

GRINNELL G-FIRE Figure 702 Outlet Coupling

General Description

The GRINNELL G-FIRE Figure 702 Outlet Couplings provide a rigid joint by firmly gripping along the full circumference of the pipe grooves. Figure 702 couplings are a proven, dependable method of joining pipe and are an economical alternative to welding, threading, or using flanges.

Figure 702 Outlet Couplings are rated at pressures up to 300 psi (20,7 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 702 Outlet 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 fire protection system and devices in proper operating condition. Contact the installing contractor or product manufacturer with any questions.

Technical Data

Approvals

UL and ULC Listed
FM Approved

Refer to Tables A and B for details

Sizes

Run sizes from 1-1/2 to 6 inch
(DN40 to DN150)

Maximum Pressure

300 psi (20,7 bar)

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.

Gasket

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

See Technical Data Sheet TFP1895 for more gasket information.

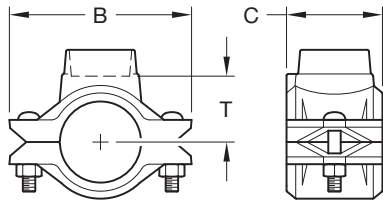


Figure 702
 Outlet Coupling with Female NPT Outlet

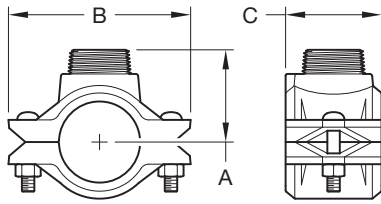


Figure 702
 Outlet Coupling with Male NPT Outlet

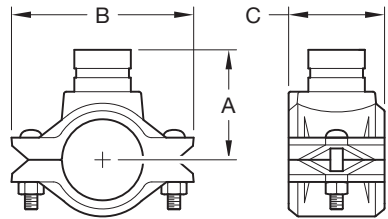


Figure 702
 Outlet Coupling with Grooved Outlet

| Nominal Run Size | | Nominal Branch Size | | | | End Gap Range Inches (mm) | Max. Run End Load Lbs. (kN) | Nominal Dimensions-Inches (mm) | | | | Coupling Bolt Size Inches | Approx. Weight Lbs. (kg) |
|------------------|------------------|------------------------|----------------------|------------------|------------------|---------------------------|-----------------------------|--------------------------------|---------------|-------------|--------------|---------------------------|--------------------------|
| ANSI Inches (DN) | O.D. Inches (mm) | Female NPT Inches (mm) | Male NPT Inches (mm) | Grooved | | | | A | B | C | T* | | |
| | | | | ANSI Inches (DN) | O.D. Inches (mm) | | | | | | | | |
| 1-1/2 (40) | 1.900 (48,3) | 1/2 (21,3) | — | — | — | 0.81-0.88 (20-22) | 1418 (6,3) | — | 4.50 (114,3) | 2.75 (70,0) | 2.06 (52,0) | 3/8 x 2-1/8 | 2.6 (1,2) |
| | | 3/4 (26,7) | — | — | — | 0.81-0.88 (20-22) | | — | 4.50 (114,3) | 2.75 (70,0) | 2.06 (52,0) | | 2.6 (1,2) |
| | | 1 (33,7) | — | — | — | 0.81-0.88 (20-22) | | — | 4.50 (114,3) | 2.75 (70,0) | 1.94 (49,0) | | 2.9 (1,3) |
| 2 (50) | 2.375 (60,3) | 1/2 (21,3) | — | — | — | 0.81-0.88 (20-22) | 2215 (9,9) | — | 5.00 (127,0) | 2.75 (70,0) | 2.32 (59,0) | 3/8 x 2-1/8 | 3.1 (1,4) |
| | | 3/4 (26,7) | — | — | — | 0.81-0.88 (20-22) | | — | 5.00 (127,0) | 2.75 (70,0) | 2.32 (59,0) | | 3.1 (1,4) |
| | | 1 (33,7) | 1 (33,7) | 1 (25) | 1.315 (33,7) | 0.81-0.88 (20-22) | | 3.50 (89,0) | 5.00 (127,0) | 2.75 (70,0) | 2.20 (56,0) | | 3.3 (1,5) |
| 2-1/2 (65) | 2.875 (73,0) | 1/2 (21,3) | — | — | — | 1.25-1.50 (32-38) | 3246 (14,4) | — | 6.33 (161,0) | 3.25 (83,0) | 2.20 (56,0) | 1/2 x 2-3/8 | 4.8 (2,2) |
| | | 3/4 (26,7) | — | — | — | 1.25-1.50 (32-38) | | — | 6.33 (161,0) | 3.25 (83,0) | 2.56 (65,0) | | 4.6 (2,1) |
| | | 1 (33,7) | — | — | — | 1.25-1.50 (32-38) | | — | 6.33 (161,0) | 3.25 (83,0) | 2.44 (62,0) | | 2.2 (4,4) |
| | | — | 1-1/4 (42,4) | 1-1/4 (32) | 1.660 (42,4) | 1.25-1.50 (32-38) | | 3.70 (94,0) | 6.33 (161,0) | 3.25 (83,0) | — | | 5.1 (2,3) |
| | | — | 1-1/2 (48,3) | 1-1/2 (40) | 1.900 (48,3) | 1.25-1.50 (32-38) | | 3.70 (94,0) | 6.33 (161,0) | 3.25 (83,0) | — | | 2.4 (5,9) |
| 3 (80) | 3.500 (88,9) | 3/4 (26,7) | — | — | — | 1.25-1.50 (32-38) | 4811 (21,4) | — | 6.87 (175,0) | 3.25 (83,0) | 2.83 (72,0) | 1/2 x 3 | 5.9 (2,7) |
| | | 1 (33,7) | 1 (33,4) | 1 (25) | 1.315 (33,7) | 1.25-1.50 (32-38) | | 4.00 (102,0) | 6.87 (175,0) | 3.25 (83,0) | 2.75 (70,0) | | 6.2 (2,8) |
| | | — | 1-1/2 (48,3) | 1-1/2 (40) | 1.900 (48,3) | 1.25-1.50 (32-38) | | 4.00 (102,0) | 6.87 (175,0) | 3.25 (83,0) | — | | 6.4 (2,9) |
| 4 (100) | 4.500 (114,3) | 3/4 (26,7) | — | — | — | 1.63-1.81 (41-46) | 7952 (35,4) | — | 8.31 (211,0) | 3.66 (93,0) | 3.70 (94,0) | 5/8 x 3-1/2 | 9.2 (4,2) |
| | | 1 (33,7) | 1 (33,4) | — | — | 1.63-1.81 (41-46) | | — | 8.31 (211,0) | 3.66 (93,0) | 3.58 (91,0) | | 9.5 (4,3) |
| | | — | 1-1/2 (48,3) | 1-1/2 (40) | 1.900 (48,3) | 1.63-1.81 (41-46) | | 4.88 (124,0) | 8.31 (211,0) | 3.66 (93,0) | 3.31 (84,0) | | 9.5 (4,3) |
| | | — | 2 (60,3) | 2 (50) | 2.375 (60,3) | 1.63-1.81 (41-46) | | 4.88 (124,0) | 8.31 (211,0) | 3.66 (93,0) | — | | 9.9 (4,5) |
| | | — | — | — | — | — | | — | — | — | — | | — |
| 6 (150) | 6.625 (168,3) | — | — | — | — | 1.63-1.81 (41-46) | 17,235 (76,7) | — | 10.86 (276,0) | 3.70 (94,0) | — | 5/8 x 3-1/2 | 13.2 (6,0) |
| | | 1 (33,7) | — | — | — | 1.63-1.81 (41-46) | | — | 10.86 (276,0) | 3.70 (94,0) | 4.76 (121,0) | | 13.2 (6,0) |
| | | 1-1/2 (48,3) | 1-1/2 (48,3) | 1-1/2 (40) | 1.900 (48,3) | 1.63-1.81 (41-46) | | 6.06 (154,0) | 10.86 (276,0) | 3.70 (94,0) | 4.76 (121,0) | | 13.6 (6,2) |
| | | — | 2 (60,3) | 2 (50) | 2.375 (60,3) | 1.63-1.81 (41-46) | | 6.06 (154,0) | 10.86 (276,0) | 3.70 (94,0) | — | | 14.3 (6,5) |

* Center of run pipe to end of outlet pipe (dimensions approximate). Female threaded outlet only.

FIGURE 1
FIGURE 702 OUTLET COUPLING
NOMINAL DIMENSIONS

| MALE THREADED OUTLETS | | | | |
|--|----------------------------------|--|---------------|---------------|
| Nominal Pipe Sizes ANSI Inches | Pipe Schedule^a | Pressure Rating psi (bar) | | |
| | | UL | ULC | FM |
| 2 x 1 3 x 1 6 x 1-1/2 | 10 | 300 (20,7) | 300 (20,7) | 300 (20,7) |
| | 40 | 300 (20,7) | 300 (20,7) | 300 (20,7) |
| 2-1/2 x: 1-1/4; 1-1/2 3 x 1-1/2 4 x: 1-1/2; 2 6 x 2 | 10 | — | — | 300 (20,7) |
| | 40 | — | — | 300 (20,7) |
| 4 x 1 | 10 | 300 (20,7) | 300 (20,7) | — |
| | 40 | 300 (20,7) | 300 (20,7) | — |

| FEMALE THREADED OUTLETS | | | | |
|---|----------------------------------|--|---------------|---------------|
| Nominal Pipe Sizes ANSI Inches | Pipe Schedule^a | Pressure Rating psi (bar) | | |
| | | UL | ULC | FM |
| 1-1/2 x: 1/2; 3/4; 1 2 x: 1/2; 3/4; 1 2-1/2 x: 1/2; 3/4; 1 3 x: 3/4; 1 4 x: 3/4; 1 6 x: 1; 1-1/2 | 10 | 300 (20,7) | 300 (20,7) | 300 (20,7) |
| | 40 | 300 (20,7) | 300 (20,7) | 300 (20,7) |

a. 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

TABLE A
LISTED/APPROVED PRESSURE RATINGS
THREADED OUTLETS

| Nominal Pipe Sizes ANSI Inches | Pipe Schedule^a | Pressure Rating psi (bar) | | |
|---|----------------------------------|--|---------------|---------------|
| | | UL | ULC | FM |
| 2 x 1 2-1/2 x: 1-1/4; 1-1/2 3 x: 1; 1-1/2 4 x: 1-1/2; 2 6 x: 1-1/2; 2 | 10 | 300 (20,7) | 300 (20,7) | 300 (20,7) |
| | 40 | 300 (20,7) | 300 (20,7) | 300 (20,7) |

a. 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

TABLE B
LISTED/APPROVED PRESSURE RATINGS
GROOVED OUTLETS

| Nominal Outlet Size | Threaded | | Grooved | |
|------------------------|---------------|-------------------------------------|---------------|-------------------------------------|
| | Cv Values* | Equivalent Length Feet (M) | Cv Values* | Equivalent Length Feet (M) |
| 1/2 (15) | — | 10 (3,0) | — | — |
| 3/4 (20) | 15 | 5 (1,5) | — | — |
| 1 (25) | 25 | 7 (2,1) | 12 | 30 (9,1) |
| 1-1/4 (32) | 40 | 10 (3,0) | 42 | 10 (3,0) |
| 1-1/2 (40) | 60 | 12 (3,7) | 72 | 10 (3,0) |
| 2 (50) | — | — | 130 | 10 (3,0) |

*Values for flow of water at +60°F (+16°C).

TABLE C
FLOW CHARACTERISTICS

Care and Maintenance

The GRINNELL G-FIRE Figure 702 Outlet Couplings 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 702 Outlet Coupling, quantity, pipe size (nominal ANSI or pipe O.D.), finish (Orange, Red, or Galvanized), and Grade "E" EPDM gasket