

## Rigidlok® Coupling Fig. 7401



The Fig. 7401 Rigidlok Coupling is an ideal connector for service and applications that require a rigid connection.

The Fig. 7401 Rigidlok coupling utilizes a technologically advanced housing design that conforms to and grips the pipe.

Coupling installation is fast and easy, remove only one nut and swing the housing over the gasket and into the grooves. The 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.

The Fig. 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 provides a rigid pipe connection allowing pipe hanging practices per ASME B31 pipe codes.

The Fig. 7401 Rigidlok Coupling allows for a maximum working pressure of 750 psi (51.7 bar) when used on standard wall roll or cut grooved pipe.

### Material Specifications

**Bolts**  
SAE J429, Grade 5, Zinc Electroplated (standard)

**Heavy Hex Nuts**  
SAE A563, Grade A, Zinc Electroplated (standard)

**Hardware Kits**  
304 Stainless Steel (available in sizes up to ¾")  
Kit includes:  
• (2) Bolts per ASTM A193, Grade B8 and  
• (2) Heavy Hex Nuts per ASTM A194, Grade 8.

### Material Specifications (continued)

**Hardware Kits (continued)**  
EcoGuard (available in sizes up to ¾")  
Kit includes:  
• Bolts per SAE J429, Grade 5, with EcoGuard corrosion-resistant zinc flake coating and  
• (2) Heavy Hex Nuts per ASTM A563, Grade A, EcoGuard corrosion-resistant zinc flake coating.

**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 Xtreme Temperature lubricant is recommended. NSF-61.

**Grade "T" Nitrile** (Orange color code)  
NOT FOR USE IN DRINKING WATER  
-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)  
NOT FOR USE IN DRINKING WATER  
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)  
NOT FOR USE IN DRINKING WATER  
Size Range: 1" - 8" (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.

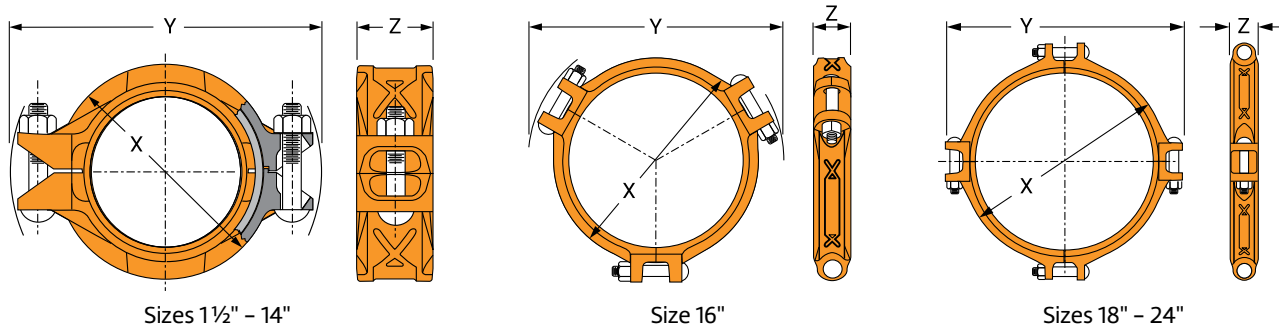
**Gasket Type**  
C Style (1" - 24")  
Flush Gap (1" - 24")

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



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

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Nominal Size	Pipe O.D.	Max. Working Pressure†	Max. End Load	Range of Pipe End Separation	Coupling Dimensions			Coupling Bolts		Approx. Wt. Ea.
					X	Y	Z	Qty.	Size	
In./DN(mm)	In./mm	PSI/bar	Lbs./kN	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./kg	
1 1/2 40	1.900 48.3	750 51.7	2,126 9.46	0-1/32 0-0.79	3 76	5 1/8 130	1 7/8 48	2 M10 x 57	1.8 0.8	
2 50	2.375 60.3	750 51.7	3,323 14.78	0-1/32 0-0.79	3 1/2 89	5 5/8 143	1 7/8 48	2 M10 x 63	2.4 1.1	
2 1/2 65	2.875 73.0	750 51.7	4,869 21.66	0-1/32 0-0.79	4 102	6 1/8 156	1 7/8 48	2 M10 x 63	2.9 1.3	
3 O.D. 76.1	2.996 76.1	750 51.7	5,207 23.52	0-1/32 0-0.79	4 1/8 105	6 1/8 156	1 7/8 48	2 M10 x 63	3.4 1.5	
3 80	3.500 88.9	750 51.7	7,216 32.10	0-1/32 0-0.79	4 3/4 121	7 1/4 184	1 7/8 48	2 M12 x 76	3.6 1.6	
4 100	4.500 114.3	750 51.7	11,928 53.06	0-3/32 0-2.38	5 7/8 149	8 3/8 213	2 1/8 54	2 M12 x 76	5.0 2.3	
5 1/2 O.D. 139.7	5.500 139.7	750 51.7	17,819 79.26	0-3/32 0-2.38	7 178	9 3/4 248	2 1/8 54	2 M16 x 85	6.9 3.1	
5 125	5.563 141.3	750 51.7	18,229 81.09	0-3/32 0-2.38	7 178	10 254	2 1/8 54	2 M16 x 85	6.9 3.1	
6 1/2 O.D. 165.1	6.500 165.1	750 51.7	24,887 110.70	0-3/32 0-2.38	8 203	11 279	2 1/8 54	2 M16 x 85	7.6 3.4	
6 150	6.625 168.3	750 51.7	25,854 115.00	0-3/32 0-2.38	8 1/8 206	11 1/8 283	2 1/8 54	2 M16 x 85	7.9 3.6	

**Notes:**

Range of Pipe End Separation values are for roll grooved pipe and may be doubled for cut groove pipe.

† 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.

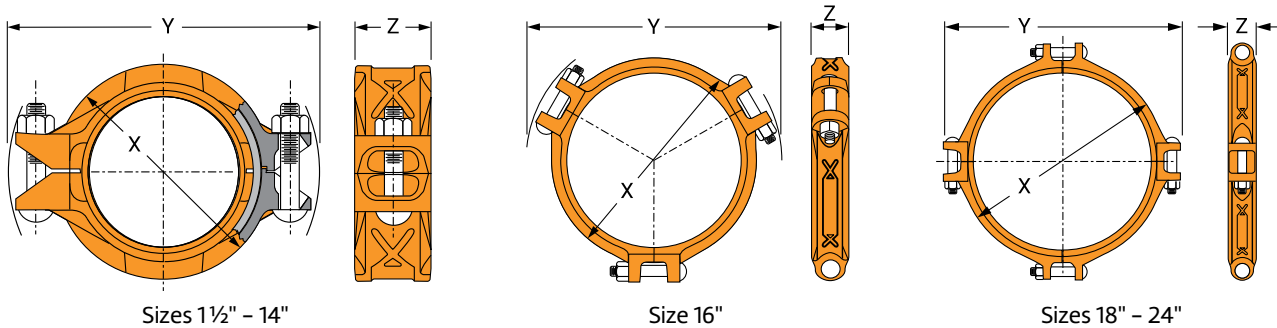
For additional details see "Coupling Data Chart Notes" in the Introduction Section of the Gruvlok Catalog.  
See Installation & Assembly directions on last page.



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Nominal Size	Pipe O.D.	Max. Working Pressure†	Max. End Load	Range of Pipe End Separation	Coupling Dimensions			Coupling Bolts		Approx. Wt. Ea.
					X	Y	Z	Qty.	Size	
In./DN(mm)	In./mm	PSI/bar	Lbs./kN	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./kg	
8 200	8.625 219.1	600 41.4	35,056 155.94	0-3/32 0-2.38	10 1/2 267	14 1/8 359	2 5/8 67	2 M20 x 110	15.9 7.2	
10 250	10.750 273.1	500 34.5	45,381 201.87	0-3/32 0-2.38	12 7/8 327	17 1/2 445	2 5/8 67	2 M24 x 150	25.6 11.6	
12 300	12.750 323.9	400 27.6	51,070 227.17	0-3/32 0-2.38	15 381	19 1/2 495	2 5/8 67	2 M22 x 150	30.5 13.8	
14 350	14.000 355.6	300 20.7	46,181 205.43	0-3/32 0-2.38	16 1/4 413	19 3/4 502	3 76	2 M22 x 140	36.1 16.4	
16 400	16.000 406.4	300 20.7	60,319 268.31	0-3/32 0-2.38	18 1/8 460	22 1/4 565	3 76	3 M22 x 140	42.0 19.1	
18 450	18.000 457.2	300 20.7	76,341 339.58	0-3/32 0-2.38	20 1/2 521	24 3/8 619	3 1/8 79	4 M24 x 100	51.6 23.4	
20 500	20.000 508.0	300 20.7	94,248 419.23	0-3/32 0-2.38	23 581	26 7/8 683	3 1/8 79	4 M24 x 100	68.3 31.0	
24 600	24.000 609.6	250 17.2	113,097 503.08	0-3/32 0-2.38	27 1/8 689	30 7/8 784	3 1/8 79	4 M24 x 100	89.3 40.5	

**Notes:**

Range of Pipe End Separation values are for roll grooved pipe and may be doubled for cut groove pipe.

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See Installation & Assembly directions on next page.



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## Fig. 7401 Rigidlok® Coupling



Read and understand all instructions before use.

### WARNING

Ensure system is drained and depressurized before installation or service.

Use appropriate personal protective equipment.



Failure to follow these instructions could result in serious personal injury and/or property damage.

Check pipe ends for proper grooved dimensions and to ensure that the pipe is free of indentations, projections, or other imperfections that would prevent proper sealing of the gasket.

### 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. Some applications require lubrication of the entire gasket surface. Be careful that foreign particles do not adhere to lubricated surfaces.

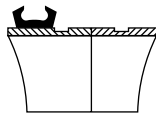
**Notice:** Gruvlok Xtreme Lubricant must be applied when used in dry pipe systems or freezer applications. Pipe joint separation may result in significant property damage and serious injury.



### 2 Gasket Installation

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

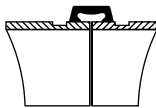
On couplings 10" and larger it may be easier to turn the gasket inside out then lubricate and slide the gasket over the pipe end as shown.



### 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

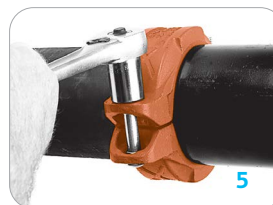
Remove one nut and bolt and loosen the other nut. Place one housing over the gasket, making sure the housing keys fit into the pipe grooves. Swing the other housing over the gasket and into the grooves on both pipes, making sure the tongue and recess of each housing is properly mated. Reinsert the bolt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



### 5 Tighten Nuts

Securely tighten nuts alternately and equally, keeping the gaps at the bolt pads evenly spaced.

**Notice:** Uneven tightening may cause the gasket to pinch. Gasket should not be visible between segments after bolts are tightened.



### 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
1	1 5/8	200-250

\* Non-lubricated bolt torques.

### 6 Assembly is Complete

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.

**Notice:** Visually inspect both sides of the coupling to ensure gaps between bolt pads are evenly spaced and are parallel. Any deviations must be corrected before placing coupling into service.

**Notice:** Sizes 16" 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.



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