

# Grinnell®

## GRINNELL Mechanical Products Figure 707 Heavy Duty Flexible Coupling 1 Inch to 24 Inch (DN25 to DN600)

### General Description

GRINNELL Figure 707 Heavy-Duty Flexible Couplings allow for angular and linear deflection, thermal expansion and contraction, and misalignments of the pipe. Flexible couplings can act as an expansion joint, allowing linear and angular movement of the pipes when properly installed. This coupling, in sizes 6 inch and smaller, is capable of pressures up to 1,000 psi (68,9 bar).

Suitable for use in a variety of applications, the Figure 707 Coupling provides a dependable method of joining pipe.

#### NOTICE

The GRINNELL Figure 707 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.

The designer is responsible for selecting products suitable for the intended service and to ensure that pressure ratings and performance data are not exceeded. Verify that material and gasket selection are compatible with the specific application. Always read and understand the installation instructions.

#### IMPORTANT

Refer to Technical Data Sheet G1100 for warnings pertaining to regulatory and health information.

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

### Technical Data

#### Approvals

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

**Note:** The listed approvals apply to all of the flexible couplings except the 76,1 mm (DN65) and 20 Inch (DN500) sizes.

#### Sizes

1 in. to 24 in. (DN25 to DN600)

#### Maximum Pressure

Refer to Table 1

#### Housing

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

#### Finish

- Orange non-lead paint (standard)
- Red non-lead paint
- Hot-dipped Galvanized conforming to ASTM A 153

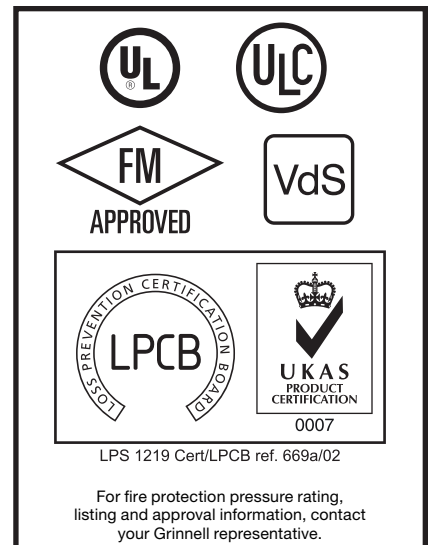
#### Bolts/Nuts

- ANSI:  
Carbon Steel oval neck track head bolts are heat-treated and conform to the physical properties of ASTM A 183 Grade 2 and SAE J429 Grade 5 with a minimum tensile strength of 110,000 psi.

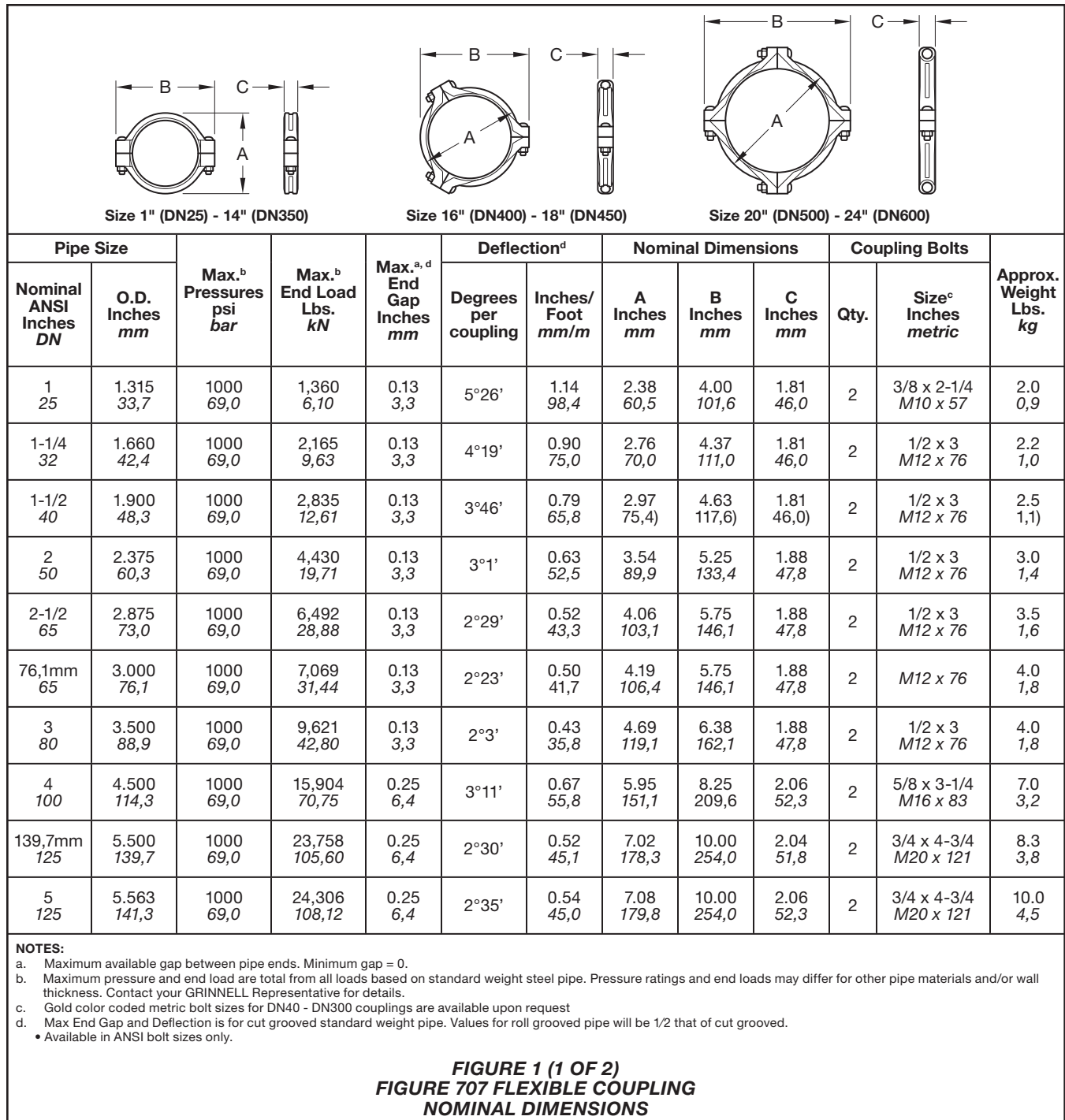
Carbon Steel heavy hex nuts conform to the physical properties of ASTM A 183 Grade 2 and SAE J995 Grade 5. Bolts and nuts are zinc-electroplated conforming to ASTM B 633.

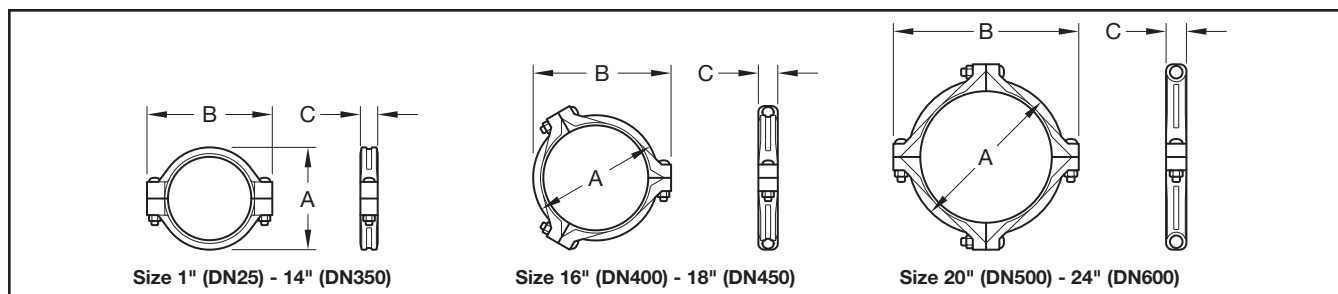
Stainless Steel Bolts and Nuts are available upon request.

- Metric:  
Carbon steel oval neck track head bolts (Gold color coded) are heat-treated and conform to the physical properties of ASTM F 568 M with a minimum tensile strength of 760 MPa.



Carbon Steel heavy hex nuts conform to the physical properties of ASTM A 563 M Class 9. Bolts and nuts are zinc-electroplated conforming to ASTM B 633.





Pipe Size		Max.† Pressures psi bar	Max.† End Load Lbs. kN	Max.*‡ End Gap Inches mm	Deflection ‡		Nominal Dimensions			Coupling Bolts		Approx. Weight Lbs. kg
Nominal ANSI Inches DN	O.D. Inches mm				Degrees per coupling	Inches/ Foot mm/m	A Inches mm	B Inches mm	C Inches mm	Qty.	Size** Inches metric	
165,1mm 150	6.500 165,1	1000 69,0	33,183 147,61	0.25 6,4	2°12'	0.46 38,3	8.19 208,0	11.25 285,8	2.06 52,3	2	M20 x 121	12.0 5,0
6 150	6.625 168,3	1000 69,0	34,472 153,34	0.25 6,4	2°10'	0.45 37,5	8.30 210,8	11.25 285,8	2.06 52,3	2	3/4 x 4-3/4 M20 x 121	11.1 5,0
8 200	8.625 219,1	800 55,1	46,741 207,91	0.25 6,4	1°40'	0.35 29,2	10.68 271,3	14.00 355,6	2.47 62,7	2	7/8 x 6-1/2 M22 x 165	21.4 9,7
10 250	10.750 273,0	800 55,1	72,610 322,99	0.25 6,4	1°20'	0.28 23,3	13.06 331,7	16.44 417,6	2.63 66,8	2	1 x 6-1/2 M24 x 165	29.0 13,2
12 300	12.750 323,9	800 55,1	102,141 454,35	0.25 6,4	1°7'	0.23 19,2	15.39 390,9	18.84 478,5	2.63 66,8	2	1 x 6-1/2 M24 x 165	37.0 16,8
14 350	14.000 355,6	350 24,1	53,878 239,66	0.25 6,4	1°2'	0.22 18,3	16.67 423,4	20.38 517,7	2.94 74,7	2	1 x 5-1/2•	46.0 20,9
16 400	16.000 406,4	350 24,1	70,372 313,03	0.25 6,4	0°54'	0.19 15,8	18.83 478,3	22.64 575,1	2.94 74,7	3	1 x 5-1/2•	59.0 26,8
18 450	18.000 457,2	300 20,7	76,341 339,58	0.25 6,4	0°48'	0.17 14,2	21.31 541,3	25.12 638,0	3.06 77,7	3	1 x 5-1/2•	78.0 35,4
20 500	20.000 508,0	300 20,7	94,248 419,24	0.25 6,4	0°43'	0.15 12,5	23.47 596,1	27.88 708,2	3.06 77,7	4	1-1/8 x 5-3/4•	89.0 40,4
24 600	24.000 609,6	350 24,1	158,336 704,31	0.25 6,4	0°36'	0.13 10,8	27.58 700,5	32.00 812,8	3.19 81,0	4	1-1/8 x 5-3/4•	112.0 50,8

**NOTES:**

- Maximum available gap between pipe ends. Minimum gap = 0.
- 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 GRINNELL Representative for details.
- Gold color coded metric bolt sizes for DN40 - DN300 couplings are available upon request
- Max End Gap and Deflection is for cut grooved standard weight pipe. Values for roll grooved pipe will be 1/2 that of cut grooved.
  - Available in ANSI bolt sizes only.

**FIGURE 1 (2 OF 2)  
FIGURE 707 FLEXIBLE COUPLING  
NOMINAL DIMENSIONS**

### **Gaskets**

- Grade “E” EPDM,  
Green color code,  
-30°F to 230°F (-34°C to 110°C)
- Tri-Seal Grade “E” EPDM,  
Green color code,  
-30°F to 230°F (-34°C to 110°C)
- Recommended for use in low  
temperature and vacuum systems
- Grade “L” Silicone,  
Red gasket,  
-30°F to 350°F (-34°C to 177°C)
- Grade “T” Nitrile,  
Orange color code,  
-20°F to 180°F (-29°C to 82°C)
- Grade “O” Fluoroelastomer,  
Blue color code,  
20°F to 300°F (-7°C to 149°C)

For proper gasket selection, refer to Technical Data Sheet G610.

## **Ordering Procedure**

GRINNELL Products are available globally through a network of distribution centers.

Specify Figure 707 Heavy Duty Flexible Coupling, quantity, pipe size (nominal ANSI or O.D.), finish (Orange, Red, or Galvanized), and type of gasket:

- Grade “E” EPDM
- Tri-Seal Grade “E” EPDM
- Grade “L” Silicone
- Grade “T” Nitrile
- Grade “O” Fluoroelastomer