



GRINNELL G-FIRE Figure 522 Sprinkler Outlets

General Description

The GRINNELL Figure 522 Sprinkler Outlet is an economical alternative to welded pipe outlets on steel pipe. The Figure 522 Sprinkler Outlet may be used with full lengths of pipe and eliminates threading and welding, decreasing waste and installation time. The Figure 522 Sprinkler Outlet may be used in wet pipe, dry pipe, and deluge systems.

WARNING

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 GRINNELL Figure 522 Sprinkler Outlet 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.

Owners are 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, FM, ULC, VdS, and LPCB

Maximum Working Pressure

300 psi (20,7 Bar)

Sizes

- Run Sizes
1", 1-1/4", 1-1/2", 2", 2-1/2", 76,1 mm
- Outlet Sizes
ISO 7/1 or NPT Threaded
3/8", 1/2", 3/4", 1"

Housing Materials

Ductile Iron conforming to
ASTM A 536, Grade 65-45-12

Finish

- Zinc electroplate conforming to
ASTM B 633 Type III
- Red (RAL3000) painted finish for
ISO Thread only
- Orange painted finish for
NPT Thread only

Bolts

Conforming to DIN 933,
M8 x 30 mm Class 8.8

Nuts

Flange nuts conforming to DIN 934,
Class 8

Gasket

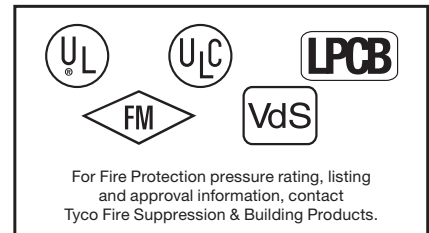
Grade "E" EPDM, Green color code
-30°F to 230°F (-34°C to 110°C)

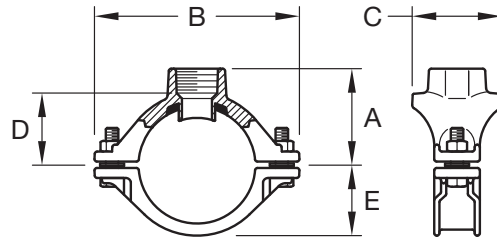
See Data Sheet G610 for additional
gasket information.

Friction Loss

Equivalent length of 1-Inch Schedule 40
pipe is 15 Feet.

Hazen Williams coefficient = 120





Nominal Pipe Size		Outlet Size ISO 7/1 or NPT Threads	Max.‡ Outlet End Load Lbs. (kN)	Nominal Dimensions Inches (mm)					Approx. Weight Lbs. (kg)
Nominal Run Size ANSI Inches DN	O.D. Inches (mm)			A	B	C	D	E	
1 DN25	1.315 (33,7)	1/2	165.9 (0,738)	1.00 (25,4)	3.40 (86,4)	1.94 (49,3)	0.56 (14,3)	1.00 (25,4)	0.9 (0,4)
		3/4	259.9 (1,156)	1.64 (41,7)	3.40 (86,4)	1.94 (49,3)	1.14 (29,0)	1.00 (25,4)	1.1 (0,5)
		1	259.9 (1,156)	1.83 (46,5)	3.40 (86,4)	2.25 (57,2)	1.26 (32,0)	1.00 (25,4)	1.1 (0,5)
1-1/4 DN32	1.660 (42,4)	3/8	165.9 (0,738)	1.22 (31,0)	3.78 (96,0)	2.25 (57,2)	0.91 (23,1)	1.06 (26,9)	0.9 (0,4)
		1/2	165.9 (0,738)	1.22 (31,0)	3.78 (96,0)	2.25 (57,2)	0.78 (19,8)	1.06 (26,9)	0.9 (0,4)
		3/4	259.9 (1,156)	1.83 (46,5)	3.78 (96,0)	2.25 (57,2)	1.33 (33,8)	1.06 (26,9)	1.1 (0,5)
		1	406.9 (1,81)	2.00 (50,8)	3.78 (96,0)	2.25 (57,2)	1.44 (36,6)	1.06 (26,9)	1.3 (0,6)
1-1/2 DN40	1.900 (48,3)	1/2	165.9 (0,738)	1.32 (33,5)	4.00 (101,6)	2.25 (57,2)	0.88 (22,4)	1.25 (31,8)	1.1 (0,5)
		3/4	259.9 (1,156)	1.93 (49,0)	4.00 (101,6)	2.25 (57,2)	1.43 (36,3)	1.25 (31,8)	3.1 (0,5)
		1	406.9 (1,81)	2.11 (53,6)	4.00 (101,6)	2.25 (57,2)	1.55 (39,4)	1.25 (31,8)	1.3 (0,6)
2 DN50	2.375 (60,3)	1/2	165.9 (0,738)	1.56 (39,6)	4.46 (113,3)	2.25 (57,2)	1.12 (28,4)	1.50 (38,1)	1.3 (0,6)
		3/4	259.9 (1,156)	2.17 (55,1)	4.46 (113,3)	2.25 (57,2)	1.67 (42,4)	1.50 (38,1)	1.5 (0,7)
		1	406.9 (1,81)	2.35 (60,0)	4.46 (113,3)	2.50 (63,5)	1.79 (45,5)	1.50 (38,1)	1.5 (0,7)
2-1/2 (DN65)	2.875 (73,0)	1/2	165.9 (0,738)	2.00 (50,8)	5.12 (130,0)	2.25 (57,2)	1.56 (39,6)	1.69 (42,9)	1.5 (0,7)
		3/4	259.9 (1,156)	2.50 (63,5)	5.12 (130,0)	2.25 (57,2)	2.00 (50,8)	1.69 (42,9)	1.8 (0,8)
		1	406.9 (1,81)	2.70 (68,6)	5.12 (130,0)	2.50 (63,5)	2.14 (54,4)	1.69 (42,9)	1.8 (0,8)
76.1 mm DN65	3.000 (76,1)	1/2	165.9 (0,738)	2.00 (50,8)	5.12 (130,0)	2.25 (57,2)	1.56 (39,6)	1.82 (46,2)	1.5 (0,7)
		3/4	259.9 (1,156)	2.50 (63,5)	5.12 (130,0)	2.25 (57,2)	2.00 (50,8)	1.82 (46,2)	1.8 (0,8)
		1	406.9 (1,81)	2.75 (69,9)	5.12 (130,0)	2.50 (63,5)	2.19 (55,6)	1.82 (46,2)	1.8 (0,8)

‡ Maximum pressure and end load are total from all loads based on standard weight steel pipe.
 Pressure ratings and end loads may differ on other pipe materials and/or wall thickness.
 Always confirm compatibility by contacting Tyco Fire Suppression & Building Products for details.

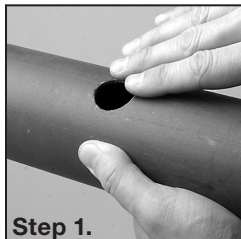
FIGURE 1
FIGURE 522 SPRINKLER OUTLET
NOMINAL DIMENSIONS

Installation

The GRINNELL Figure 522 Sprinkler Outlets are to be installed in accordance with the following instructions.

The 1 Inch (DN25) outlets can be used in fire protection systems with a nipple leading directly to a sprinkler only. These fittings should be used for hydraulically calculated systems only.

Step 1. Verify hole size from Table A. The hole must be drilled on the pipe center-line. Remove any sharp or rough edges from the hole or upper housing contact area. The gasket-seating surface on the pipe should be examined to verify all loose debris, dirt, chips, paint and any other foreign material such as grease are removed.

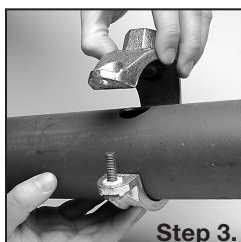


Verify that the gasket grade is correct for the application intended. Refer to Technical Data Sheet G610 for additional gasket information.

Step 2. Check for proper gasket positioning in the housing. The alignment tabs on the gasket should fit into the recesses of the housing. Check sealing surface for cuts or imperfections that would affect sealing. For Wet Based applications, no lubricant is required. When used for Dry Pipe and Freezer applications, use a petroleum-free silicon based lubricant.



Step 3. With one nut and bolt removed and the other nut threaded out flush with the end of the screw, "swing" the housing over the hole in the pipe.



Step 4. Verify that the housing outlet spike is positioned in the hole. Insert the other bolt into the housing and rotate the nuts clockwise until finger tight. Verify that the bolt heads are fully seated in the housing.



Step 5. Alternate when tightening nuts until properly torqued to between 15 - 20 Ft.- Lbs. (20-27 Nm) with even gaps between the bolt pads. Uneven tightening can cause the gasket to pinch or bind. Over torquing can damage the product or thin wall pipe and will not increase sealing efficiency.

Nominal Run Size ANSI Inches DN	Nominal Branch Size ANSI Inches DN	Hole Diameter*	
		Inches (mm)	Tolerance + Inches (mm)
1 DN25	1/2 / DN15	0.94 (24,0)	0.02 (0,5)
	3/4 / DN20		
	1 / DN25		
1-1/4 DN32	3/8 / DN10		
	1/2 / DN15		
	3/4 / DN20		
1-1/2 DN40	1 / DN25		
	3/4 / DN20		
	1 / DN25		
2 DN50	1/2 / DN15		
	3/4 / DN20		
	1 / DN25		
76.1 mm DN65	1/2 / DN15	0.94 / (24,0)	
	3/4 / DN20		
	1 / DN25	1.38 / (34,9)	

*Proper hole preparation is required for effective sealing and performance. Check the pipe seal surface within 5/8" of the hole to be certain it is free from conditions that would affect proper gasket sealing. Remove any sharp or rough edges from the hole or upper housing contact area that might affect assembly, proper seating of the locating collar, or flow from the outlet. Check gasket grade to be certain it is suitable for the service. The use of threaded products other than steel pipe, such as dry pendants, etc. may not be compatible with the female threaded outlet on the Mechanical Tee. Always confirm compatibility by contacting GRINNELL Products.

**TABLE A
FIGURE 522 SPRINKLER OUTLET
OUTLET HOLE DIMENSIONS**

Limited Warranty

Products manufactured by Tyco Fire Suppression & Building Products (TFSBP) are warranted solely to the original Buyer for ten (10) years against defects in material and workmanship when paid for and properly installed and maintained under normal use and service. This warranty will expire ten (10) years from date of shipment by TFSBP. No warranty is given for products or components manufactured by companies not affiliated by ownership with TFSBP or for products and components which have been subject to misuse, improper installation or maintenance, corrosion, or other external sources of damage. Materials found by TFSBP to be defective shall be either repaired or replaced, at TFSBP's sole option. TFSBP neither assumes, nor authorizes any person to assume for it, any other obligation in connection with the sale of products or parts of products. TFSBP shall not be responsible for system design errors or inaccurate or incomplete information supplied by Buyer or Buyer's representatives.

In no event shall TFSBP be liable, in contract, tort, strict liability or under any other legal theory, for incidental, indirect, special or consequential damages, including but not limited to labor charges, regardless of whether TFSBP was informed about the possibility of such damages, and in no event shall TFSBP's liability exceed an amount equal to the sales price.

The foregoing warranty is made in lieu of any and all other warranties, express or implied, including warranties of merchantability and fitness for a particular purpose.

This limited warranty sets forth the exclusive remedy for claims based on failure of or defect in products, materials or components, whether the claim is made in contract, tort, strict liability or any other legal theory.

This warranty will apply to the full extent permitted by law. The invalidity, in whole or part, of any portion of this warranty will not affect the remainder.

Ordering Procedure

GRINNELL Products are available globally through a network of distribution centers. Visit www.grinnell.com for the nearest distributor.

When placing an order, indicate the full product name.

Figure 522 Sprinkler Outlet

Specify the following:

- Quantity
- Run Size x Outlet Size
- ISO 7/1 or NPT Outlet Threads
- Finish