FIRESHIELD
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P.O.BOX 2389 Gig Harbor, WA 98335
www.fireshieldinc.com

Project:

Bath & Body Works #737
South Hill Mall
Puyallup, WA

Product Data

Contractor Registration number FIRESI*024C5

Fire Sprinkler Pipe

Schedule 10 and Schedule 40

Submittal Data Sheet

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

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

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

Manufacturing Protocols
Schedule 10 and Schedule 40 are subjected to the toughest possible testing protocols to ensure the highest quality and long-lasting performance.

Finishes and Coatings
All Wheatland black steel fire sprinkler pipe receives a proprietary mill coating to ensure a clean, corrosion-resistant surface that outperforms and outlasts standard lacquer coatings. This coating allows the pipe to be easily painted, without special preparation. Schedule 10 and Schedule 40 can be ordered in black or hot-dip galvanized, to meet FM/UL requirements for dry systems that meet the zinc coating specifications of ASTM A795 or A53.

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

SUBMITTAL INFORMATION

PROJECT: _____

CONTRACTOR: _____

DATE: _____

ENGINEER: _____

SPECIFICATION REFERENCE: _____

SYSTEM TYPE: _____

LOCATIONS: _____

COMMENTS: _____

☐ BLACK

☐ HOT-DIP GALVANIZED

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Fire Sprinkler Pipe

Schedule 10 and Schedule 40

Submittal Data Sheet

SCHEDULE 10 WEIGHTS AND DIMENSIONS

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

SCHEDULE 40 WEIGHTS AND DIMENSIONS

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

** Calculated using Standard UL CRR formula, UL Fire Protection Directory, Category VIZY. The CRR is a ratio value used to measure the ability of a pipe to withstand corrosion. Threaded Schedule 40 steel pipe is used as the benchmark (value of 1.0).*

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

WFS-060520

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A DIVISION OF ZEKELMAN INDUSTRIES

Anvil standard and extra heavy cast iron threaded fittings are manufactured in accordance with ASME-B16.4 (except plugs and bushings, ASME B16.14). Dimensions also conform to Federal Specifications, WW-P-501 (except plugs and bushings WW-P-471).

c UL us

FM APPROVED

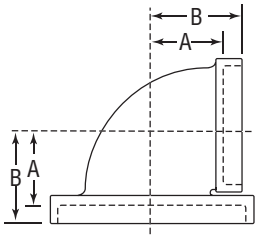
For Listings/Approval Details and Limitations, visit our website @ www.anvilintl.com or contact an Anvil/AnvilStar Sales Representative.

Cast Iron Threaded Fittings Pressure - Temperature Ratings					
Temperature		Pressure			
		Class 125		Class 250	
(°F)	*(°C)*	psi	*bar*	psi	*bar*
-20° to 150°	*-28.9 to 65.6*	175	*12.1*	400	*27.6*
200°	*93.3*	165	*11.4*	370	*25.5*
250°	*121.1*	150	*10.3*	340	*23.4*
300°	*148.9*	140	*9.7*	310	*21.4*
350°	*176.7*	125	*8.6*	300	*20.7*
400°	*204.4*	–	–	250	*17.2*

Cast Iron Threaded Fittings

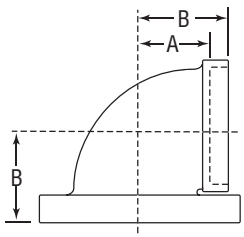
Class 125 (Standard)

FIGURE 351
90° Elbow



Size		A		B		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
1/4	*8*	1/2	*13*	13/16	*22*	0.16	*0.07*
3/8	*10*	9/16	*14*	15/16	*24*	0.25	*0.11*
1/2	*15*	11/16	*17*	1 1/8	*29*	0.40	*0.18*
3/4	*20*	13/16	*22*	1 15/16	*33*	0.60	*0.27*
1	*25*	15/16	*24*	1 1/2	*38*	0.92	*0.42*
1 1/4	*32*	1 1/8	*29*	1 3/4	*44*	1.44	*0.65*
1 1/2	*40*	1 5/16	*33*	1 15/16	*49*	1.95	*0.88*
2	*50*	1 9/16	*40*	2 1/4	*57*	3.13	*1.42*
2 1/2	*65*	1 13/16	*47*	2 11/16	*68*	4.94	*2.24*
3	*80*	2 3/16	*56*	3 1/8	*79*	7.21	*3.27*
3 1/2	*90*	2 7/16	*62*	3 7/16	*87*	9.67	*4.39*
4	*100*	2 11/16	*68*	3 13/16	*98*	12.17	*5.52*
5	*125*	3 5/16	*84*	4 1/2	*114*	21.46	*9.73*
6	*150*	3 7/8	*98*	5 1/8	*130*	31.33	*14.21*
8	*200*	5 3/16	*132*	6 9/16	*167*	64.56	*29.28*

FIGURE 371
90° Elbow,
Flange & Screw



Size		A		B		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
2 1/2	*65*	1 13/16	*47*	2 11/16	*68*	10.22	*4.63*
3	*80*	2 3/16	*56*	3 1/8	*79*	13.25	*6.01*
4	*100*	2 11/16	*68*	3 13/16	*98*	21.56	*9.78*
6	*150*	3 7/8	*98*	5 1/8	*130*	40.50	*18.37*

†Nominal Pipe Sizes of 4" *(100 DN)* and larger have two holes tapped for stud or tap bolts.

Note: See page 37 for pressure-temperature ratings.

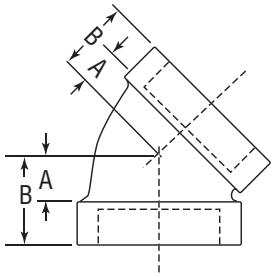
Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 356 (Straight)
FIGURE 356R (Reducing)
45° Elbow

FIGURE 356 (Straight)

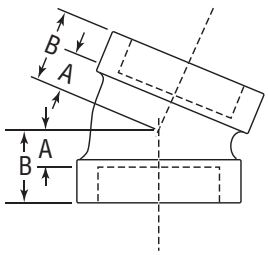
Figure 356R (Reducing)



Size		A		B		Unit Weight Black	
NPS	DN	in	mm	in	mm	lbs	kg
1/4	8	7/16	11	3/4	19	0.16	0.07
3/8	10	7/16	11	13/16	22	0.23	0.10
1/2	15	7/16	11	7/8	22	0.37	0.17
3/4	20	1/2	13	1	25	0.55	0.25
1	25	9/16	14	1 1/8	29	0.83	0.38
1 1/4	32	5/8	16	1 1/4	32	1.33	0.60
1 1/2	40	13/16	22	1 7/16	37	1.79	0.81
2	50	1	25	1 11/16	43	2.89	1.31
2 1/2	65	1 1/16	27	1 15/16	49	4.29	1.95
3	80	1 3/16	30	2 3/16	56	6.44	2.92
3 1/2	90	1 3/8	35	2 3/8	60	8.42	3.82
4	100	1 9/16	40	2 5/8	67	10.64	4.83
6	150	2 3/16	56	3 7/16	87	26.02	11.80
8	200	2 7/8	73	4 1/4	108	50.17	22.75

Size		A		B		C		D		Unit Weight Black	
NPS	DN	in	mm	in	mm	in	mm	in	mm	lbs	kg
1 x 1/2	25 x 15	1/2	15	7/8	22	1 1/16	27	1 5/16	33	0.95	0.43

FIGURE 356A
22 1/2° Elbow



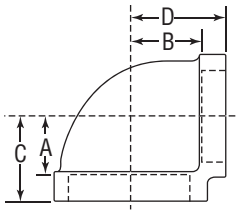
Size		A		B		Unit Weight Black	
NPS	DN	in	mm	in	mm	lbs	kg
3/4	20	3/8	10	7/8	22	0.52	0.24
1	25	7/16	11	1	25	0.80	0.36
1 1/4	32	1/2	13	1 1/8	29	1.40	0.63
1 1/2	40	5/8	16	1 1/4	32	1.64	0.74
2	50	3/4	19	1 7/16	37	2.50	1.13
2 1/2	65	3/4	19	1 5/8	41	3.95	1.79

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 352
90° Elbow, Reducing



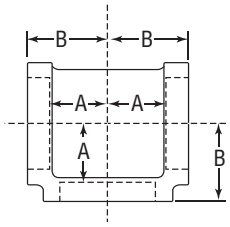
Size				A		B		C		D		Unit Weight Black	
NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
1/2	*15*	1/4	*8*	5/8	*16*	3/4	*19*	1 1/16	*27*	1 1/16	*27*	0.40	*0.18*
		3/8	*10*	5/8	*16*	11/16	*17*	1 1/16	*27*	1 1/16	*27*	0.34	*0.15*
3/4	*20*	1/2	*15*	11/16	*17*	13/16	*22*	1 1/4	*32*	1 1/4	*32*	0.51	*0.23*
1	*25*	1/2	*15*	11/16	*17*	15/16	*24*	1 3/8	*35*	1 3/8	*35*	0.67	*0.30*
		3/4	*20*	13/16	*22*	15/16	*24*	1 7/16	*37*	1 7/16	*37*	0.76	*0.34*
1 1/4	*32*	1/2	*15*	11/16	*17*	1 1/16	*27*	1 1/2	*38*	1 1/2	*38*	1.07	*0.49*
		3/4	*20*	13/16	*22*	1 1/8	*29*	1 5/8	*41*	1 5/8	*41*	1.02	*0.46*
		1	*25*	15/16	*24*	1 1/8	*29*	1 11/16	*43*	1 11/16	*43*	1.21	*0.55*
1 1/2	*40*	1/2	*15*	3/4	*19*	1 1/4	*32*	1 5/8	*41*	1 5/8	*41*	1.53	*0.69*
		3/4	*20*	7/8	*22*	1 5/16	*33*	1 13/16	*47*	1 13/16	*47*	1.55	*0.70*
		1	*25*	1	*25*	1 1/4	*32*	1 13/16	*47*	1 13/16	*47*	1.44	*0.65*
		1 1/4	*32*	1 3/16	*30*	1 1/4	*32*	1 7/8	*48*	1 7/8	*48*	1.74	*0.79*
2	*50*	1/2	*15*	1 3/16	*30*	1 7/16	*37*	1 3/8	*35*	1 3/8	*35*	2.22	*1.01*
		3/4	*20*	1 5/16	*33*	1 1/2	*38*	2	*51*	2	*51*	2.20	*1.00*
		1	*25*	1 1/16	*27*	1 7/16	*37*	2	*51*	2	*51*	2.08	*0.94*
		1 1/4	*32*	1 3/16	*30*	1 7/16	*37*	2 1/16	*52*	2 1/16	*52*	2.33	*1.06*
		1 1/2	*40*	1 5/16	*33*	1 1/2	*38*	2 1/8	*54*	2 1/8	*54*	2.59	*1.17*
2 1/2	*65*	1	*25*	1	*25*	1 3/4	*44*	2 5/16	*59*	2 5/16	*59*	2.93	*1.33*
		1 1/4	*32*	1 3/16	*30*	1 3/4	*44*	2 3/8	*60*	2 3/8	*60*	3.41	*1.55*
		1 1/2	*40*	1 5/16	*33*	1 13/16	*47*	2 7/16	*62*	2 7/16	*62*	3.68	*1.67*
		2	*50*	1 9/16	*40*	1 7/8	*48*	2 9/16	*65*	2 9/16	*65*	4.01	*1.82*
3	*80*	1 1/4	*32*	1 5/8	*41*	2 5/16	*59*	2 15/16	*75*	2 15/16	*75*	5.98	*2.71*
		1 1/2	*40*	1 5/8	*41*	2 5/16	*59*	2 15/16	*75*	2 15/16	*75*	5.65	*2.56*
		2	*50*	1 5/8	*41*	2 1/4	*57*	2 15/16	*75*	2 15/16	*75*	5.25	*2.38*
		2 1/2	*65*	1 7/8	*48*	2 3/16	*56*	3 1/16	*78*	3 1/16	*78*	6.44	*2.92*
4	*100*	2	*50*	2 3/16	*56*	2 15/16	*75*	3 5/8	*92*	3 5/8	*92*	11.89	*5.39*
		2 1/2	*65*	2 3/16	*56*	2 3/4	*70*	3 5/8	*92*	3 5/8	*92*	11.27	*5.11*
		3	*80*	2 3/16	*56*	2 11/16	*68*	3 5/8	*92*	3 5/8	*92*	10.63	*4.82*
5	*125*	4	*100*	2 13/16	*73*	3 5/16	*84*	4 3/8	*111*	4 3/8	*111*	16.47	*7.47*
6	*150*	3	*80*	2 5/16	*59*	3 13/16	*98*	4 13/16	*124*	4 13/16	*124*	19.43	*8.81*
		4	*100*	2 13/16	*73*	3 7/8	*98*	4 15/16	*125*	4 15/16	*125*	23.53	*10.67*
		5	*125*	3 3/8	*86*	3 13/16	*98*	5	*127*	5	*127*	26.66	*12.09*

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

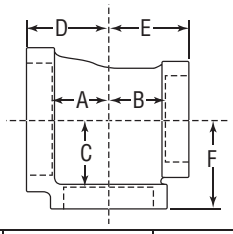
Class 125 (Standard)

FIGURE 358
Tee



Size		A		B		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
1/4	*8*	1/2	*13*	13/16	*22*	0.22	*0.10*
3/8	*10*	5/8	*16*	1	*25*	0.35	*0.16*
1/2	*15*	11/16	*17*	1 1/8	*29*	0.56	*0.25*
3/4	*20*	13/16	*22*	1 5/16	*33*	0.84	*0.38*
1	*25*	15/16	*24*	1 1/2	*38*	1.25	*0.57*
1 1/4	*32*	1 1/8	*29*	1 3/4	*44*	2.03	*0.92*
1 1/2	*40*	1 5/16	*33*	1 15/16	*49*	2.70	*1.22*
2	*50*	1 9/16	*40*	2 1/4	*57*	4.23	*1.92*
2 1/2	*65*	1 13/16	*47*	2 11/16	*68*	6.67	*3.02*
3	*80*	2 3/16	*56*	3 1/8	*79*	10.00	*4.54*
3 1/2	*90*	2 7/16	*62*	3 7/16	*87*	13.29	*6.03*
4	*100*	2 11/16	*68*	3 3/4	*95*	16.33	*7.41*
5	*125*	3 5/16	*84*	4 1/2	*114*	27.33	*12.39*
6	*150*	3 7/8	*98*	5 1/8	*130*	40.85	*18.53*
8	*200*	5 3/16	*132*	6 9/16	*167*	79.00	*35.83*

FIGURE 359
Tee Reducing



Size						A		B		C		D		E		F		Unit Weight Black	
NPS	*DN*	NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
1/2	*15*	1/2	*15*	1/4	*8*	1 1/16	*17*	11/16	*17*	13/16	*22*	1 1/8	*29*	1 1/8	*29*	1 1/8	*29*	0.57	*0.26*
				3/8	*10*	1 1/16	*17*	11/16	*17*	3/4	*19*	1 1/8	*29*	1 1/8	*29*	1 1/8	*29*	0.57	*0.26*
				3/4	*20*	1 3/16	*22*	13/16	*22*	11/16	*17*	1 1/4	*32*	1 1/4	*32*	13/16	*22*	0.68	*0.31*
				1	*25*	1	*25*	1	*25*	13/16	*22*	1 7/16	*37*	1 7/16	*37*	1 3/8	*35*	1.00	*0.45*
3/4	*20*	1/4	*8*	3/4	*20*	1 3/16	*22*	15/16	*24*	13/16	*22*	15/16	*24*	1 1/4	*32*	15/16	*24*	0.79	*0.36*
		1/2	*15*	1/2	*15*	1 1/16	*17*	11/16	*17*	13/16	*22*	13/16	*22*	1 1/8	*29*	1 1/4	*32*	0.64	*0.29*
				3/4	*20*	1 3/16	*22*	13/16	*22*	13/16	*22*	15/16	*24*	1 1/4	*32*	15/16	*24*	0.75	*0.34*
		3/4	*20*	1/4	*8*	9/16	*14*	9/16	*14*	7/8	*22*	11/16	*17*	11/16	*17*	13/16	*22*	0.62	*0.28*
				3/8	*10*	1 1/16	*17*	11/16	*17*	15/16	*24*	13/16	*22*	13/16	*22*	1 1/4	*32*	0.75	*0.34*
				1/2	*15*	1 1/16	*17*	11/16	*17*	13/16	*22*	13/16	*22*	13/16	*22*	1 1/4	*32*	0.76	*0.34*
				1	*25*	1 5/16	*24*	15/16	*24*	13/16	*22*	1 7/16	*37*	1 7/16	*37*	1 3/8	*35*	0.99	*0.45*
1	*25*	1/4	*8*	1	*25*	1 5/16	*24*	15/16	*24*	15/16	*24*	1 1/2	*38*	1 1/4	*32*	1 1/2	*38*	1.08	*0.49*
		1/2	*15*	1/2	*15*	1 1/16	*17*	3/4	*19*	15/16	*24*	1 1/4	*32*	13/16	*22*	1 3/8	*35*	0.90	*0.41*
				3/4	*20*	1 3/16	*22*	13/16	*22*	15/16	*24*	1 3/8	*35*	1 1/4	*32*	1 7/16	*37*	0.91	*0.41*
				1	*25*	1 5/16	*24*	15/16	*24*	15/16	*24*	1 1/2	*38*	1 3/8	*35*	1 1/2	*38*	1.08	*0.49*
		3/4	*20*	1/2	*15*	1 1/16	*17*	11/16	*17*	15/16	*24*	1 1/4	*32*	13/16	*22*	1 3/8	*35*	0.89	*0.40*
				3/4	*20*	1 3/16	*22*	13/16	*22*	15/16	*24*	1 3/8	*35*	15/16	*24*	1 7/16	*37*	1.00	*0.45*
				1	*25*	1 5/16	*24*	15/16	*24*	15/16	*24*	1 1/2	*38*	1 7/16	*37*	1 1/2	*38*	1.13	*0.51*
		1	*25*	1/4	*8*	1 1/16	*17*	11/16	*17*	1 1/8	*29*	1 1/8	*29*	1 1/4	*32*	1 3/8	*35*	1.01	*0.46*
				1/2	*15*	1 1/16	*17*	11/16	*17*	15/16	*24*	1 1/4	*32*	1 1/4	*32*	1 3/8	*35*	1.01	*0.46*
				3/4	*20*	1 3/16	*22*	13/16	*22*	15/16	*24*	1 3/8	*35*	1 3/8	*35*	1 7/16	*37*	1.11	*0.50*
				1 1/4	*32*	1 1/8	*29*	1 1/8	*29*	15/16	*24*	1 11/16	*43*	1 11/16	*43*	1 9/16	*40*	1.49	*0.68*
				1 1/2	*40*	1 1/4	*32*	1 1/4	*32*	1	*25*	1 13/16	*47*	1 13/16	*47*	1 5/8	*41*	1.84	*0.83*
				2	*50*	1 7/16	*37*	1 7/16	*37*	1	*25*	2	*50*	2	*50*	1 3/4	*44*	2.70	*1.22*

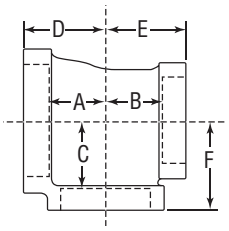
Note: See page 37 for pressure-temperature ratings.

Continued on next page.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 359
Tee Reducing



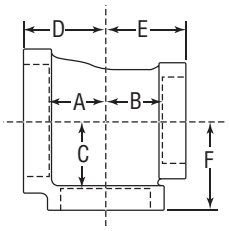
Size						A		B		C		D		E		F		Unit Weight Black	
NPS	DN	NPS	DN	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
1¼	32	½	15	½	15	13/16	22	13/16	22	1 1/8	29	1 7/16	37	15/16	24	1 5/8	41	1.00	0.45
				1	25	1 5/16	24	15/16	24	1 1/8	29	1 9/16	40	1 3/8	35	1 11/16	43	1.38	0.63
				1¼	32	1 1/8	29	1 1/8	29	1 1/8	29	1 3/4	44	1 9/16	40	1 3/4	44	1.64	0.74
		¾	20	¾	20	13/16	22	13/16	22	1 1/8	29	1 7/16	37	15/16	24	1 5/8	41	1.27	0.58
				1	25	1 5/16	24	15/16	24	1 1/8	29	1 9/16	40	1 7/16	37	1 11/16	43	1.43	0.65
				1¼	32	1 1/8	29	1 1/8	29	1 1/8	29	1 3/4	44	1 5/8	41	1 3/4	44	1.73	0.78
		1	25	½	15	1 1/16	17	11/16	17	1 1/8	29	15/16	24	1 1/4	32	1 9/16	40	1.27	0.58
				¾	20	1 3/16	22	13/16	22	1 1/8	29	1 7/16	37	1 3/8	35	1 5/8	41	1.36	0.62
				1	25	1 5/16	24	15/16	24	1 1/8	29	1 9/16	40	1 9/16	40	1 11/16	43	1.53	0.69
				1¼	32	1 1/8	29	1 1/8	29	1 1/8	29	1 3/4	44	1 11/16	43	1 3/4	44	1.79	0.81
				1½	40	1 1/4	32	1 1/4	32	13/16	22	1 7/8	48	1 13/16	47	1 13/16	47	2.07	0.94
				2	50	1 7/16	37	1 7/16	37	13/16	22	2 1/16	52	2	50	1 7/8	48	2.66	1.21
		1¼	32	½	15	1 1/16	17	11/16	17	1 1/8	29	15/16	24	15/16	24	1 9/16	40	1.47	0.67
				¾	20	1 3/16	22	13/16	22	1 1/8	29	1 7/16	37	1 7/16	37	1 5/8	41	1.57	0.71
				1	25	1 5/16	24	15/16	24	1 1/8	29	1 9/16	40	1 9/16	40	1 11/16	43	1.73	0.78
				1½	40	1 1/4	32	1 1/4	32	13/16	22	1 7/8	48	1 7/8	48	1 13/16	47	2.29	1.04
				2	50	1 7/16	37	1 7/16	37	13/16	22	2 1/16	52	2 1/16	52	1 7/8	48	2.81	1.27
1½	40	½	15	1¼	32	13/16	22	1 1/8	29	1 1/4	32	1 13/16	47	1 9/16	40	1 7/8	48	1.93	0.88
				1½	40	15/16	24	1 1/4	32	15/16	24	1 15/16	49	1 11/16	43	1 15/16	49	2.14	0.97
		¾	20	1½	40	15/16	24	1 1/4	32	15/16	24	1 15/16	49	1 3/4	44	1 15/16	49	2.18	0.99
		1	25	½	15	13/16	22	3/4	19	1 1/4	32	1 7/16	37	15/16	24	1 11/16	43	1.75	0.79
				¾	20	7/8	22	13/16	22	1 1/4	32	1 1/2	38	1 3/8	35	1 3/4	44	1.70	0.77
				1	25	1	25	15/16	24	1 1/4	32	1 5/8	41	1 1/2	38	1 13/16	47	1.72	0.78
				1¼	32	13/16	22	1 1/8	29	1 1/4	32	1 13/16	47	1 11/16	43	1 7/8	48	2.08	0.94
				1½	40	15/16	24	1 1/4	32	15/16	24	1 15/16	49	1 13/16	47	1 15/16	49	2.29	1.04
				2	50	1 1/2	38	1 7/16	37	15/16	24	2 1/8	54	2	50	2	51	2.91	1.32
		1¼	32	½	15	13/16	22	11/16	17	1 1/4	32	1 7/16	37	15/16	24	1 11/16	43	1.67	0.76
				¾	20	7/8	22	13/16	22	1 1/4	32	1 1/2	38	1 7/16	37	1 3/4	44	1.79	0.81
				1	25	1	25	15/16	24	1 1/4	32	1 5/8	41	1 9/16	40	1 13/16	47	1.97	0.89
				1¼	32	13/16	22	1 1/8	29	1 1/4	32	1 13/16	47	1 3/4	44	17/8	48	2.28	1.03
				1½	40	15/16	24	1 1/4	32	15/16	24	1 15/16	49	1 7/8	48	1 15/16	49	2.50	1.13
				2	50	1 1/2	38	1 7/16	37	15/16	24	2 1/8	54	2 1/16	52	2	51	3.07	1.39
		1½	40	½	15	13/16	22	13/16	22	1 1/4	32	1 7/16	37	1 7/16	37	1 11/16	43	1.84	0.83
				¾	20	7/8	22	7/8	22	1 1/4	32	1 1/2	38	1 1/2	38	1 3/4	44	1.95	0.88
				1	25	1	25	1	25	1 1/4	32	1 5/8	41	1 5/8	41	1 13/16	47	2.13	0.97
				1¼	32	13/16	22	13/16	22	1 1/4	32	1 13/16	47	1 13/16	47	1 7/8	48	2.44	1.11
				2	50	1 1/2	38	1 1/2	38	15/16	24	2 1/8	54	2 1/8	54	2	51	3.23	1.46
				2½	65	1 13/16	47	1 13/16	47	15/16	24	2 7/16	62	2 7/16	62	2 3/16	56	4.15	1.88

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 359
Tee Reducing



Size						A		B		C		D		E		F		Unit Weight Black	
NPS	*DN*	NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
2	50	1/2	15	1 1/2	40	15/16	24	1 3/8	35	1 1/2	38	2	51	1 13/16	47	2 1/8	54	2.95	1.34
				2	50	1 9/16	40	1 7/16	37	1 9/16	40	2 1/4	57	1 7/8	48	2 1/4	57	3.30	1.50
		3/4	20	1 1/4	32	1 3/16	22	1 1/8	29	1 7/16	37	1 7/8	48	1 3/4	44	2 1/16	52	2.50	1.13
				1 1/2	40	1 5/16	24	15/16	24	1 1/2	38	2	51	1 13/16	47	2 1/8	54	3.40	1.54
				2	50	1 9/16	40	1 7/16	37	1 9/16	40	2 1/4	57	1 15/16	49	2 1/4	57	3.31	1.50
		1	25	1	25	11/16	17	11/16	17	1 7/16	37	1 3/4	44	1 5/8	41	2	51	2.70	1.22
				1 1/4	32	13/16	22	1 1/8	29	1 1/2	38	1 7/8	48	1 3/4	44	2 1/16	52	2.94	1.33
				1 1/2	40	15/16	24	1 1/4	32	1 1/2	38	2	51	1 13/16	47	2 1/8	54	2.85	1.29
				2	50	1 9/16	40	1 7/16	37	1 9/16	40	2 1/4	57	2	51	2 1/4	57	3.46	1.57
				2 1/2	65	1 7/8	48	1 13/16	47	1 9/16	40	2 9/16	65	2 3/8	60	2 7/16	62	4.88	2.21
		1 1/4	32	1/2	15	11/16	17	1	25	1 7/16	37	1 3/4	44	1 5/8	41	2	51	2.48	1.12
				3/4	20	7/8	22	7/8	22	1 7/16	37	1 9/16	40	1 1/2	38	1 15/16	49	2.50	1.13
				1	25	11/16	17	1	25	1 7/16	37	1 3/4	44	1 5/8	41	2	51	2.73	1.24
				1 1/4	32	13/16	22	1 1/8	29	1 7/16	37	1 7/8	48	1 3/4	44	2 1/16	52	2.90	1.32
				1 1/2	40	15/16	24	1 1/4	32	1 1/2	38	2	51	1 7/8	48	2 1/8	54	3.13	1.42
				2	50	1 9/16	40	1 7/16	37	1 9/16	40	2 1/4	57	2 1/16	52	2 1/4	57	3.71	1.68
				2 1/2	65	1 7/8	48	1 3/4	44	1 9/16	40	2 9/16	65	2 3/8	60	2 7/16	62	4.54	2.06
		1 1/2	40	1/2	15	13/16	22	13/16	22	1 7/16	37	1 1/2	38	1 7/16	37	1 7/8	48	2.34	1.06
				3/4	20	7/8	22	7/8	22	1 7/16	37	1 9/16	40	1 1/2	38	1 15/16	49	2.46	1.12
				1	25	11/16	17	1	25	1 7/16	37	1 3/4	44	1 5/8	41	2	51	2.66	1.21
				1 1/4	32	13/16	22	13/16	22	1 7/16	37	1 7/8	48	1 13/16	47	2 1/16	52	2.98	1.35
				1 1/2	40	15/16	24	15/16	24	1 1/2	38	2	51	1 15/16	49	2 1/8	54	3.24	1.47
				2	50	1 9/16	40	1 1/2	38	1 9/16	40	2 1/4	57	2 1/8	54	2 1/4	57	3.70	1.68
				2 1/2	65	1 7/8	48	1 15/16	49	1 9/16	40	2 9/16	65	2 9/16	65	2 7/16	62	5.46	2.48
		2	50	1/2	15	13/16	22	13/16	22	1 7/16	37	1 1/2	38	1 1/2	38	1 7/8	48	2.74	1.24
				3/4	20	7/8	22	7/8	22	1 7/16	37	1 9/16	40	1 9/16	40	1 15/16	49	2.86	1.30
				1	25	11/16	17	11/16	17	1 7/16	37	1 3/4	44	1 3/4	44	2	51	3.05	1.38
				1 1/4	32	13/16	22	13/16	22	1 7/16	37	1 7/8	48	1 7/8	48	2 1/16	52	3.38	1.53
				1 1/2	40	15/16	24	15/16	24	1 1/2	38	2	51	2	51	2 1/8	54	3.59	1.63
				2 1/2	65	1 7/8	48	1 7/8	48	1 9/16	40	2 9/16	65	2 9/16	65	2 7/16	62	5.17	2.34
				3	100	3	76	3	76	2 7/16	62	3 11/16	94	3 11/16	94	3 1/2	89	7.87	3.57

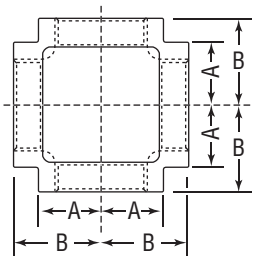
Continued on next page.

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

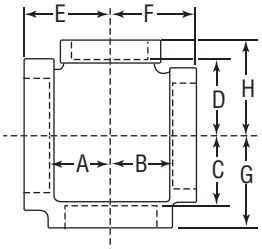
Class 125 (Standard)

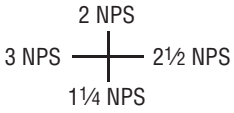
FIGURE 360
Cross



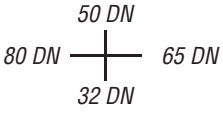
Size		A		B		Unit Weight Black	
NPS	DN	in	mm	in	mm	lbs	kg
1/2	15	13/16	22	9/16	14	2.80	1.27
3/4	20	1 5/16	33	13/16	22	1.03	0.47
1	25	1 1/2	38	15/16	24	1.59	0.72
1 1/4	32	1 3/4	44	1 1/8	29	2.42	1.10
1 1/2	40	1 15/16	49	1 5/16	33	3.21	1.46
2	50	2 1/4	57	1 9/16	40	5.28	2.39
2 1/2	65	2 11/16	68	1 13/16	47	8.07	3.66
3	80	3 1/8	79	2 3/16	56	11.84	5.37
4	100	3 13/16	98	2 3/4	70	19.63	8.90
6	150	5 1/8	130	3 7/8	98	47.67	21.62

FIGURE 361
Cross Reducing





Read as:
3 x 2½ x 2 x 1¼



Read as:
80 x 65 x 50 x 32

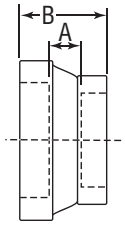
Size								A		B		C		D		E, F		G, H		Unit Weight	
NPS	DN	NPS	DN	NPS	DN	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
1	25	1	25	3/4	20	3/4	20	13/16	22	13/16	22	15/16	24	15/16	24	1 3/8	35	1 7/16	37	1.30	0.59
1 1/4	32	1 1/4	32	1	25	1	25	15/16	24	15/16	24	1 1/8	29	1 1/8	29	1 9/16	40	1 11/16	43	2.04	0.93
1 1/2	40	1	25	1	25	1	25	1	25	1 1/8	29	1 1/4	32	1 1/4	32	1 5/8	41	1 13/16	47	2.74	1.24
		1 1/4	32	1	25	1	25	1	25	1	25	1 1/4	32	1 1/4	32	1 5/8	41	1 13/16	47	2.67	1.21
		1 1/2	40	1	25	1	25	1	25	1	25	1 1/4	32	1 1/4	32	1 5/8	41	1 13/16	47	2.51	1.14
				1 1/4	32	1	25	1 1/8	29	1 1/8	29	13/16	22	15/16	24	1 13/16	47	1 7/8	48	3.90	1.77
						1 1/4	32	1 1/8	29	1 1/8	29	1 3/8	35	1 3/8	35	1 13/16	47	1 7/8	48	3.95	1.79
2	50	1 1/2	40	1	25	1	25	11/16	17	1 1/8	29	1 7/16	37	1 7/16	37	1 3/4	44	2	51	3.57	1.62
				1 1/4	32	1	25	1 1/8	29	13/16	22	1 1/2	38	1 7/16	37	1 7/8	48	2 1/8	54	4.25	1.93
						1 1/4	32	13/16	22	13/16	22	1 1/2	38	1 1/2	38	1 7/8	48	2 1/16	52	4.18	1.90
		2	50	1	25	1	25	11/16	17	11/16	17	1 7/16	37	1 7/16	37	1 3/4	44	2	51	3.22	1.46
				1 1/4	32	1 1/4	32	1 1/8	29	1 1/8	29	1 7/16	37	1 7/16	37	1 7/8	48	2 1/8	54	4.00	1.81
				1 1/2	40	1 1/2	40	1 1/4	32	1 1/4	32	1 7/16	37	1 7/16	37	2	51	2 1/8	54	4.08	1.85
2 1/2	65	2	50	1	25	1	25	1	25	11/16	17	1 13/16	47	1 13/16	47	1 15/16	49	2 5/16	59	5.11	2.32
				1 1/2	40	1 1/2	40	1 1/4	32	15/16	24	1 7/8	48	1 7/8	48	2 3/16	56	2 7/16	62	6.13	2.78
				2	50	2	50	1 1/2	38	1 3/4	44	1 7/8	48	1 7/8	48	2 7/16	62	2 9/16	65	7.23	3.28
		2 1/2	65	1 1/4	32	1	25	13/16	22	13/16	22	1 3/4	44	1 13/16	47	2 1/16	52	2 3/8	60	5.39	2.44
						1 1/4	32	1 1/8	29	1 1/8	29	1 13/16	47	1 13/16	47	2 1/16	52	2 3/8	60	5.26	2.39
				1 1/2	40	1 1/2	40	1 1/4	32	1 1/4	32	1 7/8	48	1 7/8	48	2 3/16	56	2 7/16	62	5.68	2.58
				2	50	2	50	1 9/16	40	1 9/16	40	1 15/16	49	1 15/16	49	2 7/16	62	2 9/16	65	6.82	3.09
3	80	3	80	1 1/2	40	1 1/2	40	1 3/8	35	1 3/8	35	2 3/16	56	2 3/16	56	2 5/16	59	2 13/16	73	7.91	3.59
				2	50	2	50	1 5/8	41	1 5/8	41	2 3/16	56	2 3/16	56	2 9/16	65	2 15/16	75	8.85	4.01
4	100	4	100	2	50	2	50	2	50	2	50	2 11/16	68	2 11/16	68	2 3/4	70	3 7/16	87	12.00	5.44

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 367
Concentric Reducer



Size				A		B		Unit Weight Black	
NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
3/4	*20*	1/2	*15*	5/8	*16*	1 9/16	*40*	0.40	*0.18*
1	*25*	1/2 (Hex)	*15*	11/16	*17*	1 11/16	*43*	0.54	*0.24*
		3/4 (Hex)	*20*	7/16	*11*	1 1/2	*38*	0.63	*0.29*
1 1/4	*32*	1/2	*15*	9/16	*14*	1 5/8	*41*	0.84	*0.38*
		3/4	*20*	1	*25*	2 1/8	*54*	0.90	*0.41*
		1	*25*	15/16	*24*	2 1/8	*54*	1.07	*0.49*
1 1/2	*40*	1/2	*15*	1/2	*13*	1 5/8	*41*	1.00	*0.45*
		3/4	*20*	1/2	*13*	1 5/8	*41*	1.20	*0.54*
		1	*25*	1/2	*13*	1 3/4	*44*	1.50	*0.68*
		1 1/4	*32*	1	*25*	2 1/4	*57*	1.45	*0.66*
2	*50*	1/2	*15*	5/8	*16*	2	*51*	2.00	*0.91*
		3/4	*20*	3/4	*19*	2	*51*	1.90	*0.86*
		1	*25*	3/4	*19*	2	*51*	1.83	*0.83*
		1 1/4	*32*	13/16	*22*	2 1/8	*54*	1.78	*0.81*
		1 1/2	*40*	7/8	*22*	2 3/16	*56*	1.98	*0.90*
2 1/2	*65*	1 1/2	*40*	3/4	*19*	2	*51*	3.10	*1.41*
		2	*50*	1	*25*	2 9/16	*65*	2.98	*1.35*
3	*80*	3/4	*20*	15/16	*24*	2 1/2	*64*	4.31	*1.95*
		2	*50*	1 1/16	*27*	2 3/4	*70*	3.96	*1.80*
		2 1/2	*65*	15/16	*24*	2 13/16	*73*	4.40	*2.00*
4	*100*	2	*50*	1 3/16	*30*	2 15/16	*75*	6.50	*2.95*
		2 1/2	*65*	1 3/16	*30*	3 1/8	*79*	7.78	*3.53*
		3	*80*	1 1/16	*27*	3 1/8	*79*	7.01	*3.18*
5	*125*	4	*100*	1 1/16	*27*	3 5/16	*84*	10.48	*4.75*
6	*150*	4	*100*	1 1/8	*29*	3 7/16	*87*	13.83	*6.27*
		5	*125*	1 1/8	*29*	3 9/16	*90*	15.53	*7.04*
8	*200*	6	*150*	1 1/4	*32*	3 7/8	*98*	29.10	*13.20*

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 387 Square Head Plugs, Cored

Size		Unit Weight			
		Black		Galv.	
NPS	*DN*	lbs	*kg*	lbs	*kg*
3/4	*20*	0.13	*0.06*	0.13	*0.06*
1	*25*	0.25	*0.11*	0.25	*0.11*
1 1/4	*32*	0.39	*0.18*	0.39	*0.18*
1 1/2	*40*	0.50	*0.23*	0.50	*0.23*
2	*50*	0.82	*0.37*	0.82	*0.37*
2 1/2	*65*	1.32	*0.60*	1.32	*0.60*
3	*80*	1.87	*0.85*	1.87	*0.85*
3 1/2	*90*	2.50	*1.13*	2.50	*1.13*
4	*100*	4.00	*1.81*	4.00	*1.81*

FIGURE 388 Square Head Plugs, Solid

Size		Unit Weight			
		Black		Galv.	
NPS	*DN*	lbs	*kg*	lbs	*kg*
1/2	*15*	0.10	*0.05*	0.10	*0.05*
3/4	*20*	0.17	*0.08*	0.17	*0.08*
1	*25*	0.32	*0.15*	0.32	*0.15*
1 1/4	*32*	0.53	*0.24*	0.53	*0.24*
1 1/2	*40*	0.76	*0.34*	0.76	*0.34*
2	*50*	1.23	*0.56*	1.23	*0.56*
2 1/2	*65*	2.00	*0.91*	2.00	*0.91*
3	*80*	3.18	*1.44*	3.18	*1.44*
3 1/2	*90*	4.38	*1.99*	–	–

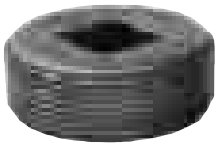
FIGURE 389 Bar Plugs, Cored

Size		Unit Weight			
		Black		Galv.	
NPS	*DN*	lbs	*kg*	lbs	*kg*
4	*100*	3.82	*1.73*	3.82	*1.73*
5	*125*	6.50	*2.95*	6.50	*2.95*
6	*150*	9.94	*4.51*	9.94	*4.51*
8	*200*	20.26	*9.19*	20.26	*9.19*

FIGURE 380 Bar Plugs, Solid

Size		Unit Weight	
		Black	
NPS	*DN*	lbs	*kg*
4	*100*	5.68	*2.58*
5	*125*	9.60	*4.35*
6	*150*	14.78	*6.70*

FIGURE 390 Countersunk Plugs



Size		Unit Weight			
		Black		Galv.	
NPS	*DN*	lbs	*kg*	lbs	*kg*
1	*25*	0.20	*0.09*	0.20	*0.09*
1 1/4	*32*	0.32	*0.15*	0.32	*0.15*
1 1/2	*40*	0.47	*0.21*	0.47	*0.21*
2	*50*	0.84	*0.38*	0.84	*0.38*
2 1/2	*65*	1.40	*0.63*	–	–
3	*80*	2.25	*1.02*	–	–
3 1/2	*90*	3.02	*1.37*	–	–
4	*100*	3.76	*1.71*	–	–

See page 32 (Malleable Iron) for other available sizes.

FIGURE 381 Cap

Size		Unit Weight			
		Black		Galv.	
NPS	*DN*	lbs	*kg*	lbs	*kg*
2 1/2	*65*	2.55	*1.16*	–	–
3	*80*	4.10	*1.86*	–	–
4	*100*	6.40	*2.90*	–	–
5	*125*	10.70	*4.85*	–	–
6	*150*	14.20	*6.44*	14.20	*6.44*
8	*200*	27.23	*12.35*	27.23	*12.35*

According to specifications, hex bushings and cored plugs should be used with 150# malleable iron and 125# cast iron. Solid plugs and face bushings are recommended for use with 250# and 300# fittings.

Note: See page 37 for pressure-temperature ratings.

FireLock® Outlet-T

STYLE 922

SEE VICTAULIC PUBLICATION 10.01 FOR DETAILS

The Style 922 Outlet-T provides a convenient method of incorporating ½, ¾, and 1"/15, 20 and 25 mm outlets for directly connecting sprinklers, drop nipples, sprigs, gauges, drains and other outlet products. Available for 1¼ through 76.1 mm/32 to 76.1 mm piping systems, Style 922 outlets are UL/ULC Listed, LPCB and FM Approved for branch connections and VdS Approved for direct sprinkler connection only on wet and dry systems.

The locating collar engages into the hole prepared in the pipe. When tightened, the assembly compresses the gasket onto the OD of the pipe. The Style 922 Outlet-T is UL/FM rated up to 300 psi/2068 kPa and VdS rated up to 16 bar at the ambient temperatures typical for fire protection systems.

Style 922 is suitable for use on standard, lightwall, Schedule 5 and other specialty pipes.* Contact Victaulic for other optional coatings.

*Consult Section 10.01 for specific listings/approvals.

MATERIAL SPECIFICATIONS

Housing: Ductile iron conforming to ASTM A-536, grade 65-45-12. Ductile iron conforming to ASTM A-395, grade 65-45-15, is available upon special request.

Gasket:

- **Grade "E" EPDM - Type A**
  (Violet color code). FireLock products have been Listed by Underwriters Laboratories Inc. and Approved by Factory Mutual Research for wet and dry (oil free air) sprinkler services up to the rated working pressure using the Grade "E" Type A Gasket System.

Bolts/Nuts: Heat-treated plated carbon steel, trackhead meeting the physical and chemical requirements of ASTM A-449 and physical requirements of ASTM A-183.

Housing Coating:

- Orange enamel (North America, Latin America, Asia Pacific)
- Red enamel (Europe)

JOB/OWNER

System No. _____

Location _____

CONTRACTOR

Submitted By _____

Date _____

ENGINEER

Spec Sect _____ Para _____

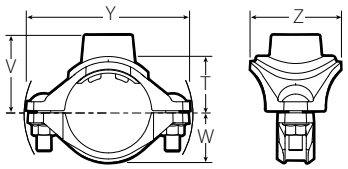
Approved _____

Date _____

FireLock® Outlet-T

STYLE 922

DIMENSIONS



Nominal Size inches/mm			Hole Diameter	Dimensions – inches/millimeters					Approx. Weight Each
Run X Branch FPT†			+0.06/+1.5 -0.00/-0.0	T*	V	W	Y	Z	lbs/kg
1 ¼ 32	X	½ 15	1 3/16 30.2	1.30 33.0	1.83 46.5	1.10 27.9	3.87 98.3	2.56 65.0	1.0 0.45
		¾ 20	1 3/16 30.2	1.28 32.5	1.83 46.5	1.10 27.9	3.87 98.3	2.56 65.0	1.1 0.50
		1 25	1 3/16 30.2	1.52 38.6	2.18 55.4	1.10 27.9	3.87 98.3	2.56 65.0	1.2 0.54
1 ½ 40	X	½ 15	1 3/16 30.2	1.42 36.1	1.95 49.5	1.22 31.0	4.08 103.6	2.56 65.0	1.2 0.54
		¾ 20	1 3/16 30.2	1.40 35.6	1.95 49.5	1.22 31.0	4.08 103.6	2.56 65.0	1.2 0.54
		1 25	1 3/16 30.2	1.64 41.7	2.30 58.4	1.22 31.0	4.08 103.6	2.56 65.0	1.3 0.59
2 50	X	½ 15	1 3/16 30.2	1.66 42.2	2.19 55.6	1.46 37.1	4.60 116.8	2.56 65.0	1.3 0.59
		¾ 20	1 3/16 30.2	1.64 41.7	2.19 55.6	1.46 37.1	4.60 116.8	2.56 65.0	1.4 0.64
		1 25	1 3/16 30.2	1.88 47.8	2.54 64.5	1.46 37.1	4.60 116.8	2.56 65.0	1.5 0.68
2 ½ 65	X	½ 15	1 3/16 30.2	1.91 48.5	2.44 62.0	1.71 43.4	5.40 137.2	2.56 65.0	1.6 0.73
		¾ 20	1 3/16 30.2	1.89 48.0	2.44 62.0	1.71 43.4	5.40 137.2	2.56 65.0	1.6 0.73
		1 25	1 3/16 30.2	2.13 54.1	2.79 70.9	1.71 43.4	5.40 137.2	2.56 65.0	1.6 0.73
76.1 mm	X	½ 15	1 3/16 30.2	1.91 48.5	2.44 62.0	1.71 43.4	5.50 139.7	2.56 65.0	1.6 0.73
		¾ 20	1 3/16 30.2	1.89 48.0	2.44 62.0	1.71 43.4	5.50 139.7	2.56 65.0	1.6 0.73
		1 25	1 3/16 30.2	2.13 54.1	2.79 70.9	1.71 43.4	5.50 139.7	2.56 65.0	1.7 0.80

† Victaulic female threaded products are designed to accommodate standard NPT or BSPT (optional) male pipe threads only. Use of male threaded products with special features, such as probes, dry pendent sprinklers, etc., should be verified as suitable for use with this Victaulic product. Failure to verify suitability in advance may result in assembly problems or leakage.

*Center of run to engaged pipe end for NPT threads (dimensions are approximate).

FireLock® Outlet-T

STYLE 922

PERFORMANCE

Run Size x Outlet Size			Equivalent Length of 1 inch Schedule 40 Steel Pipe (per UL 213, Section 16) (C=120)*, FT
Inches/mm			Feet/meters
1 ¼ 32	X	1 25	8.5 2.6
1 ½ 40	X	1 25	8.5 2.6
2 50	X	1 25	8.5 2.6
2 ½ 65	X	1 25	8.5 2.6
76.1 mm	X	1 25	8.5 2.6

* Hazen-Williams coefficient of friction is 120

FireLock® Outlet-T

STYLE 922

INSTALLATION

Reference should always be made to the I-100 Victaulic Field Installation Handbook for the product you are installing. Handbooks are included with each shipment of Victaulic products for complete installation and assembly data, and are available in PDF format on our website at www.victaulic.com.

WARRANTY

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

NOTE

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

Victaulic® VicFlex™ Sprinkler Fittings
Series AH2 and AH2-CC Braided Flexible Hoses

10.85

Series AH2

Series AH2-CC

1.0 PRODUCT DESCRIPTION

Available Sizes by Component

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

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

Connections

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

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

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

1.0 PRODUCT DESCRIPTION (CONTINUED)

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

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

Brackets

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

Maximum Working Temperature

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

Maximum Working Pressure

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

Minimum Bend Radius

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

1.0 PRODUCT DESCRIPTION (CONTINUED)

Maximum Allowable Sprinkler K-Factors

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

2.0 CERTIFICATION/LISTINGS

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

NOTE

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

3.0 SPECIFICATIONS – MATERIAL

Series AH2:

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

Brackets: Carbon Steel, Zinc-Plated

Series AH2-CC:

Flexible Hose: 300-series Stainless Steel
Collar/Weld Fitting: 300-series Stainless Steel
Gasket Seal: Victaulic EPDM
Isolation Ring: Nylon
Coupling Retainer Ring: Polyethelene
Nut: Carbon Steel, Zinc-Plated
Reducer (½"/15 mm or ¾"/20 mm): Carbon Steel, Zinc-Plated
Low Profile Elbows: Ductile Iron, Zinc-Plated
Housing: Ductile iron conforming to ASTM A 536, Grade 65-45-12. Ductile iron conforming to ASTM A 395, Grade 65-45-15, is available upon special request.

Coupling Housing Coating:

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

Gasket:[1]

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

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

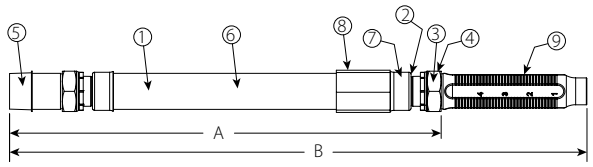
Bolts/Nut: Zinc electroplated carbon steel, trackhead meeting the physical and chemical requirements of ASTM A 449 and physical requirements of ASTM A 183.

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

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

4.0 DIMENSIONS

Product Details - Series AH2 Braided Hose

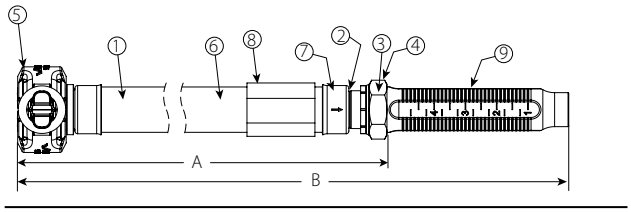


Item	Description
1	Flexible Hose
2	Isolation Ring
3	Gasket
4	Nut
5	Adapter Nipple
6	Braid
7	Collar/Weld Fitting
8	Sleeve
9	Reducer

Hose Length Dimensions

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

Series AH2-CC Braided Hose

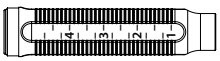


Item	Description
1	Flexible Hose
2	Isolation Ring
3	Gasket
4	Nut
5	Captured Coupling
6	Braid
7	Collar/Weld Fitting
8	Sleeve
9	Reducer

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

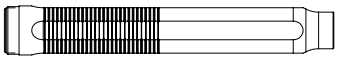
4.0 DIMENSIONS (CONTINUED)

Standard Reducer

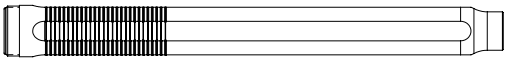


5.75"/140 mm straight reducer

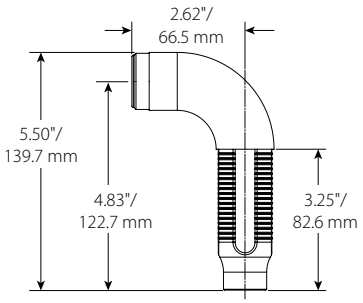
Optional Reducers



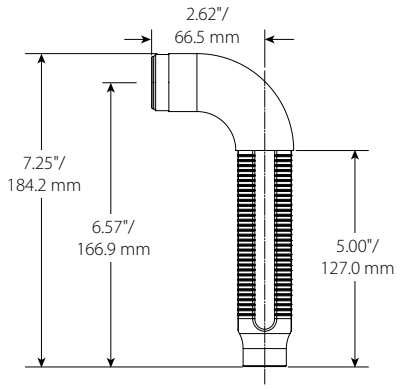
9.0"/229 mm straight reducer



13.0"/330 mm straight reducer



Short 90° elbow reducer

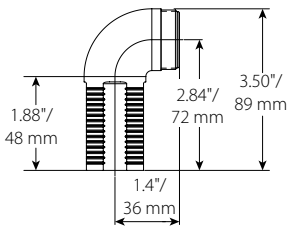


Long 90° elbow reducer

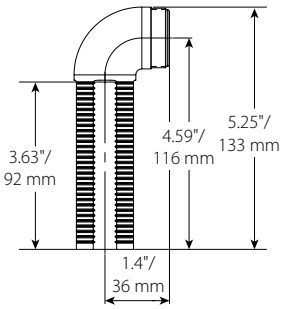
NOTE

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

Low Profile



Short 90° elbow reducer

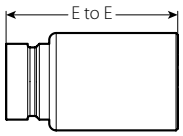


Long 90° elbow reducer

NOTE

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

No. 116 CPVC Adapter



NOTES

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

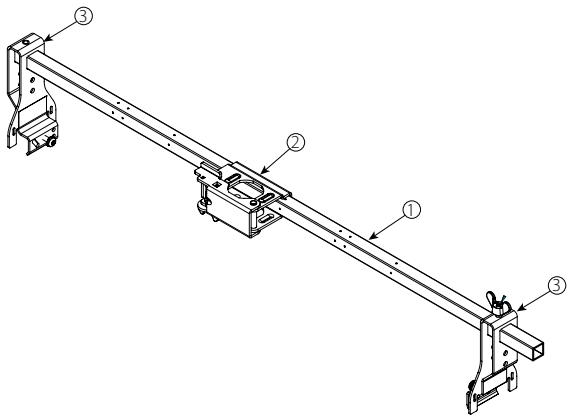
4.1 DIMENSIONS

VicFlex Brackets

Style AB2

- Suspended Ceilings
- Hard-Lid Ceilings

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

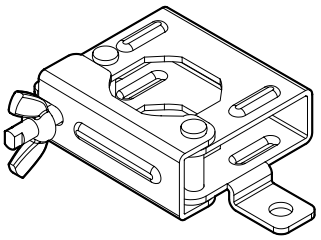


NOTE

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

Style AB3

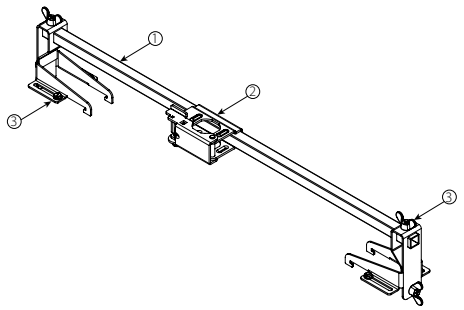
- Surface Mount Applications
- FM/LPCB Approved



Style AB4

- Hard-Lid Ceilings with Hat furring channel grid system

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



NOTE

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

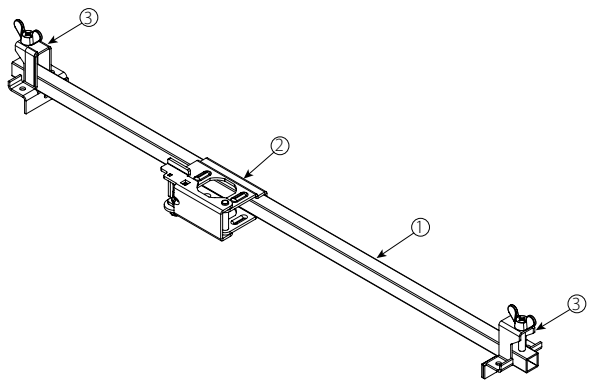
4.2 DIMENSIONS

VicFlex Brackets

Style AB5

- Hard-Lid Ceilings

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



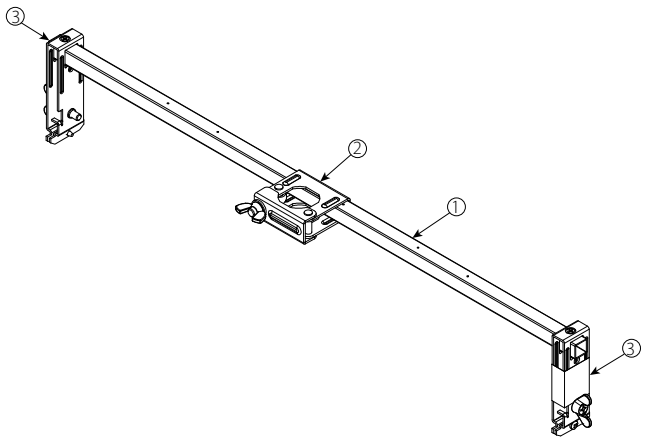
NOTE

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

Style AB7

- Suspended Ceilings
- Hard-Lid Ceilings

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



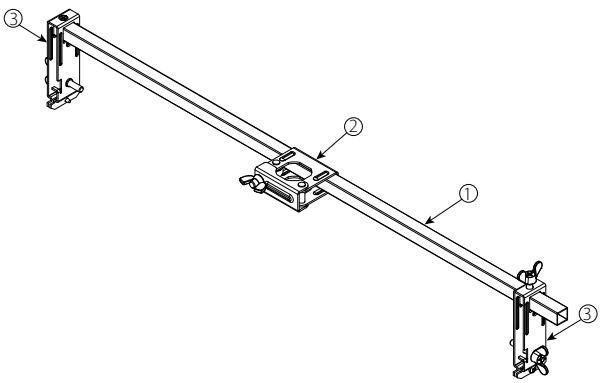
NOTE

- Both sizes FM/VdS/LPCB Approved.

Style AB7 Adjustable

- Suspended Ceilings
- Hard-Lid Ceilings

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



NOTE

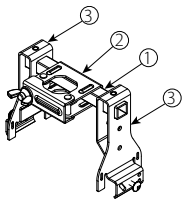
- Both sizes FM/VdS/LPCB Approved.

4.3 DIMENSIONS

VicFlex Brackets

Style AB10

- Suspended ceilings
- Armstrong® TechZone™



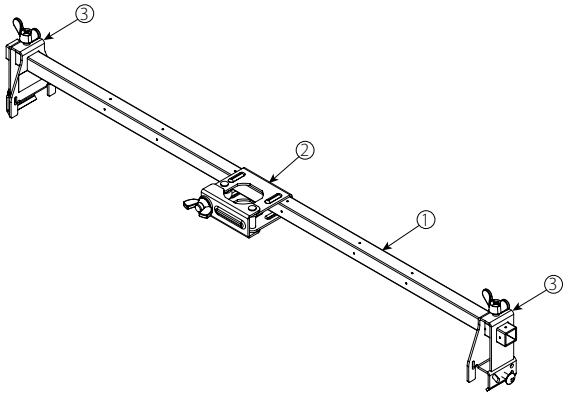
Item	Description
1	6"/152 mm Square Bar
2	Patented 1-Bee2® Center Bracket
3	End Bracket

NOTE

- FM/VdS/LPCB Approved, cULus listed.

Style AB11

- Suspended ceilings
- Hard-Lid ceilings



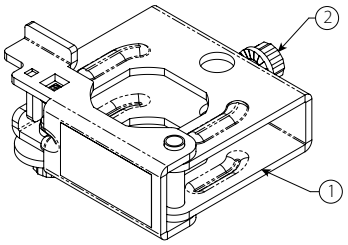
Item	Description
1	24"/610 mm or 48"/1219 mm Square Bar
2	Patented 1-Bee2® Center Bracket
3	End Bracket

NOTE

- FM/VdS Approved, cULus listed.

Style AB12

- Suspended ceilings
- Hard-Lid ceilings



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

NOTE

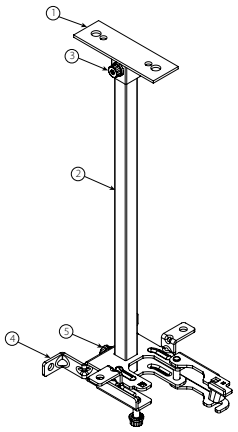
- FM/VdS Approved.

4.3 DIMENSIONS (CONTINUED)

VicFlex Brackets

Style ABBA

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



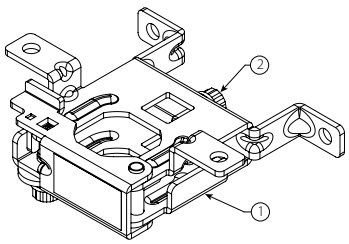
Item	Description
1	Style ABBA Mounting Plate
2	Style ABBA Square Bar
3	Cap Screw, Serated Flange, M6 x 1 x 20, T25 Torx Drive Recessed
4	Style ABMM Bracket Body
5	Cap Screw, Serated Flange, M6 x 1 x 15.24, T25 Torx Drive Recessed

NOTE

- FM Approved.

Style ABMM

- Surface mount
- Stand-off mount



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

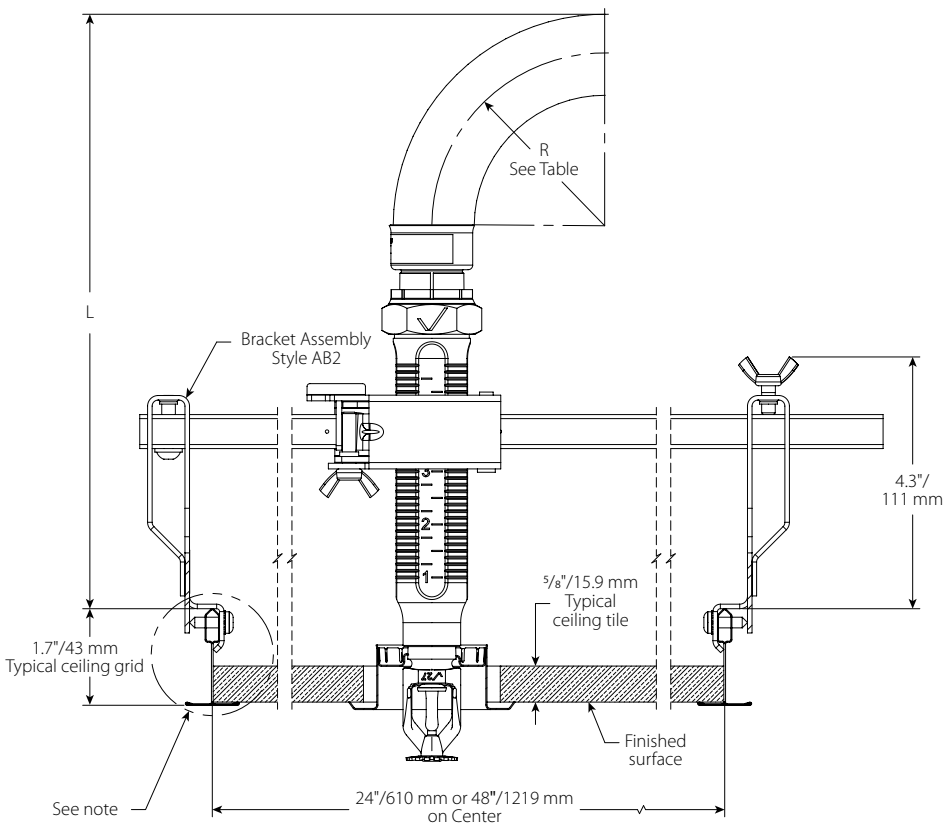
NOTE

- FM Approved.

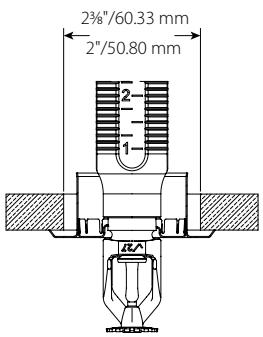
4.4 DIMENSIONS

Clearances

Series AH2 Braided Hose and Style AB2 Bracket



V2707 ¾"/19 MM MAX. RECESS



V2707 MAX. EXTENSION

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

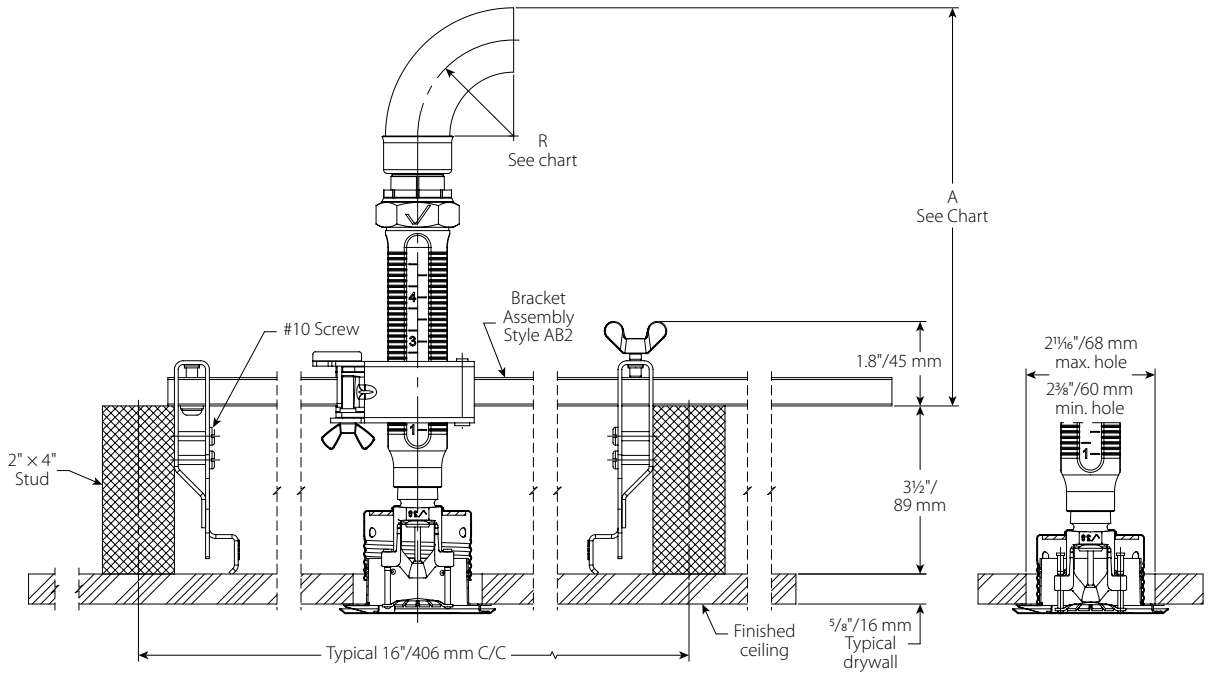
NOTE

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

4.5 DIMENSIONS

Clearances

Series AH2 Braided Hose and Style AB2 Bracket



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

Hose Clearance Chart									
	Straight Reducer								
	V2707 ¾" | 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

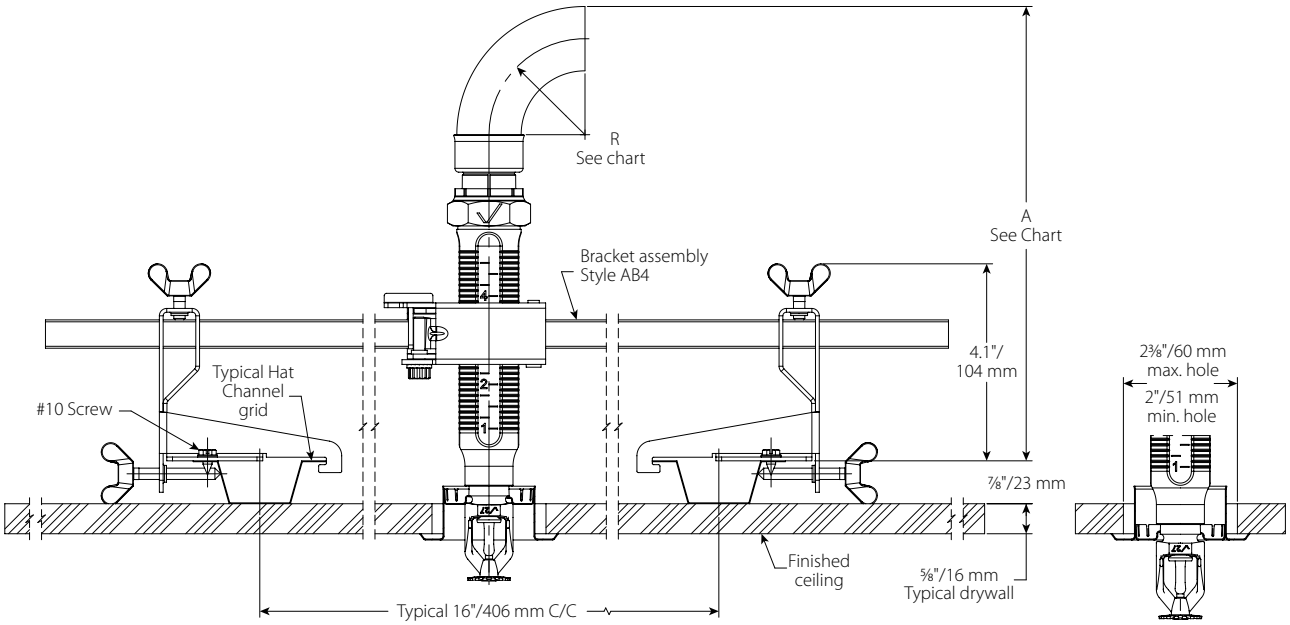
NOTE

- 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



V27 ¾"/19 mm MAX. RECESS

V27 MAX. EXTENSION

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

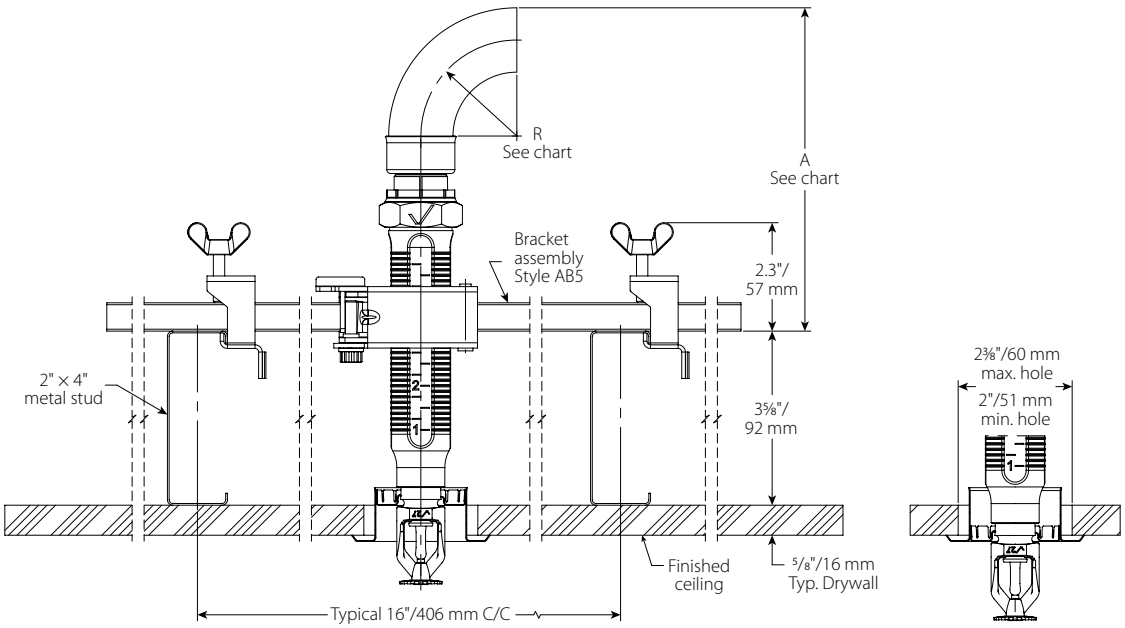
NOTE

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

4.7 DIMENSIONS

Clearances

Series AH2 Braided Hose and Style AB5 Bracket



V27 ¾"/19 mm MAX. RECESS **V27 MAX. EXTENSION**

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

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

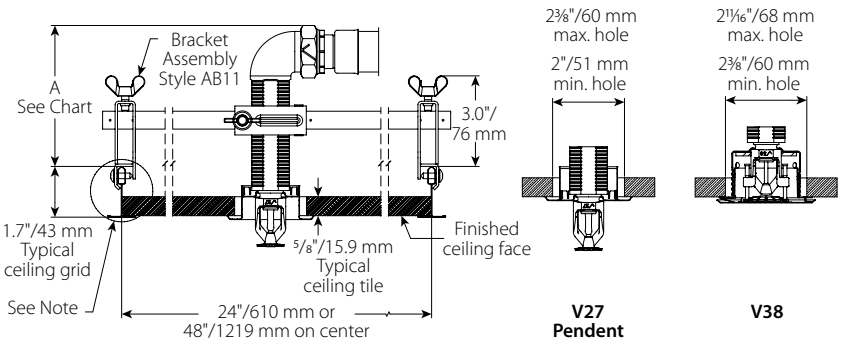
NOTE

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

4.8 DIMENSIONS

Clearances

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



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

NOTE

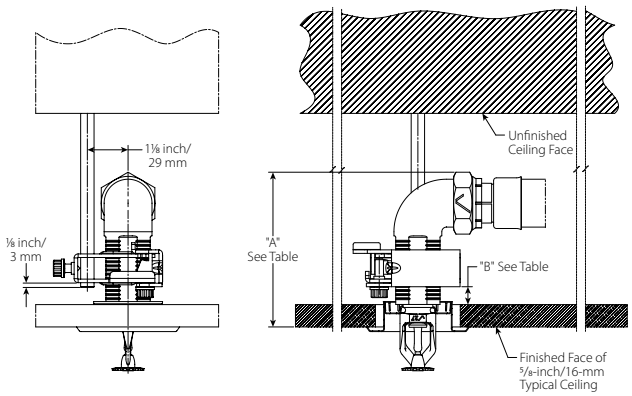
- Variations of ceiling grids, sprinkler heads, brackets, and hoses are permitted but may result in clearance differences from the figures above.

4.9 DIMENSIONS

Clearances

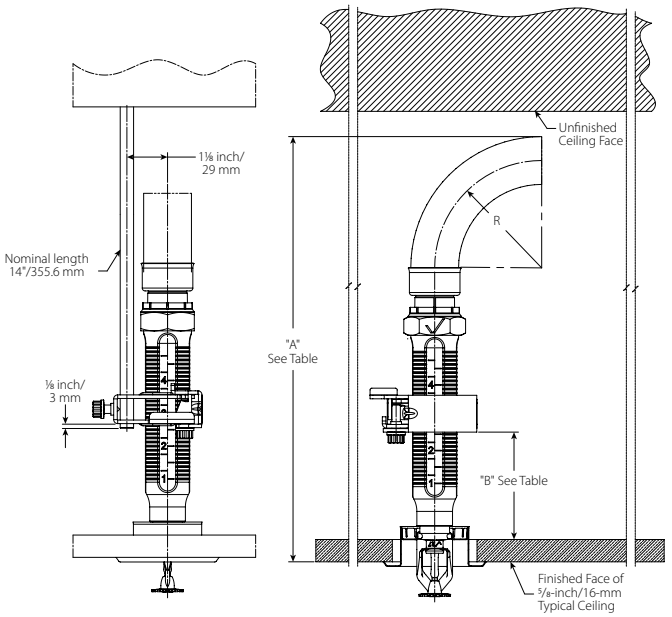
Style AB12 and ABBA Bracket

Suspended Ceiling Grid with Recessed Sprinkler with Low Profile Short Elbow



V2707 ½"/12.7 mm MAX. RECESS

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



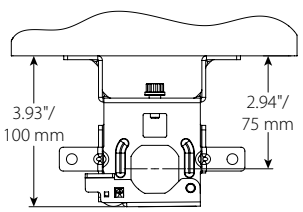
V2707 ¾"/19 mm MAX. RECESS

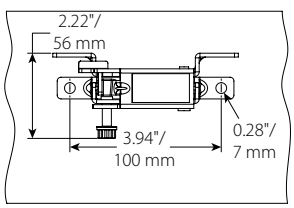
Dimension		Low Profile Short Elbow		Low Profile Long Elbow		Standard Short Elbow		Standard Long Elbow		Standard Straight Reducer	
		¾"/19 mm Recessed* inches mm	Concealed inches mm	¾"/19 mm Recessed inches mm	Concealed inches mm	¾"/19 mm Recessed inches mm	Concealed inches mm	¾"/19 mm Recessed inches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

* Adjustability will be limited

Style ABMM Bracket

Stand-off Dimensions



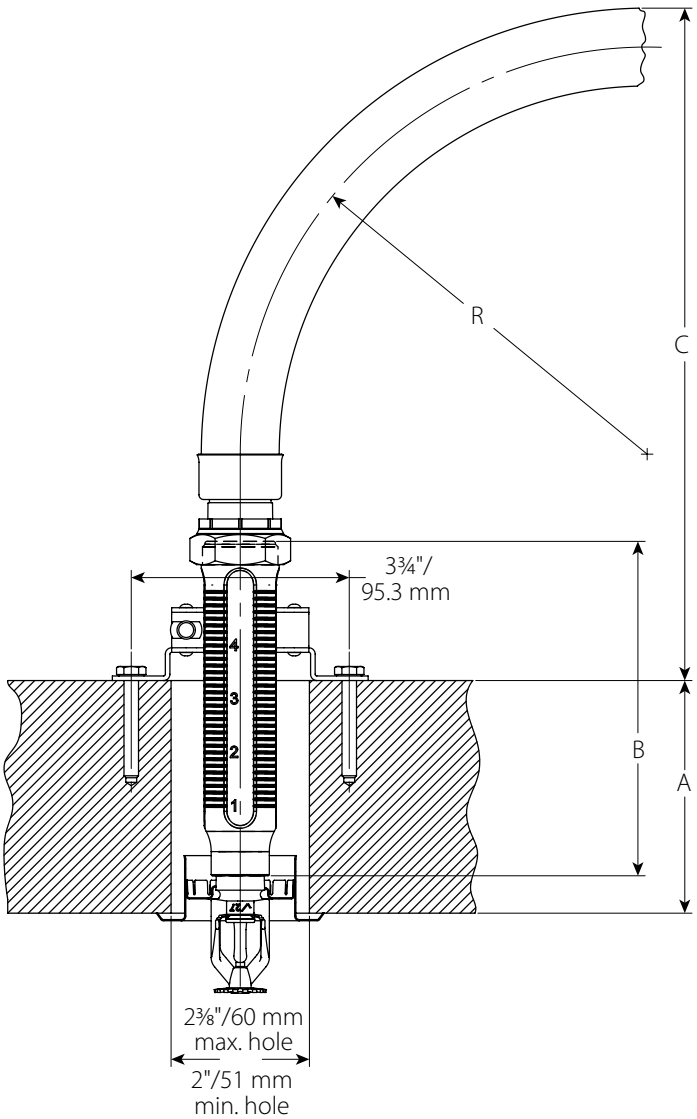


4.10 DIMENSIONS

Clearances

Style AB3 and ABMM Bracket

Surface Mount Application with Recessed Sprinkler



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

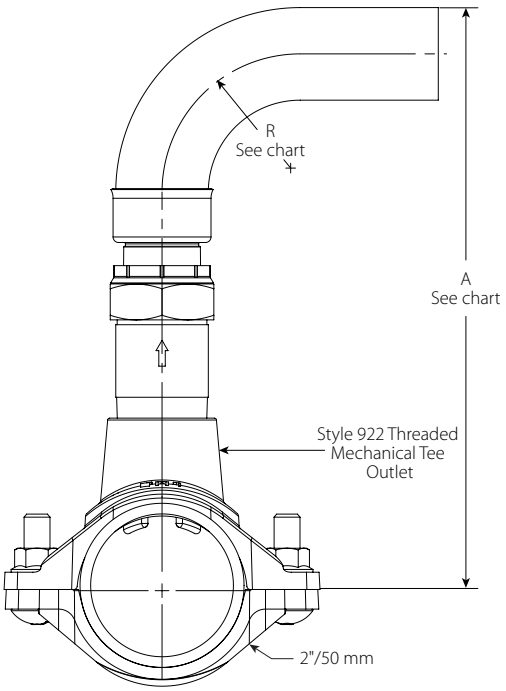
NOTE

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

4.11 DIMENSIONS

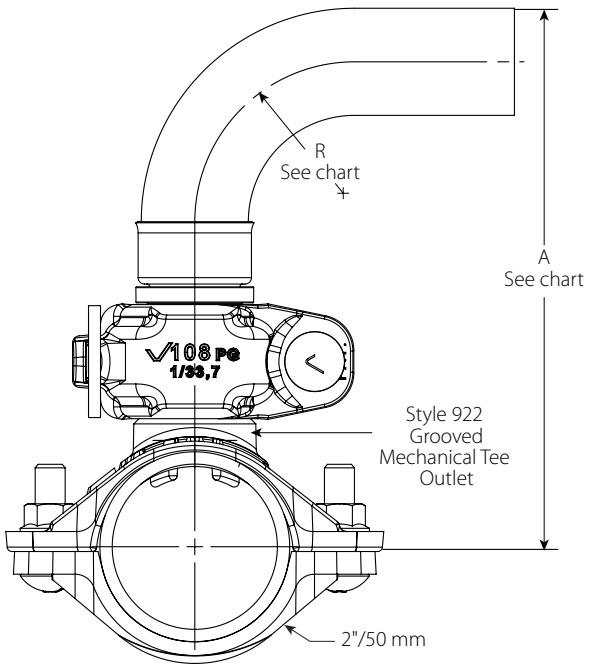
BRANCHLINE CLEARANCES

Series AH2 Braided Hose with Style 922 threaded outlet



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

Series AH2-CC Braided Hose with Style 922 grooved outlet

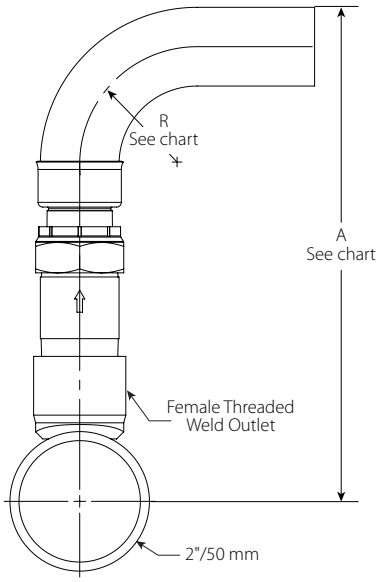


Hose Clearance Chart						
Dimension		inches mm	inches mm	inches mm	inches mm	inches mm
R	Minimum Bend Radius	3 80	4 100	5 125	6 150	7 175
A	Min.	7.7 197	8.7 222	9.7 247	10.7 273	11.7 298

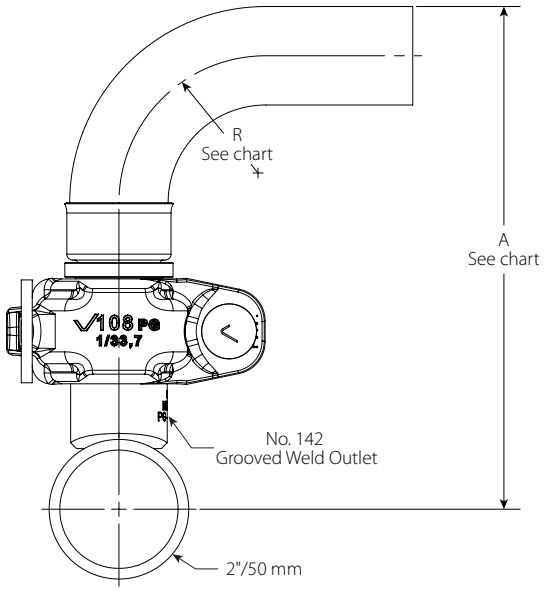
4.12 DIMENSIONS

BRANCHLINE CLEARANCES

Series AH2 Braided Hose with female threaded outlet



Series AH2-CC Braided Hose with grooved outlet



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

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

5.0 PERFORMANCE – FRICTION LOSS DATA

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

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

5.0 PERFORMANCE – FRICTION LOSS DATA (CONTINUED)

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

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

5.0 PERFORMANCE – FRICTION LOSS DATA (CONTINUED)

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

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

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

NOTES:

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

How to use this Design Guide:

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

5.1 PERFORMANCE – FRICTION LOSS DATA

FM

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

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

FM NOTES:

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

5.1 PERFORMANCE – FRICTION LOSS DATA (CONTINUED)

FM

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

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

FM NOTES:

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

5.1 PERFORMANCE – FRICTION LOSS DATA (CONTINUED)

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

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

FM NOTES:

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

5.2 PERFORMANCE – FRICTION LOSS DATA

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

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

FM NOTES:

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

5.3 PERFORMANCE – FRICTION LOSS DATA

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

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

VdS Ceiling Manufacturers List

AB2, AB7, AB10 ,AB11

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

AB4

No specific approval

AB5, AB8

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

5.3 PERFORMANCE – FRICTION LOSS DATA

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

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

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

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

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

CCCF NOTE

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

6.0 NOTIFICATIONS

⚠ WARNING

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

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

⚠ WARNING

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

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

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

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

7.0 REFERENCE MATERIALS – CHARACTERISTICS

VicFlex Maximum Load Values

Series AH2 Hose with 24" Bracket

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

Series AH2 Hose with 48" Bracket

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

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

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

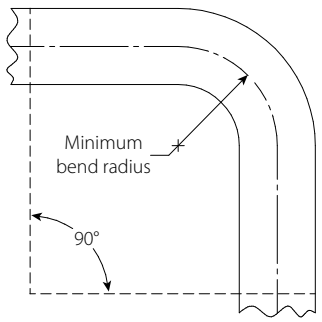
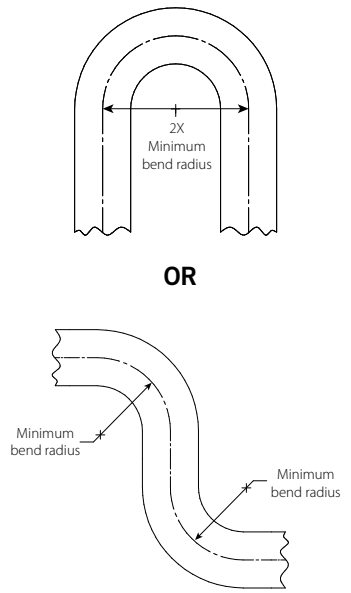
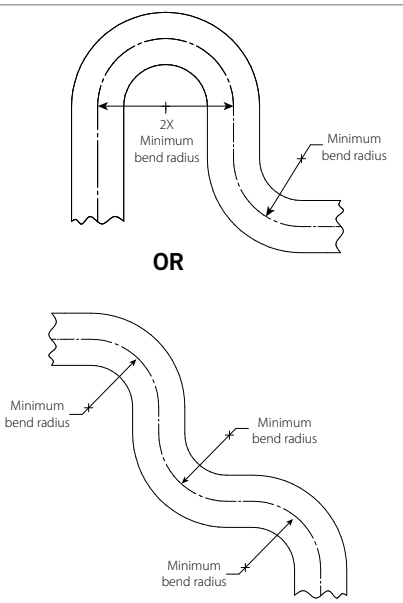
ASTM C 635: Suspension System Load-Carrying Capabilities (excerpted)

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

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

7.0 REFERENCE MATERIALS – CHARACTERISTICS (CONTINUED)

Flexible Hose In-Plane Bend Characteristics

One Bend	Two Bends	Three Bends
		

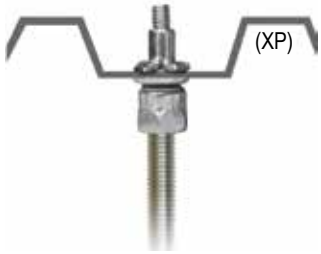
NOTE

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

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

SAMMY X-PRESS® - Vertical Application

Application

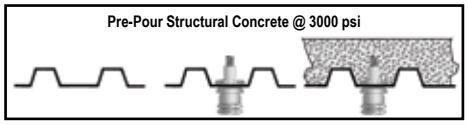


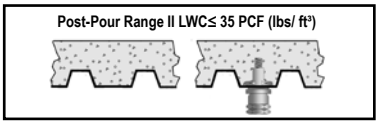
Product Features

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

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 (2½" Pipe) 185 (Luminaire) 250 (Luminaire) 283 (Conduit & Cable)	.027" .027" .056" .029"	940 (2" Pipe) 1475 (4" Pipe)	.029" .104"	.125"	25	125	Metal Deck
	3/8"	8153922	XP 35	Sammy X-Press 35	1783 (16 ga)	1500 (4" Pipe) 185 (Luminaire) 250 (Luminaire) 416 (Conduit & Cable)	.060" .029" .056" .059"	940 (2" Pipe) 1475 (4" Pipe)	.029" .104"	.125"	25	125	Purlin
	3/8"	8150922	XP 20	Sammy X-Press 20	1146 (22 ga)	850 (2½ Pipe)		Pre-Pour Structural Concrete@ 3000 psi Post-Pour Range II LWC≤ 35 PCF (lbs/ft³)			25	125	Metal Deck (Pre-Pour) Metal Deck (Post-Pour)





SAMMY X-PRESS SIDEWINDER™ - Horizontal Application

Application

Product Features

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

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

ASSEMBLED U.S.A.

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

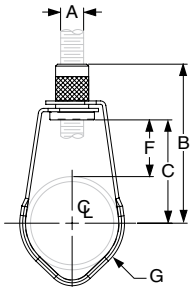
Size Range: 1/2" through 8"
Material: Carbon steel
Finish: Strap is Pre-Galvanized Zinc Material. Nut is Zinc Plated.
Service: Recommended for suspension of non-insulated **stationary** pipe line.
Maximum Temperature: 450° F
Approvals: Complies with Federal Specification A-A-1192A (Type 10), *WW-H-171-E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

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

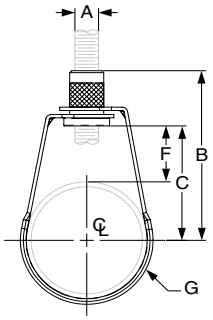
Ordering: Specify size, figure number and name.
Non-captured nut also available upon request.

1/2" through 2" Size
Rounded Edge Design

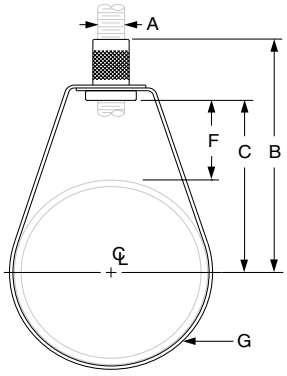
c UL us LISTED FM APPROVED



1/2" through 1" pipe



1 1/4" through 2" pipe



2 1/2" through 8" pipe

2 1/2" through 8" Size

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

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

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

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

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

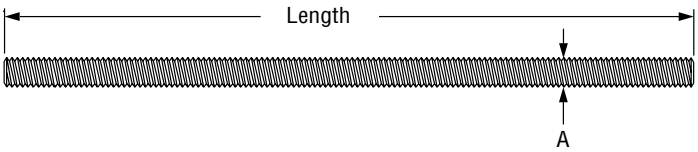


FIG. 146:
DIMENSIONS (IN) • LOADS (LBS) • WEIGHTS (LBS)

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

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

Reliable®

Model G5 Series Sprinklers

Standard Spray, Flat Concealed Pendent

Available with Gasketed Cover Plate

Features

- Standard Coverage, Concealed Pendent (K2.8, 4.2, 5.6, & 8.0 [40, 60, 80, & 115 metric])
- Flat concealed cover plate available in a variety of finishes.
- Available with Stainless Steel Clad cover plate (see Table I).
- 3/4-inch (19 mm) cover plate adjustment.
- Cover plate available with optional gasket.

Model G5 Cover Plate

Model G5 Cover Plate with QR Gasket

Model G5 Cover Plate with SR Gasket

Product Description

Model G5 series sprinklers are standard coverage, flat plate concealed sprinklers designed for installation in accordance with NFPA 13 and FM Global Property Loss Prevention Data Sheets. All Model G5 series sprinklers use a fusible-link operating element.

The sprinklers are offered with a standard Model G5 cover plate, a Model G5 cover plate with a quick-response (QR) gasket, or a Model G5 cover plate with a standard-response (SR) gasket. Model G5 sprinklers with a gasketed cover plate are intended for use in dust free environments such as clean rooms.

Model G5 sprinklers must only be used with the Model G5 cover plate listed or approved with the sprinkler. Table A provides a summary of available Model G5 series sprinklers, along with Listing and Approval information for each sprinkler and cover plate combination.

Note: Gasket material is silicone rubber, available in white only.

Model G5 Series Sprinkler Summary — **Table A**

Sprinkler Model	K-Factor gpm/psi$^{1/2}$ (L/min/bar$^{1/2}$)	Cover Plate Model	Listings and Approvals	Sensitivity	Max. Working Pressure psi (bar)	Sprinkler Identification Number (SIN)
G5-28	2.8 (40)	G5	cULus	QR	175 (12)	RA3411
			FM	SR		
		G5 QR Gasket	cULus	QR		
		G5 SR Gasket	cULus, FM	SR		
G5-42	4.2 (60)	G5	cULus	QR	175 (12)	RA3413
		G5 QR Gasket				
		G5 SR Gasket	cULus	SR		
G5-56	5.6 (80)	G5	cULus	QR	250 (17)	RA3415
			FM, LPCB, VdS, CE, UKCA	SR	175 (12)	
		G5 QR Gasket	cULus	QR	250 (17)	
		G5 SR Gasket	cULus	SR	250 (17)	
			FM	SR	175 (12)	
G5-56 300	5.6 (80)	G5	cULus	QR	300 (21)	RA4014
		G5 QR Gasket				
		G5 SR Gasket	cULus	SR		
G5-80	8.0 (115)	G5	cULus	QR	175 (12)	RA3412
		G5 QR Gasket				
		G5 SR Gasket	cULus	SR		
G5-80F	8.0 (115)	G5	FM	SR	175 (12)	RA3417
		G5 SR Gasket				

Model G5-56 Standard Coverage, Concealed Pendent Sprinkler — SIN RA3415

Technical Specifications
Style: Flat Concealed Pendent
Threads: 1/2" NPT or ISO 7-1 R1/2
Nominal K-Factor: 5.6 (80 metric)
Max. Working Pressure:
175 psi (12 bar)
250 psi (17 bar) (cULus only)

Material Specifications
Fusible Link: Beryllium Nickel
Sprinkler Body: Brass Alloy
Levers: Bronze Alloy
Yoke: Brass Alloy
Sealing washer: Nickel with PTFE
Load Screw: Bronze Alloy
Towers: Copper Alloy
Pins: Stainless Steel
Deflector: Bronze Alloy
Cup: Steel

Sprinkler Temperature Ratings
165°F (74°C)
212°F (100°C) (cULus, FM, LPCB, CE only)

Sensitivity
(See Table D)

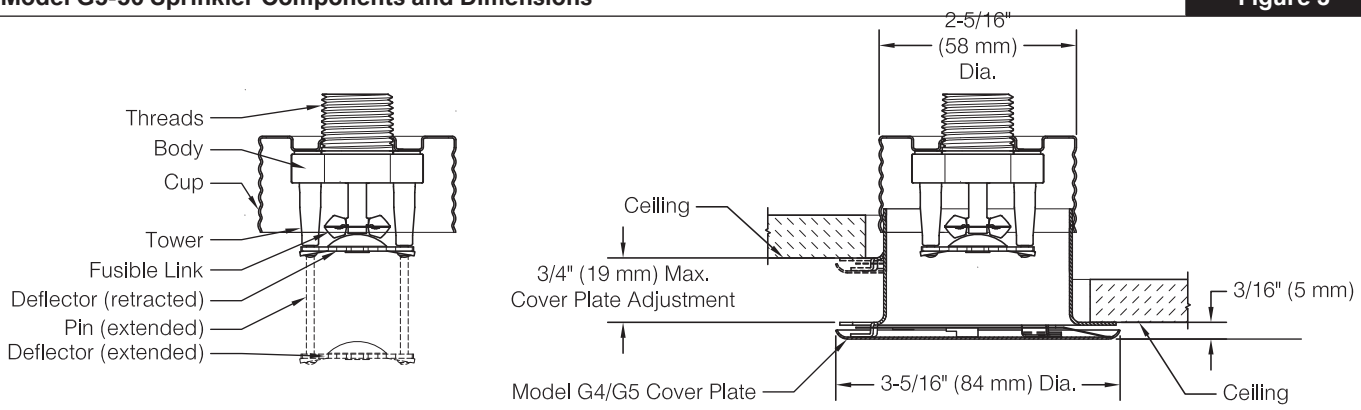
Cover Plates
Model G5
Model G5 QR Gasket (cULus only)
Model G5 SR Gasket (cULus and FM only)

Cover Plate Finishes
(See Table I)

Sprinkler Wrench
Model W3
Model FC

Listings and Approvals
cULus Listed (Light & Ordinary Hazard only)
FM Approved
LPCB Approved
VdS Approved [165°F (74°C) only]
CE Listed (2831-CPR-S2062)
UKCA: 0832-UKCA-CPR-S5045

Model G5-56 Sprinkler Components and Dimensions — **Figure 3**



Model G5-56 Sensitivity — **Table D**

Cover Plate Model	Listing or Approval Agency		
	cULus	FM	LPCB, VdS, CE, UKCA
G5	QR	SR	SR
G5 QR Gasket	QR	--	--
G5 SR Gasket	SR	SR	--

QR: Quick-response
SR: Standard-response

Installation Dimensions and Cover Plate Information — **Table H**

Cover Plate Model	Cover Plate Diameter Inch (mm)	Recommended Hole Diameter in Ceiling Inch (mm)	Cover Plate Adjustment Inch (mm)	Min. to Max. Face of Fitting to Ceiling[1] Inch (mm)	Min. to Max. Dropped Deflector Distance below Ceiling Inch (mm)	Cover Plate Temperature Rating °F (°C)
G5	3-5/16 (84)	2-5/8 (67)	3/4 (19)	1-1/2 to 2-1/4 (38 to 57)	1/4 to 1 (6 to 25)	135°F[3] (57°C) or 165°F[4] (74°C)
G5 QR Gasket[2]	3-11/16 (94)					
G5 SR Gasket[2]	4 (101 mm)					

Notes:

1. Face of fitting to ceiling dimensions are based on nominal thread make up. Verify dimensions based on fitting and thread sealing method prior to installation. A 1/2" x 1/2" brass nipple extension (Reliable P/N 6999991900) is available to assist with replacement of Reliable Model G4A sprinklers.
2. Model G5 QR Gasket and Model G5 SR Gasket cover plates are sold as assembled units including both the cover plate and gasket. Model G5 QR Gasket and Model G5 SR Gasket cover plates and gaskets are not interchangeable.
3. For use with 165°F (74°C) temperature rated sprinklers where the Maximum Ceiling Temperature does not exceed 100°F (38°C).
4. For use with 212°F (100°C) temperature rated sprinklers where the Maximum Ceiling Temperature does not exceed 150°F (66°C).

Cover Plate Finishes[1][2] — **Table I**

Standard Finishes	Special Application Finishes
White Paint Chrome[4]	Off-White Paint Black Paint Custom Color Paint (Specify)[3] Raw Brass (Lacquered) Bright Brass[4] Finished Bronze [4] Satin Chrome [4] Stainless Steel Clad[5] Custom Printed

Notes:

1. Paint or any other coating applied over the factory finish will void all approvals and warranties.
2. Cover plates do not carry corrosion resistant listings or approvals.
3. Custom color paint is semi-gloss unless specified otherwise.
4. Not listed for use with QR sealing gasket.
5. Stainless steel clad cover plates are Type 316 Stainless Steel on the finished side and C102 Copper Alloy on the back side.

Application

Model G5 series sprinklers are standard coverage, flat plate concealed pendent sprinklers. The sprinklers are intended for use in accordance with NFPA 13 and FM Global Property Loss Prevention Data Sheets, as well as the requirements of the applicable approval agencies.

Model G5 series sprinklers are available as either Quick-response (QR) or Standard-response (SR) depending on the approval agency and cover plate selected.

Model G5 series sprinklers use Model G5 flat cover plates. Model G5 QR Gasket and G5 SR Gasket cover plates are available to limit air and dust movement through the ceiling.

Listing & Approval Agencies

Individual Model G5 series sprinkler may be listed or approved by the following agencies:

- Underwriters Laboratories, Inc. and UL Canada (cULus)
  Listing Category: Sprinklers, Automatic and Open
  Guide Number: VNIV
- FM Approvals (FM)
- Loss Prevention Certification Board (LPCB)
- VdS Schadenverhütung GmbH (VdS)
- EC-Certificate of Conformity 0832-CPD-2062 (CE)
- UKCA EN12259-1 : 1999 +A3:2006

See Table A and the individual sprinkler data sheets in this Bulletin for listings and approvals applicable to each sprinkler.

Installation

Model G5 series sprinklers are intended to be installed in accordance with NFPA 13, FM Global Property Loss Prevention Data Sheets, and the requirements of applicable authorities having jurisdiction. Model G5 series sprinklers must not be installed in ceilings with positive pressure in the space above. Ensure that the 4 slots in the cup are open and unobstructed following installation.

Model G5 series sprinklers are shipped with a wrench-able protective cap that should remain on the sprinkler until the sprinkler system is placed in service following construction.

Model G5 series sprinklers can be installed without removing the wrench-able protective cap using the Model W3 wrench. Alternatively, Model G5 series sprinklers can be installed using the Model FC wrench by temporarily removing the protective cap during installation of the sprinkler. The use of any other wrench to installed Model G5 series sprinklers is not permitted and may damage the sprinkler.

Wrench

Model FC
For use with Model G5 Series sprinklers without wrench-able cap installed

Model W3
For use with Model G5 Series sprinklers with wrench-able cap installed

Fully insert the Model W3 wrench over the cap until it reaches the bottom of the cup, or the Model FC wrench over the sprinkler until the wrench engages the body. Do not wrench any other part of the sprinkler/cup assembly. The Model W3 and FC wrenches are designed to be turned with a standard 1/2" square drive. Tighten the sprinkler into the fitting after applying a PTFE based thread sealant to the sprinkler's threads. Recommended installation torque is specified in Table J.

Installation Torque — **Table J**

Sprinkler Threads	Recommended Installation Torque (min. – max.)	
	ft.lb	N.m
½" NPT or ISO7-1R1/2	8-18	11-24
¾" NPT or ISO7-1R3/4	14-20	19-27

Do not exceed the maximum recommended torque. Exceeding the maximum recommended torque may cause leakage or impairment of the sprinkler. Use care when inserting or removing the wrench from the sprinkler to avoid damage to the sprinkler.

Install the cover plate by hand, pushing and then turning the cover in the clockwise direction until it is tight against the ceiling. For Model G5 QR Gasket and Model G5 SR Gasket cover plates, the gasket should be attached to the flange of the cover plate skirt only. Do not glue the gasket in place or allow the gasket to overlap both the cover plate and the flange of the skirt.

Maintenance

Reliable Model G5 series sprinkler should be inspected and the sprinkler system maintained in accordance with NFPA 25, as well as the requirements of any Authorities Having Jurisdiction.

Prior to installation, sprinklers should remain in the original cartons and packaging until used. This will minimize the potential for damage to sprinklers that could cause improper operation or non-operation.

Do not clean sprinklers with soap and water, ammonia liquid or any other cleaning fluids. Remove dust by gentle vacuuming without touching the sprinkler.

Replace any sprinkler or cover plate which has been painted (other than factory applied). Properly installed Model G5 cover plates will have an air gap that is required for proper operation, do not seal the gap or paint the cover plates. Model G5 series sprinklers have holes in the cup that must remain unobstructed.

Replace any sprinkler which has been damaged. A stock of spare sprinklers should be maintained to allow quick re-placement of damaged or operated sprinklers. Failure to properly maintain sprinklers may result in inadvertent operation or non-operation during a fire event.

Guarantee

For the Reliable Automatic Sprinkler Co., Inc. guarantee, terms, and conditions, visit www.reliablesprinkler.com.

Patents

Model G5 series sprinklers may be covered by one or more of the following patents:

U.S. Patent 6,554,077, U.S. Patent 7,275,603, U.S. Patent 8,776,903, U.S. Patent 9,248,327

Ordering Information

Specify the following when ordering.

Sprinkler
- Model [G5-28] [G5-42] [G5-56] [G5-56 300] [G5-80] [G5-80F]
- Temperature Rating [165°F (74°C)] [212°F (100°C)]
- Threads [NPT or ISO 7-1]

Cover Plate
- Model [G5, G5 QR Gasket, G5 SR Gasket]
- Finish (See Table I)

Sprinkler Wrench
- Model W3
- Model FC

P/N 9999970421

Reliable®

F1FR56 Series
Quick Response Sprinklers

K-factor 5.6 (80)

Use in hallway, with ceiling

Use in back, non-sales area

Features

- Standard coverage quick-response sprinklers
- Upright, pendent, horizontal sidewall, and vertical sidewall deflectors
- Low profile, compact design
- Available in a wide variety of finishes

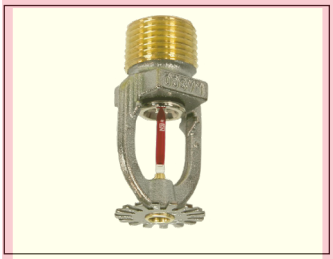
Product Description

Reliable Model F1FR56 series sprinklers are quick-response standard spray automatic fire sprinklers utilizing a sensitive 3.0 mm glass bulb thermal element.

Pendent and horizontal sidewall sprinklers may be installed exposed or surface mounted using escutcheons such as the Reliable Models B, C, or HB (reference Technical Bulletin 204). When installed recessed or concealed, the Model F1FR56 series sprinklers are specifically listed with and may only be installed with listed Reliable escutcheons and cover plates. Refer to the technical information on the following pages for specific listings for recessed and concealed installations and refer to Figures 5 and 6 for dimensional information.

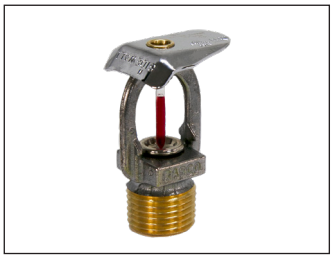
When fitted with an approved water shield, these sprinklers may considered intermediate sprinklers for use in racks, below grated walkways, and other areas where intermediate level sprinklers are required.

Table A provides a summary of the approvals and availability of specific Model F1FR series sprinkler configurations. Additional technical information for each sprinkler model is provided on the following pages.

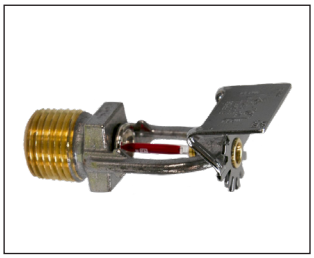


Model F1FR56 Pendent

Model F1FR56 Upright



Model F1FR56 Vertical Sidewall



Model F1FR56 Horizontal Sidewall

Note: Not all versions of the product are shown.

Note: This bulletin may contain information on New and Legacy sprinklers that reflects a dimensional change only. Sprinkler Identification Number (SIN), application, performance, and listings/approval are not otherwise affected. Sprinklers with New frames will include the suffix “N” in the order.

F1FR Series Sprinklers Summary

Table A

Sprinkler Model	K-Factor gpm/psi$^{1/2}$ (lpm/bar$^{1/2}$)	Orientation	Listings & Approvals	Max. Working Pressure psi (bar)	Sprinkler Identification Number (SIN)
F1FR56	5.6 (80)	Upright Intermediate Upright	cULus, FM, LPCB, VdS, EC, WM, UKCA	175 (12) 250 (17) (cULus only)	RA1425
		Pendent	cULus, FM, LPCB, VdS, EC, WM, UKCA	175 (12) 250 (17) (cULus only)	RA1414
		Concealed Pendent	cULus, VdS, EC, WM, UKCA	175 (12) 250 (17) (cULus only)	RA1414
		Horizontal Sidewall	cULus, FM	175 (12) 250 (17) (cULus only)	RA1435
		Vertical Sidewall	cULus, FM, LPCB, UKCA	175 (12)	RA1485

Model F1FR56 Upright Sprinkler — SIN RA1425

Technical Specifications
Style: Upright, Intermediate Upright
Threads: 1/2" NPT or ISO 7-R1/2
Nominal K-Factor: 5.6 (80 metric)
Max. Working Pressure:
175 psi (12 bar)
250 psi (17 bar) (cULus only)

Material Specifications
Thermal Sensor: 3 mm Glass Bulb
Sprinkler Frame: Brass Alloy
Cap: Bronze Alloy
Sealing Washer: Nickel with PTFE
Load Screw: Copper Alloy
Deflector: Brass Alloy

Sprinkler Finishes
(See Table B)

Sensitivity
Quick response

Temperature Ratings
135°F (57°C)
155°F (68°C)
175°F (79°C)
200°F (93°C)
286°F (141°C)

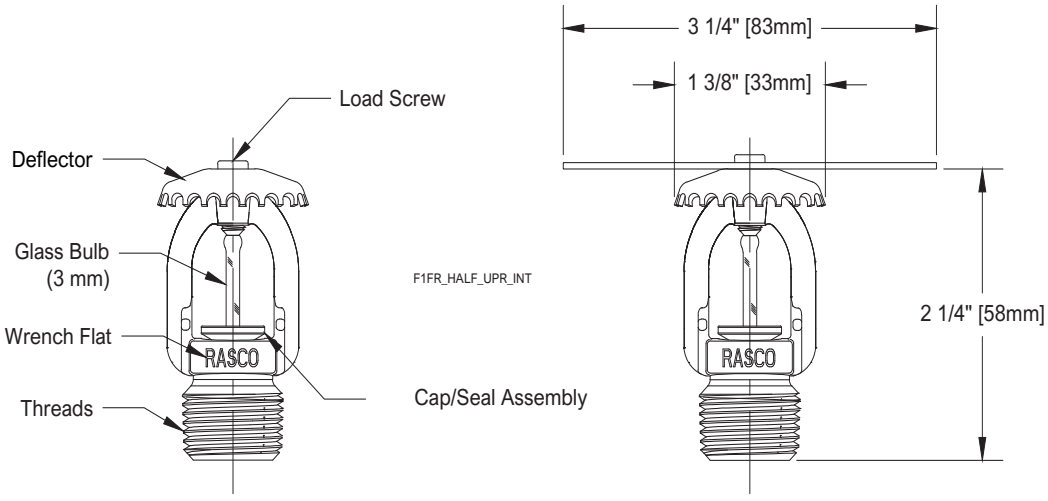
Guards & Shields (New Frames)
Factory Water Shield (cULus, FM)
F-1 Guard (cULus, FM)
F-3 Guard with Shield (cULus, FM)

Guards and Shields (Legacy Frames)
Factory Water Shield
C-1 Guard (FM)
C-3 Guard with Shield (cULus, FM)
D-1 Guard (cULus)
D-3 Guard with Shield (cULus)

Sprinkler Wrench
Model W2
Model J (New frame with guard installed)
Model JD (Legacy frame with guard installed)

Listings and Approvals
cULus Listed
FM Approved
LPCB
VdS
EC
WM
UKCA: 0832-UKCA-CPR-S5045

Model F1FR56 Upright Sprinkler Components and Dimensions — **Figure 1**



Shown with Optional
Factory Installed Water Shield
(Intermediate Upright)

Model F1FR56 Pendent Sprinkler — SIN RA1414

Technical Specifications

Style:
Pendent
Recessed Pendent
Concealed Pendent

Threads: 1/2" NPT or ISO 7-R1/2

Nominal K-Factor: 5.6 (80 metric)

Max. Working Pressure:
175 psi (12 bar)
250 psi (17 bar) (cULus only)

Material Specifications

Thermal Sensor: 3 mm Glass Bulb
Sprinkler Frame: Brass Alloy
Cap: Bronze Alloy
Sealing Washer: Nickel with PTFE
Load Screw: Copper Alloy
Deflector: Brass Alloy

Sprinkler Finishes
(See Table B)

Sensitivity
Quick response

Temperature Ratings[1]
135°F (57°C)
155°F (68°C)
175°F (79°C)
200°F (93°C)
286°F (141°C)

Recessed Escutcheons
Model F1 (cULus, LPCB, VdS, CE, WM)
Model F2 (cULus, FM, LPCB, VdS, CE, WM)
Model FP (cULus, VdS, CE, WM)

Cover Plate
Model CCP (cULus, VdS[2], CE[2])

Guards & Shields (New Frames)[3]
F-1 Guard (FM)
F-5 Guard/Shield Kit (FM)
F-7 Guard (cULus)
F-8 Guard/Shield Kit (cULus)
S-1 Shield (cULus, FM)

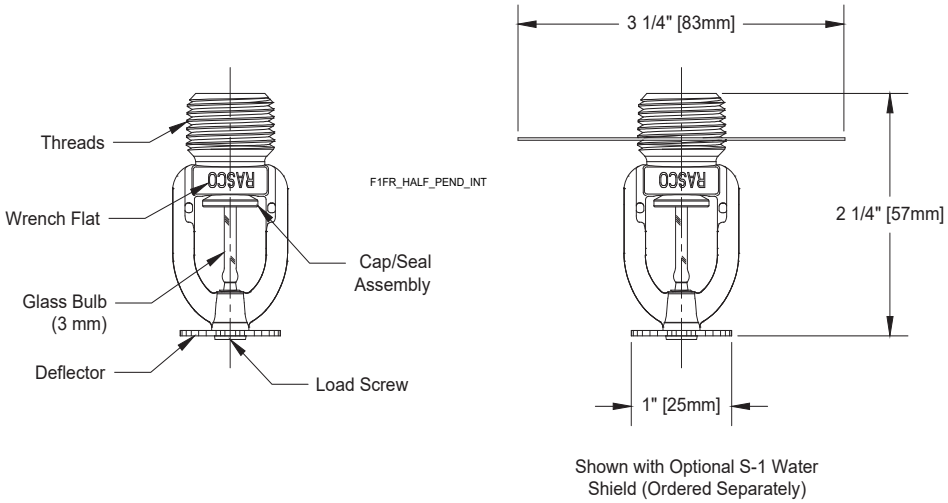
Guards & Shields (Legacy Frames)[3]
C-1 Guard (FM)
C-5 Guard/Shield Kit (FM)
D-1 Guard (cULus, FM)
D-4 Guard/Shield Kit (FM)
D-5 Guard/Shield Kit (cULus, FM)
S-1 Shield (cULus, FM)

Sprinkler Wrenches
Model W2 (pendent)
Model W4 (recessed or concealed)
Model J (New frame with guard installed)
Model JD (Legacy frame with guard installed)

Listings and Approvals[4]
cULus Listed
FM Approved
LPCB
VdS
EC
WM
UKCA: 0832-UKCA-CPR-S5045, 0831-UKCA-CPR-5072 (CCP)

Notes:
1. 286°F (141°C) temperature rated sprinkler not listed for recessed or concealed use.
2. VdS and CE approval for CCP concealed use is for 155°C (68°C) sprinkler ONLY.
3. Not suitable for recessed or concealed pendent installations.
4. When used surface mounted or exposed. See Recessed Escutcheon and Cover Plate section for specific approvals when installed recessed or concealed.

Model F1FR56 Pendent Sprinkler Components and Dimensions — Figure 2

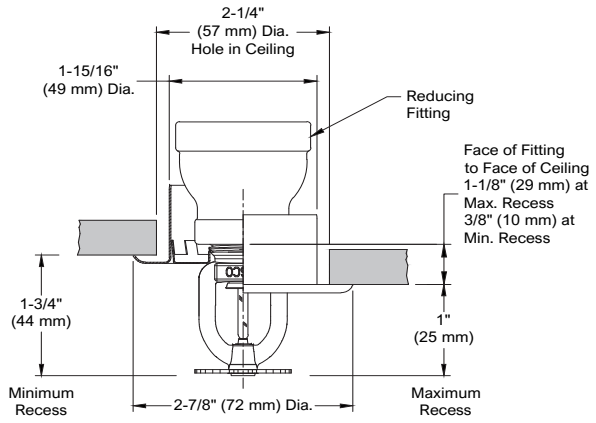


Shown with Optional S-1 Water Shield (Ordered Separately)

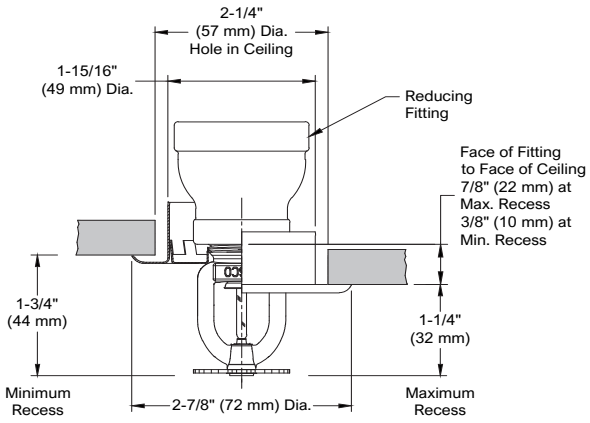
Note: Please refer to Figure 8 for recessed and concealed installation.

Recessed and Concealed Installation: Pendent Sprinklers

Figure 5

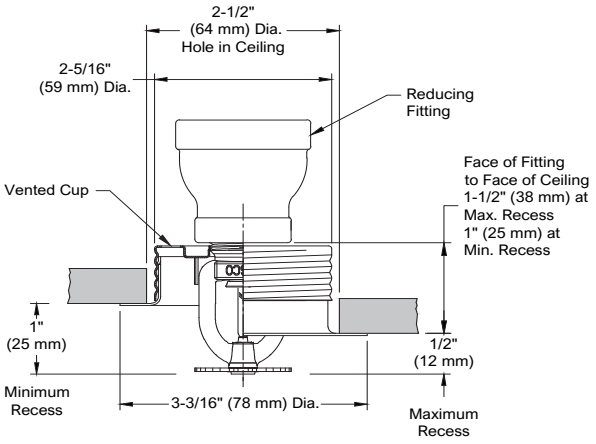


Models F1 & F1FR Pendent Sprinkler
with Model F1 Recessed Escutcheon
3/4" (19mm) Nominal Adjustment



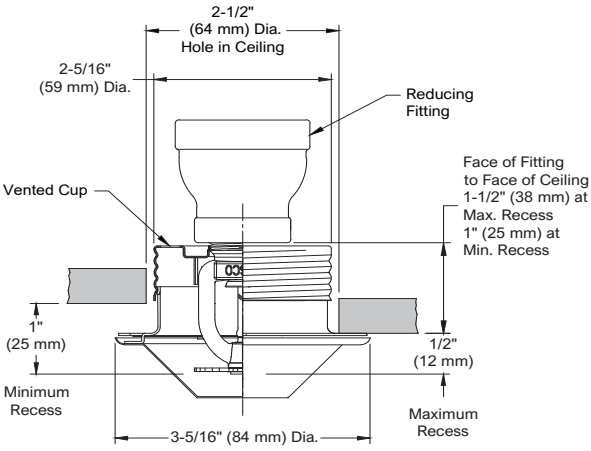
Models F1 & F1FR Pendent Sprinkler
with Model F2 Recessed Escutcheon
1/2" (13mm) Nominal Adjustment

F1_REC_PEND_CCP



Models F1 & F1FR Pendent Sprinkler
with Model FP Recessed Escutcheon
1/2" (13mm) Nominal Adjustment

Note: Model FP recessed assemblies may not be used where the pressure in the space above the ceiling is positive with respect to the protected area. Ensure that the openings in the Model FP cup are unobstructed following installation.



Model F1FR56 CCP Conical Concealed Sprinkler
1/2" (13mm) Nominal Adjustment
(Nominal Cover Plate Projection is 1" (25 mm))

Note: Model CCP concealed assemblies may not be used where the pressure in the space above the ceiling is positive with respect to the protected area. Ensure that the openings in the Model CCP cup are unobstructed following installation.

F1 Escutcheon
(F2 Similar)

FP Escutcheon

CCP Cover Plate

Wrenches

Model W2 (upright, pendent)

Model J (New frame with guard installed)
Model JD (Legacy frame with guard installed, similar but with zinc finish)

Model W4
(recessed, concealed pendent)

Finishes[1]

Table B

Standard Finishes			Special Application Finishes		
Sprinkler	**F1, F2 and FP[2] Escutcheons**	**CCP Cover Plate[2]**	**Sprinkler**	**F1, F2 and FP[2] Escutcheons**	**CCP Cover Plate[2]**
Bronze	Brass	Chrome	Electroless Nickel PTFE[3][4]	Bright Brass	Bright Brass
Chrome	Chrome	White Paint	Bright Brass[5]	Satin Chrome	Satin Chrome
White Polyester[3]	White Polyester		Satin Chrome	Custom Color Polyester	Custom Color Paint
			Custom Color Polyester[3]		

Notes:
1. Paint or any other coating applied over the factory finish will void all approvals and warranties.
2. Model FP escutcheons and Model CCP sprinklers utilize a galvanized steel cup with a finished trim ring or cover plate.
3. cULus Listed as corrosion resistant.
4. FM Approved as corrosion resistant.
5. For 200°F (93°C) maximum temperature rated sprinklers only.

Installation

Model F1FR Series sprinklers must be installed in accordance with NFPA13 and the requirements of all applicable authorities having jurisdiction. Model F1FR Series sprinklers must be installed with the Reliable sprinkler installation wrench identified in this Bulletin. Any other wrench may damage the sprinkler. The Models W2 and W4 wrenches have two sets of jaws. Use the smallest set of jaws that fit on the wrench flats of the sprinkler. A leak tight sprinkler joint can be obtained with a torque of 8 to 18 lb-ft (11 to 24 N·m). Do not tighten sprinklers over the maximum recommended installation torque. Exceeding the maximum recommended installation torque may cause leakage or impairment of the sprinkler.

Glass bulb sprinklers have orange bulb protectors or protective caps to minimize bulb damage during shipping, handling and installation. Reliable sprinkler installation wrenches are designed to install sprinklers with bulb protectors in place. Remove the bulb protector at the time when the sprinkler system is placed in service for fire protection. Removal of the bulb protector before this time may leave the bulb vulnerable to damage. Remove bulb protectors by undoing the clasp by hand. Do not use tools to remove bulb protectors.

Maintenance

Reliable Model F1FR series sprinklers should be inspected and the sprinkler system maintained in accordance with NFPA 25, as well as the requirements of any Authorities Having Jurisdiction.

Prior to installation, sprinklers should remain in the original cartons and packaging until used. This will minimize the potential for damage to sprinklers that could cause improper operation or non-operation.

Do not clean sprinklers with soap and water, ammonia liquid or any other cleaning fluids. Remove dust by gentle vacuuming without touching the sprinkler.

Replace any sprinkler which has been painted (other than factory applied). A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers. Failure to properly maintain sprinklers may result in inadvertent operation or non-operation during a fire event.

Guarantee

For the guarantee, terms, and conditions, visit www.reliablesprinkler.com.

Ordering Information

Specify the following when ordering:

Model
- F1FR56

Deflector/Orientation
- Upright
- Intermediate Upright
- Pendent
- CCP Concealed Pendent
- Horizontal Sidewall
- Vertical Sidewall

Temperature Rating
- See sprinkler technical specifications

Sprinkler Finish
- See Table B

Recessed Escutcheon[1][2]
- F1
- F2
- FP

Escutcheon Finish
- See Table B

CCP Cover Plate Temperature Rating
- 135°F (57°C) [For use with 135°F (57°C) and 155°F (68°C) sprinklers.]
- 165°F (74°C) [For use with 175°F (79°C) and 200°F (93°C) sprinklers.]

CCP Cover Plate Finish
- See Table B

Sprinkler Wrench
- Model W2
- Model W4 (recessed, concealed)
- Model J (New frame with guard installed)
- Model JD (Legacy frame with guard installed)

Notes:
1. 286°F (141°C) sprinklers are not listed to be used recessed or concealed.
2. For FM, recessed sprinklers must use the Model F2 escutcheon.

P/N 9999970623

SPEC SHEET #S00043/44
March 2002

Cutting Oil

Oils and Lubricants

DESCRIPTION

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

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

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

SIZES AND PACKING

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

HERCULES®

specifications

Cutting Oil

Cutting Oil
Oils and Lubricants

APPROVALS AND LISTINGS

USDA Listed

SPECIFIC USES

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

SPECIFIC APPLICATIONS*

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

PHYSICAL PROPERTIES

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

WARNINGS OR CAUTIONS

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

DIRECTIONS FOR USE

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

MATERIAL SAFETY INFORMATION

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

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

HMIS Hazard Warning 1-1-0-A

CLEAR

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

DARK

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

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

HERCULES®

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e-mail: info@herchem.com
http://www.herchem.com

HERCULES®
AN EMPLOYEE OWNERSHIP CORPORATION

High-performance intumescent firestop sealant FS-ONE MAX

Applications

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

Advantages

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

Chemical resistant

Mold and mildew resistant

FILL, VOID OR CAVITY MATERIAL FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS SEE UL FIRE RESISTANCE DIRECTORY 66Y7

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

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

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

12/16 DBS

FS-ONE MAX

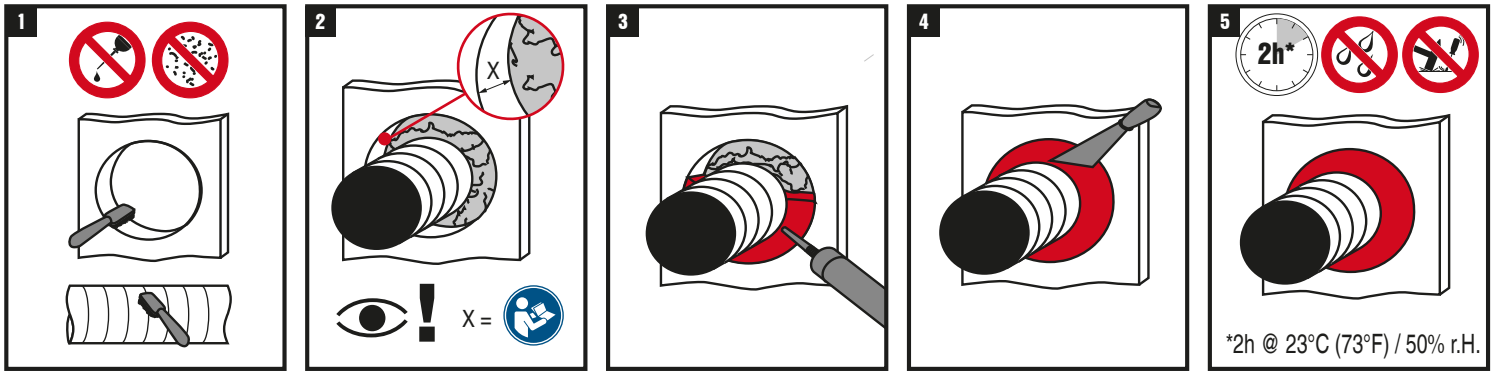
2101774 -07.2016

UL: www.us.hilti.com
cUL: www.hilti.ca
www.hilti.com

en Before handling and for specific application details, refer to Hilti product literature, 3rd party published listings and national approvals. For industrial use only.

fr Avant toute utilisation et pour tout détail concernant une application, se référer à la documentation Hilti, à la liste de publications des tierces parties et aux approbations nationales. Seulement pour utilisateurs professionnels.

es Antes de usar y para detalles específicos de aplicación, véase la información que acompaña al producto Hilti, el listado publicado por terceros y las aprobaciones nacionales. Solamente para los usuarios profesionales.



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Identification Signs For Sprinkler Systems and Devices NFPA 13 Signing Requirements

General Description

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

The five basic types of Identification Signs are:

Type A – Control Valve Sign

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

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

Type D – Fire Alarm Sign

Type E – Hydraulic Calculation Sign

NOTICE

The Identification Signs described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), in addition to the standards of any other authorities having jurisdiction. Failure to do so may impair the performance of these devices.

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

Technical Data

Material & Finish
18 gauge aluminum with mylar facing.

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

Installation

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

Care and Maintenance

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

The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the NATIONAL FIRE PROTECTION ASSOCIATION (e.g., NFPA 25), in addition to the standards of any authority having jurisdiction. Contact the installing contractor or product manufacturer with any questions.

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

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

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

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

TYPE A

TYPE D
RECTANGULAR OR ROUND

TYPE B
AVAILABLE TEXT OPTIONS:

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

TYPE E

FIGURE 1
IDENTIFICATION SIGNS

Limited Warranty

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

Ordering Procedure

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

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

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

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

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

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

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Johnson Controls