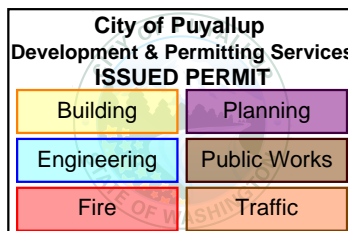


Good Samaritan Hospital River Mechanical Penthouse Puyallup, Washington

401 15th Ave SE
Puyallup, WA 98372

Equipment Submittal

Patriot Job # 15-7407



Reliable®

Model G Automatic Sprinklers Spray Upright, Spray Pendent, And Conventional

Product Description

The Reliable Model G Automatic Sprinkler utilizes the center strut solder in compression principle of construction. The fusible alloy is captured in the cylinder of the solder capsule by a stainless steel ball. When the fusible alloy melts, the ball moves into the cylinder allowing the cylinder to fall away from the sprinkler. When this happens, the lever is released to spring free from the sprinkler so that all of the operating parts clear from the waterway allowing the deflector to distribute the discharging water.

Except for the parts in the cylinder as mentioned above, the sprinkler components are made from copper based alloys for maximum corrosion protection. Lead plated, wax coated or wax over lead plated sprinklers are available for specially severe environments. Chrome plated sprinklers are available for decorative purposes.

All sprinklers are individually hydrostatically tested. All sprinklers are identified as to their fusing point by markings that appear on several of the operating parts and by an identifying color that appears on the frame.

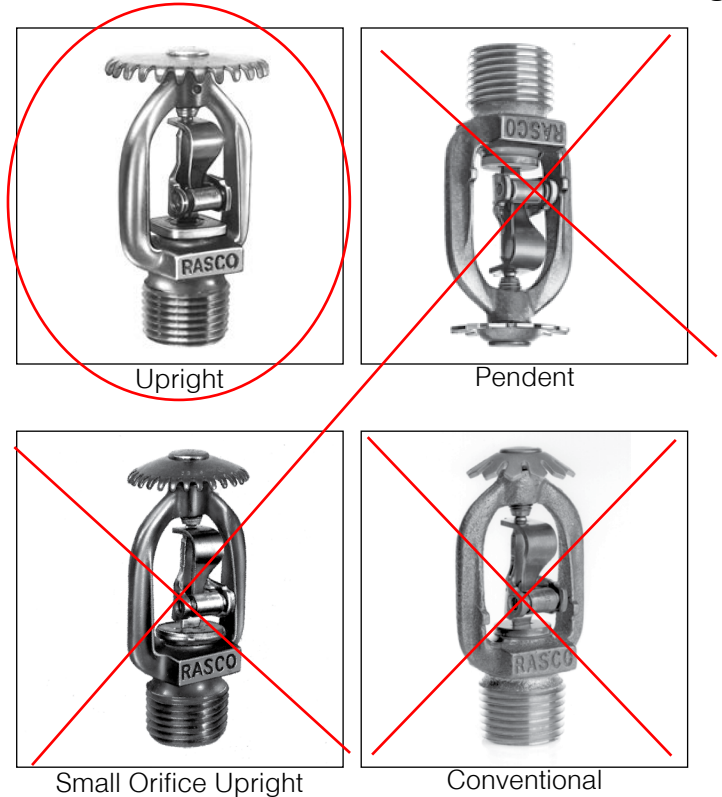
Sprinkler Types

Standard Upright – This deflector configuration is normally used with exposed piping installations. Water is distributed laterally and downward in a wide pattern approximating a hemisphere which is completely and uniformly filled with water in the form of small drops or spray.

Standard Pendent – This deflector configuration is normally used where the space above the piping is limited or where a concealed piping installation is employed. The discharge characteristics of the standard pendent are virtually identical to the standard upright as described above.

Large and Small Orifice – By varying the orifice size, a large or small orifice sprinkler is created that will distribute as much as 40% more water or 65% less water than the normal 1/2" (15mm) orifice sprinkler.

Conventional – This deflector configuration is used primarily in those countries where the LPC installation rules have precedence. The sprinkler is designed to distribute a portion of its water discharge upward against the ceiling with the balance downward. It may be installed in either the upright or the pendent position. Sprinklers with conventional deflectors are available with orifice sizes corresponding to light, ordinary and extra-high hazard installations.



Application and Installation

Standard sprinklers are used in fixed fire protection systems: Wet, Dry, Deluge or Preaction. Care must be exercised that the orifice sizes, temperature ratings, deflector styles and sprinkler spacings are in accordance with the latest published standards of the National Fire Protection Association or the approving authority having jurisdiction.

The sprinklers must be installed with the Reliable Model W2 Sprinkler Wrench. Any other type of wrench may damage the sprinkler.

The approvals or listings of Reliable Automatic Sprinklers by major approving organizations are shown in the tabulated list provided on the back of this bulletin.

Technical Data

Sprinkler Type	"K" Factor		Sprinkler Height	Approvals	Sprinkler Identification Number (SIN)	
	US	Metric			SSU	SSP
Standard-Upright (SSU) and Pendent (SSP) Deflectors Marked to Indicate Position						
1/2" (15 mm) Standard Orifice with 1/2" NPT (R1/2) Thread	5.62	81.0	2 7/8" (73 mm)	1, 2, 3, 4, 5, 6	R1025	R1015
7/16" (11 mm) Small Orifice with 1/2" NPT (R1/2) Thread	4.24	61.0	2 7/8" (73 mm)	1	R1023	R1013
3/8" (10 mm) Small Orifice with 1/2" NPT (R1/2) Thread	2.82	40.6	2 7/8" (73 mm)	1, 2,	R1021	R1011
5/16" (8 mm) Small Orifice with 1/2" NPT (R1/2) Thread	1.98	28.5	2 7/8" (73 mm)	1, 5	R1022	R1012
17/32" (20 mm) Large Orifice with 1/2" NPT (R1/2) Thread	7.96	114.7	2 7/8" (73 mm)	1, 2,	R1026	R1016
17/32" (20 mm) Large Orifice with 3/4" NPT (R3/4) Thread	8.20	118.2	2 15/16" (75 mm)	1, 2,	R1027	R1017
20 mm XHH with 20 mm Thread	8.20	118.2	75.4 mm	3, 4,	R1027	R1017
10 mm XLH with 10 mm Thread	4.10	59.1	73 mm	3, 4,	R1024	R1014
Conventional—Installed in Upright or Pendent Position						
10mm XLH with 10mm Thread	4.10	59.1	73 mm	4		R1074
15mm Standard Orifice with (R1/2) Thread	5.62	81.0	73 mm	3, 4, 6		R1075
20mm XHH with (R3/4) Thread	8.20	118.2	75.4 mm	3, 4		R1077

Temperature Ratings

Classification	Sprinkler Rating		Maximum Ambient Temperature		Frame ⁽¹⁾ Color
	°F	°C	°F	°C	
Ordinary	135	57	100	38	Black
Ordinary	165	74	100	38	Uncolored
Intermediate	212	100	150	66	White
High	286	141	225	107	Blue

⁽¹⁾ Frame color does not apply to painted or plated sprinklers
 —Use sprinkler rating as identified on operating parts.

Finishes ⁽¹⁾

Standard Finishes	
Bronze	—All Temperature Ratings
Chrome	—All Temperature Ratings
White ⁽²⁾	—All Temperature Ratings Only Frame and Deflector are Painted
Special Application Finishes	
Bright Brass Plated	—Only frame, deflector and cap are plated. 135°F (57°C), 165°F (74°C), 212°F (100°C) Temp. Rating.
Black Plated	—Only frame, deflector and cap are plated. All Temp. Ratings.
Polyester Coated ⁽²⁾⁽⁴⁾	—Only frame and deflector are coated.
Lead Plated	—165°F (74°C), 212°F (100°C) and 286°F (141°C) Temp. Ratings.
Wax-Coated ⁽³⁾	—165°F (74°C) Clear Wax, 212°F (100°C) Brown Wax.
Wax-Coated Over Lead Plated ⁽³⁾	—165°F (74°C) Clear Wax, 212°F (100°C) Brown Wax.

⁽¹⁾ Other colors and finishes are available. Consult factory for details.

⁽²⁾ UL listed and NYC MEA Approved only.

⁽³⁾ 212°F (100°C) brown wax may be used on 286°F (141°C) sprinklers when maximum ambient temperatures do not exceed 150°F (66°C). UL Listed, FM Approved, NYC MEA 258-93-E.

⁽⁴⁾ FM Approved for R1027 only.

Maintenance

Model G Sprinklers should be inspected and the sprinkler system maintained in accordance with NFPA 25. Do not clean sprinklers with soap and water, ammonia or any other cleaning fluids. Remove any sprinkler that has been painted (other than factory applied) or damaged in any way. A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers. Prior to installation, sprinklers should be maintained in the original cartons and packaging until used to minimize the potential for damage to sprinklers that would cause improper operation or non-operation. Use only the Model W2 Sprinkler Wrench for sprinkler removal and installation. Any other type of wrench may damage the sprinkler.

Approval Organizations

- Underwriters Laboratories, Inc. and UL Certified for Canada (cULus).
- Factory Mutual Research Corporation
- Loss Prevention Council
- Pleniére Assemblée
- N.Y.C. BS&A No. 587-75-SA or N.Y.C. MEA 258-93-E
- CE Certificate: 1438-CPD-0054 (R1015)
1438-CPD-0053 (R1025)
1438-CPD-0052 (R1075)
1438-CPD-0056 (R1077)

Ordering Information

Specify:

- Model G
- Deflector
 - Upright
 - Pendent
 - Conventional
- Nominal Orifice
- Inlet Thread
- Temperature Rating
- Finish

The equipment presented in this bulletin is to be installed in accordance with the latest published Standards of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances whenever applicable. Products manufactured and distributed by Reliable have been protecting life and property for over 90 years.

Manufactured by



Reliable Automatic Sprinkler Co., Inc.

(800) 431-1588

(800) 848-6051

(914) 829-2042

www.reliablesprinkler.com

Sales Offices

Sales Fax

Corporate Offices

Internet Address



Recycled Paper

Revision lines indicate updated or new data.

EG. Printed in U.S.A. 08/19 P/N 9999970005

Schedule 10 and Schedule 40

FM Approved and UL Listed Sprinkler Pipe

Bull Moose Tube Company is a recognized producer of quality pipe products. Our Schedule 10 and Schedule 40 are FM Approved and UL Listed (for U.S. and Canada), even though these products do not require separate approvals and listings. Bull Moose Tube made the decision to have them approved and listed for your peace of mind. Our Sch. 10 and Sch. 40 have been through the same rigorous testing as our other fine pipe products.

Bull Moose Tube's Sch. 10 and Sch. 40 pipes are made to ASTM A135 and ASTM A795. These products are typically supplied with our protective coating but can be supplied without the coating so they can be hot-dip galvanized to meet FM requirements for use in dry systems in accordance with the zinc coating specifications of ASTM A795 or ASTM A53. All Schedule 10 and Schedule 40 pipe has a pressure rating of 300 PSI.

Schedule 10 Pipe

Nominal Pipe Size (in)	Nominal O.D. (in)	Nominal I.D. (in)	Weight/Ft	Bundle Size
1	1.315	1.097	1.41 lbs/ft	91
1 1/4	1.660	1.442	1.81 lbs/ft	61
1 1/2	1.900	1.682	2.09 lbs/ft	61
2	2.375	2.157	2.64 lbs/ft	37
2 1/2	2.875	2.635	3.53 lbs/ft	30
3	3.500	3.260	4.34 lbs/ft	19
4	4.500	4.260	5.62 lbs/ft	19

Schedule 40 Pipe

Nominal Pipe Size (in)	Nominal O.D. (in)	Nominal I.D. (in)	Weight/Ft	Bundle Size
1	1.315	1.049	1.68 lbs/ft	70
1 1/4	1.660	1.380	2.27 lbs/ft	51
1 1/2	1.900	1.610	2.72 lbs/ft	44
2	2.375	2.067	3.66 lbs/ft	30
2 1/2	2.875	2.468	5.80 lbs/ft	30
3	3.500	3.068	7.58 lbs/ft	19
4	4.500	4.026	10.80 lbs/ft	19

PIPE PREPARATION

For proper operation, all pipe surfaces should be cleaned prior to installation. In order to provide a leak-tight seat for the gasket, pipe surfaces should be free from indentations and projections from the end of the pipe to the groove. All loose paint, scale, dirt, chips, grease, and rust must be removed prior to installation. Failure to take these important steps may result in improper coupling assembly, causing leakage. Also, check the manufacturer's instructions for the specific fitting used.



A CAPARO company

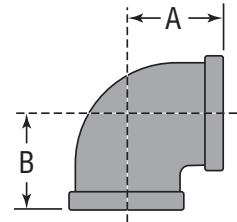
1819 Clarkson Road
Chesterfield, MO 63017
(800) 325-4467
FAX: (636) 537-2645
www.bullmoosetube.com
e-mail: sales@bullmoosetube.com

For additional information,
contact your salesperson
today at (800) 325-4467 or
(636) 537-2600 in the USA,
or from Canada
call (800) 882-4666



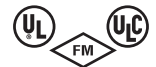


90° ELBOW						
Nominal Size	Anvil Item Number	Universal Number	Max. Working Pressure	Dimensions- In.(mm)		Approx. Wt. Each
				A	B	
In. (mm)			PSI (kPa)	In. (mm)	In. (mm)	Lbs. (kg)
1 20	840000004	DB90033	500 3450	1.50 38.10	1.50 38.10	0.62 0.28
1¼ 32	840000012	DB90044	500 3450	1.75 44.45	1.75 44.45	0.90 0.41
1½ 40	840000020	DB90055	500 3450	1.94 49.276	1.94 49.276	1.20 0.54
2 50	840000038	DB90066	500 3450	2.25 57.15	2.25 57.15	1.85 0.84



MATERIAL SPECIFICATIONS

Ductile iron threaded fittings are UL & ULC Listed & Factory Mutual Approved for 500 psi service. Dimensions conform to ASME B16.3 Class 150. Threads are NPT per ANSI/ASME B1.20.1. Ductile iron per ASTM A536 Class 65-45-12.



APPROVED
For Listing / Approval details contact your AnvilStar™ Representative.

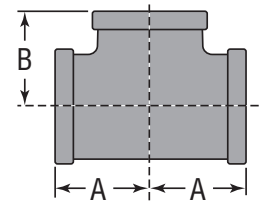
NOTICE: Ductile iron fittings have higher tensile strength than that of steel pipe. Therefore, over tightening can cause damage to pipe threads which may cause leakage. Ductile iron fittings should be tightened three turns beyond hand tight, but no more than four turns.

PROJECT INFORMATION:		APPROVAL STAMP:
Project:		
Date:	Phone:	
Architect / Engineer:		
Contractor:		
Address:		
Notes 1:		
Notes 2:		



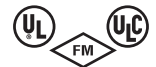


STRAIGHT TEE						
Nominal Size	Anvil Item Number	Universal Number	Max. Working Pressure	Dimensions		Approx. Wt. Each
				A	B	
<i>In. (mm)</i>			<i>PSI (kPa)</i>	<i>In. (mm)</i>	<i>In. (mm)</i>	<i>Lbs. (kg)</i>
1	840003164	DT333	500	1.50	1.50	0.85
25			3450	38.10	38.10	0.39
1¼	840003172	DT444	500	1.75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



MATERIAL SPECIFICATIONS

Ductile iron threaded fittings are UL & ULC Listed & Factory Mutual Approved for 500 psi service. Dimensions conform to ASME B16.3 Class 150. Ductile iron per ASTM A536 Class 65-45-12. Threads are NPT per ANSI/ASME B1.20.1.



APPROVED
For Listing / Approval details contact your AnvilStar™ Representative.

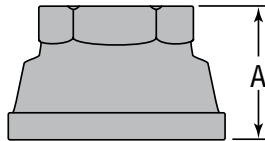
NOTICE: Ductile iron fittings have higher tensile strength than that of steel pipe. Therefore, over tightening can cause damage to pipe threads which may cause leakage. Ductile iron fittings should be tightened three turns beyond hand tight, but no more than four turns.

PROJECT INFORMATION:		APPROVAL STAMP:
Project:		
Date:	Phone:	
Architect / Engineer:		
Contractor:		
Address:		
Notes 1:		
Notes 2:		



FIG. 3221R

Reducing Coupling



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

FIGURE 3221R - REDUCING COUPLING			
Nominal Size	Maximum Working Pressure [▲]	Dimension A	Approx. Wt. Each
<i>In. (mm)</i>	<i>PSI (kPa)</i>	<i>In. (mm)</i>	<i>Lbs. (kg)</i>
1 x 1/2 25 x 15	500 3450	1.69 42.92	0.39 0.18
1 x 3/4 25 x 20	500 3450	1.69 42.92	0.53 0.24
1 1/4 x 3/4 32 x 20	500 3450	2.06 52.32	0.64 0.29

▲ – Working Pressure Ratings are for reference only and based on Sch. 40 pipe. For the latest UL/ULC, and FM pressure ratings versus pipe schedule, please visit [anvilintl.com](http://www.anvilintl.com) or contact your local Anvil Representative.

MATERIAL SPECIFICATIONS

Dimensions: ASME B16.3

Material: ASTM A536 Grade 65-45-12

Finish: Black

Threads: NPT per ASME B1.20.1

Agency Approvals: All ductile iron threaded fittings are UL/ULC Listed and FM Approved.

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

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

GRINNELL G-FIRE Figure 577 Grooved Rigid Coupling 1 to 12 Inch (DN25 to DN300)

General Description

The GRINNELL G-FIRE Figure 577 Grooved Rigid Couplings provide a rigid joint by firmly gripping along the full circumference of the pipe grooves. Figure 577 couplings are a proven dependable method of joining pipe and are an economical alternative to welding, threading, or using flanges.

Figure 577 couplings are rated at pressures up to 350 psi (24, 1 bar) depending on pipe size and wall thickness when used in fire protection service applications. Refer to Table A.

NOTICE

The GRINNELL G-FIRE Figure 577 Grooved Rigid Coupling described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the Approval agency, in addition to the standards of any other authorities having jurisdiction. Failure to do so may result in serious personal injury or impair the performance of these devices.

Never remove any piping component nor correct or modify any piping deficiencies without first de-pressurizing and draining the system. Failure to do so may result in serious personal injury, property damage, and/or impaired device performance.

It is the designer's responsibility to select products suitable for the intended service and to ensure that pressure ratings and performance data are not exceeded. Material and gasket selection should be verified to be compatible for the specific application. Always read and understand the installation instructions.

The owner is responsible for maintaining their mechanical system and devices in proper operating condition. The installing contractor or device manufacturer should be contacted with any questions.

Technical Data

Approvals

UL and ULC Listed
FM Approved
VdS Approved
LPCB (Cert. Nos. 669a and 673a)

Refer to Table A for details.

Sizes

1 to 12 Inch (DN25 to DN300)

Housing

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

Finish

- Orange non-lead paint
- Red non-lead paint
- Hot-dipped, Galvanized conforming to ASTM A153

Bolts/Nuts

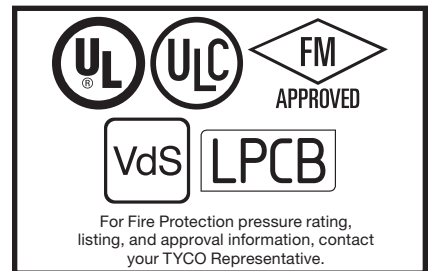
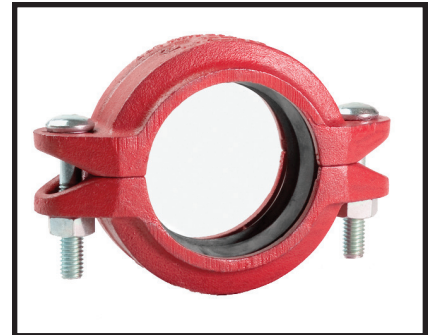
- ANSI:
Carbon Steel oval neck track head bolts are heat-treated and conform to the physical properties of ASTM A183 Grade 2 and SAE J429 Grade 5 with a minimum tensile strength of 110,000 psi.

Carbon Steel heavy hex nuts conform to the physical properties of ASTM A183 Grade 2 and SAE J995 Grade 5. Bolts and nuts are zinc-electroplated conforming to ASTM B633.

Stainless Steel bolts and nuts are available upon request.

- Metric:
Carbon Steel oval neck track head bolts (Gold color coded) are heat-treated and conform to the physical properties of ASTM F568M with a minimum tensile strength of 760 MPa.

Carbon Steel heavy hex nuts conform to the physical properties of ASTM A563M Class 9. Bolts and nuts are zinc-electroplated conforming to ASTM B633.



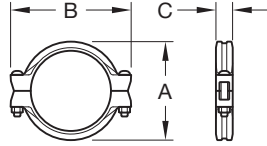
Gaskets

- Pre-lubricated Grade "A" EPDM, Violet color code, -30°F to 150°F (-34°C to 66°C)

For dry and freezer systems, lubrication is required. Refer to Installation Manual IH-1000FP for details.

- Tri-Seal Grade "E" EPDM, Green color code, -30°F to 230°F (-34°C to 110°C)

For proper gasket selection, refer to Technical Data Sheet TFP1895.



Pipe Size		Max. ^b Pressures psi (bar)	Max. ^b End Load Lbs. (kN)	Max. ^{a, d} End Gap Inches (mm)	Nominal Dimensions			Coupling Bolts		Approx. Weight Lbs. (kg)
Nominal ANSI Inches DN	O.D. Inches (mm)				A Inches (mm)	B Inches (mm)	C Inches (mm)	Qty.	Size ^c Inches (mm)	
1 DN25	1.315 (33,7)	350 (24,1)	475 (2,11)	0.06 (1,5)	1.63 (41)	3.92 (100)	1.65 (42)	2	3/8 x 2-1/4 M10 x 57	1.2 (0,55)
1-1/4 DN32	1.660 (42,4)	350 (24,1)	757 (3,37)	0.06 (1,5)	2.66 (68)	4.40 (112)	1.64 (42)	2	3/8 x 2-1/4 M10 x 57	1.3 (0,59)
1-1/2 DN40	1.900 (48,3)	350 (24,1)	992 (4,41)	0.06 (1,5)	2.90 (74)	4.66 (118)	1.66 (42)	2	3/8 x 2-1/4 M10 x 57	1.5 (0,68)
2 DN50	2.375 (60,3)	350 (24,1)	1,551 (6,90)	0.06 (1,5)	3.38 (86)	5.20 (132)	1.70 (43)	2	3/8 x 2-1/4 M10 x 57	1.8 (0,82)
2-1/2 DN65	2.875 (73,0)	350 (24,1)	2,272 (10,11)	0.06 (1,5)	3.88 (99)	5.64 (143)	1.75 (44)	2	3/8 x 2-1/4 M10 x 57	2.0 (0,91)
– DN65	3.000 (76,1)	350 (24,1)	2,474 (11,01)	0.06 (1,5)	4.00 (102)	5.78 (147)	1.75 (44)	2	– M10 x 57	2.0 (0,91)
3 DN80	3.500 (88,9)	350 (24,1)	3,367 (14,98)	0.06 (1,5)	4.50 (114)	6.33 (161)	1.75 (44)	2	3/8 x 2-1/4 M10 x 57	2.7 (1,22)
4 DN100	4.500 (114,3)	300 (20,7)	4,771 (21,22)	0.06 (1,5)	5.70 (145)	7.50 (191)	1.83 (46)	2	3/8 x 2-1/4 M10 x 57	3.3 (1,50)
– DN125	5.500 (139,7)	300 (20,7)	7,127 (31,71)	0.125 (3,2)	6.80 (173)	8.75 (222)	1.91 (49)	2	– M12 x 76	5.3 (2,41)
5 DN125	5.563 (141,3)	300 (20,7)	7,290 (32,43)	0.125 (3,2)	6.86 (174)	8.82 (224)	1.91 (49)	2	1/2 x 3 M12 x 76	5.3 (2,41)
– DN150	6.500 (165,1)	300 (20,7)	9,955 (44,28)	0.125 (3,2)	7.80 (198)	9.75 (248)	1.91 (49)	2	– M12 x 76	5.7 (2,59)
6 DN150	6.625 (168,3)	300 (20,7)	10,341 (46,00)	0.125 (3,2)	8.47 (215)	9.88 (251)	1.91 (49)	2	1/2 x 3 M12 x 76	5.9 (2,68)
8 DN200	8.625 (219,1)	300 (20,7)	17,528 (77,97)	0.125 (3,2)	10.25 (260)	12.78 (325)	2.40 (61)	2	5/8 x 3-1/4 M16 x 83	11.7 (5,32)
10 ^e DN250	10.750 (273,0)	300 (20,7)	27,229 (121,0)	0.25 (6,4)	12.50 (318)	16.50 (419)	2.56 (65)	2	3/4 x 4-3/4 M20 x 121	19.5 (8,86)
12 ^e DN300	12.750 (323,9)	300 (20,7)	38,303 (170,0)	0.25 (6,4)	14.50 (368)	18.50 (470)	2.56 (65)	2	3/4 x 4-3/4 M20 x 121	22.0 (10,00)

- a. Maximum available gap between pipe ends. Minimum gap = 0.
b. Maximum Pressure and End Load are total from all loads based on standard weight steel pipe. Pressure ratings and end loads may differ for other pipe materials and/or wall thickness. Contact your TYCO Representative.
c. Gold color coded metric bolts and nuts are available upon request.
d. Max End Gap is for cut grooved standard weight pipe.
e. For 10 inch and 12 inch sizes where VdS Approval is required, refer to Figure 772, Technical Data Sheet G140.

FIGURE 1
G-FIRE FIGURE 577 GROOVED RIGID COUPLING, 1 TO 12 INCH (DN25 TO DN300)
NOMINAL DIMENSIONS

Pipe Sizes Nominal ANSI Inches (O.D. mm)	Pipe Schedule ^c	Pressure Rating psi (bar)		
		UL	ULC	FM
1 (33,7)	10	300 (20,7)	300 (20,7)	350 (24,1)
	40	350 (24,1)	350 (24,1)	350 (24,1)
1-1/4 (42,4); 1-1/2 (48,3); 2 (60,3); 2-1/2 (73,0)	10	350 (24,1)	350 (24,1)	350 (24,1)
	40	350 (24,1)	350 (24,1)	350 (24,1)
3 (88,9); 4 (114,3)	10	300 (20,7)	300 (20,7)	350 (24,1)
	40	300 (20,7)	300 (20,7)	350 (24,1)
5 (141,3); 6 (168,3); 8 (219,1) ^a ; 10 (273,0) ^a ; 12 (323,9) ^b	10	300 (20,7)	300 (20,7)	300 (20,7)
	40	300 (20,7)	300 (20,7)	300 (20,7)

Pipe O.D. mm	Pipe Specification ^c	Pressure Rating psi (bar)	
		UL	FM
76,1	ISO 4200 Type F	300 (20,7)	350 (24,1)
	ISO 4200 Type D and E	300 (20,7)	300 (20,7)
	EN 10255 Heavy	300 (20,7)	300 (20,7)
	EN 10255 Medium	300 (20,7)	300 (20,7)
139,7	ISO 4200 Type D, E, and F	300 (20,7)	300 (20,7)
	EN 10255 Heavy	300 (20,7)	300 (20,7)
	EN 10255 Medium	300 (20,7)	300 (20,7)
165,1	EN 10255 Heavy	300 (20,7)	300 (20,7)
	EN 10255 Medium	300 (20,7)	300 (20,7)

Pipe Sizes Nominal ANSI Inches (O.D. mm)	Pipe Specification ^d	Pressure Rating psi (bar)	
		LPCB	VdS
1 (33,7); 1-1/4 (42,4); 1-1/2 (48,3); 2 (60,3); — (76,1); 3 (88,9); 4 (114,3); — (165,1)	ISO 65 Medium	290 (20)	—
6 (168,3); 8 (219,1); 10 (273,0); 12 (323,9)	ISO 4200 Wall Thickness 5,4 mm	290 (20)	—
1 (33,7); 1-1/4 (42,4); 1-1/2 (48,3); 2 (60,3); — (76,1); 3 (88,9); 4 (114,3); — (139,7); 6 (168,3); 8 (219,1)	DIN 2448 or 2548	—	232 (16)

- a. For 8 and 10 inch sizes, minimum allowed pipe wall thickness is 0.188 inches
b. For 12 Inch, Schedule 30 is minimum allowed pipe wall thickness by UL and ULC. 0.250 inch wall thickness is the minimum allowed by FM
c. See Agency website for Listing/Approvals of other pipe specifications:
UL website - see Online Certificate Directory, www.ul.com
FM Global website - www.approvalguide.com
d. See Agency website for Listing/Approvals of other pipe specifications:
LPCB website - see Search Our Listings - Automatic Sprinklers, Water Spray and Deluge Systems, www.redbooklive.com
VdS website - see certifications, www.vds.de

TABLE A
LISTED/APPROVED PRESSURE RATINGS

Care and Maintenance

The GRINNELL G-FIRE Figure 577 Grooved Rigid Coupling must be maintained in accordance with this section.

Before closing a fire protection system main control valve for maintenance work on the fire protection system that it controls, obtain permission to shut down the affected fire protection system from the proper authorities and notify all personnel who may be affected by this decision.

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

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. Any impairments must be immediately corrected.

Automatic sprinkler systems are recommended to be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes.

Limited Warranty

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

Ordering Procedure

GRINNELL Products are available globally through a network of distribution centers. For the nearest distributor, visit www.tyco-fire.com. When placing an order, indicate the full product name.

Specify: G-FIRE Figure 577 Grooved Rigid Coupling, quantity, pipe size (Nominal ANSI or O.D.), finish (Orange, Red, or Galvanized), and type of gasket:

- Pre-lubricated Grade "A" EPDM
- Tri-Seal Grade "E" EPDM

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

Size Range: 1/2" through 8"

Material: Carbon steel

Finish: Strap is Pre-Galvanized Zinc Material. Nut is Zinc Plated.

Service: Recommended for suspension of non-insulated **stationary** pipe line.

Maximum Temperature: 450° F

Approvals: Complies with Federal Specification A-A-1192A (Type 10), WW-H-171-E (Type 10), and ANSI/MSS SP-58 (Type 10). UL Listed and FM Approved (Sizes 3/4" - 8").

Features:

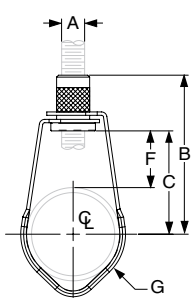
- 1/2" - 2" sizes designed for use with steel and CPVC piping and manufactured with FBC System Compatible oil.
- Threads are countersunk so that they cannot become burred or damaged.
- Knurled swivel nut provides vertical adjustment after piping is in place.
- Captured swivel nut in the 1/2" through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

Ordering: Specify size, figure number and name.

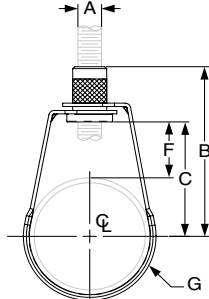
Non-captured nut also available upon request.



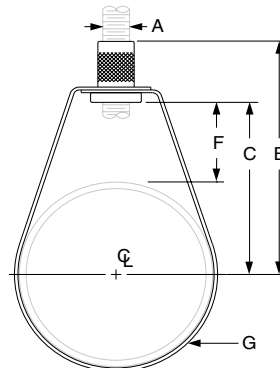
1/2" through 2" Size
Rounded Edge Design



1/2" through 1" pipe



1 1/4" through 2" pipe



2 1/2" through 8" pipe



2 1/2" through 8" Size

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

Pipe Size	Max Load	Weight	Rod Size A	B	C	F	G Width
1/2	300	0.10	3/8	2 7/8	2	1 9/16	5/8
3/4		0.10		2 3/4	1 7/8	1 5/16	
1		0.10		2 9/16	1 11/16	1	
1 1/4		0.10		2 5/8	1 3/4	7/8	
1 1/2		0.10		2 3/4	1 7/8	1 1/8	
2		0.11		3 1/4	2 3/8	1 1/8	
2 1/2	525	0.20	1/2	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	1/2	4 11/16	3 13/16	1 9/16	
5		0.54		5 5/16	4 3/8	2 1/4	
6	1,000	0.65	1/2	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:	<input type="checkbox"/> Approved
Address:	<input type="checkbox"/> Approved as noted
Contractor:	<input type="checkbox"/> Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

Fig. 92

Universal C-type Clamp (Standard Throat)

Size Range: 3/8 and 1/2"

Material: Ductile iron, hardened steel cup point set screw and locknut.

Finish: Plain or Galvanized

Service: Recommended for use under roof installations with bar joist type construction, or for attachment to the top or bottom flange of structural shapes where the vertical hanger rod is required to be offset from the edge of the flange and where the thickness of joist or flange does not exceed 3/4".

Approvals: Complies with Federal Specification A-A-1192A (Type 19 & 23) WW-H-171-E (Type 23) and MSS-SP-69 (Type 19 & 23).
UL, FM and ULC Approved.

How to size: Size of clamp is determined by size of rod to be used.

Installation: Follow recommended set screw torque values per MSS-SP-69 (See table on page PH-212)

Features:

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

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

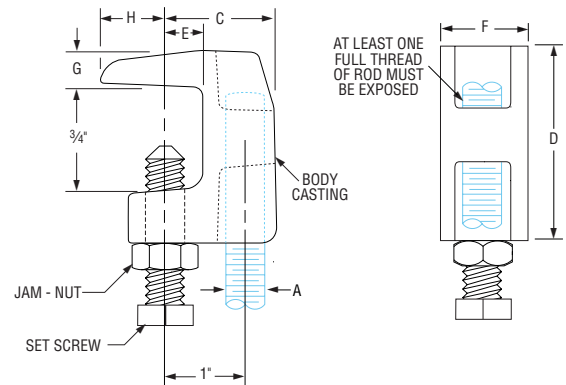
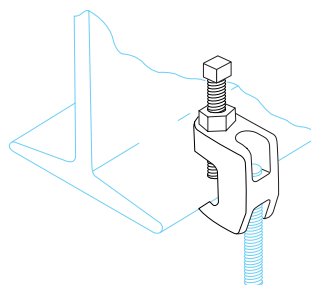
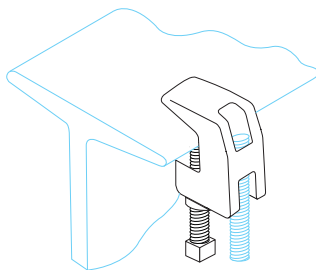


Fig. 92: Load (lbs) • Weight (lbs) • Dimensions (in)

Rod Size A	Set Screw Size	Max Loads ■		Weight	C	D	E	F	G	H
		Top	Bottom							
3/8	3/8	500	250	0.34	1 5/16	1 9/16	9/16	1 3/16	3/8	1/2
1/2	1/2	950	760	0.63	1 3/8	1 13/16	1/2	1 1/16	7/16	23/32

■ Maximum temperature of 450° F

Pipe Hanger Submittal Sheet

Project:	Architech / Engineer:	Approval Stamp:
Date:	Phone:	
Contractor:		
Address:		
Notes 1:		
Notes 2:		