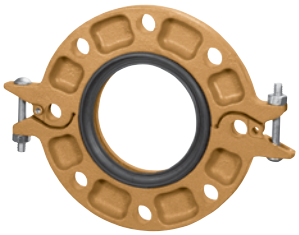
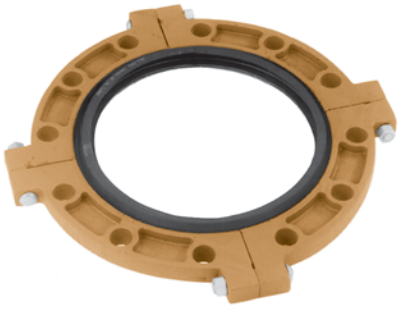
FIG. 7012
Gruvlok Flanges

c UL us LISTED FM APPROVED
For Listings/Approval Details and Limitations, visit our website at www.anvilintl.com or contact an Anvil® Sales Representative.


Sizes 2" - 12"


Sizes 14" - 24"

The Gruvlok® Fig. 7012 Flange allows direct connection of Class 125 or Class 150 flanged components to a grooved piping system. The two interlocking halves of the 2" thru 12" sizes of the Gruvlok Flange are hinged for ease of handling, and are drawn together by a latch bolt which eases assembly on the pipe. Precision machined bolt holes, key and mating surfaces assure concentricity and flatness to provide exact fit-up with flanged, lug, and wafer styles of pipe system equipment. A specially designed gasket provides a leak-tight seal on both the pipe and the mating flange face.

The 14" thru 24" sizes of the Gruvlok Fig. 7012 Flange are cast in four segments. A sleek profile gasket design allows quick and easy assembly of the Gruvlok Flange onto the pipe.

All Gruvlok Fig. 7012 Flanges have designed-in anti-rotation tines which bite into and grip the sides of the pipe grooves to provide a secure, rigid connection.

The Gruvlok Fig. 7012 Flange requires the use of a steel adapter insert when used against rubber faced surfaces, wafer/lug design valves and serrated or irregular sealing surfaces. In copper systems a phenolic adapter insert is required, in place of the steel adapter insert. (See Installation and Assembly Instructions Section or contact your Anvil Rep. for details.)

MATERIAL SPECIFICATIONS

LATCH BOLT/NUT (2" - 12")
SEGMENT BOLT/NUT (14" - 24"):
Heat treated, zinc electroplated, carbon steel oval neck track bolts conforming to ASTM A 183 and zinc electroplated heavy hex nuts of carbon steel conforming to ASTM A 563 Grade A or Grade B, or J995 Grade 2.

METRIC BOLTS & HEAVY HEX NUTS:
Heat treated, zinc electroplated oval-neck track head bolts made of carbon steel with mechanical properties per ISO 898-1 Class 8.8. Hex nuts are zinc electroplated followed by a yellow chromate dip.

STAINLESS STEEL BOLTS & NUTS:
Stainless steel bolts and nuts are also available. Contact an Anvil Representative for more information.

HOUSING:
Ductile Iron conforming to ASTM A 536, Grade 65-45-12.

COATINGS:
- ☐ Rust inhibiting paint – Color: ORANGE (standard), Red (optional)
- ☐ Hot Dipped Zinc Galvanized (optional)
- ☐ Other Colors Available (IE: RAL3000 and RAL9000)

For other Coating requirements contact an Anvil Representative.

GASKETS: Materials
Properties as designated in accordance with ASTM D 2000

☐ **Grade "E" EPDM** (Green color code)
-40°F to 230°F (Service Temperature Range)(-40°C to 110°C)
Recommended for water service, diluted acids, alkalies solutions, oil-free air and many other chemical services.
NOT FOR USE IN PETROLEUM APPLICATIONS.

☐ **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, alkalies 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".

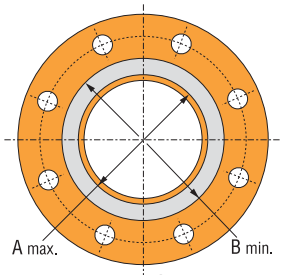
☐ **Grade "T" Nitrile** (Orange color code)
-20°F to 180°F (Service Temperature Range)(-29°C to 82°C)
Recommended for petroleum applications. air with oil vapors and vegetable and mineral oils.
NOT FOR USE IN HOT WATER.

LUBRICATION:
- ☐ Standard Gruvlok
- ☐ Gruvlok Xtreme™ (Do Not use with Grade "L")

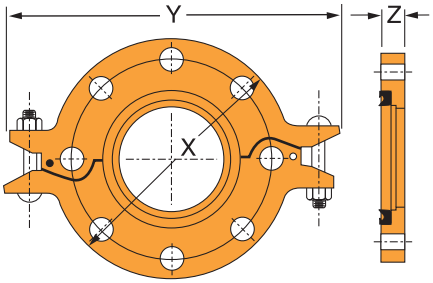
PROJECT INFORMATION	APPROVAL STAMP
Project:	☐ **Approved**
Address:	☐ **Approved as noted**
Contractor:	☐ **Not approved**
Engineer:	**Remarks:**
Submittal Date:	
Notes 1:	
Notes 2:	

FIG. 7012

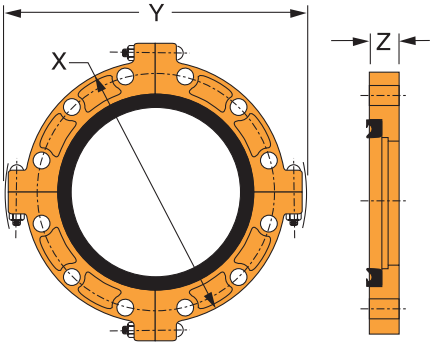
Gruvlok Flanges



Mating Flange



2"-12" sizes



14"-24" sizes

GRUVLOK FIGURE 7012 FLANGE: ANSI CLASS 150 OR ISO PN10 OR PN16 BOLT PATTERNS

Nominal Size	O.D.	Max. Working Pressure▼	Max. End Load▼	Latch Bolt			Dimensions			Sealing Surface		Mating Flange Bolts						Approx. Wt. Ea.
				Latch Bolt Size*	Specified Torque §		X	Y	Z	A Max.	B Min.	Mating Flange Bolts		Bolt Circle Diameter	Bolt Hole Diameter	Specified Torque §		
					Min.	Max.						Qty. ANSI	Size (ANSI)			Min.	Max.	
In./DN(mm)	*In./mm*	*PSI/bar*	*Lbs./kN*	*In./mm*	*Ft.-Lbs/N-m*		*In./mm*	*In./mm*	*In./mm*	*In./mm*	*In./mm*	*PN10 (16)*	*in. (ISO) mm*	*In./mm*	*In./mm*	*Ft.-Lbs/N-m*		*Lbs./Kg*
2	2.375	300	1,329	3/8 x 2 3/4	30	45	6 1/4	8 3/8	3/4	2 3/8	3 7/16	4	5/8 x 2 3/4	4 3/4	3/4	110	140	4.2
50	*60.3*	*20.7*	*5.91*	*M10 x 70*	*40*	*60*	*159*	*213*	*19*	*60*	*87*	*4*	*M16 x 70*	*120.7*	*19.1*	*149*	*190*	*1.9*
2 1/2	2.875	300	1,948	3/8 x 2 3/4	30	45	7	9 1/2	3/4	2 7/8	4	4	5/8 x 2 3/4	5 1/2	3/4	110	140	4.6
65	*73.0*	*20.7*	*8.66*	*M10 x 70*	*40*	*60*	*178*	*241*	*19*	*73*	*102*	*-*	*M16 x 70*	*139.7*	*19.1*	*149*	*190*	*2.1*
3 O.D.	*2.996*	*300*	*2,115*	*-*	*30*	*45*	*7 1/4*	*9 3/4*	*3/4*	*3*	*4 1/8*	*-*	*-*	*-*	*-*	*110*	*140*	*4.8*
76.1	76.1	20.7	9.41	M10 x 70	40	60	184	248	19	76	105	4	M16 x 70	-	-	149	190	2.2
3	3.500	300	2,886	3/8 x 2 3/4	30	45	7 7/8	10 1/2	3/4	3 1/2	4 9/16	4	5/8 x 2 3/4	6	3/4	110	140	6.0
88.9	*88.9*	*20.7*	*12.84*	*M10 x 70*	*40*	*60*	*200*	*267*	*19*	*89*	*116*	*8*	*M16 x 70*	*152.4*	*19.1*	*149*	*190*	*2.7*
4	4.500	300	4,771	3/8 x 2 3/4	30	45	9	11 1/2	3/4	4 1/2	5 9/16	8	5/8 x 2 3/4	7 1/2	3/4	110	140	6.3
100	*114.3*	*20.7*	*21.22*	*M10 x 70*	*40*	*60*	*229*	*292*	*19*	*114*	*141*	*8*	*M16 x 70*	*190.5*	*19.1*	*149*	*190*	*2.9*
5 1/2 O.D.	*5.500*	*300*	*7,127*	*-*	*30*	*45*	*9 7/8*	*12 7/8*	*7/8*	*5 9/16*	*6 3/4*	*-*	*-*	*-*	*-*	*220*	*250*	*15.6*
139.7	139.7	20.7	31.70	M10 x 70	40	60	251	327	22	141	171	8	M16 x 75	-	-	298	339	7.1
5	5.563	300	7,292	3/8 x 2 3/4	30	45	10	12 1/2	7/8	5 9/16	6 3/4	8	3/4 x 2 7/8	8 1/2	7/8	220	250	8.8
125	*141.3*	*20.7*	*32.44*	*M10 x 70*	*40*	*60*	*254*	*318*	*22*	*141*	*171*	*-*	*-*	*215.9*	*22.2*	*298*	*339*	*4.0*
6 1/2 O.D.	*6.500*	*300*	*9,955*	*-*	*30*	*45*	*11 1/4*	*14*	*7/8*	*6 5/8*	*7 13/16*	*-*	*-*	*-*	*-*	*220*	*250*	*9.7*
165.1	165.1	20.7	44.28	M10 x 70	40	60	286	356	22	168	198	8	M20 x 80	-	-	298	339	4.4
6	6.625	300	10,341	3/8 x 2 3/4	30	45	11	14	7/8	6 5/8	7 13/16	8	3/4 x 3 1/8	9 1/2	7/8	220	250	9.6
150	*168.3*	*20.7*	*46.00*	*M10 x 70*	*40*	*60*	*279*	*356*	*22*	*168*	*198*	*8*	*M20 x 80*	*241.1*	*22.2*	*298*	*339*	*4.4*
8	8.625	300	17,528	3/8 x 2 3/4	30	45	13 1/2	16 1/2	1	8 5/8	10	8	3/4 x 3 1/4	11 3/4	7/8	220	250	15.6
200	*219.1*	*20.7*	*77.97*	*M10 x 70*	*40*	*60*	*343*	*419*	*25*	*219*	*254*	*8 (12)*	*M20 x 80*	*298.5*	*22.2*	*298*	*339*	*7.1*
10	10.750	300	27,229	3/8 x 2 3/4	30	45	16	19	1	10 3/4	12 1/8	12	7/8 x 3 1/2	14 1/4	1	320	400	18.2
250	*273.1*	*20.7*	*121.12*	*M10 x 70*	*40*	*60*	*406*	*483*	*25*	*273*	*308*	*12*	*M20 x 90*	*362.0*	*25.4*	*439*	*542*	*8.3*
12	12.750	300	38,303	3/8 x 2 3/4	30	45	19	21 3/4	1 1/4	12 3/4	14 1/8	12	7/8 x 3 3/4	17	1	320	400	29.9
300	*323.9*	*20.7*	*170.38*	*M10 x 70*	*40*	*60*	*483*	*552*	*32*	*324*	*359*	*12*	*-*	*431.8*	*25.4*	*439*	*542*	*13.6*
12 (PN)	*12.750*	*300*	*38,303*	*-*	*30*	*45*	*18 1/8*	*21 1/4*	*1*	*12 3/4*	*14 1/8*	*12*	*-*	*-*	*-*	*320*	*400*	*20.9*
300	323.9	20.7	170.38	M10 x 70	40	60	460	540	25	324	359	12	M20 x 90 ✛	-	-	439	542	9.5
14	14.000	300	46,181	5/8 x 4 1/4	100	130	21	24	1 1/2	14	16	12	1 x 4 1/4	18 3/4	1 1/8	360	520	52.5
350	*355.6*	*20.7*	*205.43*	*-*	*136*	*176*	*533*	*610*	*38*	*356*	*406*	*-*	*-*	*476.3*	*28.6*	*488*	*705*	*23.8*
16	16.000	300	60,319	5/8 x 4 1/4	100	130	23 1/2	26 1/2	1 1/2	16	18	16	1 x 4 1/4	21 1/4	1 1/8	360	520	67.0
400	*406.4*	*20.7*	*268.31*	*-*	*136*	*176*	*597*	*673*	*38*	*406*	*457*	*-*	*-*	*539.8*	*28.6*	*488*	*705*	*30.4*
18	18.000	300	76,341	3/4 x 5	130	180	25	29	1 5/8	18	20	16	1 1/8 x 4 3/4	22 3/4	1 1/4	450	725	82.5
450	*457.2*	*20.7*	*339.58*	*-*	*176*	*244*	*635*	*737*	*41*	*457*	*508*	*-*	*–*	*577.9*	*31.8*	*610*	*983*	*37.4*
20	20.000	300	94,248	3/4 x 5	130	180	27 1/2	31 1/2	1 3/4	20	22	20	1 1/8 x 4 3/4	25	1 1/4	450	725	106.5
500	*508.0*	*20.7*	*419.23*	*-*	*176*	*244*	*699*	*800*	*44*	*508*	*559*	*-*	*–*	*635.0*	*31.8*	*610*	*983*	*48.3*
24	24.000	250	113,097	7/8 x 5 1/2	180	220	32	36 1/2	1 7/8	24	26	20	1 1/4 x 5 1/2	29 1/2	1 3/8	620	1,000	138.5
600	*609.6*	*17.2*	*503.08*	*-*	*244*	*298*	*813*	*927*	*48*	*610*	*660*	*-*	*-*	*749.3*	*34.92*	*841*	*1,356*	*62.8*

NOTES:

The Gruvlok Flange bolt hole pattern conforms to ANSI Class 150 and Class 125 flanges.

To avoid interference issues, flanges cannot be assembled directly to Series 7700 butterfly valve. Flange can be assembled to one side of series 7500 and 7600 valve only.

Mating flange bolts must be at least Intermediate Strength Bolting per ASME B16.5. Bolts with material properties equal or greater than SAE J429 Grade 5 are acceptable.

Refer to Gruvlok Products Catalog or Anvil's web site for more information on installing this flange.

For additional details see "Coupling Data Chart Notes" on page 17.

+ PN 16 uses M24 x 90 (PN) Dimensions for bolt circle PN 10 & 16 Flange.

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

▼ Based on use with standard wall pipe.

§ – For additional Bolt Torque information, see page 190.

See Installation & Assembly directions on page 164-166.

FIG. 7012
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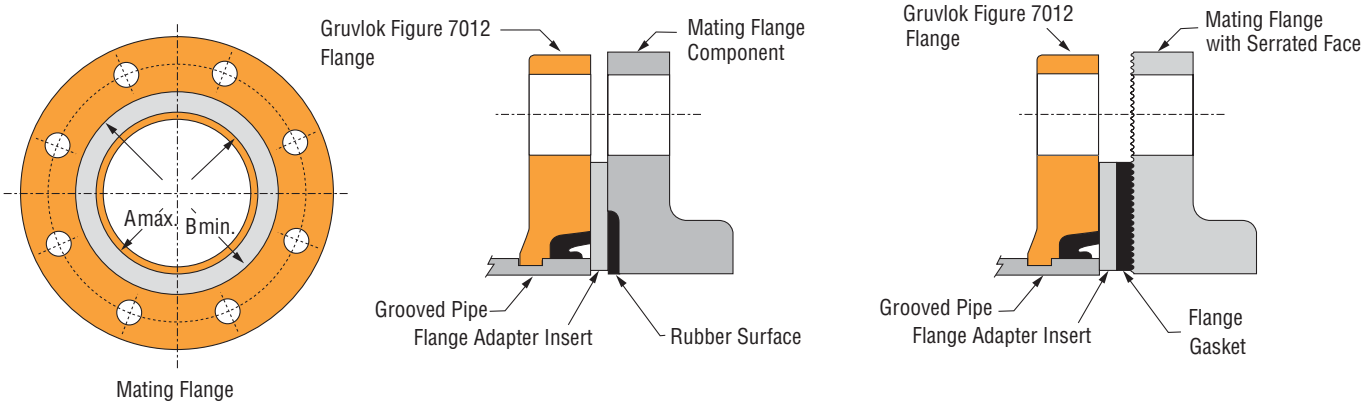

A. The sealing surfaces A Max. to B Min. of the mating flange must be free from gouges, undulations and deformities of any type to ensure proper sealing of the gasket.

B. Gruvlok Flanges are to be assembled on butterfly valves so as not to interfere with actuator or handle operation.

C. Do not use Gruvlok Flanges within 90 degrees of one another on standard fittings because the outside dimensions may cause interference.

D. Gruvlok Flanges should not be used as anchor points for tierods across non-restrained joints.

E. Fig. 7012 Gruvlok Flange sealing gaskets require a hard flat surface for adequate sealing. The use of a Gruvlok Flange Adapter Insert is required for applications against rubber faced valves or other equipment. The Gruvlok Flange Adapter Insert is installed between the Gruvlok Flange sealing gasket and the mating flange or surface to provide a good sealing surface area.

F. Gruvlok Flanges are not recommended for use against formed rubber flanges.

G. Contact an Anvil Representative for Di-Electric Flange connections.

Applications which require a Gruvlok Flange Adapter Insert:

1. When mating to a wafer valve (lug valve), if the valve is rubber faced in the area designated by the sealing surface dimensions (A Max. to B Min.), place the Gruvlok Flange Adapter Insert between the valve and the Gruvlok flange.
2. When mating to a rubber-faced metal flange, the Gruvlok Flange Adapter Insert is placed between the Gruvlok Flange and the rubber-faced flange.
3. When mating to a serrated flange surface, a standard full-faced flange gasket is installed against the serrated flange face and the Gruvlok Flange Adapter Insert is placed between the Gruvlok Flange and the standard Flange gasket.
4. When mating to valves or other component equipment where the flange face has an insert, use procedure described in note 3.