



Figure 7001 Standard Coupling

The Gruvlok® Fig. 7001 Standard Coupling forms a flexible grooved end pipe joint connection with the versatility for a wide range of applications. Services include mechanical and plumbing, process piping, mining and oil field piping, and many others. The coupling design supplies optimum strength for working pressures to 1000 PSI without excessive casting weight.

The flexible design eases pipe and equipment installation while providing the designed-in benefit of reducing pipeline noise and vibration transmission without the addition of special components. To ease coupling handling and assembly and to assure consistent quality sizes 1" through 14" couplings have two 180° segment housings, 16" through 24" sizes have four 90° - segment housings while the 28" I.D. and 30" I.D. couplings have six 60° segment housings. For high temperature applications lubrication of the interior of the gasket with Gruvlok Xtreme™ Lubricant may be required. For additional information refer to the Gruvlok Lubricants in the Technical Data section of the Gruvlok catalog. For the latest UL/ULC Listed and FM Approved pressure ratings versus pipe schedule see www.anvilintl.com or contact your local Gruvlok Representative.

Fig. 7001 with Standard Gasket

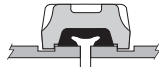
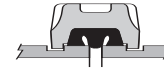
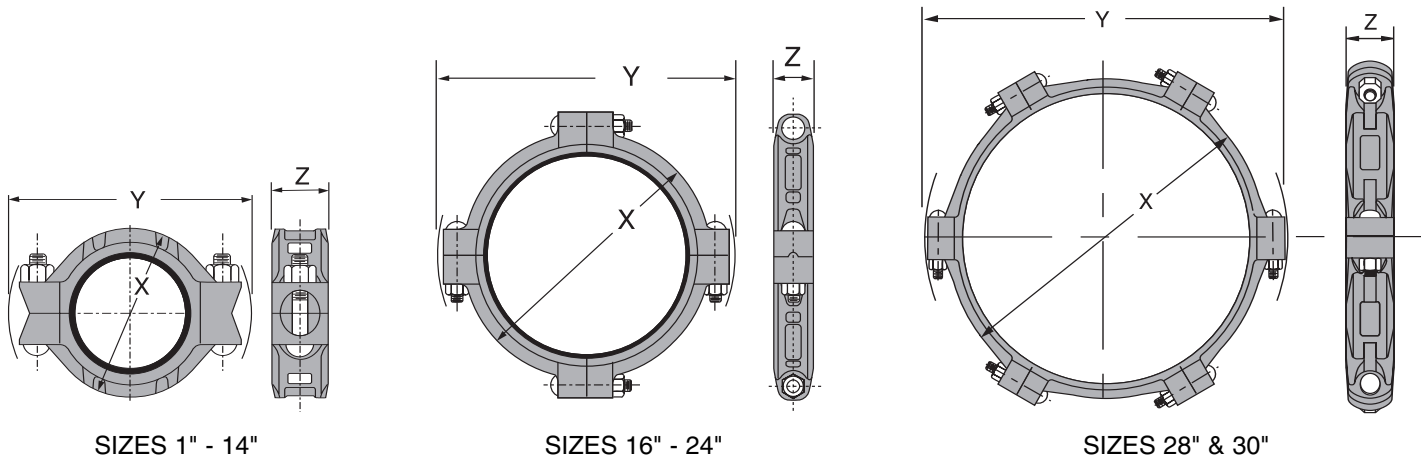


Fig. 7001 with "Flush Gap" Gasket



Material Specifications:

- **Housing:**
Ductile Iron conforming to ASTM-A536, Grade 65-45-12 or Malleable Iron conforming to ASTM-A47, Grade 32510.
- **Coatings:**
Rust inhibiting lead-free paint
Color: Orange (standard), Red (optional)
Hot Dipped Zinc Galvanized (optional)
For other coating requirements contact your Gruvlok Representative.
- **ANSI Bolts and Heavy Hex Nuts:**
Heat treated, oval-neck track head bolts conforming to ASTM A-183 Grade 2 with a minimum tensile strength of 110,000 psi and heavy hex nuts of carbon steel conforming to ASTM A563. Bolts and nuts are provided zinc electroplated as standard.
Stainless Steel Bolts and Nuts are also available. Contact your Gruvlok Representative for details.
- **Metric Bolts and Heavy Hex Nuts:**
Heat treated, zinc electroplated oval-neck track head bolt made of carbon steel with mechanical properties per ISO 898-1 Class 8.8 or 9.8. Hex nuts and bolts are zinc electroplated followed by a yellow chromate dip.
- **Gaskets: (Specify when ordering)**
Properties as designated by ASTM D-2000.
 - Grade E EPDM (Green color code) NSF61 Certified**
Service Temperature Range: -40°F to +230°F
Recommended for water service, dilute acids, alkaline solutions, oil free air and many chemical services.
NOT FOR USE IN PETROLEUM APPLICATIONS.
Available in Flush Gap (1-14") or Standard "C" Style Gasket.
 - Grade T Nitrile (Orange color code)**
Service Temperature Range: -20°F to +180°F
Recommended for petroleum applications, air with oil vapors, vegetable, and mineral oils.
NOT FOR USE WITH HOT WATER OR HOT AIR.
Available in Flush Gap (1-14") or Standard "C" Style Gasket.
 - Grade O Fluoro-Elastomer (Blue color code)**
Service Temperature Range: +20°F to + 300°F
Recommended for high temperature resistance to oxidizing acids, petroleum oils, hydraulic fluids, halogenated hydrocarbons and lubricants. Available in Standard "C" Style Gasket only.
 - Grade L Silicone (Red color code)**
Service Temperature Range: -40°F to + 350°F
Recommended for dry, hot air and some high temperature chemical services. **DO NOT USE GRUVLOK XTREME™ LUBRICANT WITH GRADE L SILICONE GASKETS.**
Available in Standard "C" Style Gasket only.



SIZES 1" - 14"

SIZES 16" - 24"

SIZES 28" & 30"

FIGURE 7001 STANDARD COUPLING DIMENSIONS

Nominal Size	Pipe OD	Max. Work. Pressure	Max. End Load	Range of Pipe End Separation	Deflection from		Coupling Dimensions			Bolt Dimensions*		Specified Torque §		Approx. Wt. Ea.
					Per Coupling	of Pipe.	X	Y	Z	Qty.	Size	Min.	Max.	
In./DN(mm)	In./mm	PSI/bar	Lbs./kN	In./mm	Degrees	In./ft.-mm/m	In./mm	In./mm	In./mm		In./mm	Ft.-Lbs./N-M	Lbs./kN	
1 25	1.315 33.4	1000 68.9	1,358 6.04	0-1/8 0-3.2	5° 26'	1.14 94.7	2 1/2 64	4 1/2 114	1 1/8 48	2	3/8 x 2 1/4 M10 x 57	30 40	45 60	1.3 0.6
1 1/4 32	1.660 42.2	1000 68.9	2,164 9.63	0-1/8 0-3.2	4° 19'	0.90 75.3	2 3/4 70	4 1/2 114	1 1/8 48	2	3/8 x 2 1/4 M10 x 57	30 40	45 60	1.4 0.6
1 1/2 40	1.900 48.3	1000 68.9	2,835 12.61	0-1/8 0-3.2	3° 46'	0.79 65.7	3 76	4 3/8 117	1 1/8 48	2	3/8 x 2 1/4 M10 x 57	30 40	45 60	1.5 0.7
2 50	2.375 60.3	1000 68.9	4,430 19.71	0-1/8 0-3.2	3° 1'	0.63 52.6	3 3/8 92	6 1/8 156	1 1/8 48	2	1/2 x 3 M12 x 76	80 110	100 150	3.1 1.4
2 1/2 65	2.875 73.0	1000 68.9	6,492 28.88	0-1/8 0-3.2	2° 29'	0.52 43.3	4 1/4 108	6 1/2 165	1 1/8 48	2	1/2 x 3 M12 x 76	80 110	100 150	3.7 1.7
3 OD 65	2.996 76.1	1000 68.9	7,050 31.36	0-1/8 0-3.2	2° 23'	0.50 41.6	4 1/4 108	6 3/4 171	1 1/8 48	2	1/2 x 3 M12 x 76	80 110	100 150	4.3 2.0
3 80	3.500 88.9	1000 68.9	9,621 42.80	0-1/8 0-3.2	2° 3'	0.43 35.8	4 3/8 124	7 1/8 181	1 1/8 48	2	1/2 x 3 M12 x 76	80 110	100 150	4.3 2.0
3 1/2 65	4.000 101.6	1000 68.9	12,566 55.90	0-1/8 0-3.2	1° 48'	0.38 31.4	5 1/4 133	8 1/4 210	1 1/8 48	2	5/8 x 3 1/2 M16 x 89	100 135	130 175	5.1 2.3
4 100	4.500 114.3	1000 68.9	15,904 70.75	0-1/4 0-6.4	3° 11'	0.67 55.5	6 1/4 159	8 3/4 222	2 51	2	5/8 x 3 1/2 M16 x 89	100 135	130 175	6.8 3.1
5 125	5.563 141.3	1000 68.9	24,306 108.12	0-1/4 0-6.4	2° 35'	0.54 45.1	7 1/4 184	11 1/4 286	2 51	2	3/4 x 4 1/2 M20 x 110	130 175	180 245	9.6 4.4
6 150	6.625 168.3	1000 68.9	34,472 153.34	0-1/4 0-6.4	2° 10'	0.45 37.8	8 3/8 219	11 3/4 298	2 51	2	3/4 x 4 1/2 M20 x 110	130 175	180 245	11.8 5.4
6 1/2 OD 150	6.500 165.1	1000 68.9	33,183 147.61	0-1/4 0-6.4	2° 12'	0.46 38.4	8 1/4 210	11 3/4 298	2 51	2	3/4 x 4 1/2 M20 x 110	130 175	180 245	11.8 5.4
8 200	8.625 219.1	800 55.2	46,741 207.91	0-1/4 0-6.4	1° 40'	0.35 29.1	11 279	14 3/8 365	2 3/8 60	2	7/8 x 5 1/2 M22 x 140	180 245	220 300	21.7 9.8
10 250	10.750 273.0	800 55.2	72,610 322.99	0-1/4 0-6.4	1° 20'	0.28 23.3	13 1/8 333	16 3/8 422	2 3/8 67	2	7/8 x 5 1/2 M22 x 140	180 245	220 300	27.0 12.2
12 300	12.750 323.9	800 55.2	102,141 454.35	0-1/4 0-6.4	1° 7'	0.23 19.5	15 1/2 394	18 3/8 473	2 3/8 67	2	7/8 x 6 M22 x 150	180 245	220 300	35.0 15.9
14 350	14.000 355.6	300 20.7	46,181 205.43	0-1/4 0-6.4	1° 2'	0.22 18.0	16 1/8 410	20 1/2 521	3 76	2	7/8 x 5 1/2 M22 x 140	180 245	220 300	37.0 16.8
16 400	16.000 406.4	300 20.7	60,319 268.31	0-1/4 0-6.4	0° 54'	0.19 15.7	18 1/8 460	22 3/8 581	3 76	4	1 x 4 *	200 -	250 -	50.0 22.7
18 450	18.000 457.2	300 20.7	76,341 339.58	0-1/4 0-6.4	0° 48'	0.17 14.0	21 1/8 537	25 3/8 645	3 3/8 79	4	1 x 4 *	200 -	250 -	72.0 32.7
20 500	20.000 508.0	300 20.7	94,248 419.23	0-1/4 0-6.4	0° 43'	0.15 12.5	23 584	28 1/4 718	3 3/8 79	4	1 1/8 x 4 1/2 *	225 -	275 -	82.0 37.2
24 600	24.000 609.6	300 20.7	135,717 603.70	0-1/4 0-6.4	0° 36'	0.13 10.5	27 686	32 3/8 822	3 3/8 79	4	1 1/8 x 4 1/2 *	225 -	275 -	90.0 40.8
28" ID 700	28.875 733.4	150 10.3	98,226 436.93	0-1/4 0-6.4	0° 33'	0.12 9.6	33 1/2 851	35 1/2 902	3 3/8 79	6	1 x 5 1/2 *	200 -	250 -	105.0 47.6
30" ID 750	31.000 787.4	150 10.3	113,215 503.61	0-1/4 0-6.4	0° 28'	0.10 8.1	33 3/4 857	38 1/4 972	3 3/8 92	6	1 x 5 1/2 *	200 -	250 -	137.0 62.1

* Available in ANSI or metric bolt sizes only as indicated.

§ - For additional Specified Bolt Torque information refer to the Specified Bolt Torque Section. For Data Chart Notes refer to the Gruvlok Catalog.

Installation & Assembly - Fig. 7001 Standard Coupling

The instructions are based on pipe grooved in accordance with Gruvlok® grooving specifications. Check pipe ends for proper groove dimensions and to assure that the pipe ends are free of indentations and projections which would prevent proper sealing.

ALWAYS USE A GRUVLOK® LUBRICANT FOR PROPER COUPLING ASSEMBLY. Thorough lubrication of the external surface of the gasket is essential to prevent pinching and possible damage to the gasket. For temperatures above 150°F use Gruvlok Xtreme™ Lubricant and lubricate all gasket surfaces, internal and external. See Gruvlok Lubricants in the Technical Data section of the Gruvlok catalog for additional important information.



Step 1

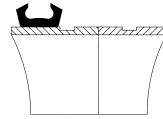
1 Check & lubricate gasket
Check gasket to be sure it is compatible for the intended service. Apply a thin coating of Gruvlok lubricant to outside and sealing lips of the gasket. Be careful that foreign particles do not adhere to lubricated surfaces.



Step 2

2 Gasket Installation
Slip the gasket over the pipe end making sure the gasket lip does not overhang the pipe end.

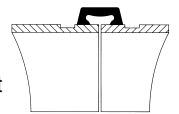
On couplings 10" and larger it may be easier to turn the gasket inside out-then lubricate and slide the gasket over the pipe end as shown.



Step 3

3 Alignment
After aligning the two pipe ends, pull the gasket into position centering it between the grooves on each pipe. Gasket should not extend into the groove on either pipe.

On couplings 10" and larger, flip or roll the gasket into centered position.



Step 4

4 Housings
Place the coupling housing halves over the gasket making sure the housing keys engage the grooves. Insert bolts and turn nuts finger tight.



Step 5

5 Tighten Nuts
Tighten the nuts alternately and equally to the specified bolt torque. The housing bolt pads must make metal-to-metal contact. CAUTION: Uneven tightening may cause the gasket to pinch.



Step 6

6 Assembly is completed
Visually inspect the pipe joint to assure the coupling keys are fully engaged in the pipe grooves and the bolt pads are in firm even metal-to-metal contact on both sides of the coupling.

Note: The housings for sizes 16" and larger are cast in four or more segments.

To install: loosely pre-assemble the segments into two "Housing Halves" making sure that the alignment tang(s) and slot(s) on the bolt pad(s) are properly mated. Install the "Housing Halves" as shown in steps 4 & 5. The coupling is properly installed when all bolt pads are firmly together - **Metal-to-Metal**.

Specified Bolt Torque

Specified bolt torque is for the oval neck track bolts used on Gruvlok® couplings and flanges. The nuts must be tightened alternately and evenly until fully tightened. **Caution:** Use of an impact wrench is not recommended because the torque output can vary significantly due to many variables including air pressure supply, battery strength and operational variations.

Caution: Proper torquing of coupling bolts is required to obtain specified performance. **Over torquing the bolts may result in damage to the bolt and/or casting which could result in pipe joint separation.** Under torquing the bolts may result in lower pressure retention capabilities, lower bend load capabilities, joint leakage and pipe joint separation. Pipe joint separation may result in significant property damage and serious injury.

ANSI SPECIFIED BOLT TORQUE		
Bolt Size	Wrench Size	Specified Bolt Torque *
In.	In.	Ft.-Lbs
3/8	1 1/16	30-45
1/2	7/8	80-100
5/8	1 1/16	100-130
3/4	1 1/4	130-180
7/8	1 7/16	180-220
1	1 5/8	200-250
1 1/8	1 13/16	225-275
1 1/4	2	250-300

METRIC SPECIFIED BOLT TORQUE		
Bolt Size	Wrench Size	Specified Bolt Torque*
mm	mm	N-M
M10	16	40-60
M12	22	110-150
M16	24	135-175
M20	30	175-245
M22	34	245-300
M24	36	270-340

* Non-lubricated bolt torques

* Non-lubricated bolt torques



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