

No statement contained herein concerning a possible or suggested use of any material, product, service, or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Victaulic or any of its subsidiaries or affiliates covering such use or design, or as a recommendation for the use of such material, product, service, or design in the infringement of any patent or other intellectual property right. The terms "Patented" or "Patent Pending" refer to design or utility patents or patent applications for articles and/or methods of use in the United States and/or other countries.

Note

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

Installation

Reference should always be made to I-VICFLEX-AB1-AB2-AB10, I-VICFLEX-AB4, I-VICFLEX-AB7, or I-VICFLEX-AB8 for the product you are installing. Handbooks are included with each shipment of Victaulic products for complete installation and assembly data, and are available in PDF format on our website at www.victaulic.com.

Warranty

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

Trademarks

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

Victaulic® FireLock Model FL-QR/C

Standard Coverage, Quick Response

Concealed Pendent Sprinklers, K5.6 (8.1)



1.0 PRODUCT DESCRIPTION

QUICK RESPONSE CONCEALED PENDENT SPRINKLERS			
SIN	V5606	V3802 ²	V3808 ²
ORIENTATION	Concealed Pendent	Concealed Pendent	Concealed Pendent
K-FACTOR ¹	5.6 Imp./8.1 S.I.	5.6 Imp./8.1 S.I.	5.6 Imp./8.1 S.I.
CONNECTION	½" NPT/15mm BSPT	½" NPT/15mm BSPT	½" NPT/15mm BSPT
MAX. WORKING PRESSURE	175 psi (1200 kPa)	175 psi (1200 kPa)	300psi (2068 kPa)
ESCUTCHEON	Concealed	Concealed	Concealed
GLOBE RE-DESIGNATED	GL5606	-	-
GLOBE EQUIVALENT	-	GL5604	GL5605

AVAILABLE WRENCHES			
SPRINKLER	1" ADJ Concealed	V38 Concealed	V38 Concealed
PENDENT	■	■	■

CLEAN ROOM GASKET			
SPRINKLER	1" ADJ Concealed	V38 Concealed	V38 Concealed
PENDENT		■	■

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

Min. Operating Pressure: UL/FM: 7psi/48 kPa/.5 bar

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 V3802 and V3808 are listed as Standard Response when installed using clean room gasketed coverplate.

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

2.0 CERTIFICATION/LISTINGS



LPS 1186: Issue 3.1
Cert/LPCB Ref. 104b/06

APPROVALS/LISTINGS					
SIN	V5606	Cover Plate	V3802	V3808	Cover Plate
Nominal K Factor Imperial	5.6	–	5.6	5.6	–
Nominal K Factor S.I. ²	8.1	–	8.1	8.1	–
Orientation	Pendent	–	Pendent	Pendent	–
Escutcheon	Concealed	–	Concealed	Concealed	–
APPROVED TEMPERATURE RATINGS F°/C°					
cULus	135°F/57°C 155°F/68°C 175°F/79°C 200°F/93°C	135°F/57°C 135°F/57°C 155°F/68°C 155°F/68°C 155°F/68°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	135°F/57°C 135°F/57°C 165°F/74°C 165°F/74°C
FM Standard Response Only	155°F/68°C 175°F/79°C 200°F/93°C	135°F/57°C 155°F/68°C 155°F/68°C 155°F/68°C	155°F/68°C 175°F/79°C 200°F/93°C	–	135°F/57°C 135°F/57°C 165°F/74°C 165°F/74°C
LPCB	–	–	155°F/68°C 175°F/79°C 200°F/93°C	–	138°F/59°C 165°F/74°C 165°F/74°C
CE	–	–	155°F/68°C 175°F/79°C 200°F/93°C	–	138°F/59°C 165°F/74°C 165°F/74°C
CCC K ZSTDY	–	–	155°F/68°C 200°F/93°C	–	135°F/57°C 135°F/57°C 165°F/74°C

APPROVALS/LISTINGS WITH CLEAN ROOM GASKET			
SIN	V3802 ³	V3808 ³	Cover Plate
Nominal K Factor Imperial	5.6	5.6	–
Nominal K Factor S.I. ²	8.1	8.1	–
Orientation	Pendent	Pendent	–
Escutcheon	Concealed	Concealed	–
APPROVED TEMPERATURE RATINGS F°/C°			
cULus	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	135°F/57°C 135°F/57°C 165°F/74°C 165°F/74°C

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

³ Listed as standard response when installed clean room using gasketed coverplate.

NOTES

- Listings and approval as of printing.
- 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.
- These sprinklers are required to be vented. Installations with a positive pressure air plenum above the housing are not permitted.

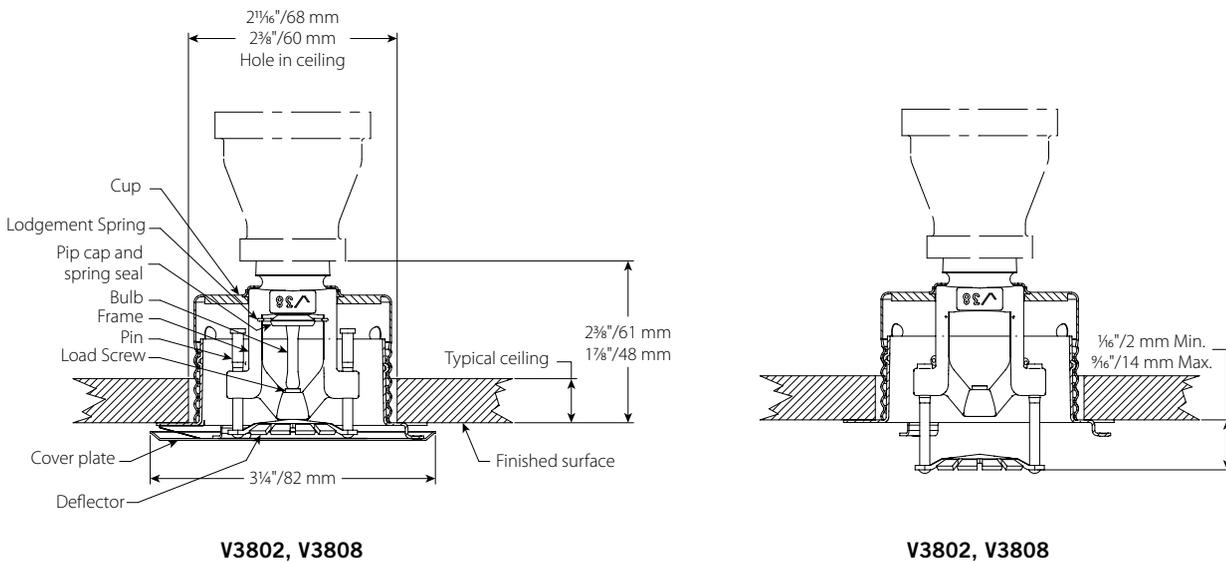
3.0 SPECIFICATIONS – MATERIAL

- Deflector:** Bronze
- Bulb Nominal Diamter:** 3.0 mm
- Load Screw:** Brass
- Pip Cap:** Brass
- Spring Seal:** PTFE coated Beryllium nickel alloy
- Frame:** Brass
- Concealed Cup:** Steel
- Cover Plate:** Steel
- Lodgement Spring:** Stainless Steel
- Pin:** Stainless Steel
- Installation Wrench:** Ductile Iron
- Sealing Gasket:** White nitrile (CLEAN ROOM USE ONLY)
- Cover Plate Finishes:**
 - Chrome plated
 - White painted
 - Flat black painted
 - Custom painted

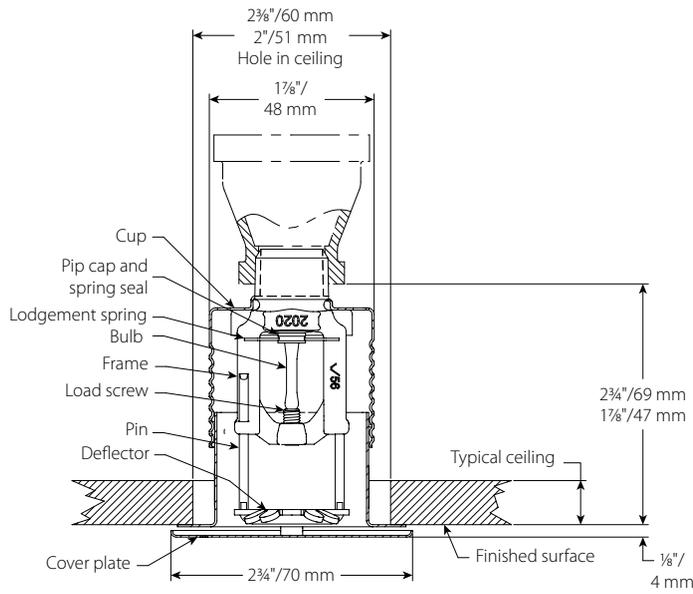
NOTE

- For cabinets and other accessories refer to separate sheet.

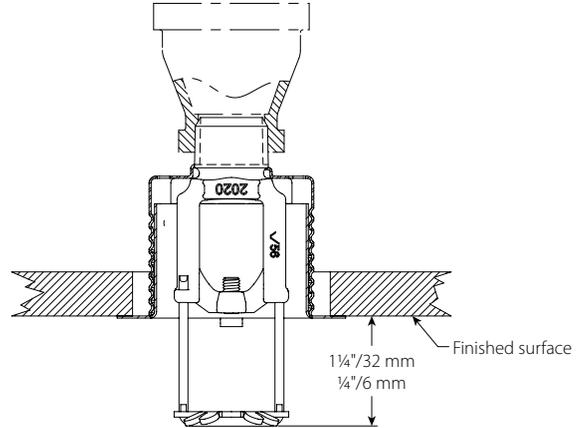
4.0 DIMENSIONS



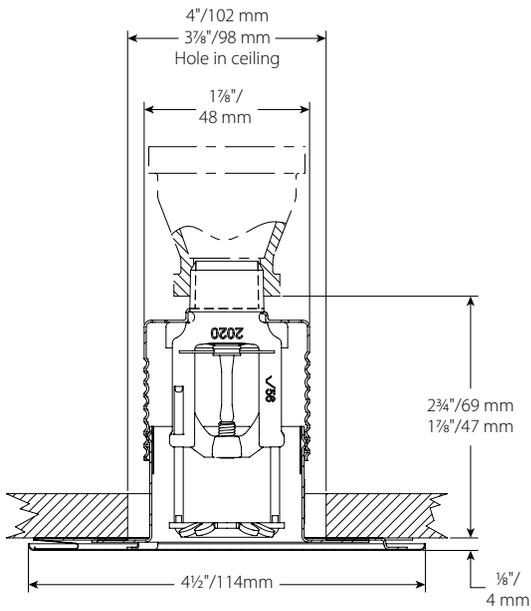
4.0 DIMENSIONS (CONTINUED)



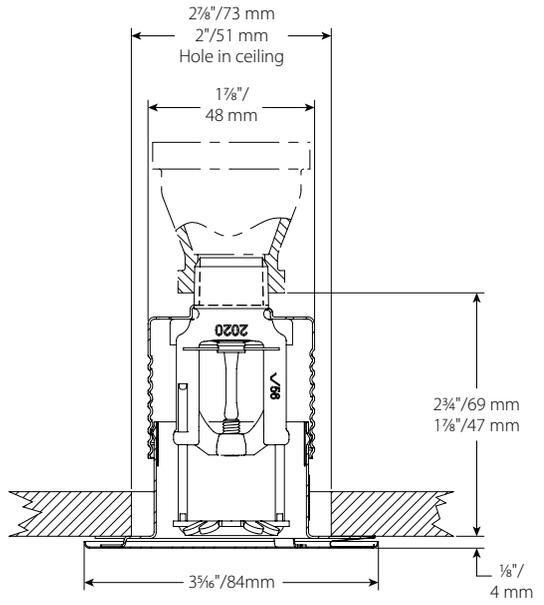
V5606



Activated Position
V5606



Seismic Coverplate
V5606



Large Coverplate
V5606

5.0 PERFORMANCE

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

6.0 NOTIFICATIONS

⚠ WARNING	
	<ul style="list-style-type: none">• 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. <p>Failure to follow these instructions could result in death or serious personal injury and property damage.</p>
<ul style="list-style-type: none">• 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. <p>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.</p>	

7.0 REFERENCE MATERIALS

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

[41.53: Victaulic® FireLock™ Series FL-SR/C](#)

[1-40: Victaulic FireLock™ Automatic Sprinklers Installation and Maintenance Instructions](#)

User Responsibility for Product Selection and Suitability

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

Intellectual Property Rights

No statement contained herein concerning a possible or suggested use of any material, product, service, or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Victaulic or any of its subsidiaries or affiliates covering such use or design, or as a recommendation for the use of such material, product, service, or design in the infringement of any patent or other intellectual property right. The terms "Patented" or "Patent Pending" refer to design or utility patents or patent applications for articles and/or methods of use in the United States and/or other countries.

Note

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

Installation

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

Warranty

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

Trademarks

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

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

Size Range: $\frac{3}{8}$ " and $\frac{1}{2}$ "

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 $\frac{3}{4}$ ".

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.

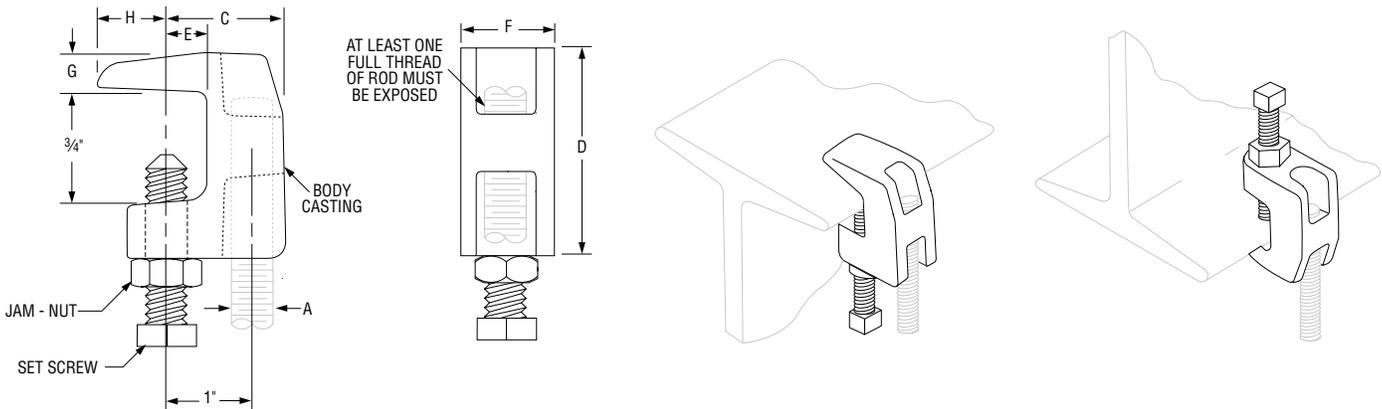


FIG. 92: DIMENSIONS (IN) • LOAD (LBS) • TORQUE (IN-LBS) • WEIGHT (LBS)											
Rod Size A	Set Screw Size	Torque Value	Max Loads ■		Weight	C	D	E	F	G	H
			Top	Bottom							
$\frac{3}{8}$	$\frac{3}{8}$	60	500	250	0.34	$1\frac{5}{16}$	$1\frac{9}{16}$	$\frac{9}{16}$	$1\frac{13}{16}$	$\frac{3}{8}$	$\frac{1}{2}$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

■ Maximum temperature of 450° F

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

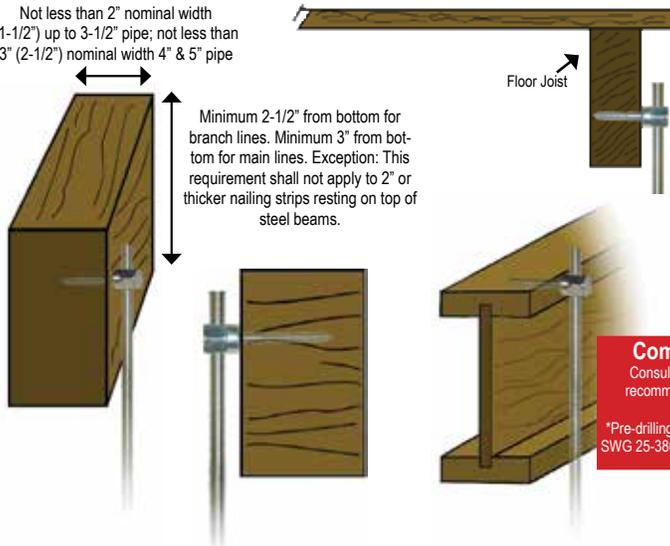
SIDEWINDER® FOR WOOD - Horizontal Application



Application

Not less than 2" nominal width (1-1/2" up to 3-1/2" pipe; not less than 3" (2-1/2" nominal width 4" & 5" pipe)

Minimum 2-1/2" from bottom for branch lines. Minimum 3" from bottom for main lines. Exception: This requirement shall not apply to 2" or thicker nailing strips resting on top of steel beams.



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.

Composite / Truss

Consult truss manufacturer for recommended installation point.

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

View our installation videos!



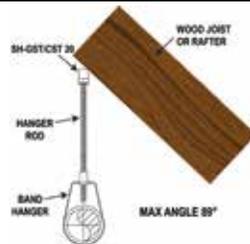
#14 SW Red Nut Driver
Part # 8114910

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

SAMMYS SWIVEL HEAD™ FOR WOOD - Swivel Application



Application



Product Features

- Eliminates distortion of threaded rod.
- Accommodates up to 3 1/2" x 12 pitch roof.
- Allows 17° deflection from vertical.
- Saves time from traditional methods.
- Reduces installation costs.
- Assembled in the U.S.A.

#14 Black Nut Driver
Part # 8113910



#14 SH Orange Nut Driver
Part # 8273910

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

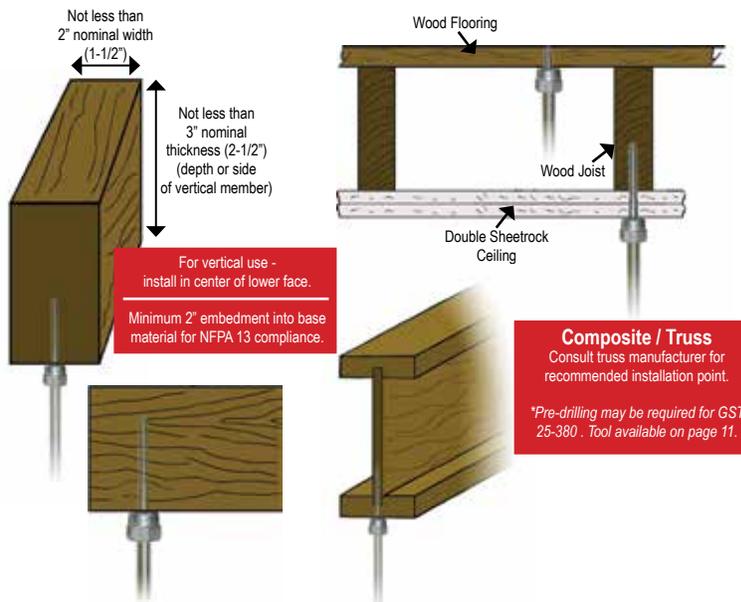
* May require pre-drilling; consult joist manufacturer.

** 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!

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



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

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.

View our installation videos!
 YouTube

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



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



MADE WITH TEKS

#14 SW Red Nut Driver Part # 8114910

Application	Product Features
	<ul style="list-style-type: none"> 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. Assembled in the U.S.A. <p>View our installation videos! </p>

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

SAMMYS SWIVEL HEAD™ FOR STEEL - Swivel Application



#14 Black Nut Driver Part # 8113910



#14 SH Orange Nut Driver Part # 8273910

Application	Product Features
	<ul style="list-style-type: none"> 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. Assembled in the U.S.A. <p>View our installation videos! </p>

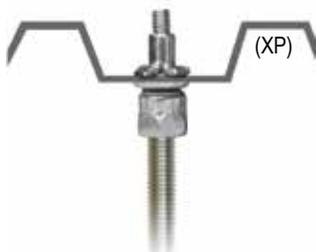
Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)	UL Test Load (lbs)	FM Test Load (lbs)	Min Thick	Max Thick	Box Qty	Case Qty
SWIVEL MOUNT											
	3/8"	8137957	SH-DSTR 1*	1/4-20 X 1" TEKS 3	3220 (3/16")	1500	1475	.035"	3/16"	25	125
	3/8"	8268957	SH-TEK 50	12-24 x 1-5/8"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

SAMMY X-PRESS® - Vertical Application



Application

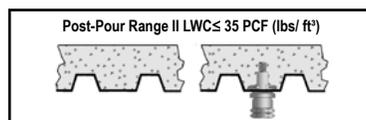
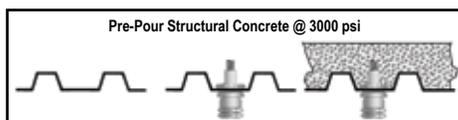
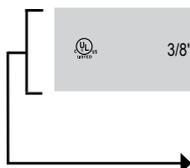


Product Features

- 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, i.e. 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.

View our installation videos!
 YouTube

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 (2 1/2" 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 (2 1/2" Pipe)		Pre-Pour Structural Concrete @ 3000 psi			25	125	Metal Deck (Pre-Pour) Metal Deck (Post-Pour)
								Post-Pour Range II LWC ≤ 35 PCF (lbs/ft³)					



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; i.e. 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

View our installation videos!
 YouTube

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 (3 1/2" Pipe) 80 (Luminaire) 416 (Conduit & Cable)	.059"		.125"	25	125	Metal Deck/ Purlin



SAMMY X-PRESS SWIVEL™ - Swivel Application



Application	Product Features
<p>FOR EXTREME OR VARIANT ROOF PITCHES</p>	<ul style="list-style-type: none"> The Sammy X-Press Swivel allows you to hang plumb in extreme roof pitches: <ul style="list-style-type: none"> - 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. <p>Less jobsite material needed.</p> <p>No retaining nut required.</p> <p>Provides design flexibility.</p> <p>Assembled in the U.S.A.</p> <p>View our installation videos! YouTube</p>

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													
	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
	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
	<ul style="list-style-type: none"> The Sammy X-Press expands to provide direct vertical attachment in: <ul style="list-style-type: none"> - metal deck (22-16 gauge) - z-purlin (18-16 gauge) Assembled in the U.S.A. <p>View our installation videos! YouTube</p>



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

SAMMYS® FOR CONCRETE - Vertical Application



Application	Product Features
	<ul style="list-style-type: none"> • Easy two step process (Drill hole & drive Sammys concrete anchor). • 1/4" pre-drilled pilot hole required. • Concrete Installation Tool available for a one tool installation process. • Assembled in the U.S.A.

View our installation videos!

Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Pullout (lbs)*	FM Test Load (lbs)	Box Qty	Case Qty
VERTICAL MOUNT								
	#14 Black Nut Driver Part # 8113910	1/4"	8058957	CST 200	5/16 x 1-3/4"	2400		125
		3/8"	8059957	CST 20	5/16 x 1-3/4"	2400	1475	125
	#14SW Red Nut Driver Part # 8114910	1/2"	8060925	CST 2	5/16 x 1-3/4"	2400		125
		3/8"	8306957	CCST 516	5/16-14 x 2-1/2"	857**		125

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
	<ul style="list-style-type: none"> • Easy two step process (Drill hole & drive Sammys concrete anchor). • 1/4" pre-drilled pilot hole required. • Concrete Installation Tool available for a one tool installation process. • Assembled in the U.S.A.

View our installation videos!

Approvals	Rod Size	Part Number	Model	Screw Descriptions	Ultimate Shear (lbs)*	FM Test Load (lbs)	Box Qty	Case Qty
HORIZONTAL MOUNT								
	#14SW Red Nut Driver Part # 8114910	3/8"	8061957	SWC 20	5/16 x 1-3/4"	2450	1475	125
		3/8"	8307957	SW-CCST 516	5/16-14 x 2-1/2"	857**		125

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



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



MADE WITH Tapcon



#14 SH Orange Nut Driver
Part # 8273910

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	25	125
	3/8"	8308957	SH-CCST 516	5/16-14 x 2-1/2"	1636 @ 45° off vertical in 6000 psi concrete 857**	25	125

Note: UL Listed for wood - see page 5

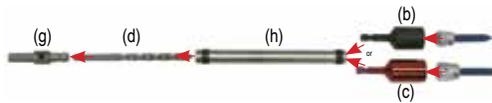
* Tested in 3000 PSI concrete ** Pullout strength for cracked concrete and Seismic Zones A-F

CONCRETE / WOOD INSTALLATION KIT

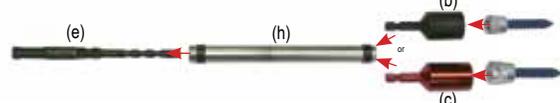


Application

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:

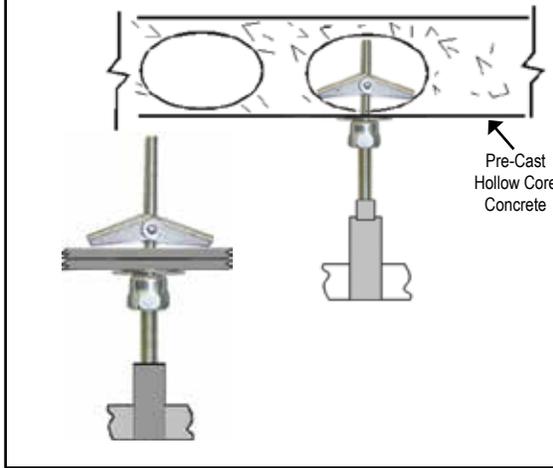
8113910	#14 Black Nut Driver (b)	1
8114910	#14 SW Red Nut Driver (c)	1
8116910c	#250 Bit (1/4") (d)	1
8117910	SDS Bit (1/4") (e)	1
8118910	7/32 Wood Bit (f)	1
8120910	HEX 250 Bit Receiver (1/4") (g)	1
8098910	SL 250 Sleeve (h)	1

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.



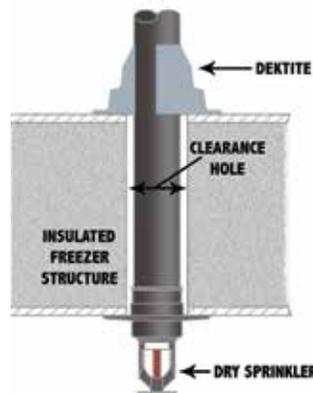
#14 Black
Nut Driver
Part # 8113910

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	Product Features
 <p>For use installing Sammy X-Press anchors from the ground up!</p>	<ul style="list-style-type: none"> • 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 <p>View our installation videos! </p>

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	Product Features
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>1</p> <p>Insert adjusting pin here</p> <p>Adjust the Pole Tool to length. The adjusting pin must be 18" below the base or the pin may interfere with the rod.</p> </div> <div style="text-align: center;">  <p>2</p> <p>Load rod and Sammys into Pole Tool.</p> </div> <div style="text-align: center;">  <p>3</p> <p>The socket will spin free when the screw is completely installed. Pull down to remove the Pole Tool.</p> </div> </div>	<ul style="list-style-type: none"> • 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

WOOD

STEEL

STEEL

CONCRETE

ACCESSORIES

APPROVALS

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)	
SAMMYS FOR STEEL - LUMINAIRE FITTING										
						UL Load Rating (lbs)	UL Min Steel Thickness			
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"	
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 offering.

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



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



Contact Information

Technical Assistance: (800) 848-5611 Option #6 (x 3259)

Customer Service: (800) 848-5611 Option #1

WOOD

STEEL

STEEL

CONCRETE

ACCESSORIES

APPROVALS

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.

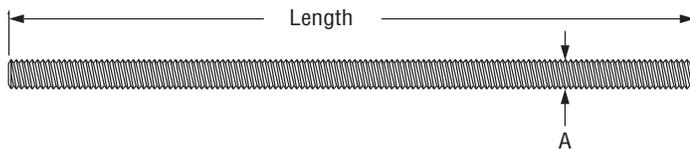


FIG. 146:
DIMENSIONS (IN) • LOADS (LBS) • WEIGHTS (LBS)

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

Fig. 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:

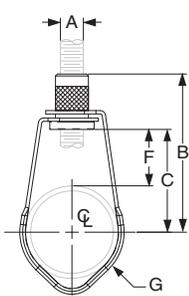
- 1/2" - 2" sizes designed for use with steel and CPVC piping and manufactured with FBC System Compatible oil.
- Threads are countersunk so that they cannot become burred or damaged.
- Knurled swivel nut provides vertical adjustment after piping is in place.
- Captured swivel nut in the 1/2" through 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.

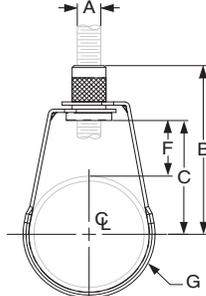
Non-captured nut also available upon request.



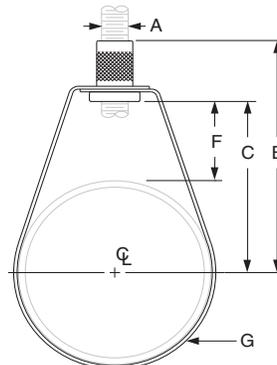
1/2" through 2" Size
Rounded Edge Design



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	1 1/8	
2	525	0.11	1/2	3 1/4	2 3/8	1 1/8	3/4
2 1/2		0.20		4	2 3/4	1 5/16	
3		0.20		3 13/16	2 15/16	1 3/16	
4	650	0.30	1/2	4 11/16	3 13/16	1 9/16	3/4
5		0.54		5 5/16	4 3/8		
6	1,000	0.65	1/2	6 11/16	5 9/16	2 1/4	3/4
8		1.00		8 9/16	7 9/16	3 1/4	

PROJECT INFORMATION

APPROVAL STAMP

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



Proven Every Day // Proven Everywhere®

Slic-tite® Paste with PTFE Premium Thread Sealant

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®.



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



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	Part No.	Size	QTY/Case
41209	1/4 pt. BIC	12	42013	1 qt. Flat Top	12
42009	1/4 pt. BIC	24	42049	1 qt. BIC	12
41219	1/2 pt. BIC	12	42014	1 gal.	4
42019	1/2 pt. BIC	24	42015	5 gal.	1
42012	1 pt. Flat Top	24	42069	55 gal.	1
42029	1 pt. BIC	24			

BIC = Brush in Cap

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



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Elk Grove Village, Illinois 60007-5746
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www.laco.com
Email: customer_service@laco.com
Family owned and operated since 1934

Cutting Oil

Oils and Lubricants



Specifications

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.

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 throughput 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 Chemical Company, Inc.

111 South Street, Passaic, NJ 07055-9100
 Phone: 800-221-9330 • Fax: 800-333-3456
 e-mail: info@herchem.com
<http://www.herchem.com>



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



Technical data	
Chemical basis	Water-based acrylic dispersion
Approx. Density	84.3 lb/ft ³
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).

**SPRINKLER
 FIRE - ALARM**

**WHEN BELL RINGS
 CALL
 FIRE DEP'T OR POLICE**

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.

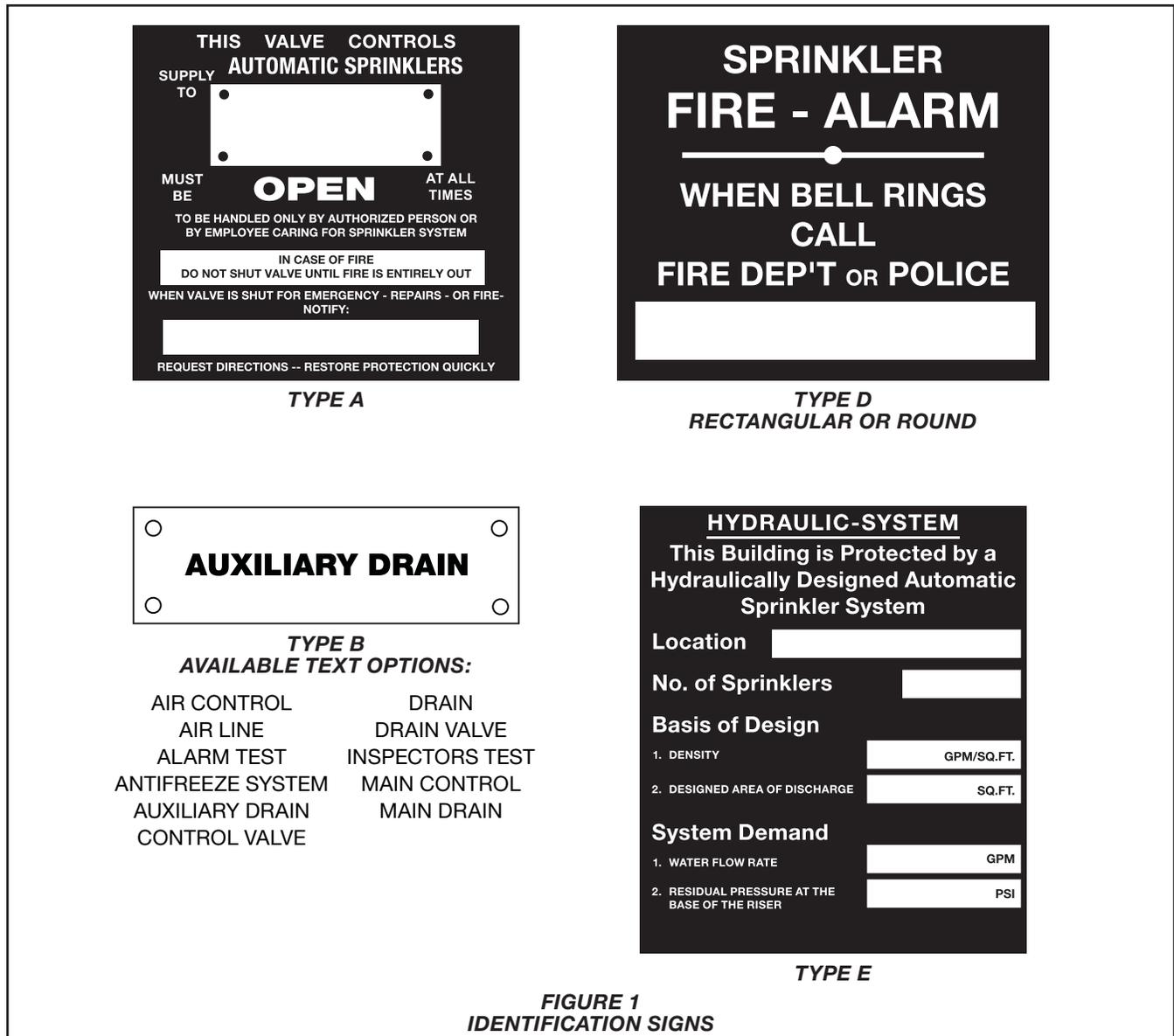


FIGURE 1
IDENTIFICATION SIGNS

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