

Reliable®

Model RFB RASCOFLEX® Sprinkler Connections

cULus Listed, FM Approved

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 Working Pressure		FM: 200 psi (13.8 bar) UL: 175 psi (12.1 bar)
Maximum Working Temperature		300°F (149°C)
Connections	Inlet/Branch Line	1" NPT
	Outlet/Reducer	1/2" or 3/4" NPT
Minimum Allowable Bending Radius		UL: 3" (76 mm) FM: 7" (178 mm)
Maximum Number of Bends		See Friction Loss Chart
Maximum K-Factor	1/2" Outlet	5.6 (80 metric)
	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® 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:

- 6-1/8" (155 mm) straight

Optional:

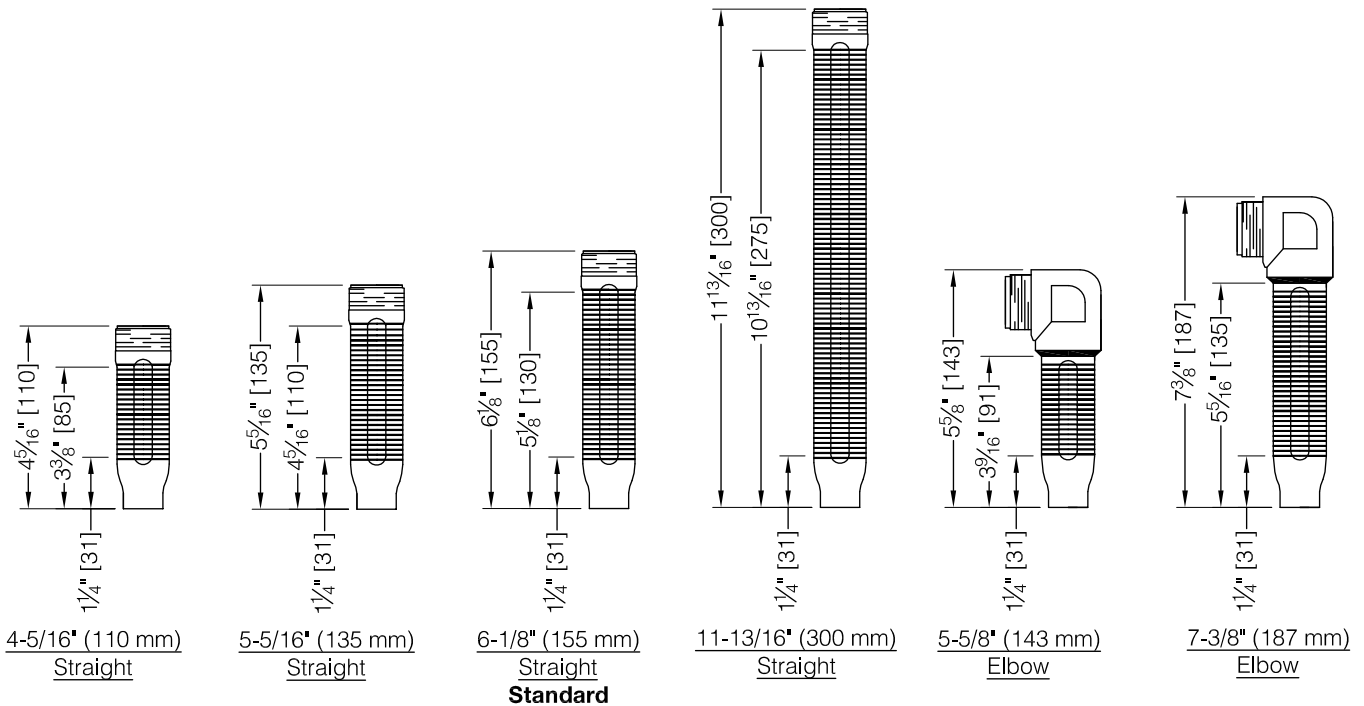
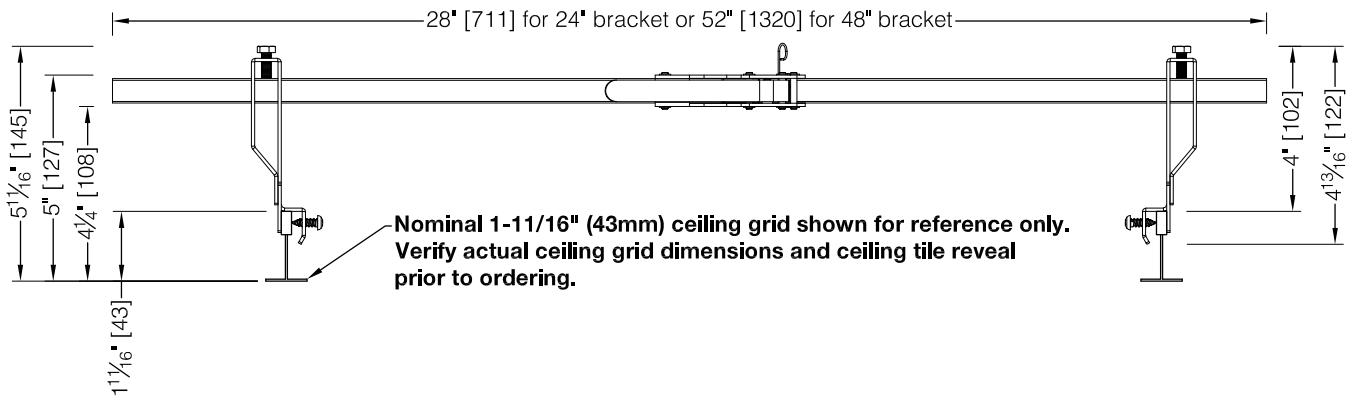
- 4-5/16" (110 mm) straight
- 5-5/16" (135 mm) straight
- 11-3/4" (300 mm) straight
- 5-5/8" (143 mm) elbow
- 7-3/8" (187 mm) elbow

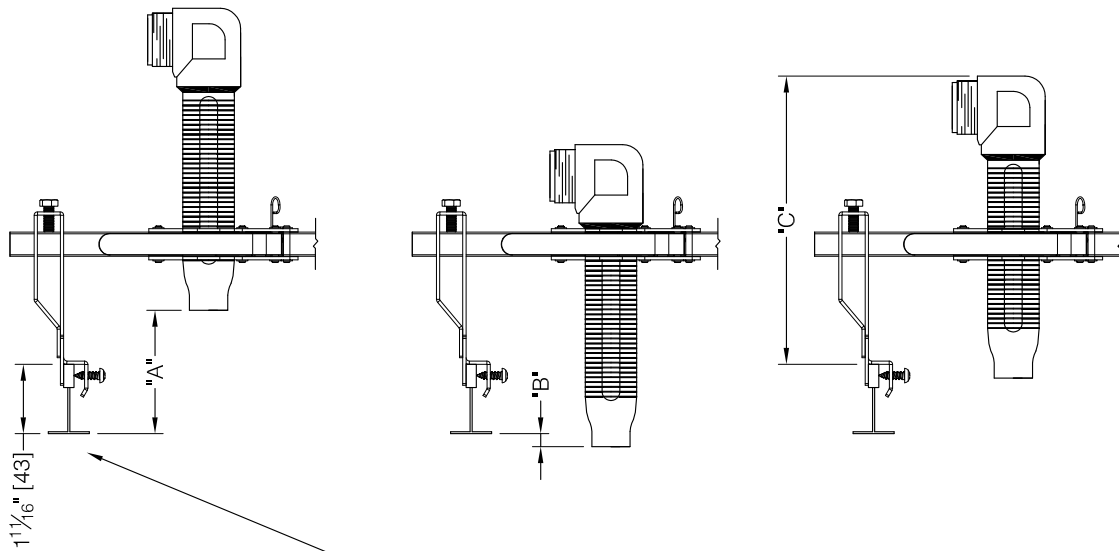
Bracket Assembly Length

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

Accessories

- See Table F





Nominal 1-11/16" (43mm) ceiling grid shown for reference only. Verify actual ceiling grid dimensions and ceiling tile reveal prior to ordering.

Minimum and Maximum Face of Fitting to Bottom of Ceiling Grid for Each Reducer

Table B

Fitting Distance	6-1/8" (155mm) Straight Standard	4-5/16" (110mm) Straight	5-5/16" (135mm) Straight	11-13/16" (300mm) Straight	5-5/8" (143mm) Elbow	7-3/8" (187mm) Elbow
Max. Face of Fitting Distance Above Bottom of Ceiling Grid	3" (77mm)	3" (7mm)	3" (7mm)	3" (7mm)	3" (7mm)	3" (7mm)
Max. Face of Fitting Distance from Bottom of Ceiling Grid	1/8" (3mm) below	1-5/8" (42mm) above	11/16" (17mm) above	6-3/8" (148mm) below	1-7/16" (36mm) above	5/16" (60mm) below

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

Fig. 3 Dimension C - Clearance Above Ceiling Required at Max. Sprinkler Recess

Table C

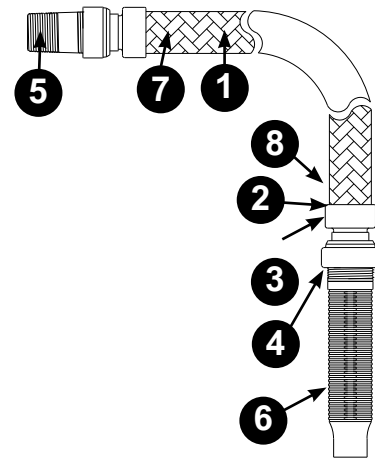
Recessed Escutcheon or Concealed/Flush Sprinkler	Reducer	
	5-5/8" (143mm) Elbow	7-3/8" (187mm) Elbow
F1 recessed escutcheon	NC	5-5/8" (144mm)
F2 or FV recessed escutcheon	NC	5-3/8" (138mm)
FP recessed escutcheon	NC	6-1/4" (160mm)
CCP conical concealed cover plate	NC	6-1/4" (160mm)
G4 series concealed sprinklers	5-5/8" (144mm)	7-3/8" (188mm)
G5 series concealed sprinklers	5-1/4" (134mm)	7" (179mm)
RFC series concealed sprinklers	5-1/4" (134mm)	7" (179mm)
XL commercial flush sprinkler with flat escutcheon	4-7/8" (125mm)	6-5/8" (169mm)
XL commercial flush sprinkler with conical escutcheon	4-3/8" (112mm)	6-1/8" (157mm)

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

Materials

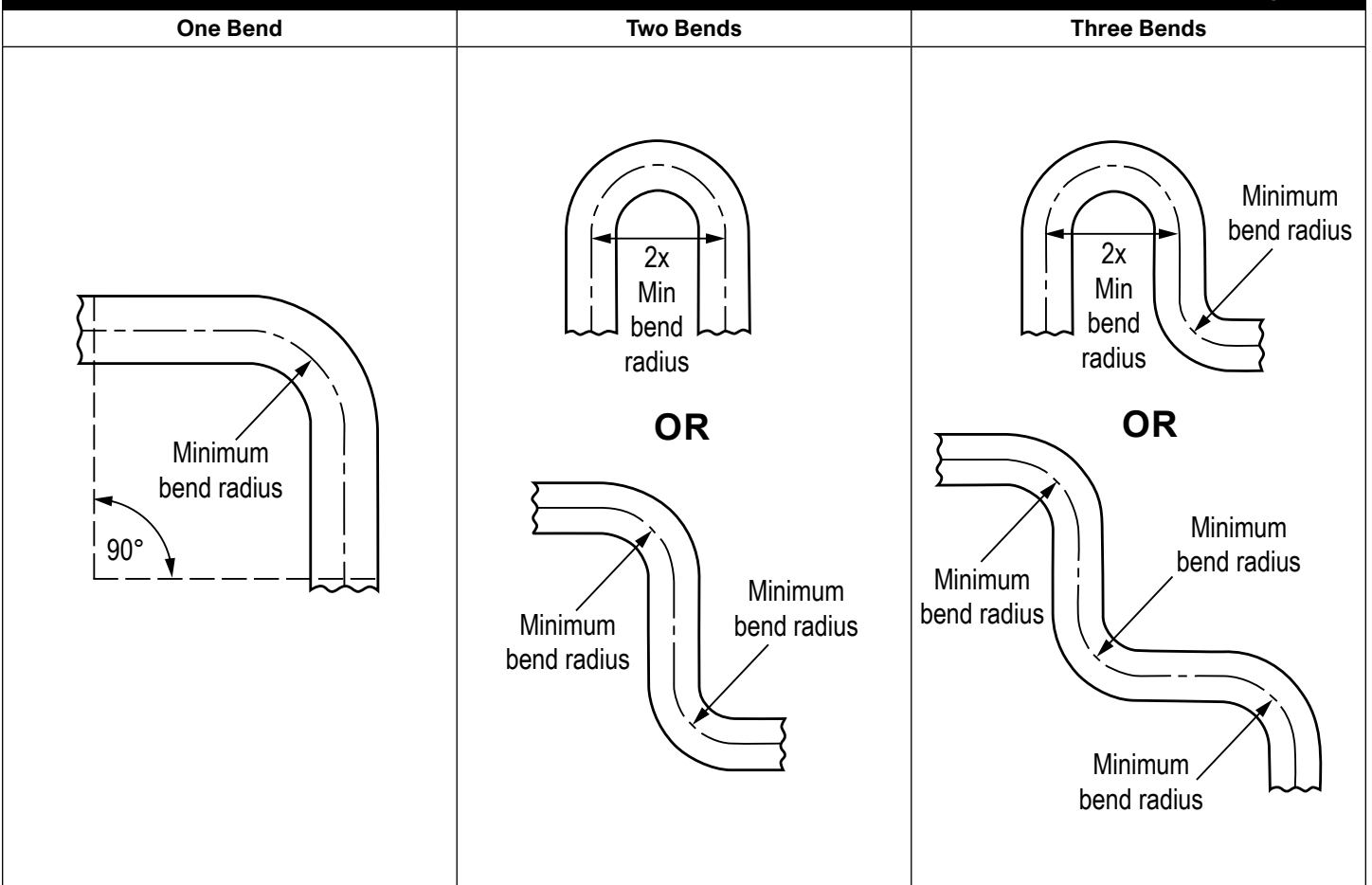
Figure 4

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



Flexible Hose Number of Bends

Figure 5



Do NOT install the RASCOFLEX™ straight. Some flexibility in the form of an allowable bend (or bends) must be provided.



cULus Friction Loss Data

Table D

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

UL Notes:

1. Available data for use with 6.1" straight reducers.
2. Sprinkler K-Factor: 5.6 (80 metric) for 1/2-inch reducer and 14.0 (200 metric) for 3/4-inch reducer.
3. 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

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

FM Friction Loss Data (cont.)

Table E


Nominal Length of Flexible Hose in (mm)	Reducer		Maximum Sprinkler K-Factor gpm/psi ^{1/2} (lpm/bar ^{1/2})	Maximum Number of 90° Bends at 7" (178mm) Bend Radius	Equivalent Length of 1" (33.7mm) Sch. 40 Pipe (C=120), ft (m)
	NPT Threads	Type			
60 (1525)	1/2	Straight	5.6 (80)	4	23.7 (7.2)
	1/2	90° Elbow	5.6 (80)	4	33.1 (10)
	3/4	Straight	8.0 (115)	4	29.1 (8.8)
			11.2 (160)	4	28 (8.5)
			14.0 (200)	4	27 (8.2)
	3/4	90° Elbow	8.0 (115)	4	32.2 (9.8)
			11.2 (160)	4	31.1 (9.5)
			14.0 (200)	4	30 (9.1)
	72 (1830)	1/2	Straight	5.6 (80)	4
1/2		90° Elbow	5.6 (80)	4	40.4 (12.3)
3/4		Straight	8.0 (115)	4	35.5 (10.8)
			11.2 (160)	4	34.3 (10.4)
			14.0 (200)	4	33.2 (10.1)
3/4		90° Elbow	8.0 (115)	4	39.5 (12)
			11.2 (160)	4	38.3 (11.6)
			14.0 (200)	4	37.2 (11.3)

FM Notes:

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. Maximum sprinkler K-Factor: 5.6 (80 metric) for 1/2-inch reducer and 14.0 (200 metric) for 3/4-inch reducer.
3. Differences in equivalent lengths are due to varying test methods, per FM 1637 standards.
4. Above data of friction loss for use with 6.1" straight reducers.

Accessories List

Table F

 <p>5-5/8" (143mm) Elbow Reducer-Short 1/2": 7M99003303 3/4": 7M99003305</p>	 <p>7-3/8" (187mm) Elbow Reducer-Long 1/2": 7M99003302 3/4": 7M99003304</p>	 <p>4-5/16" (110mm) Straight Reducer 1/2": 7M99003306 3/4": 7M99003325</p>
 <p>5-5/16" (135mm) Straight Reducer 1/2": 7M99003307 3/4": 7M99003326</p>	 <p>Replacement 6-1/8" (155mm) Standard Straight Reducer 1/2": 7M99003308 3/4": 7M99003327</p>	 <p>11-13/16" (300mm) Straight Reducer 1/2": 7M99003309 3/4": 7M99003328</p>
 <p>Hat Channel End Bracket- Short 3" (76mm) 7M99003310</p>	 <p>Hat Channel End Bracket- Long 3-3/4" (95mm) 7M99003311</p>	 <p>Metal Stud End Bracket-Short 1-1/2" (38mm) 7M99003312</p>
 <p>Metal Stud End Bracket- Long 2-1/16" (53mm) 7M99003313</p>	 <p>T-Bar End Bracket- Short 2-5/8" (68mm) 7M99003314</p>	 <p>T-Bar End Bracket- Long 4-1/8" (105mm) 7M99003316</p>
 <p>Wood Beam Stud End Bracket 7M99003317</p>	 <p>Replacement Center Bracket 7M99003321</p>	 <p>3" (76 mm) Bend Radius Indicator 7M99004179</p>
 <p>Replacement 1" NPT Inlet Adapter 7M99003322</p>	 <p>#2 Square Drive Bit 7M99004539</p>	 <p>Replacement Gasket 7M99004319</p>
 <p>48" (1220mm) Bracket Assembly 7M99003301</p>		