



Figure 7045 and 7046 Clamp-T® Branch Outlets

The Gruvlok Fig. 7046 Clamp-T Grooved Branch Outlet 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 fitting of the Clamp-T is all that is required. The full diameter, smooth outlet area provides for optimum flow characteristics.

The Clamp-T housing is specially engineered to conform to the pipe OD. The Clamp-T gasket provides a leak tight reliable seal in both positive pressure and vacuum conditions. Working pressure ratings shown are for reference only and are based on schedule 40 pipe. For the latest UL/ULC Listed and FM Approved pressure ratings versus pipe schedule see www.anvilintl.com or contact your local Gruvlok Sales Representative.

The Figure 7045 Clamp-T female pipe thread branch is available with NPT or ISO 7/1 connection. The Figure 7046 Clamp-T has a grooved-end branch connection.

The Gruvlok Clamp-T's provide for a branch or cross connection in light wall or standard wall steel pipe.

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

Material Specifications:

- **Housing:**

Ductile Iron conforming to ASTM-A536, Grade 65-45-12 or Malleable Iron conforming to ASTM-A47, Grade 32510.

- **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 electro-plated as standard.

**Stainless Steel Bolts and Nuts are also available.
 Contact your Gruvlok Representative for details.**

- **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.

Figure 7045 - FPT Branch

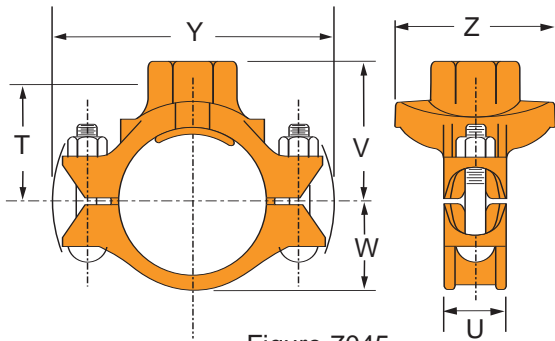


Figure 7045

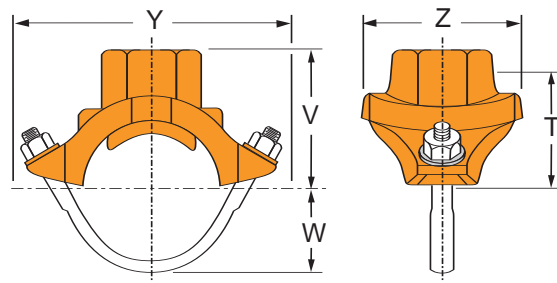


Figure 7045 (U-bolt)

FIGURE 7045-FPT BRANCH (TABLE CONTINUES TO NEXT PAGE)

Nominal Size	Pipe OD	Hole Dimensions		▼ Max. Working Pressure	Clamp-T Dimensions						Bolt Size	Approx. Wt. Each
		Min. Diameter	Max. Diameter		T	U	V Threaded	W	Y	Z		
In./DN(mm)	In./mm	In./mm	In./mm	psi/bar	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./Kg
2 x 1/2 50 x 15	2.375 x 0.840 60.3 x 21.3	1 1/2 38	1 5/8 41	500 34.5	2 1/8 54	9/16 14	2 5/8 67	1/2 12	5 1/2 140	3 76	1/2 U-Bolt -	3.0 1.4
2 x 3/4 50 x 20	2.375 x 1.050 60.3 x 26.7	1 1/2 38	1 5/8 41	500 34.5	2 1/8 54	9/16 14	2 5/8 67	1 1/2 38	5 1/2 140	3 76	1/2 U-Bolt -	2.9 1.3
2 x 1 50 x 25	2.375 x 1.315 60.3 x 33.7	1 1/2 38	1 5/8 41	500 34.5	2 51	9/16 14	2 5/8 67	1 1/2 38	5 1/2 140	3 76	1/2 U-Bolt -	2.9 1.3
2 x 1 1/4 50 x 32	2.375 x 1.660 60.3 x 42.4	2 51	2 1/8 54	500 34.5	2 3/16 55	9/16 14	2 7/8 73	1 1/2 38	7 178	3 1/2 89	1/2 U-Bolt -	4.0 1.8
2 x 1 1/2 50 x 40	2.375 x 1.900 60.3 x 48.3	2 51	2 1/8 54	500 34.5	2 3/16 55	9/16 14	2 7/8 73	1 1/2 38	7 178	3 1/2 89	1/2 U-Bolt -	3.9 1.8
2 1/2 x 1/2 65 x 15	2.875 x 0.840 73.0 x 21.3	1 1/2 38	1 5/8 41	500 34.5	2 3/8 60	9/16 14	2 7/8 73	1 3/4 44	6 1/8 156	3 76	1/2 U-Bolt -	3.0 1.4
2 1/2 x 3/4 65 x 20	2.875 x 1.050 73.0 x 26.7	1 1/2 38	1 5/8 41	500 34.5	2 3/8 60	9/16 14	2 7/8 73	1 3/4 44	6 1/8 156	3 76	1/2 U-Bolt -	2.9 1.3
2 1/2 x 1 65 x 25	2.875 x 1.315 73.0 x 33.7	1 1/2 38	1 5/8 41	500 34.5	2 1/4 57	9/16 14	2 7/8 73	1 3/4 44	6 1/8 156	3 76	1/2 U-Bolt -	2.9 1.3
2 1/2 x 1 1/4 65 x 32	2.875 x 1.660 73.0 x 42.4	2 51	2 1/8 54	500 34.5	2 3/16 61	9/16 14	3 1/8 79	1 3/4 44	6 1/8 156	3 3/8 86	1/2 U-Bolt -	3.4 1.5
2 1/2 x 1 1/2 65 x 40	2.875 x 1.900 73.0 x 48.3	2 51	2 1/8 54	500 34.5	2 3/16 61	9/16 14	3 1/8 79	1 3/4 44	6 1/8 156	3 3/8 86	1/2 U-Bolt -	3.4 1.5
3 x 1/2 80 x 15	3.500 x 0.840 88.9 x 21.3	1 1/2 38	1 5/8 41	500 34.5	2 1/2 64	9/16 14	3 76	2 1/8 54	7 178	3 3/4 95	1/2 U-Bolt -	2.8 1.2
3 x 3/4 80 x 20	3.500 x 1.050 88.9 x 26.7	1 1/2 38	1 5/8 41	500 34.5	2 1/2 64	9/16 14	3 76	2 1/8 54	7 178	3 3/4 95	1/2 U-Bolt -	2.7 1.2
3 x 1 80 x 25	3.500 x 1.315 88.9 x 33.7	1 1/2 38	1 5/8 41	500 34.5	2 3/8 60	9/16 14	3 76	2 1/8 54	7 178	3 3/4 95	1/2 U-Bolt -	2.7 1.2
3 x 1 1/4 80 x 32	3.500 x 1.660 88.9 x 42.4	2 51	2 1/8 54	500 34.5	2 11/16 68	1 1/2 38	3 3/8 86	2 1/8 54	6 1/8 175	3 3/4 95	1/2 x 2 3/4 -	3.4 1.5
3 x 1 1/2 80 x 40	3.500 x 1.900 88.9 x 48.3	2 51	2 1/8 54	500 34.5	2 11/16 68	1 1/2 38	3 3/8 86	2 1/8 54	6 1/8 175	3 3/4 95	1/2 x 2 3/4 -	4.4 2.0
3 x 2 80 x 50	3.500 x 2.375 88.9 x 60.3	2 1/2 64	2 5/8 67	500 34.5	2 5/8 67	1 1/2 38	3 3/8 86	2 1/8 54	6 1/8 175	4 1/8 105	1/2 x 2 3/4 -	4.6 2.1
4 x 1/2 100 x 15	4.500 x 0.840 114.3 x 21.3	1 1/2 38	1 5/8 41	500 34.5	3 76	9/16 14	3 1/2 89	2 5/8 67	7 3/4 197	3 3/4 95	1/2 U-Bolt -	2.9 1.3
4 x 3/4 100 x 20	4.500 x 1.050 114.3 x 26.7	1 1/2 38	1 5/8 41	500 34.5	3 76	9/16 14	3 1/2 89	2 5/8 67	7 3/4 197	3 3/4 95	1/2 U-Bolt -	2.8 1.3
4 x 1 100 x 25	4.500 x 1.315 114.3 x 33.7	1 1/2 38	1 5/8 41	500 34.5	2 7/8 73	9/16 14	3 1/2 89	2 5/8 67	7 3/4 197	3 3/4 95	1/2 U-Bolt -	2.7 1.2
4 x 1 1/4 100 x 32	4.500 x 1.660 114.3 x 42.4	2 51	2 1/8 54	500 34.5	3 3/16 81	1 1/8 48	3 7/8 98	2 5/8 67	7 1/2 191	3 3/4 95	1/2 x 2 3/4 -	4.5 2.0
4 x 1 1/2 100 x 40	4.500 x 1.900 114.3 x 48.3	2 51	2 1/8 54	500 34.5	3 3/16 81	1 1/8 48	3 7/8 98	2 5/8 67	7 1/2 191	3 3/4 95	1/2 x 2 3/4 -	4.6 2.1
4 x 2 100 x 50	4.500 x 2.375 114.3 x 60.3	2 1/2 64	2 5/8 67	500 34.5	3 1/4 83	1 1/8 48	4 102	2 5/8 67	7 1/2 191	4 1/8 105	1/2 x 2 3/4 -	5.2 2.4
4 x 2 1/2 100 x 65	4.500 x 2.875 114.3 x 73.0	2 3/4 70	2 7/8 73	500 34.5	3 1/16 77	1 1/8 48	4 102	2 5/8 67	7 1/2 191	4 3/8 111	1/2 x 2 3/4 v	5.2 2.4
4 x 3 100 x 80	4.500 x 3.500 114.3 x 88.9	3 1/2 89	3 5/8 92	500 34.5	3 1/4 83	1 1/8 48	4 1/4 108	2 5/8 67	7 1/2 191	5 1/4 133	1/2 x 3 1/2 -	6.5 2.9
4 x 3 OD 100 x 80	4.500 x 2.996 114.3 x 76.1	2 3/4 70	2 7/8 73	500 34.5	3 1/16 77	1 1/8 48	4 102	2 5/8 67	7 1/2 191	4 3/8 111	1/2 x 2 3/4 -	5.2 2.4

Note: 2 1/2", 5" and 6" Nom. size run pipe may be used on 3" OD, 5 1/2" OD and 6 1/2" OD pipe

(Additional larger sizes on next page)

▼ Based on use with standard wall pipe.

Not for use in copper systems.

Figure 7045 - FPT Branch (Continued)

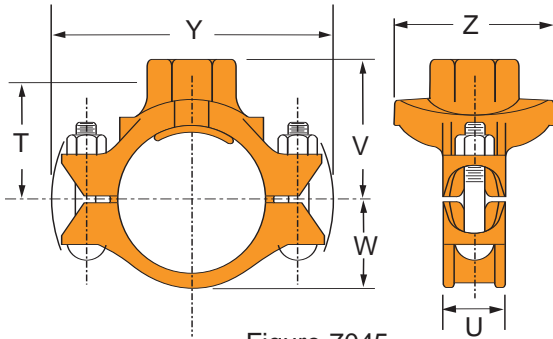


Figure 7045

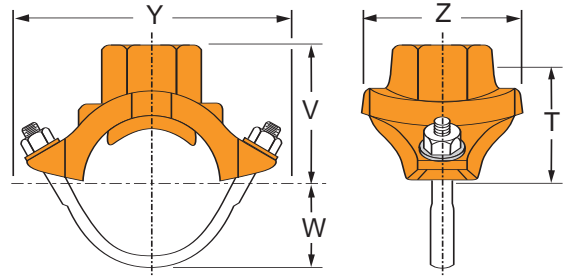


Figure 7045 (U-bolt)

FIGURE 7045-FPT BRANCH (CONTINUED FROM PREVIOUS PAGE)													
Nominal Size	Pipe OD	Hole Dimensions		▼ Max. Working Pressure	Clamp-T Dimensions						Bolt Size	Approx. Wt. Each	
		Min. Diameter	Max. Diameter		T	U	V Threaded	W	Y	Z			
In./DN(mm)	In./mm	In./mm	In./mm	psi/bar	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./Kg
5 x 1¼ 125 x 32	5.563 x 1.660 141.3 x 42.4	2 51	2⅝ 54	500 34.5	3⅛ 94	1⅞ 48	4⅞ 111	3¼ 83	9⅞ 232	3¾ 95	⅝ x ¾ -	5.4 2.4	
5 x 1½ 125 x 40	5.563 x 1.900 141.3 x 48.3	2 51	2⅝ 54	500 34.5	3⅛ 94	1⅞ 48	4⅞ 111	3¼ 83	9⅞ 232	3¾ 95	⅝ x ¾ -	5.5 2.5	
5 x 2 125 x 50	5.563 x 2.375 141.3 x 60.3	2½ 64	2⅝ 67	500 34.5	3¾ 95	1⅞ 48	4½ 114	3¼ 83	9⅞ 232	4⅞ 105	⅝ x ¾ -	5.7 2.6	
5 x 2½ 125 x 65	5.563 x 2.875 141.3 x 73.0	2¾ 70	2⅝ 73	500 34.5	3⅞ 81	1⅞ 48	4¾ 121	3¼ 83	9⅞ 232	4⅞ 111	⅝ x ¾ -	7.0 3.2	
5 x 3 125 x 80	5.563 x 3.500 141.3 x 88.9	3½ 89	3⅝ 92	500 34.5	4 102	1⅞ 48	5 127	3¼ 83	9⅞ 232	5¼ 133	⅝ x ¾ -	8.7 3.9	
5 x 3 OD 125 x 80	5.563 x 2.996 141.3 x 76.1	2¾ 70	2⅝ 73	500 34.5	3⅞ 81	1⅞ 48	4¾ 121	3¼ 83	9⅞ 232	4⅞ 111	¾ x ¾ -	7.0 3.2	
6 x 1¼ 150 x 32	6.625 x 1.660 168.3 x 42.4	2 51	2⅝ 54	500 34.5	4⅞ 106	2 51	4⅞ 124	3⅞ 98	10⅞ 257	3¾ 95	⅝ x ¾ -	7.8 3.5	
6 x 1½ 150 x 40	6.625 x 1.900 168.3 x 48.3	2 51	2⅝ 54	500 34.5	4⅞ 106	2 51	4⅞ 124	3⅞ 98	10⅞ 257	3¾ 95	⅝ x ¾ -	7.8 3.5	
6 x 2 150 x 50	6.625 x 2.375 168.3 x 60.3	2½ 64	2⅝ 67	500 34.5	4⅞ 105	2 51	4⅞ 124	3⅞ 98	10⅞ 257	4⅞ 105	⅝ x ¾ -	7.8 3.5	
6 x 2½ 150 x 65	6.625 x 2.875 168.3 x 73.0	2¾ 70	2⅝ 73	500 34.5	4⅞ 105	2 51	5⅞ 130	3⅞ 98	10⅞ 257	4⅞ 111	⅝ x ¾ -	8.4 3.8	
6 x 3 150 x 80	6.625 x 3.500 168.3 x 88.9	3½ 89	3⅝ 92	500 34.5	4⅞ 111	2 51	5⅞ 137	3⅞ 98	10⅞ 257	5¼ 133	⅝ x ¾ -	9.6 4.4	
6 x 3 OD 150 x 80	6.625 x 2.996 168.3 x 76.1	2¾ 70	2⅝ 73	500 34.5	4⅞ 105	2 51	5⅞ 130	3⅞ 98	10⅞ 257	4⅞ 111	⅝ x ¾ -	8.4 3.8	
6 x 4 150 x 100	6.625 x 4.500 168.3 x 114.3	4½ 114	4⅝ 117	500 34.5	4⅞ 111	2 51	5½ 140	3⅞ 98	10⅞ 257	6½ 165	⅝ x ¾ -	10.5 4.8	
8 x 2 200 x 50	8.625 x 2.750 219.1 x 70.0	2½ 64	2⅝ 67	500 34.5	5⅞ 151	2¼ 57	5⅞ 150	5 127	12¼ 324	4⅞ 111	¾ x ¾ -	11.2 5.1	
8 x 2½ 200 x 65	8.625 x 2.875 219.1 x 73.0	2¾ 70	2⅝ 73	500 34.5	5⅞ 134	2¼ 57	6¼ 159	5 127	12¼ 324	4⅞ 111	¾ x ¾ -	11.1 5.0	
8 x 3 200 x 80	8.625 x 3.500 219.1 x 88.9	3½ 89	3⅝ 92	500 34.5	5⅞ 137	2¼ 57	6⅞ 162	5 127	12¼ 324	5¼ 133	¾ x ¾ -	13.0 5.9	
8 x 3 OD 200 x 80	8.625 x 2.996 219.1 x 76.1	2¾ 70	2⅝ 73	500 34.5	5⅞ 134	2¼ 57	6¼ 159	5 127	12¼ 324	4⅞ 111	¾ x ¾ -	11.1 5.0	
8 x 4 200 x 100	8.625 x 4.500 219.1 x 114.3	4½ 114	4⅝ 117	500 34.5	5⅞ 137	2¼ 57	6½ 165	5 127	12¼ 324	6½ 165	¾ x ¾ -	16.2 7.3	

Note: 2½", 5" and 6" Nom. size run pipe may be used on 3" OD, 5½" OD and 6½" OD pipe

(Additional smaller sizes on previous page)

▼ Based on use with standard wall pipe.

Not for use in copper systems.

Figure 7046 - GR Branch

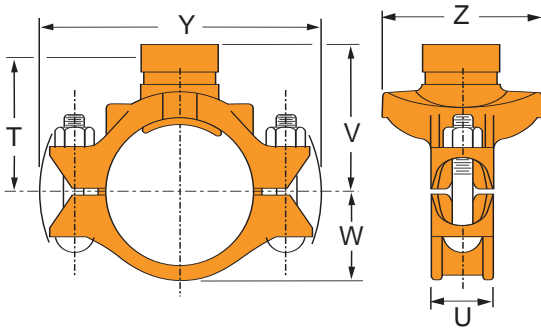


Figure 7046

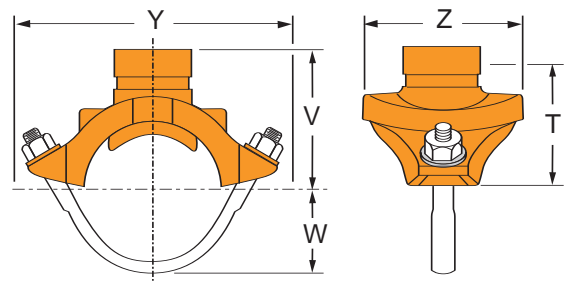


Figure 7046 (U-bolt)

FIGURE 7046-GR BRANCH												
Nominal Size	Pipe OD	Hole Dimensions		▼ Max. Working Pressure	Clamp-T Dimensions						Bolt Size	Approx. Wt. Each
		Min. Diameter	Max Diameter		T	U	V Grooved	W	Y	Z		
In./DN(mm)	In./mm	In./mm	In./mm	psi/bar	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./Kg
2½ x 1¼ 65 x 32	2.875 x 1.660 73.0 x 42.4	2 51	2½ 54	500 34.5	2½ 61	¾ 14	3½ 79	1¼ 44	6½ 156	3½ 89	½ U-Bolt	3.4 1.5
2½ x 1½ 65 x 40	2.875 x 1.900 73.0 x 48.3	2 51	2½ 54	500 34.5	2½ 61	¾ 14	3½ 79	1¼ 44	6½ 156	3½ 89	½ U-Bolt	3.4 1.5
3 x 1¼ 80 x 32	3.500 x 1.660 88.9 x 42.4	2 51	2½ 54	500 34.5	2½ 61	1½ 38	3½ 89	2⅞ 54	6⅞ 175	3¾ 95	½ x 2¾	3.4 1.5
3 x 1½ 80 x 40	3.500 x 1.900 88.9 x 48.3	2 51	2½ 54	500 34.5	2½ 61	1½ 38	3½ 89	2⅞ 54	6⅞ 175	3¾ 95	½ x 2¾	4.4 2.0
3 x 2 80 x 50	3.500 x 2.375 88.9 x 60.3	2½ 64	2⅞ 67	500 34.5	2½ 61	1½ 38	3½ 89	2⅞ 54	6⅞ 175	4⅞ 105	½ x 2¾	4.6 2.1
4 x 1¼ 100 x 32	4.500 x 1.660 114.3 x 42.4	2 51	2½ 54	500 34.5	3½ 81	1⅞ 48	4 102	2⅞ 67	7½ 191	3¾ 95	½ x 2¾	4.2 1.9
4 x 1½ 100 x 40	4.500 x 1.900 114.3 x 48.3	2 51	2½ 54	500 34.5	3½ 81	1⅞ 48	4 102	2⅞ 67	7½ 191	3¾ 95	½ x 2¾	4.3 2.0
4 x 2 100 x 50	4.500 x 2.375 114.3 x 60.3	2½ 64	2⅞ 67	500 34.5	3½ 81	1⅞ 48	4 102	2⅞ 67	7½ 191	4⅞ 105	½ x 2¾	4.6 2.1
4 x 2½ 100 x 65	4.500 x 2.875 114.3 x 73.0	2½ 70	2⅞ 73	500 34.5	3½ 77	1⅞ 48	4 102	2⅞ 67	7½ 191	4⅞ 111	½ x 2¾	5.0 2.3
4 x 3 100 x 80	4.500 x 3.500 114.3 x 88.9	3½ 89	3⅞ 92	500 34.5	3½ 83	1⅞ 48	4 102	2⅞ 67	7½ 191	5¼ 133	½ x 3½	5.6 2.5
4 x 3 OD 100 x 80	4.500 x 2.996 114.3 x 76.1	2½ 70	2⅞ 73	500 34.5	3½ 77	1⅞ 48	4 102	2⅞ 67	7½ 191	4⅞ 111	½ x 2¾	5.0 2.3
5 x 1¼ 125 x 32	5.563 x 1.660 141.3 x 42.4	2 51	2½ 54	500 34.5	3½ 94	1⅞ 48	4¼ 108	3¼ 83	9⅞ 232	3¾ 95	⅝ x 3¼	5.6 2.5
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6 x 2½ 150 x 65	6.625 x 2.875 168.3 x 73.0	2½ 70	2⅞ 73	500 34.5	4½ 105	2 51	5½ 130	3⅞ 98	10⅞ 257	4⅞ 111	⅝ x 4¼	7.6 3.4
6 x 3 150 x 80	6.625 x 3.500 168.3 x 88.9	3½ 89	3⅞ 92	500 34.5	4½ 111	2 51	5½ 130	3⅞ 98	10⅞ 257	5¼ 133	⅝ x 4¼	8.0 3.6
6 x 3 OD 150 x 80	6.625 x 2.996 168.3 x 76.1	2½ 70	2⅞ 73	500 34.5	4½ 105	2 51	5½ 130	3⅞ 98	10⅞ 257	4⅞ 111	⅝ x 4¼	7.6 3.4
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8 x 2 200 x 50	8.625 x 2.375 219.1 x 60.3	2½ 64	2⅞ 67	500 34.5	5½ 130	2¼ 57	6½ 156	5 127	12¼ 324	4¼ 108	¾ x 4¼	10.4 4.7
8 x 2½ 200 x 65	8.625 x 2.875 219.1 x 73.0	2½ 70	2⅞ 73	500 34.5	5½ 134	2¼ 57	6½ 156	5 127	12¼ 324	4⅞ 111	¾ x 4½	10.6 4.8
8 x 3 200 x 80	8.625 x 3.500 219.1 x 88.9	3½ 89	3⅞ 92	500 34.5	5½ 137	2¼ 57	6½ 156	5 127	12¼ 324	5¼ 133	¾ x 4½	11.5 5.2
8 x 4 200 x 100	8.625 x 4.500 219.1 x 114.3	4½ 114	4⅞ 117	500 34.5	5½ 137	2¼ 57	6¼ 159	5 127	12¼ 324	6½ 165	¾ x 4½	16.2 7.3

Note: 2½", 5" and 6" Nom. size run pipe may be used on 3" OD, 5½" OD and 6½" OD pipe

▼ Based on use with standard wall pipe.

Not for use in copper systems.

Installation & Assembly

Fig. 7045 and 7046 Clamp-T® Branch Outlet

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 the slug from inside the pipe. Clean the gasket sealing surface within 5/8" of the hole and visually inspect the sealing surface for defects that may prevent proper sealing of the gasket.

Branch Size (Inches)	Hole Saw Size (Inched) (+ 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

Step 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.

Step 3



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.

Step 4



4 Alignment

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

Step 5



5 Tighten nuts

Alternately and evenly tighten the nuts to the specified bolt torque.

Step 6



6 Assembly completed

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. **Over-torquing 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.** 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
U-bolt	7/8	30 - 40
1/2	7/8	60 - 80
5/8	7/8	60 - 80
3/4	7/8	60 - 80

* Non-lubricated bolt torques



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