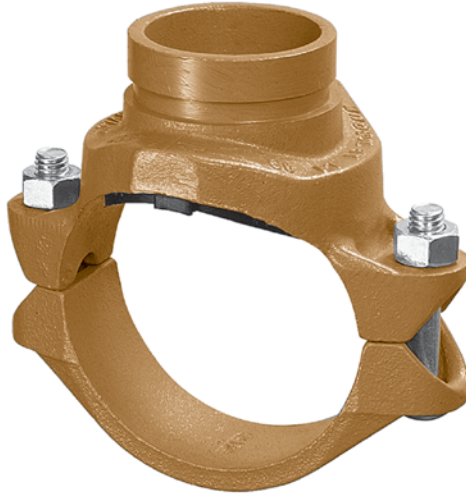


## FIG. 7046

### Clamp-T, Grooved Branch



For Listings/Approval Details and Limitations, visit our website at [www.anvilintl.com](http://www.anvilintl.com) or contact an Anvil® Sales Representative.

The Gruvlok Clamp-T provides a quick and easy outlet at any location along the pipe. A hole drilled or cut in the pipe to receive the locating collar of the Clamp-T is all that is required. The full, smooth outlet area provides for optimum flow characteristics.

The Clamp-T housing is specially engineered to conform to the pipe O.D. and the Clamp-T gasket providing a leak-tight reliable seal in both positive pressure and vacuum conditions. The maximum working pressure for all sizes is 500 PSI (34.5 bar) when assembled on standard wall steel pipe.

The Gruvlok Clamp-T provides for a branch or cross connection in light wall or standard wall steel pipe.

Clamp-T cross connections are available in most sizes allowing greater versatility in piping design.

CLAMP-T FLOW DATA (FRICTIONAL RESISTANCE)		
Branch Size	Fig. 7046 Grooved Branch	
	C.V. Value	Equiv. Pipe Length
In./DN/mm		Ft./Meters
1 1/4 32	5.4	5.0 1.5
1 1/2 40	95	3.5 1.1
2 50	148	4.5 1.4
2 1/2 65	205	7.0 2.1
3 80	294	9.5 2.9
4 100	571	7.0 2.1

## 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

### U-BOLT:

Cold drawn steel and zinc plated.

### HOUSING:

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

### COATINGS:

- Rust inhibiting paint – Color: ORANGE (standard)
  - Hot Dipped Zinc Galvanized (optional)
  - Other Colors Available (IE: RAL3000 and RAL9000)
- For other Coating requirements contact an Anvil Representative for more information.

### 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, alkalis solutions, oil-free air and many other chemical services.  
NOT FOR USE IN PETROLEUM APPLICATIONS.
- 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.

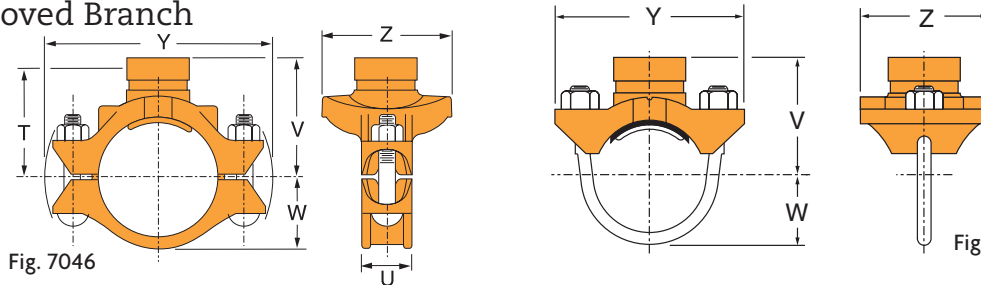
### LUBRICATION:

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

PROJECT INFORMATION		APPROVAL STAMP	
Project:		<input type="checkbox"/> Approved	
Address:		<input type="checkbox"/> Approved as noted	
Contractor:		<input type="checkbox"/> Not approved	
Engineer:		Remarks:	
Submittal Date:			
Notes 1:			
Notes 2:			

## FIG. 7046

### Clamp-T, Grooved Branch



**FIGURE 7046-GR BRANCH**

Nominal Size	O.D.	Hole Dimensions		▼ Max. Working Pressure	Clamp-T Dimensions					Bolt Size	Specified Torque §		Approx. Wt. Each
		Min. Diameter	Max. Diameter		U	V Grooved	W	Y	Z		Min.	Max.	
<i>ln./DN(mm)</i>	<i>ln./mm</i>	<i>ln./mm</i>	<i>ln./mm</i>	<i>PSI/bar</i>	<i>ln./mm</i>	<i>ln./mm</i>	<i>ln./mm</i>	<i>ln./mm</i>	<i>ln./mm</i>	<i>ln./mm</i>	<i>Ft.-Lbs/N-m</i>	<i>Lbs./Kg</i>	
2½ x 1¼	2.875 x 1.660	2	2½	500	9/16	3½	1¼	6⅞	3½	½ U-Bolt	30	40	3.4
65 x 32	73.0 x 42.4	51	54	34.5	14	79	44	156	89	-	-	-	1.5
2½ x 1½	2.875 x 1.900	2	2⅞	500	9/16	3⅞	1¼	6⅞	3½	½ U-Bolt	30	40	3.4
65 x 40	73.0 x 48.3	51	54	34.5	14	79	44	156	89	-	-	-	1.5
3 x 1¼	3.500 x 1.660	2	2⅞	500	1½	3½	2⅞	6⅞	3¾	½ x 2¾	80	100	3.4
80 x 32	88.9 x 42.4	51	54	34.5	38	89	54	175	95	-	-	-	1.5
3 x 1½	3.500 x 1.900	2	2⅞	500	1½	3½	2⅞	6⅞	3¾	½ x 2¾	80	100	4.4
80 x 40	88.9 x 48.3	51	54	34.5	38	89	54	175	95	-	-	-	2.0
3 x 2	3.500 x 2.375	2½	2⅞	500	1½	3½	2⅞	6⅞	4⅞	½ x 2¾	80	100	4.6
80 x 50	88.9 x 60.3	64	67	34.5	38	89	54	175	105	-	-	-	2.1
4 x 1¼	4.500 x 1.660	2	2⅞	500	1⅞	4	2⅞	7½	3¾	½ x 2¾	80	100	4.2
100 x 32	114.3 x 42.4	51	54	34.5	48	102	67	191	95	-	-	-	1.9
4 x 1½	4.500 x 1.900	2	2⅞	500	1⅞	4	2⅞	7½	3¾	½ x 2¾	80	100	4.3
100 x 40	114.3 x 48.3	51	54	34.5	48	102	67	191	95	-	-	-	2.0
4 x 2	4.500 x 2.375	2½	2⅞	500	1⅞	4	2⅞	7½	4⅞	½ x 2¾	80	100	4.6
100 x 50	114.3 x 60.3	64	67	34.5	48	102	67	191	105	-	-	-	2.1
4 x 2½	4.500 x 2.875	2¾	2⅞	500	1⅞	4	2⅞	7½	4⅞	½ x 2¾	80	100	5.0
100 x 65	114.3 x 73.0	70	73	34.5	48	102	67	191	111	-	-	-	2.3
4 x 3 O.D.	4.500 x 2.996	2¾	2⅞	500	1⅞	4	2⅞	7½	4⅞	½ x 2¾	80	100	5.0
100 x 80	114.3 x 76.1	70	73	34.5	48	102	67	191	111	-	-	-	2.3
4 x 3	4.500 x 3.500	3½	3⅞	500	1⅞	4	2⅞	7½	5¼	½ x 3½	80	100	5.6
100 x 80	114.3 x 88.9	89	92	34.5	48	102	67	191	133	-	-	-	2.5
5 x 1¼	5.563 x 1.660	2	2⅞	500	1⅞	4¼	3¼	9⅞	3¾	5/8 x 3¼	80	100	5.6
125 x 32	141.3 x 42.4	51	54	34.5	48	108	83	232	95	-	-	-	2.5
5 x 1½	5.563 x 1.900	2	2⅞	500	1⅞	4¼	3¼	9⅞	3¾	5/8 x 3¼	100	130	5.6
125 x 40	141.3 x 48.3	51	54	34.5	48	108	83	232	95	-	-	-	2.5
5 x 2	5.563 x 2.375	2½	2⅞	500	1⅞	4¼	3¼	9⅞	4⅞	5/8 x 3¼	100	130	5.5
125 x 50	141.3 x 60.3	64	67	34.5	48	108	83	232	105	-	-	-	2.5
5 x 2½	5.563 x 2.875	2¾	2⅞	500	1⅞	4¼	3¼	9⅞	4⅞	5/8 x 3¼	100	130	5.8
125 x 65	141.3 x 73.0	70	73	34.5	48	108	83	232	111	-	-	-	2.6
5 x 3	5.563 x 3.500	3½	3⅞	500	1⅞	4⅞	3¼	9⅞	5¼	5/8 x 3¼	100	130	7.1
125 x 80	141.3 x 88.9	89	92	34.5	48	117	83	232	133	-	-	-	3.2
6 x 1¼	6.625 x 1.660	2	2⅞	500	2	5	3⅞	10⅞	3¾	5/8 x 4¼	100	130	7.2
150 x 32	168.3 x 42.4	51	54	34.5	51	127	98	257	95	*	-	-	3.3
6 x 1½	6.625 x 1.900	2	2⅞	500	2	5	3⅞	10⅞	3¾	5/8 x 4¼	100	130	7.2
150 x 40	168.3 x 48.3	51	54	34.5	51	127	98	257	95	*	-	-	3.3
6 x 2	6.625 x 2.375	2½	2⅞	500	2	5	3⅞	10⅞	4⅞	5/8 x 4¼	100	130	7.8
150 x 50	168.3 x 60.3	64	67	34.5	51	127	98	257	105	*	-	-	3.5
6 x 2½	6.625 x 2.875	2¾	2⅞	500	2	5½	3⅞	10⅞	4⅞	5/8 x 4¼	100	130	7.6
150 x 65	168.3 x 73.0	70	73	34.5	51	130	98	257	111	*	-	-	3.4
6 x 3 O.D.	6.625 x 2.996	2¾	2⅞	500	2	5½	3⅞	10⅞	4⅞	5/8 x 4¼	100	130	7.6
150 x 80	168.3 x 76.1	70	73	34.5	51	130	98	257	111	*	-	-	3.4
6 x 3	6.625 x 3.500	3½	3⅞	500	2	5½	3⅞	10⅞	5¼	5/8 x 4¼	100	130	8.0
150 x 80	168.3 x 88.9	89	92	34.5	51	130	98	257	133	*	-	-	3.6
6 x 4	6.625 x 4.500	4½	4⅞	500	2	5¼	3⅞	10⅞	6½	5/8 x 4¼	100	130	10.4
150 x 100	168.3 x 114.3	114	117	34.5	51	133	98	257	165	*	-	-	4.7
8 x 2	8.625 x 2.375	2½	2⅞	500	2¼	6⅞	5	12¾	4¼	¾ x 4½	130	180	10.4
200 x 50	219.1 x 60.3	64	67	34.5	57	156	127	324	108	-	-	-	4.7
8 x 2½	8.625 x 2.875	2¾	2⅞	500	2¼	6⅞	5	12¾	4⅞	¾ x 4½	130	180	10.6
200 x 65	219.1 x 73.0	70	73	34.5	57	156	127	324	111	M20 x 110	175	245	4.8
8 x 3	8.625 x 3.500	3½	3⅞	500	2¼	6⅞	5	12¾	5¼	¾ x 4½	130	180	11.5
200 x 80	219.1 x 88.9	89	92	34.5	57	156	127	324	133	M20 x 110	175	245	5.2
8 x 4	8.625 x 4.500	4½	4⅞	500	2¼	6¼	5	12¾	6½	¾ x 4½	130	180	16.2
200 x 100	219.1 x 114.3	114	117	34.5	57	159	127	324	165	M20 x 110	175	245	7.3

**NOTES:**

- 2½", 5" and 6" Nom. Run pipe size Clamp-T may be used on 3" O.D., 5½" O.D. and 6½" O.D. pipe.
- Cannot be used in cross configuration.

▼ Based on use with standard wall pipe.

§ - For additional Bolt Torque information, see the Technical Data Section of the Gruvlok Catalog. See Installation & Assembly directions on next page. Not for use with copper systems.

## FIG. 7045 & FIG. 7046

### Clamp-T® Branch Outlets

ALWAYS USE A GRUVLOK LUBRICANT FOR PROPER COUPLING ASSEMBLY.

Thorough lubrication of the gasket is essential to assist the gasket into the proper sealing position.

**1 PIPE PREPARATION**—Cut the appropriate size hole in the pipe and remove any burrs. Be sure to remove any debris from inside the pipe. Clean the gasket sealing surface within  $\frac{5}{8}$ " of the hole and visually inspect the sealing surface for defects that may prevent proper sealing of the gasket.

BRANCH SIZE	HOLE SAW SIZE
(Inches)	(Inches) (+1/8, -0)
1/2, 3/4, 1	1 1/2
1 1/4, 1 1/2	2
2	2 1/2
2 1/2	2 3/4
3	3 1/2
4	4 1/2



**2 CHECK & LUBRICATE GASKET**—Check the gasket to be sure it is compatible for the intended service. Apply a thin layer of Gruvlok lubricant to the back surface of the gasket. Be careful that foreign particles do not adhere to the lubricated surfaces. Insert the gasket back into the outlet housing making sure the tabs in the gasket line up with the tab recesses in the housing.



**3 GASKET INSTALLATION**—Lubricate the exposed surface of the gasket. Align the outlet housing over the pipe hole making sure that the locating collar is in the pipe hole.



**4 ALIGNMENT**—Align the strap around the pipe, insert the bolts and tighten the nuts finger tight. Some sizes use a U-bolt design.



**5 TIGHTEN NUTS**—Alternately and evenly tighten the nuts to the specified bolt torque.



**6 ASSEMBLY IS COMPLETE**

#### FIGS. 7045 & 7046—SPECIFIED BOLT TORQUE

Specified bolt torque is for the oval neck track bolts and U-bolts used on the Gruvlok® Clamp-T's. 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, battery strength and operational variations.

**CAUTION:** Proper torquing of the bolts or U-bolts is required to obtain the specified performance. Overtorquing the bolts or U-bolts may result in damage to the bolt, U-bolt and/or casting which could result in lower pressure retention capabilities, lower bend load capabilities, pipe joint leakage and pipe joint separation.

ANSI SPECIFIED BOLT TORQUE		
Bolt Size	Wrench Size	Specified Bolt Torque *
In.	In.	Ft.-Lbs.
U-Bolt	7/8	30-40
1/2	7/8	60-80
5/8	1 1/16	100-130
3/4	1 1/4	130-180

\* Non-lubricated bolt torques