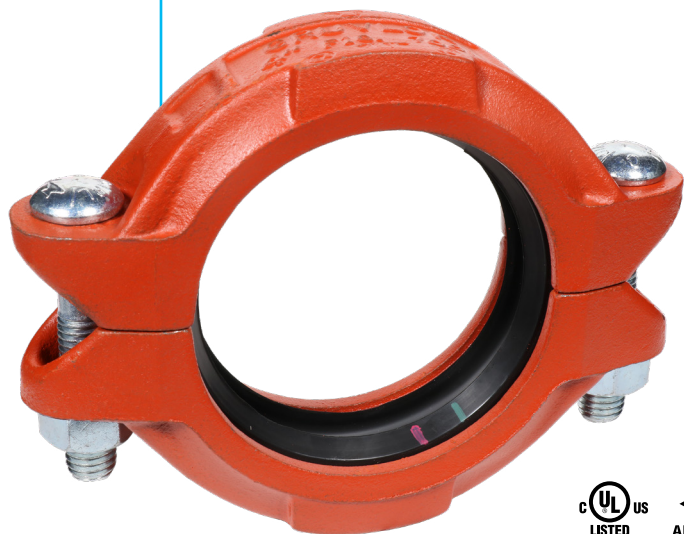


Flexible Coupling Fig. 7001



The Gruvlok Fig. 7001 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 (69 bar) 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" have three 120° segment housings, and 18" through 24" sizes have four 90° segment housings, while the 28" O.D. and 30" O.D. couplings have six 60° segment housings. The 28" O.D. and 30" O.D. are weld-ring couplings.

For Listings/Approval Details and Limitations, visit our website at www.asc-es.com or contact an ASC Engineered Solutions™ Sales Representative.

Material Specifications

Bolts
SAE J429, Grade 5, Zinc Electroplated
ISO 898-1, Class 8.8, Zinc Electroplated
followed by a Yellow Chromate Dip

Heavy Hex Nuts
ASTM A563, Grade A, Zinc Electroplated
ISO 898-2, Class 8.8, Zinc Electroplated
followed by a Yellow Chromate Dip

Hardware Kits
304 Stainless Steel (available in sizes up to ¾")
Kit includes:
• (2) Bolts per ASTM A193, Grade B8
• (2) Heavy Hex Nuts per ASTM A194, Grade 8
EcoGuard (available in sizes up to ¾")
Kit includes:
• (2) Bolts per SAE J429, Grade 5, with EcoGuard
corrosion-resistant zinc flake coating
• (2) Heavy Hex Nuts per ASTM A563, Grade A,
EcoGuard corrosion-resistant zinc flake coating

Material Specifications (continued)

Housing
Ductile Iron conforming to ASTM A536, Grade 65-45-12

Coatings
Rust inhibiting paint
Color: Orange (standard)
Hot Dipped Zinc Galvanized (optional)

Gaskets
Properties as designated in accordance with ASTM D2000
Grade "EP" EPDM (Green and Red color code)
-40°F to 250°F (Service Temperature Range)
(-40°C to 121°C)
Recommended for water service, diluted acids, alkalis
solutions, oil-free air and many other chemical services.
NOT FOR USE IN PETROLEUM APPLICATIONS.
For hot water applications the use of Gruvlok Extreme
Temperature Lubricant is recommended. NSF-61 Certified
for cold and hot water applications up through 12".

Grade "T" Nitrile (Orange color code)
-20°F to 180°F (Service Temperature Range)
(-29°C to 82°C)
Recommended for petroleum applications. Air with oil
vapors and vegetable and mineral oils.
NOT FOR USE IN HOT WATER OR HOT AIR

Grade "O" Fluoro-Elastomer (Blue color code)
Size Range: 1" - 12" (C style only)
20°F to 300°F (Service Temperature Range)
(-29°C to 149°C)

Recommended for high temperature resistance
to oxidizing acids, petroleum oils, hydraulic fluids,
halogenated hydrocarbons and lubricants.

Grade "L" Silicone (Red color code)
Size Range: 1" - 12" (C style only)
-40°F to 350°F (Service Temperature Range)
(-40°C to 177°C)

Recommended for dry, hot air and some high
temperature chemical services. Contact an
ASC Engineered Solutions Representative for availability.

Gasket Type
C Style (1" - 30")
Flush Gap (1" - 24")

Lubrication
Standard
Gruvlok Xtreme (Do Not use with Grade "L")

Working Pressure, End Load, Pipe End Separation & Deflection From Center Line
Based on standard wall steel pipe with cut or roll grooves in
accordance with Gruvlok specifications. See technical data
section for design factors.

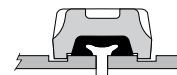


Fig. 7001 with Standard
Gap Gasket

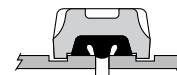
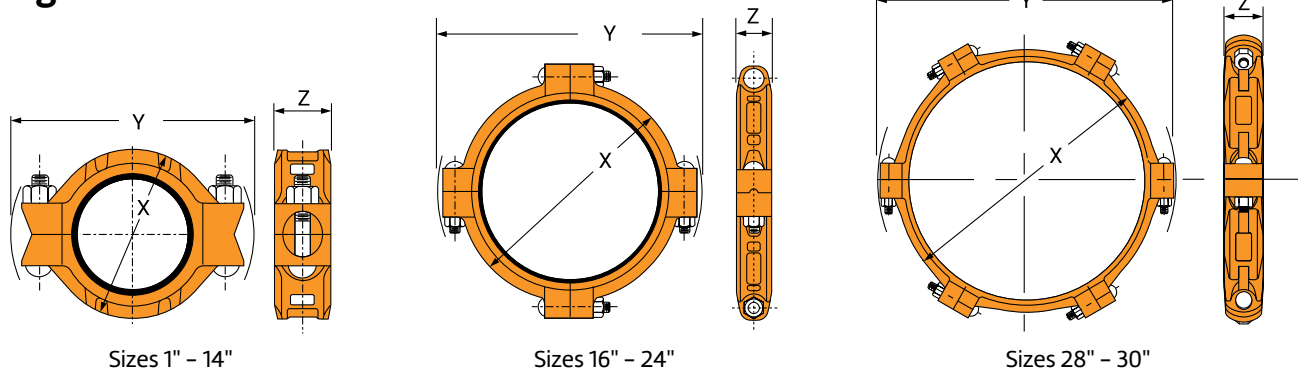


Fig. 7001 with Flush Gap Gasket



PROJECT INFORMATION	APPROVAL STAMP
Project:	Approved
Address:	Approved as noted
Contractor:	Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

Flexible Coupling Fig. 7001



Nominal Size	O.D.	Max. Working Pressure †	Max. End Load	Range of Pipe End Separation	Deflection from ζ Per Coupling of Pipe		Coupling Dimensions			Bolt Dimensions*		Specified Torque §		Approx. Wt. Ea.
					Deg(°)-Min(')	In./ft-mm/m	X	Y	Z	Qty.	Size	Min.	Max.	
In./DN(mm)	In./mm	PSI/bar	Lbs./kN	In./mm			In./mm	In./mm	In./mm		In./mm	Fl.-Lbs/N-m	Fl.-Lbs/N-m	Lbs./kg
1	1.315	1000	1,358	0-1/32	1° 22'	0.29	2 1/2	4 1/2	1 7/8	2	3/8 x 2 1/4	30	45	1.3
25	33.4	68.9	6.04	0-0.79		23.8	64	114	48		M10 x 57	40	60	0.6
1 1/4	1.660	1000	2,164	0-1/32	1° 5'	0.23	2 3/4	4 1/2	1 7/8	2	3/8 x 2 1/4	30	45	1.4
32	42.2	68.9	9.63	0-0.79		18.8	70	114	48		M10 x 57	40	60	0.6
1 1/2	1.900	1000	2,835	0-1/32	0° 57'	0.20	3	4 5/8	1 7/8	2	3/8 x 2 1/4	30	45	1.5
40	48.3	68.9	12.61	0-0.79		16.5	76	117	48		M10 x 57	40	60	0.7
2	2.375	1000	4,430	0-1/32	0° 45'	0.16	3 5/8	6 1/8	1 7/8	2	1/2 x 3	80	100	3.1
50	60.3	68.9	19.71	0-0.79		13.1	92	156	48		M12 x 76	110	150	1.4
2 1/2	2.875	1000	6,492	0-1/32	0° 37'	0.13	4 1/4	6 1/2	1 7/8	2	1/2 x 3	80	100	3.7
65	73.0	68.9	28.88	0-0.79		10.9	108	165	48		M12 x 76	110	150	1.7
3 O.D.	2.996	1000	7,050	0-1/32	0° 36'	0.13	4 1/4	6 3/4	1 7/8	2	1/2 x 3	80	100	4.3
76.1	76.1	68.9	31.36	0-0.79		10.4	108	171	48		M12 x 76	110	150	2.0
3	3.500	1000	9,621	0-1/32	0° 31'	0.11	4 7/8	7 1/8	1 7/8	2	1/2 x 3	80	100	4.3
80	88.9	68.9	42.80	0-0.79		8.9	124	181	48		M12 x 76	110	150	2.0
3 1/2	4.000	1000	12,566	0-1/32	0° 27'	0.09	5 1/4	8 1/4	1 7/8	2	5/8 x 3 1/2	100	130	5.1
90	101.6	68.9	55.90	0-0.79		7.8	133	210	48		M16 x 89	135	175	2.3
4	4.500	1000	15,904	0-3/32	1° 12'	0.25	6 1/4	8 3/4	2	2	5/8 x 3 1/2	100	130	6.8
100	114.3	68.9	70.75	0-2.38		20.8	159	222	51		M16 x 89	135	175	3.1
5	5.563	1000	24,306	0-3/32	0° 58'	0.20	7 1/4	11 1/4	2	2	3/4 x 4 1/2	130	180	9.6
125	141.3	68.9	108.12	0-2.38		16.8	184	286	51		M20 x 110	175	245	4.4
6 1/2 O.D.	6.500	1000	33,183	0-3/32	0° 50'	0.17	8 1/4	11 3/4	2	2	3/4 x 4 1/2	130	180	11.8
165.1	165.1	68.9	147.61	0-2.38		14.4	210	298	51		M20 x 110	175	245	5.4

Notes:

Range of Pipe End Separation and Angular Deflection values are for roll grooved pipe and may be doubled for cut groove pipe. See the Technical Data Section of the Gruvlok Catalog.

For Misalignment, Deflection and Curve Layout Calculations, refer to the Technical Data Section of the Gruvlok Catalog.

† Maximum Working Pressure Rating is for schedule 40 steel pipe. For light wall, stainless steel, aluminum and ISO pipe pressure ratings, please refer to the technical data section.

For additional details see "Coupling Data Chart Notes" in the Introduction Section of the Gruvlok Catalog.

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

§ - For additional Bolt Torque information, see the Technical Data Section of the Gruvlok Catalog.

See Installation & Assembly directions on page 4.

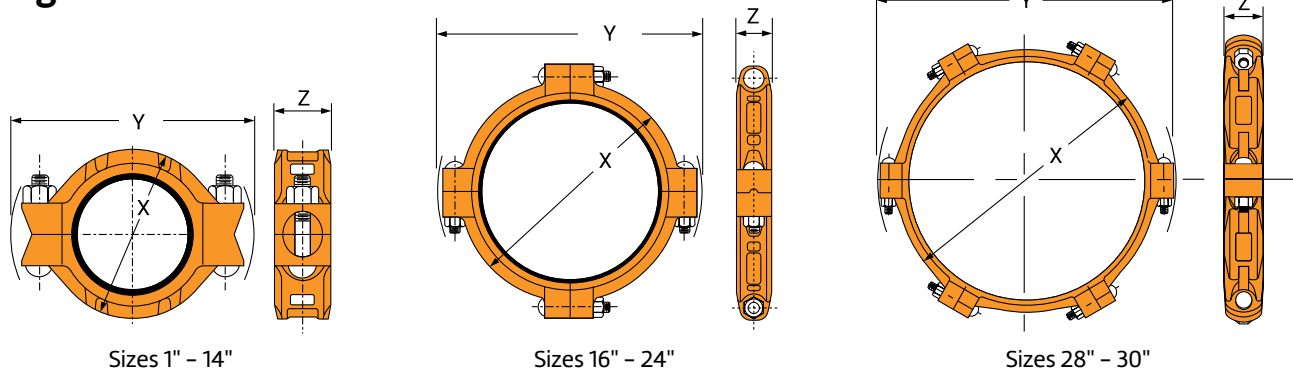
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Flexible Coupling Fig. 7001



Nominal Size	O.D.	Max. Working Pressure †	Max. End Load	Range of Pipe End Separation	Deflection from C _c Per Coupling of Pipe		Coupling Dimensions			Bolt Dimensions*		Specified Torque §		Approx. Wt. Ea.
					Deg(°)-Min(')	In./Ft-mm/m	X	Y	Z	Qty.	Size	Min.	Max.	
In./DN(mm)	In./mm	PSI/bar	Lbs./kN	In./mm			In./mm	In./mm	In./mm		In./mm	Ft.-Lbs/N-m	Ft.-Lbs/N-m	Lbs./kg
6 150	6.625 168.3	1000 68.9	34,472 153.34	0- ³ / ₃₂ 0-2.38	0° 49'	0.17 14.1	8 ⁵ / 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
8 200	8.625 219.1	800 55.2	46,741 207.91	0- ³ / ₃₂ 0-2.38	0° 37'	0.13 10.9	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- ³ / ₃₂ 0-2.38	0° 30'	0.11 8.7	13 ¹ / ₈ 333	16 ⁵ / ₈ 422	2 ⁵ / 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- ³ / ₃₂ 0-2.38	0° 25'	0.09 7.3	15 ¹ / ₂ 394	18 ⁵ / ₈ 473	2 ⁵ / 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- ³ / ₃₂ 0-2.38	0° 23'	0.08 6.7	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- ³ / ₃₂ 0-2.38	0° 20'	0.07 5.9	18 ¹ / ₈ 460	22 ⁷ / 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- ³ / ₃₂ 0-2.38	0° 18'	0.06 5.2	21 ¹ / ₈ 537	25 ³ / ₈ 645	3 ¹ / 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- ³ / ₃₂ 0-2.38	0° 16'	0.06 4.7	23 584	28 ¹ / ₄ 718	3 ¹ / 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- ³ / ₃₂ 0-2.38	0° 13'	0.05 3.9	27 686	32 ³ / ₈ 822	3 ¹ / ₈ 79	4	1 ¹ / ₈ x 4 ¹ / ₂ *	225 -	275 -	90.0 40.8
28" I.D. 733.4	28.875 733.4	150 10.3	98,226 436.93	0- ³ / ₃₂ 0-2.38	0° 11'	0.04 3.2	33 ¹ / ₂ 851	35 ¹ / ₂ 902	3 ¹ / ₈ 79	6	1 x 5 ¹ / ₂ *	200 -	250 -	105.0 47.6
30" I.D. 787.4	31.00 787.4	150 10.3	113,215 503.61	0- ³ / ₃₂ 0-2.38	0° 10'	0.04 3.0	33 ³ / ₄ 857	38 ¹ / ₄ 972	3 ³ / ₈ 92	6	1 x 5 ¹ / ₂ *	200 -	250 -	137.0 62.1

Notes:

Range of Pipe End Separation and Angular Deflection values are for roll grooved pipe and may be doubled for cut groove pipe. See the Technical Data Section of the Gruvlok Catalog.

For Misalignment, Deflection and Curve Layout Calculations, refer to the Technical Data Section of the Gruvlok Catalog.

† Maximum Working Pressure Rating is for schedule 40 steel pipe. For light wall, stainless steel, aluminum and ISO pipe pressure ratings, please refer to the technical data section.

For additional details see "Coupling Data Chart Notes" in the Introduction Section of the Gruvlok Catalog.

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

§ - For additional Bolt Torque information, see the Technical Data Section of the Gruvlok Catalog.

See Installation & Assembly directions on next page.

Not for use in copper systems.



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Fig. 7001 Flexible Coupling

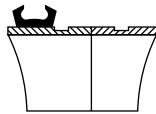
1 Check & Lubricate Gasket

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

2 Gasket Installation

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

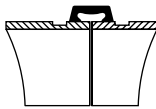
On couplings 10" and larger it may be easier to turn the gasket inside out then lubricate and slide the gasket over the pipe end as shown.



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.



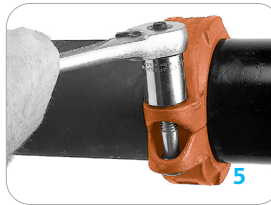
4 Housings

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

5 Tighten Nuts

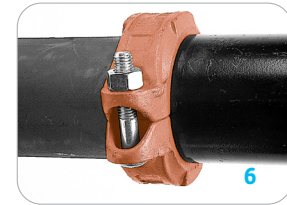
Tighten the nuts alternately and equally to the specified bolt torque. The housing bolt pads must make metal-to-metal contact.

Caution: Uneven tightening may cause the gasket to pinch.



6 Assembly is Complete

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.

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.



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