



Figure 7401 Rigidlok® Coupling

The Figure 7401 Rigidlok Coupling from Gruvlok provides a rigid, locked-in pipe connection. Rigidity is attained simply: it is designed in.

The Figure 7401 Rigidlok Coupling is based on a technologically advanced housing design that conforms to and grips the pipe. With the Figure 7401 there emerges a new generation of rigid couplings that can provide superior gripping power.

Coupling installation is fast and easy: remove only one nut and swing the housing over the gasket and into the grooves. An exclusive Guidelok® feature automatically separates the grooved pipe ends and guides the coupling into position as the bolts are tightened. Precisely sized and oriented tines in the housing key section firmly grip the pipe. The combination of these designed-in features produce a secure, rigid pipe joint connection.

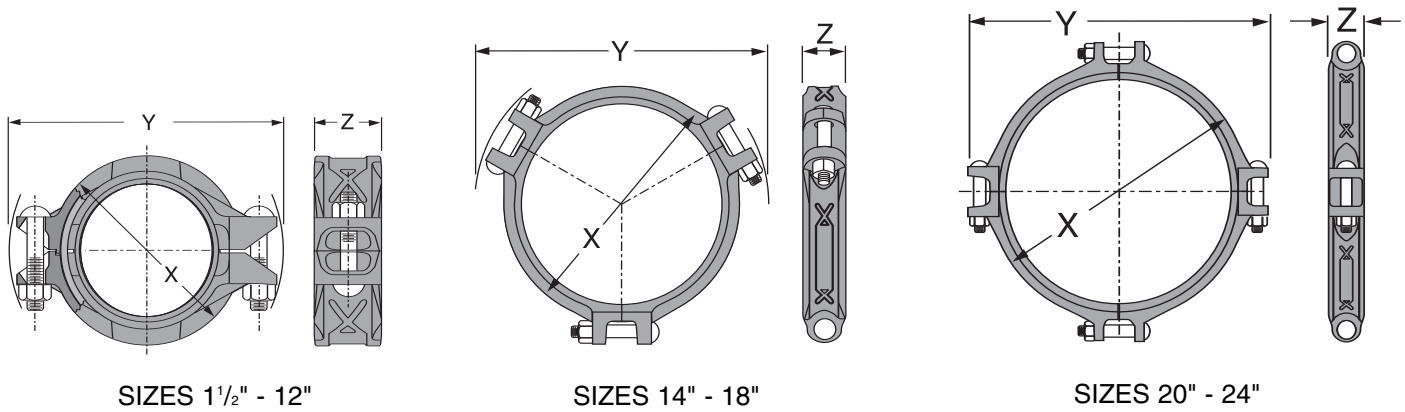
This coupling is an ideal connector for pumps, valves and most other applications that require a rigid connection.

The Figure 7401 Rigidlok Coupling is designed for use with roll grooved or cut grooved standard weight and roll grooved lightweight pipe, as well as with grooved-end fittings and valves. The Rigidlok Coupling maintains a rigid connection with support and hanging in conformance with applicable ANSI B31.1 Power Piping Code, ANSI B31.9 Building Service Pipe Code, as well as NFPA 13 Sprinkler Systems.

The Figure 7401 Rigidlok Coupling allows for working pressure ratings to 750 psi (51.7 bar) when used on standard wall roll or cut grooved pipe.

Material Specifications:

- **Housing:**
Ductile Iron conforming to ASTM-A536, Grade 65-45-12
- **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)**
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.
 - 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.
 - 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.
 - 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.**



SIZES 1 1/2" - 12"

SIZES 14" - 18"

SIZES 20" - 24"

FIGURE 7401 RIGIDLOK COUPLING

Nominal Size	Pipe OD	Max. Working Pressure	Range of Max. End Load	Pipe End Separation	Coupling Dimensions			Coupling Bolts*		Specified Torque §		Approx. Wt. Ea.
					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		Lbs./Kg
1 1/2 40	1.900 48.3	750 51.7	2,126 9.46	0 - 1/8 0 - 3.2	3 76	5 1/8 130	1 1/8 48	2	3/8 x 2 1/4 M10 x 57	30 40	45 60	1.8 0.8
2 50	2.375 60.3	750 51.7	3,323 14.78	0 - 1/8 0 - 3.2	3 1/2 89	5 5/8 143	1 1/8 48	2	3/8 x 2 1/2 M10 x 63	30 40	45 60	2.4 1.1
2 1/2 65	2.875 73.0	750 51.7	4,869 21.66	0 - 1/8 0 - 3.2	4 102	6 1/8 156	1 1/8 48	2	3/8 x 2 1/2 M10 x 63	30 40	45 60	2.9 1.3
3 OD 65	2.996 76.1	750 51.7	5,287 23.52	0 - 1/8 0 - 3.2	4 1/8 105	6 1/8 156	1 1/8 48	2	1/2 x 3 M12 x 76	80 110	100 150	3.4 1.5
3 80	3.500 88.9	750 51.7	7,216 32.10	0 - 1/8 0 - 3.2	4 3/4 121	7 1/4 184	1 1/8 48	2	1/2 x 3 M12 x 76	80 110	100 150	3.6 1.6
4 100	4.500 114.3	750 51.7	11,928 53.06	0 - 1/4 0 - 6.4	5 1/8 149	8 3/8 213	2 1/8 54	2	1/2 x 3 M12 x 76	80 110	100 150	5.0 2.3
5 125	5.563 141.3	750 51.7	18,229 81.09	0 - 1/4 0 - 6.4	7 178	10 254	2 1/2 54	2	5/8 x 3 1/2 M16 x 85	100 135	130 175	6.9 3.1
5 1/2 OD 125	5.500 139.7	750 51.7	17,819 79.26	0 - 1/4 0 - 6.4	7 178	9 3/4 248	2 1/8 54	2	5/8 x 3 1/2 M16 x 85	100 135	130 175	6.9 3.1
6 150	6.625 168.3	750 51.7	25,854 115.00	0 - 1/4 0 - 6.4	8 1/8 206	11 1/8 283	2 1/8 54	2	5/8 x 3 1/2 M16 x 85	100 135	130 175	7.9 3.6
6 1/2 OD 150	6.500 165.1	750 51.7	24,887 110.70	0 - 1/4 0 - 6.4	8 203	11 279	2 1/8 54	2	5/8 x 3 1/2 M16 x 85	100 135	130 175	7.6 3.4
8 200	8.625 219.1	600 51.7	35,056 155.94	0 - 1/4 0 - 6.4	10 1/2 267	14 1/8 359	2 5/8 67	2	3/4 x 4 1/2 M20 x 110	130 175	180 245	15.9 7.2
10 250	10.750 273.1	500 51.7	45,381 201.87	0 - 1/4 0 - 6.4	12 7/8 327	17 1/2 445	2 5/8 67	2	1 x 6 M24 x 150	200 270	250 340	25.6 11.6
12 300	12.750 323.9	400 51.7	51,070 227.17	0 - 1/4 0 - 6.4	15 381	19 1/2 495	2 5/8 67	2	7/8 x 6 M22 x 150	180 245	220 300	30.5 13.8
14 350	14.000 355.6	300 20.7	46,181 205.43	0 - 1/4 0 - 6.4	16 1/4 413	19 3/4 502	3 76	2	7/8 x 5 1/2 M22 x 140	180 245	220 300	36.1 16.4
16 400	16.000 406.4	300 20.7	60,319 268.31	0 - 1/4 0 - 6.4	18 1/8 460	22 1/4 565	3 76	3	7/8 x 5 1/2 M22 x 140	180 245	220 300	40.8 18.5
18 450	18.000 457.2	300 20.7	76,341 339.58	0 - 1/4 0 - 6.4	20 1/2 521	24 3/8 619	3 1/8 79	4	1 x 4 M24 x 100	180 245	220 300	51.6 23.4
20 500	20.000 508.0	300 20.7	94,248 419.23	0 - 1/4 0 - 6.4	23 581	26 7/8 683	3 1/8 79	4	1 x 4 M24 x 100	200 270	250 340	68.3 31.0
24 600	24.000 609.6	250 17.2	113,097 503.08	0 - 1/4 0 - 6.4	27 1/8 689	30 7/8 784	3 1/8 79	4	1 x 4 M24 x 100	200 270	250 340	89.3 40.5

* 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.

Not for use in copper systems.

Installation & Assembly - Fig. 7401 Rigidlok® 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.

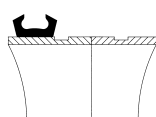
ALWAYS USE A GRUVLOK® LUBRICANT FOR PROPER COUPLING ASSEMBLY. Thorough lubrication of the external surface of the gasket is essential to prevent pinching and possible damage to the gasket. For temperatures above 150°F use Gruvlok Xtreme™ Lubricant and lubricate all gasket surfaces, internal and external.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



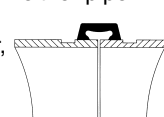
1 Check & lubricate gasket
Check gasket to be sure it is compatible for the intended service. Apply a thin coating of Gruvlok lubricant to outside and sealing lips of the gasket. Some applications require lubrication of the entire gasket surface. Be careful that foreign particles do not adhere to lubricated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



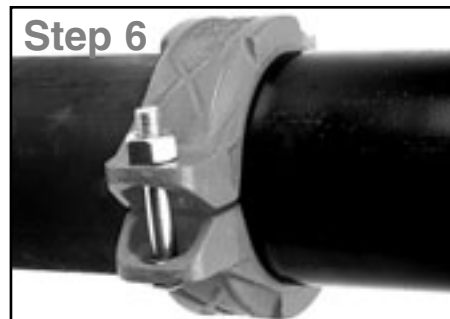
3 Alignment
After aligning the two pipe ends, pull the gasket into position centering it between the grooves on each pipe. Gasket should not extend into the groove on either pipe.
On couplings 10" and larger, flip or roll the gasket into centered position.



4 Housings
Remove one nut and bolt and loosen the other nut. Place one housing over the gasket, making sure the housing keys fit into the tube grooves. Swing the other housing over the gasket and into the grooves on both tubes, making sure the tongue and recess of each housing is properly mated. Re-insert the bolt and run-up both nuts finger tight.



5 Tighten Nuts
Securely tighten nuts alternately and equally to the specified bolt torque, keeping the gaps at the bolt pads evenly spaced.
CAUTION: Uneven tightening may cause the gasket to pinch. Gasket should not be visible between segments after bolts are tightened.



6 Assembly is completed
Visually inspect the pipe joint to assure the coupling keys are fully engaged in the pipe grooves. The bolt pads are to have equal gaps on each side of the coupling.

NOTE: Sizes 14" and larger are cast in multiple segments. To install the larger sizes align the tongue and pocket of the couplings appropriately and tighten the nuts alternately to the specified bolt torque. When properly assembled there will be a small equal gap between the adjacent bolt pads.

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	11/16	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

* Non-lubricated bolt torques

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

NOTE: For VDS approved applications, please refer to data sheet VDSGruv: "VDS – Roll Grooving Approval Specifications" in the Technical Data/Installation Instruction section at www.anvilintl.com.



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