liable

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.

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.





Model G5 Cover Plate

Model G5 Cover Plate with QR Gasket

Table A



Model G5 Cover Plate with SR Gasket

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

Model G5 Series Sprinkler Summary						IUDIC 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	cULus	QR		RA3411	
OF 20	2.8	GO	FM	SR	175 (10)		
G5-28	(40)	G5 QR Gasket	cULus	QR	175 (12)		
		G5 SR Gasket	cULus, FM	SR			
	4.0	G5	al II ua	OB	175 (12)	RA3413	
G5-42	4.2 (60)	G5 QR Gasket	cULus	QR			
		G5 SR Gasket	cULus	SR			
G5-56	<mark>5.6</mark> (80)	05	cULus	QR	250 (17)		
			G5	FM, LPCB, VdS, CE	SR	175 (12)	
				G5 QR Gasket	cULus	QR	250 (17)
				(00)	` '	cULus	SR
		G5 SR Gasket	FM	SR	175 (12)		
	5.6 (80)	G5	al II ua	OB	300 (21)	RA4014	
G5-56 300		G5 QR Gasket	cULus	QR			
		G5 SR Gasket	cULus	SR			
G5-80	8.0 (115)	G5	-111	QR			
		1 (25 ()B (220VOt	175 (12)	175 (12)	RA3412		
		G5 SR Gasket	cULus	SR			
CE 90E	8.0	G 5	FM	CD	175 (12)	DA2417	
G5-80F	(115)	G5 SR Gasket	ΓIVI	SR		RA3417	

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

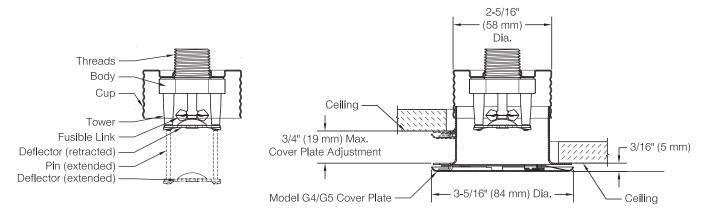
VdS Approved [165°F (74°C) only] CE Listed (2831-CPR-S2062)





Model G5-56 Sprinkler Components and Dimensions

Figure 3



Model G5-56 Sensitivity Table D **Listing or Approval Agency Cover Plate Model cULus FM** LPCB, VdS, CE 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)
<mark>G5</mark>	3- ⁵ / ₁₆ (84)				^{1/} 4 to 1 (6 to 25)	135°F ⁽³⁾
G5 QR Gasket ⁽²⁾	3- ¹¹ / ₁₆ (94)	2-5/ ₈	³ / ₄ (19)	1- ¹ / ₂ to 2- ¹ / ₄ (38 to 57)		(57°C) or
G5 SR Gasket ⁽²⁾	4 (101 mm)	(67)		(30 10 37)	(0 to 23)	165°F ⁽⁴⁾ (74°C)

Notes:

- 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. <u>Model G5 QR Gasket and Model G5 SR Gasket cover plates and gaskets are not interchangeable.</u>
- 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	Off-White Paint		
Chrome ⁽⁴⁾	Black Paint		
	Custom Color Paint (Specify)(3)		
	Raw Brass (Lacquered)		
	Bright Brass ⁽⁴⁾		
	Finished Bronze (4)		
	Black Plated (4)		
	Satin Chrome (4)		
	Stainless Steel Clad(5)		

Notes:

- 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.
- 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)

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









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 ½" 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	
1/2" NPT or ISO7-1R1/2	8-18	11-24	
3/4" 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 nonoperation.

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



Product Description

RASCOFLEX® Sprinkler Connections are intended to connect a branch line to a sprinkler using a flexible stainless steel hose assembly. RASCOFLEX® Sprinkler Connections are suitable for use in suspended and hard ceiling applications such as T-Bar ceiling grids, wood, metal stud, or hat furring channel hard lid ceilings. Every package contains one (1) fully assembled stainless steel flexible sprinkler system complete with hose, branch line connection, and sprinkler connection, as well as the pre-assembled bracket assembly to attach to the ceiling.

RASCOFLEX® Sprinkler Connections are designed for use in hydraulically calculated wet, preaction, or dry sprinkler systems per NFPA 13, 13R, 13D, and FM Global Loss Prevention Data Sheets.

Technical Data	Table A			
Maximum Wo	rking Pressure	FM: 200 psi (13.8 bar) UL: 175 psi (12.1 bar)		
Maximum Work	ing Temperature	300°F (149°C)		
Connections	Inlet/Branch Line	1" NPT		
Connections	Outlet/Reducer	1/2" or 3/4" NPT		
	Allowable g Radius		3" (76 mm) " (178 mm)	
Maximum Number of Bends		See Frict	ion Loss Chart	
Maximum	1/2" Outlet	5.6 (80 metric)	
K-Factor	3/4" Outlet	14.0 (200 metric)	

Maintenance

RASCOFLEX® Sprinkler Connections should be inspected and the sprinkler system maintained in accordance with NFPA 25, as well as the requirements of any Authorities Having Jurisdiction.

Patents

RASCOFLEX® Sprinkler Connections may be covered by one or more of the following US Patent Nos. 10,173,088 and 10,328,296.

Listings and Approvals

FM Approved Class No. 1637 (FM)

UL Listed and UL Certified for Canada to ANSI/UL 2443 (cULus)

RASCOFLEX® Model RFB Sprinkler Connections

cULus Listed, FM Approved



RASCOFLEX® Model RFB Sprinkler Connections

Ordering Information

Specify:

Model Name

Model RFB

Nominal Hose Length

- 24" (610 mm)
- 31" (790 mm)
- 40" (1015 mm)
- 48" (1220 mm)
- 60" 1525 mm)
- 72" (1830 mm)

Reducer Outlet: 1/2" NPT or 3/4" NPT

Reducer Type Standard:

• 7" (178 mm) straight

Optional:

- 11-3/4" (300 mm) straight
- 7-1/4" (184 mm) elbow
- 8-5/16" (211 mm) elbow

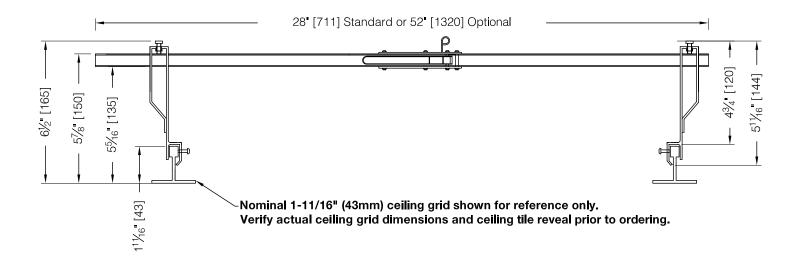
Bracket Assembly Length

- 24" (610 mm) standard
- 48" (1220 mm) optional

Accessories

• See Table F

Bracket Dimensions Figure 1



Reducer Dimensions Figure 2

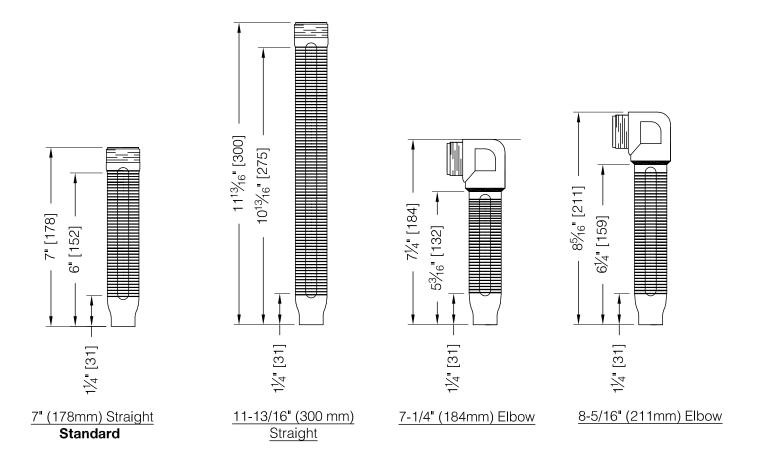


Figure 3 **Installation Dimensions**

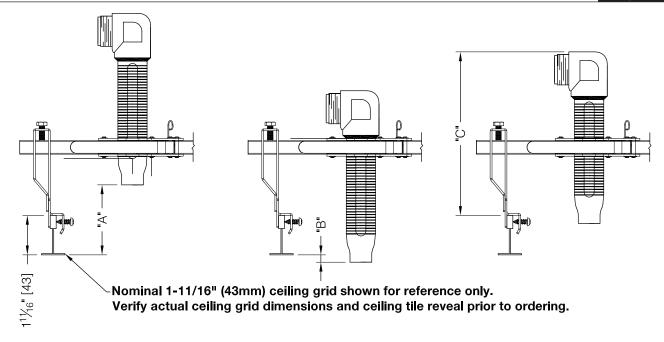


Table B Minimum and Maximum Face of Fitting to Bottom of Ceiling Grid for Each Reducer 7" 7-1/4" 8-5/16" 11-13/16" (178 mm) (300 mm) (184 mm) (211 mm) Straight Straight **Elbow Elbow** Standard Fig. 3 Dimension A Max. Face of Fitting 4" (102 mm) 4" (102 mm) 4" (102 mm) 4" (102 mm) Distance above Bottom of Ceiling Grid Fig. 3 Dimension B Max. Face of Fitting 1/8" (3mm) 4-7/8" (124 mm) 3/4" (19 mm) 5/16" (60mm) Distance from Bottom below below above below of Ceiling Grid

Note: Based on 1-11/16" (43mm) tall ceiling grid.

Fig. 3 Dimension C -	Clearance Above	Ceilina Reauired	at Max. S	Sprinkler Recess

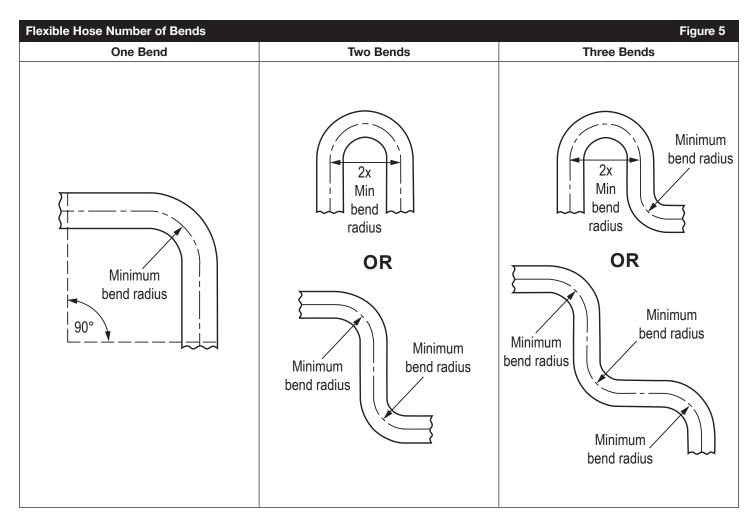
ig. 3 Dimension C - Clearance Above Ceiling Required at Max. Sprinkler Recess					
Recessed Escutcheon or	Reducer				
Concealed/Flush Sprinkler	7-1/4" (184 mm) Elbow	8-5/16" (211 mm) Elbow			
F1 recessed escutcheon	NC	7-5/8" (194 mm)			
F2 or FV recessed escutcheon	NC	7-3/8" (187 mm)			
FP recessed escutcheon	7" (179 mm)	8-1/8" (206 mm)			
CCP conical concealed cover plate	7" (179 mm)	8-1/8" (206 mm)			
G4 series concealed sprinklers	8-1/4" (210 mm)	9-1/4" (235 mm)			
G5 series concealed sprinklers	7-3/4" (197 mm)	8-7/8" (225 mm)			
RFC series concealed sprinklers	7-1/2" (191 mm)	8-5/8" (219 mm)			
XL commercial flush sprinkler with flat escutcheon	7-3/8 (189 mm)	8-1/2" (216 mm)			
XL commercial flush sprinkler with conical escutcheon	6-7/8 (176 mm)	8" (203 mm)			

Note: NC - Reducer not compatible with sprinkler adjustment range. Based on 1-11/16" (43mm) tall ceiling grid and flush ceiling tile.



Table C

Materials			Figure 4
Number	Item Description	Material	
1	Flexible Hose/Bellow	AISI Type 304 Stainless Steel	
2	Isolation Ring	Nylon 66	6 70
3	Gasket	EPDM	
4	Nut	Zinc Plated Carbon Steel	
5	Branch Line Nipple (1")	Zinc Plated Carbon Steel	2
6	Reducer	Zinc Plated Carbon Steel	3/
7	Braid	AISI Type 304 Stainless Steel	4
8	Welded Collar Fitting	AISI Type 304 Stainless Steel	
-	Bar Stock	Zinc Plated SGCC Steel	6
-	Brackets: Center and Side	Zinc Plated SPCC Steel	



Note: Do NOT install the RASCOFLEX[™] pulled straight or tight. Some flexibility in the form of an allowable bend or bends must be provided.



Table D **cULus Friction Loss Data**

Nominal Length of Flexible	Reducer		Maximum Sprinkler	Maximum Number of	Equivalent Length of 1" (33.7mm)
Hose in (mm)	NPT Threads	Туре	K-Factor gpm/psi ^{1/2} (lpm/bar ^{1/2})	90° Bends at 3" (76mm) Bend Radius	Sch. 40 Pipe (C=120), ft (m)
24	1/2	Straight	5.6 (80)	2	10 (3)
(610)	3/4	Straight	14.0 (200)	2	13 (4)
31	1/2	Straight	5.6 (80)	3	14 (4.3)
(790)	3/4	Straight	14.0 (200)	3	16 (4.9)
40	1/2	Straight	5.6 (80)	4	21 (6.4)
(1015)	3/4	Straight	14.0 (200)	4	23 (7)
48	1/2	Straight	5.6 (80)	4	24 (7.3)
(1220)	3/4	Straight	14.0 (200)	4	26 (7.9)
60	1/2	Straight	5.6 (80)	4	25 (7.6)
(1525)	3/4	Straight	14.0 (200)	4	30 (9.1)
72	1/2	Straight	5.6 (80)	5	36 (11)
(1830)	3/4	Straight	14.0 (200)	5	33 (10.1)

UL Notes:



Available data for use with 6.1" straight reducers.
 RASCOFLEX® Sprinkler Connections have been tested and approved by Underwriter's Laboratories, Inc. for use in wet, preaction, and dry sprinkler systems per NFPA 13, 13D, 13R and UL2443.



FM Friction Loss Data

Table E **Maximum** Maximum **Equivalent Length Nominal** Reducer **Sprinkler** Number of Length of Flexible of 1" (33.7mm) K-Factor 90° Bends at 7" Hose Sch. 40 Pipe gpm/psi^{1/2} 178mm) **NPT Threads** Type in (mm) (C=120), ft (m) (lpm/bar^{1/2}) **Bend Radius** 1/2 Straight 5.6 (80) 1 9.7 (2.9) 1/2 90° Elbow 0 5.6 (80) 11.5 (3.5) 1 9.9(3)8.0 (115) 3/4 Straight 11.2 (160) 1 9.8 (2.9) 24 (610)1 9.6 (2.9) 14.0 (200) 8.0 (115) 0 10.2 (3.1) 3/4 90° Elbow 0 10 (3) 11.2 (160) 0 14.0 (200) 9.8 (2.9) 2 1/2 Straight 5.6 (80) 12.4 (3.8) 1/2 90° Elbow 5.6 (80) 2 15.8 (4.8) 2 8.0 (115) 13.7 (4.1) 2 3/4 Straight 11.2 (160) 12.9 (3.9) 31 (790)14.0 (200) 2 12.2 (3.7) 2 8.0 (115) 14.5 (4.4) 3/4 90° Elbow 2 13.7 (4.1) 11.2 (160) 2 14.0 (200) 13 (3.9) 2 1/2 Straight 5.6 (80) 15.9 (4.8) 2 1/2 90° Elbow 5.6 (80) 21.6 (6.6) 2 18.5 (5.6) 8.0 (115) 2 3/4 Straight 11.2 (160) 17.4 (5.3) 40 (1015)14.0 (200) 2 16.3 (4.9) 2 8.0 (115) 20 (6) 2 3/4 90° Elbow 11.2 (160) 18.9 (5.7) 2 20 (6) 14.0 (200) 1/2 3 Straight 5.6 (80) 19.0 (5.8) 1/2 90° Elbow 5.6 (80) 3 25.9 (7.9) 8.0 (115) 3 22.7 (6.9) 3/4 Straight 11.2 (160) 3 21.5 (6.5) 48 (1220)14.0 (200) 3 20.5 (6.2) 3 8.0 (115) 24.8 (7.5) 3 3/4 90° Elbow 11.2 (160) 23.6 (7.2) 14.0 (200) 3 22.6 (6.8)

FM Friction Loss Data (cont.)

Nominal

Length of Flexible

Hose

in (mm)

60 (1525)

72 (1830)

Table E Maximum **Equivalent Length** Number of of 1" (33.7mm) 90° Bends at 7" Sch. 40 Pipe (178mm) (C=120), ft (m) **Bend Radius** 23.7 (7.2) 4 33.1 (10) 4 29.1 (8.8) 4 28 (8.5) 4 27 (8.2) 4 32.2 (9.8) 4 31.1 (9.5) 4 30 (9.1) 4 28.4 (8.6) 4 40.4 (12.3) 4 35.5 (10.8)

34.3 (10.4)

33.2 (10.1)

39.5 (12)

38.3 (11.6)

37.2 (11.3)

4

4

4

4

4

FM Notes:

Maximum

Sprinkler

K-Factor

gpm/psi^{1/2}

(lpm/bar^{1/2})

5.6 (80)

5.6 (80)

8.0 (115)

11.2 (160)

14.0 (200)

8.0 (115)

11.2 (160)

14.0 (200)

5.6 (80)

5.6 (80)

8.0 (115)

11.2 (160)

14.0 (200)

8.0 (115)

11.2 (160)

14.0 (200)

Reducer

Type

Straight

90° Elbow

Straight

90° Elbow

Straight

90° Elbow

Straight

90° Elbow

NPT Threads

1/2

1/2

3/4

3/4

1/2

1/2

3/4

3/4

^{1.} RASCOFLEX® Sprinkler Connections have been tested and approved by FM Approvals for use in wet, preaction, and dry sprinkler systems per FM data sheets 2-0, 2-5, and 2-8 per FM1637.

^{2.} Differences in equivalent lengths are due to varying test methods, per FM 1637 standards.

^{3.} Above data of friction loss for use with 6.1" straight reducers.



7-1/4" (184 mm) Elbow Reducer- Short

1/2": 7M99003303 3/4": 7M99003305



8-5/16" (211 mm) Elbow Reducer- Long

1/2": 7M99003302 3/4": 7M99003304



Replacement 7" (178 mm) Standard Straight Reducer

1/2": 7M99003308 3/4": 7M99003327



11-13/16" (300mm) Straight Reducer

1/2": 7M99003309 3/4": 7M99003328



Hat Channel End Bracket- Short 3" (76mm) 7M99003310



Hat Channel End Bracket- Long 3-3/4" (95mm) 7M99003311



Metal Stud End Bracket-Short 1-1/2" (38mm) 7M99003312



Metal Stud End Bracket- Long 2-1/16" (53mm) 7M99003313



T-Bar End Bracket-Short 2-5/8" (68mm) 7M99003314



T-Bar End Bracket-Long 4-1/8" (105mm) 7M99003316



Wood Beam Stud End Bracket 7M99003317



Replacement Center Bracket 7M99003321



3" (76 mm) Bend Radius Indicator 7M99004179



Replacement 1" NPT Inlet Adapter 7M99003322



#2 Square Drive Bit 7M99004539



Replacement Gasket 7M99004319





48" (1220mm) Bracket Assembly 7M99004840