



GRINNELL Figure 730 Mechanical Tees and Crosses Threaded / Grooved

General Description

The GRINNELL Figure 730 Mechanical Tees provide an additional threaded or grooved outlet in existing piping. For new construction, the Figure 730 Mechanical Tees provide a way to bypass the use of a reducing tee. The Mechanical Tee can easily be converted to a cross.

NOTICE

The GRINNELL Figure 730 Mechanical Tees and Crosses described here-in must be installed and maintained in compliance with this document, in addition to the standards of any other authorities having jurisdiction. Failure to do so may result in serious personal injury or impair the performance of these devices.

Never remove any piping component nor correct or modify any piping deficiencies without first de-pressurizing and draining the system. Failure to do so may result in serious personal injury, property damage, and/or impaired device performance.

The designer is responsible for selecting products suitable for the intended service and to ensure that pressure ratings and performance data are not exceeded. Verify that material and gasket selection are compatible with the specific application. Always read and understand the installation instructions.

The owner is responsible for maintaining their mechanical system and devices in proper operating condition. Contact the installing contractor or device manufacturer with any questions.

Technical Data

Approvals

UL, FM, ULC, VdS,
LPCB (Cert. Nos. 669a and 673a)

Branch Outlet

Threaded (Female NPT or ISO 7-1)
Grooved

Max. Working Pressure

500 psi (34,5 Bar)

Note: Maximum pressure applies to the Mechanical Tee. When connected to a grooved coupling, the rating will be the lesser of the Mechanical Tee or Coupling rating. Maximum pressure is a total from all loads, based on standard weight steel pipe. For further information on piping specifications contact GRINNELL Mechanical Services.

Housing

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

Protective Coatings

- Non-lead orange paint
- RAL red (optional) non-lead paint
- Hot-dipped galvanized conforming to ASTM A 153

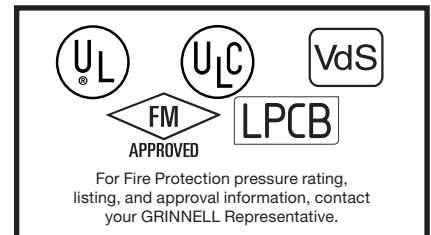
Bolts/Nuts

- Track Head Bolts – conforming to ASTM A 183, Zinc Plated, (Min. Tensile = 110,000 psi / 758,422 kPa)
- Metric – conforming to ASTM F 568M
- Stainless steel available upon request
- Hot-dipped galvanized available upon request

Gasket

- Grade “E” EPDM, Green color code
-30°F to 230°F (-34°C to 110°C)
- Grade “T” Nitrile, Orange color code
-20°F to 180°F (-29°C to 82°C)

For additional information on gaskets, refer to Technical Data Sheet G610.



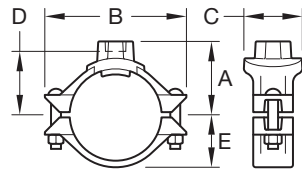


Figure 730 Tee
Female NPT or ISO 7-1 Threaded
Branch Outlet

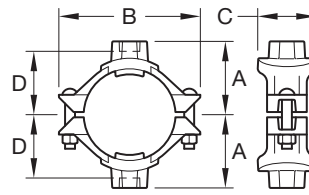


Figure 730 Cross
Female NPT or ISO 7-1 Threaded
Branch Outlets

Nominal Size Run x Branch ANSI Inches DN	Hole Diameter †		Nominal Dimensions					Bolt* Size Inches mm	Tee Approx. Weight Lbs. kg	Cross Approx. Weight Lbs. kg
	Min. Inches mm	Max. Inches mm	A Inches mm	B Inches mm	C Inches mm	D Inches mm	E Inches mm			
2 x 1/2 50 x 15	1.50 38,1	1.63 41,3	2.62 66,5	4.88 124,0	3.07 78,0	2.12 53,8	1.59 40,4	3/8 x 2-1/4 M10 x 57	2.5 1,1	3.4 1,5
2 x 3/4 50 x 20	1.50 38,1	1.63 41,3	2.62 66,5	4.88 124,0	3.07 78,0	2.12 53,8	1.59 40,4	3/8 x 2-1/4 M10 x 57	2.3 1,0	3.0 1,4
2 x 1 50 x 25	1.50 38,1	1.63 41,3	2.62 66,5	4.88 124,0	3.07 78,0	2.12 53,8	1.59 40,4	3/8 x 2-1/4 M10 x 57	2.2 1,0	3.2 1,5
2 x 1-1/4 50 x 32	1.75 44,5	1.88 47,6	2.78 70,6	4.88 124,0	3.32 84,3	1.93 49,0	1.59 40,4	3/8 x 2-1/4 M10 x 57	2.4 1,1	3.4 1,5
2 x 1-1/2 50 x 40	1.75 44,5	1.88 47,6	2.75 69,9	4.88 124,0	3.32 84,3	1.93 49,0	1.59 40,4	3/8 x 2-1/4 M10 x 57	2.5 1,1	3.9 1,8
2-1/2 x 1/2 65 x 15	1.50 38,1	1.63 41,3	2.88 73,2	5.25 133,4	3.07 78,0	2.38 60,5	1.81 46,0	3/8 x 2-1/4 M10 x 57	2.4 1,1	3.4 1,5
2-1/2 x 3/4 65 x 20	1.50 38,1	1.63 41,3	2.88 73,2	5.25 133,4	3.07 78,0	2.38 60,5	1.81 46,0	3/8 x 2-1/4 M10 x 57	2.4 1,1	3.4 1,5
2-1/2 x 1 65 x 25	1.50 38,1	1.63 41,3	2.88 73,2	5.25 133,4	3.07 78,0	2.38 60,5	1.81 46,0	3/8 x 2-1/4 M10 x 57	2.4 1,1	3.4 1,5
2-1/2 x 1-1/4 65 x 32	2.00 50,8	2.13 54,0	3.00 76,2	5.25 133,4	3.56 90,4	2.19 55,6	1.81 46,0	3/8 x 2-1/4 M10 x 57	2.5 1,1	3.8 1,7
2-1/2 x 1-1/2 65 x 40	2.00 50,8	2.13 54,0	3.07 78,0	5.25 133,4	3.59 91,2	2.17 55,1	1.81 46,0	3/8 x 2-1/4 M10 x 57	2.6 1,2	4.1 1,9
2-1/2 x 2 65 x 50	2.00 50,8	2.13 54,0	3.19 81,0	5.25 133,4	4.00 101,6	2.44 62,0	1.81 46,0	3/8 x 2-1/4 M10 x 57	2.7 1,2	4.1 1,9
76,1mm x 1/2 65 x 15	1.50 38,1	1.63 41,3	2.94 74,5	5.62 142,7	3.07 78,0	2.44 62,0	1.87 47,5	- M10 x 57	2.5 1,1	3.5 1,6
76,1mm x 3/4 65 x 20	1.50 38,1	1.63 41,3	2.94 74,5	5.62 142,7	3.07 78,0	2.44 62,0	1.87 47,5	- M10 x 57	2.5 1,1	3.5 1,6
76,1mm x 1 65 x 25	1.50 38,1	1.63 41,3	2.94 74,5	5.62 142,7	3.07 78,0	2.44 62,0	1.87 47,5	- M10 x 57	2.5 1,1	3.5 1,6
76,1mm x 1-1/4 65 x 32	2.00 50,8	2.13 54,0	3.06 77,7	5.62 142,7	3.56 90,4	2.25 57,2	1.87 47,5	- M10 x 57	3.3 1,5	5.1 2,3
76,1mm x 1-1/2 65 x 40	2.00 50,8	2.13 54,0	3.13 79,5	5.62 142,7	3.56 90,4	2.25 57,2	1.87 47,5	- M10 x 57	3.6 1,6	5.7 2,6
76,1mm x 2 65 x 50	2.00 50,8	2.13 54,0	3.25 82,6	5.62 142,7	4.00 101,6	2.50 63,5	1.87 47,5	- M10 x 57	3.7 1,7	5.8 2,6
3 x 1/2 80 x 15	1.50 38,1	1.63 41,3	3.19 81,0	6.13 155,7	3.07 78,0	2.56 65,0	2.21 56,1	1/2 x 3 M12 x 76	3.7 1,7	5.2 2,4
3 x 3/4 80 x 20	1.50 38,1	1.63 41,3	3.19 81,0	6.13 155,7	3.07 78,0	2.56 65,0	2.21 56,1	1/2 x 3 M12 x 76	3.7 1,7	5.2 2,4
3 x 1 80 x 25	1.50 38,1	1.63 41,3	3.19 81,0	6.13 155,7	3.07 78,0	2.56 65,0	2.21 56,1	1/2 x 3 M12 x 76	3.7 1,7	5.2 2,4
3 x 1-1/4 80 x 32	1.75 44,5	1.88 47,6	3.34 84,8	6.13 155,7	3.32 84,3	2.50 63,5	2.21 56,1	1/2 x 3 M12 x 76	3.5 1,6	4.6 2,1
3 x 1-1/2 80 x 40	2.00 50,8	2.13 54,0	3.38 85,9	6.13 155,7	3.56 90,4	2.48 63,0	2.21 56,1	1/2 x 3 M12 x 76	3.7 1,7	5.2 2,4
3 x 2 80 x 50	2.50 63,5	2.63 66,7	3.50 88,9	6.13 155,7	4.09 103,9	2.75 69,9	2.21 56,1	1/2 x 3 M12 x 76	4.7 2,1	6.8 3,1

† Proper outlet hole preparation is required for effective sealing and performance. Inspect the pipe seal surface within 5/8" (15,9 mm) of the hole to ensure it is free from conditions that would adversely affect proper gasket sealing. Remove any sharp or rough edges from the hole or upper housing contact area that might affect assembly, proper seating of the locating collar or flow from the outlet. For Mechanical Crosses, ensure double outlet holes are aligned on opposite sides of the pipe. The use of threaded components other than steel pipe, such as dry type sprinklers, etc. may not be compatible with the female threaded outlets of Mechanical Tees and Crosses. Always confirm compatibility by contacting your Tyco Mechanical Products representative.

* Gold color coded metric bolt sizes are available upon request.

**FIGURE 1 (1 OF 3)
FIGURE 730 MECHANICAL TEES AND CROSSES
THREADED OUTLETS**

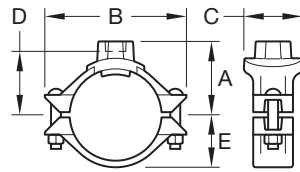


Figure 730 Tee
Female NPT or ISO 7-1 Threaded
Branch Outlet

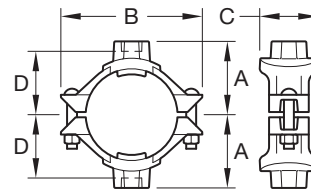


Figure 730 Cross
Female NPT or ISO 7-1 Threaded
Branch Outlets

Nominal Size Run x Branch ANSI Inches DN	Hole Diameter †		Nominal Dimensions					Bolt* Size Inches mm	Tee Approx. Weight Lbs. kg	Cross Approx. Weight Lbs. kg
	Min. Inches mm	Max. Inches mm	A Inches mm	B Inches mm	C Inches mm	D Inches mm	E Inches mm			
4 x 1/2 100 x 15	1.50 38,1	1.63 41,3	3.69 93,7	7.13 181,1	3.07 78,0	3.06 77,7	2.78 70,6	1/2 x 3 M12 x 76	4,8 2,2	5.6 2,5
4 x 3/4 100 x 20	1.50 38,1	1.63 41,3	3.69 93,7	7.13 181,1	3.07 78,0	3.06 77,7	2.78 70,6	1/2 x 3 M12 x 76	4,8 2,2	5.6 2,5
4 x 1 100 x 25	1.50 38,1	1.63 41,3	3.69 93,7	7.13 181,1	3.07 78,0	3.06 77,7	2.78 70,6	1/2 x 3 M12 x 76	4,8 2,2	5.6 2,5
4 x 1-1/4 100 x 32	1.75 44,5	1.88 47,6	3.92 99,6	7.13 181,1	3.32 84,3	3.00 76,2	2.78 70,6	1/2 x 3 M12 x 76	4,8 2,2	5.6 2,5
4 x 1-1/2 100 x 40	2.00 50,8	2.13 54,0	4.00 101,6	7.13 181,1	3.56 90,4	2.98 75,7	2.78 70,6	1/2 x 3 M12 x 76	5.1 2,3	6.4 2,5
4 x 2 100 x 50	2.50 63,5	2.63 66,7	4.00 101,6	7.13 181,1	4.06 103,1	3.25 82,6	2.78 70,6	1/2 x 3 M12 x 76	5.5 2,5	7.3 3,3
4 x 2-1/2 100 x 65	2.75 69,9	2.88 73,0	4.00 101,6	7.13 181,1	4.38 111,3	3.12 79,2	2.78 70,6	1/2 x 3 M12 x 76	6.2 2,8	8.7 3,9
4 x 76,1mm 100 x 65	2.75 69,9	2.88 73,0	4.00 101,6	7.13 181,1	4.38 111,3	3.12 79,2	2.78 70,6	- M12 x 76	6.2 2,8	8.7 3,9
4 x 3 100 x 80	3.50 88,9	3.63 92,1	4.13 104,9	7.13 181,1	5.13 130,3	3.31 84,1	2.78 70,6	1/2 x 3 M12 x 76	7.8 3,5	11.9 5,4
5 x 1-1/2 125 x 40	2.00 50,8	2.13 54,0	4.63 117,6	8.13 206,5	3.56 90,4	4.00 101,6	3.37 85,6	5/8 x 4-3/4 M16 x 121	7.8 3,5	9.4 4,3
5 x 2 125 x 50	2.50 63,5	2.63 66,7	4.63 117,6	8.13 206,5	4.06 103,1	3.88 98,6	3.37 85,6	5/8 x 4-3/4 M16 x 121	7.8 3,5	9.4 4,3
5 x 2-1/2 125 x 65	2.75 69,9	2.88 73,0	4.75 120,7	8.13 206,5	4.38 111,3	3.88 98,6	3.37 85,6	5/8 x 4-3/4 M16 x 121	8.9 4,0	11.5 5,2
5 x 76,1mm 125 x 65	2.75 69,9	2.88 73,0	4.75 120,7	8.13 206,5	4.38 111,3	3.88 98,6	3.37 85,6	- M16 x 121	8.9 4,0	11.5 5,2
5 x 3 125 x 80	3.50 88,9	3.63 92,1	5.00 127,0	8.13 206,5	5.13 130,3	4.06 103,1	3.37 85,6	5/8 x 4-3/4 M16 x 121	12.7 5,8	13.3 6,0
139,7mm x 1-1/2 125 x 40	2.00 50,8	2.13 54,0	4.63 117,6	8.13 206,5	3.56 90,4	4.00 101,6	3.37 85,6	- M16 x 121	7.8 3,5	9.4 4,3
139,7mm x 2 125 x 50	2.50 63,5	2.63 66,7	4.63 117,6	8.13 206,5	4.06 103,1	3.88 98,6	3.37 85,6	- M16 x 121	7.8 3,5	9.4 4,3
139,7mm x 2-1/2 125 x 65	2.75 69,9	2.88 73,0	4.75 120,7	8.13 206,5	4.38 111,3	3.88 98,6	3.37 85,6	- M16 x 121	8.9 4,0	11.5 5,2
139,7mm x 76,1mm 125 x 65	2.75 69,9	2.88 73,0	4.75 120,7	8.13 206,5	4.38 111,3	3.88 98,6	3.37 85,6	- M16 x 121	8.9 4,0	11.5 5,2
139,7mm x 3 125 x 80	3.50 88,9	3.63 92,1	5.00 127,0	8.13 206,5	5.13 130,3	4.06 103,1	3.37 85,6	- M16 x 121	12.7 5,8	13.3 6,0
6 x 1-1/4 150 x 32	2.00 50,8	2.13 54,0	5.13 130,3	9.25 235,0	3.56 90,4	4.25 108,0	3.90 99,1	5/8 x 4-3/4 M16 x 121	7.5 3,4	8.7 3,9
6 x 1-1/2 150 x 40	2.00 50,8	2.13 54,0	5.13 130,3	9.25 235,0	3.56 90,4	4.04 102,6	3.90 99,1	5/8 x 4-3/4 M16 x 121	7.5 3,4	8.7 3,9
6 x 2 150 x 50	2.50 63,5	2.63 66,7	5.13 130,3	9.25 235,0	4.06 103,1	4.31 109,5	3.90 99,1	5/8 x 4-3/4 M16 x 121	7.7 3,5	9.5 4,3
6 x 2-1/2 150 x 65	2.75 69,9	2.88 73,0	5.13 130,3	9.25 235,0	4.38 111,3	4.18 106,2	3.90 99,1	5/8 x 4-3/4 M16 x 121	8.9 4,0	11.3 5,1

† Proper outlet hole preparation is required for effective sealing and performance. Inspect the pipe seal surface within 5/8" (15,9 mm) of the hole to ensure it is free from conditions that would adversely affect proper gasket sealing. Remove any sharp or rough edges from the hole or upper housing contact area that might affect assembly, proper seating of the locating collar or flow from the outlet. For Mechanical Crosses, ensure double outlet holes are aligned on opposite sides of the pipe. The use of threaded components other than steel pipe, such as dry type sprinklers, etc. may not be compatible with the female threaded outlets of Mechanical Tees and Crosses. Always confirm compatibility by contacting your Tyco Mechanical Products representative.

* Gold color coded metric bolt sizes are available upon request.

**FIGURE 1 (2 OF 3)
FIGURE 730 MECHANICAL TEES AND CROSSES
THREADED OUTLETS**

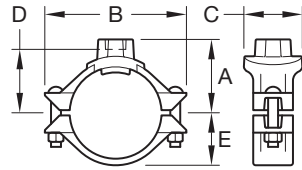


Figure 730 Tee
 Female NPT or ISO 7-1 Threaded
 Branch Outlet

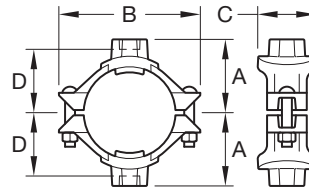


Figure 730 Cross
 Female NPT or ISO 7-1 Threaded
 Branch Outlets

Nominal Size Run x Branch ANSI Inches DN	Hole Diameter †		Nominal Dimensions					Bolt* Size Inches mm	Tee Approx. Weight Lbs. kg	Cross Approx. Weight Lbs. kg
	Min. Inches mm	Max. Inches mm	A Inches mm	B Inches mm	C Inches mm	D Inches mm	E Inches mm			
6 x 76,1mm 150 x 65	2.75 69,9	2.88 73,0	5.13 130,3	9.25 235,0	4.38 111,3	4.18 106,2	3.90 99,1	5/8 x 4-3/4 M16 x 121	8.9 4,0	11.3 5,1
6 x 3 150 x 80	3.50 88,9	3.63 92,1	5.50 139,7	9.25 235,0	5.13 130,3	4.37 111,0	3.90 99,1	5/8 x 4-3/4 M16 x 121	10.3 4,7	14.1 6,4
6 x 4 150 x 100	4.50 114,3	4.63 117,5	5.38 136,7	9.25 235,0	6.13 155,7	4.56 115,8	3.90 99,1	5/8 x 4-3/4 M16 x 121	11.9 5,4	17.3 9,1
165,1mm x 1-1/4 150 x 32	2.00 50,8	2.13 54,0	5.13 130,3	9.25 235,0	3.56 90,4	4.25 108,0	3.90 99,1	- M16 x 121	7.7 3,5	9.5 4,3
165,1mm x 1-1/2 150 x 40	2.00 50,8	2.13 54,0	5.13 130,3	9.25 235,0	3.56 90,4	4.04 102,6	3.90 99,1	- M16 x 121	7.7 3,5	9.5 4,3
165,1mm x 2 150 x 50	2.50 63,5	2.63 66,7	5.13 130,3	9.25 235,0	4.06 103,1	4.31 109,5	3.90 99,1	- M16 x 121	8.2 3,7	9.5 4,3
165,1mm x 2-1/2 150 x 65	2.75 69,9	2.88 73,0	5.13 130,3	9.25 235,0	4.38 111,3	4.18 106,2	3.90 99,1	- M16 x 121	9.0 4,1	11.3 5,1
165,1mm x 76,1mm 150 x 65	2.75 69,9	2.88 73,0	5.13 130,3	9.25 235,0	4.38 111,3	4.18 106,2	3.90 99,1	- M16 x 121	9.0 4,1	11.3 5,1
165,1mm x 3 150 x 80	3.50 88,9	3.63 92,1	5.50 139,7	9.25 235,0	5.13 130,3	4.37 111,0	3.90 99,1	- M16 x 121	10.5 4,8	14.1 6,4
165,1mm x 4 150 x 100	4.50 114,3	4.63 117,5	5.38 136,7	9.25 235,0	6.13 155,7	4.56 115,8	3.90 99,1	- M16 x 121	12.1 5,5	17.3 7,8
8 x 2 200 x 50	2.50 63,5	2.63 66,7	6.25 158,8	12.50 317,5	4.06 103,1	5.50 139,7	4.90 124,5	3/4 x 4-3/4 M20 x 121	12.1 5,5	14.1 6,4
8 x 2-1/2 200 x 65	2.75 69,9	2.88 73,0	6.25 158,8	12.50 317,5	4.38 111,3	5.12 130,0	4.90 124,5	3/4 x 4-3/4 M20 x 121	12.6 5,7	15.0 6,8
8 x 76,1mm 200 x 65	2.75 69,9	2.88 73,0	6.25 158,8	12.50 317,5	4.38 111,3	5.12 130,0	4.90 124,5	- M20 x 121	12.6 5,7	15.0 6,8
8 x 3 200 x 80	3.50 88,9	3.63 92,1	6.50 165,1	12.50 317,5	5.13 130,3	5.37 136,4	4.90 124,5	3/4 x 4-3/4 M20 x 121	13.6 6,1	16.9 7,7
8 x 4 200 x 100	4.50 114,3	4.63 117,5	6.38 162,1	12.50 317,5	6.13 155,7	5.56 141,2	4.90 124,5	3/4 x 4-3/4 M20 x 121	15.2 6,9	20.0 9,1
216,3mm x 2 200 JIS x 50	2.50 63,5	2.63 66,7	6.25 158,8	12.50 317,5	4.06 103,1	5.50 139,7	4.90 124,5	3/4 x 4-3/4 M20 x 121	12.1 5,5	14.1 6,4
216,3mm x 2-1/2 200 JIS x 65	2.75 69,9	2.88 73,0	6.25 158,8	12.50 317,5	4.38 111,3	5.12 130,0	4.90 124,5	3/4 x 4-3/4 M20 x 121	12.6 5,7	15.0 6,8
216,3mm x 76,1mm 200 JIS x 65	2.75 69,9	2.88 73,0	6.25 158,8	12.50 317,5	4.38 111,3	5.12 130,0	4.90 124,5	- M20 x 121	12.6 5,7	15.0 6,8
216,3mm x 3 200 JIS x 80	3.50 88,9	3.63 92,1	6.50 165,1	12.50 317,5	5.13 130,3	5.37 136,4	4.90 124,5	3/4 x 4-3/4 M20 x 121	13.6 6,1	16.9 7,7
216,3mm x 4 200 JIS x 100	4.50 114,3	4.63 117,5	6.38 162,1	12.50 317,5	6.13 155,7	5.56 141,2	4.90 124,5	3/4 x 4-3/4 M20 x 121	15.2 6,9	20.0 9,1

† Proper outlet hole preparation is required for effective sealing and performance. Inspect the pipe seal surface within 5/8" (15,9 mm) of the hole to ensure it is free from conditions that would adversely affect proper gasket sealing. Remove any sharp or rough edges from the hole or upper housing contact area that might affect assembly, proper seating of the locating collar or flow from the outlet. For Mechanical Crosses, ensure double outlet holes are aligned on opposite sides of the pipe. The use of threaded components other than steel pipe, such as dry type sprinklers, etc. may not be compatible with the female threaded outlets of Mechanical Tees and Crosses. Always confirm compatibility by contacting your Tyco Mechanical Products representative.

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FIGURE 1 (3 OF 3)
FIGURE 730 MECHANICAL TEES AND CROSSES
THREADED OUTLETS

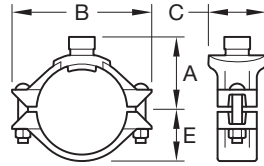


Figure 730 Tee
Grooved
Branch Outlet

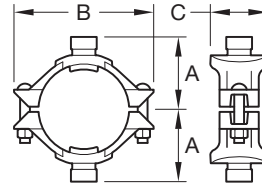


Figure 730 Cross
Grooved
Branch Outlets

Nominal Size Run x Branch ANSI Inches DN	Hole Diameter †		Nominal Dimensions				Bolt* Size Inches mm	Tee Approx. Weight Lbs. kg	Cross Approx. Weight Lbs. kg
	Min. Inches mm	Max. Inches mm	A Inches mm	B Inches mm	C Inches mm	E Inches mm			
2 x 1 50 x 25	1.50 38,1	1.63 41,3	2.62 66,5	4.88 124,0	3.07 78,0	1.59 40,4	3/8 x 2-1/4 M10 x 57	2.2 1,0	3.2 1,5
2 x 1-1/4 50 x 32	1.75 44,5	1.88 47,6	2.78 70,6	4.88 124,0	3.32 84,3	1.59 40,4	3/8 x 2-1/4 M10 x 57	2.5 1,1	3.3 1,5
2 x 1-1/2 50 x 40	1.75 44,5	1.88 47,6	2.62 66,5	4.88 124,0	3.32 84,3	1.59 40,4	3/8 x 2-1/4 M10 x 57	2.4 1,1	3.7 1,7
2-1/2 x 1 65 x 25	1.50 38,1	1.63 41,3	2.88 73,2	5.25 133,4	3.07 78,0	1.81 46,0	3/8 x 2-1/4 M10 x 57	2.4 1,1	3.4 1,5
2-1/2 x 1-1/4 65 x 32	2.00 50,8	2.13 54,0	3.00 76,2	5.25 133,4	3.56 90,4	1.81 46,0	3/8 x 2-1/4 M10 x 57	2.5 1,1	3.8 1,7
2-1/2 x 1-1/2 65 x 40	2.00 50,8	2.13 54,0	3.07 78,0	5.25 133,4	3.59 91,2	1.81 46,0	3/8 x 2-1/4 M10 x 57	2.5 1,1	3.9 1,8
2-1/2 x 2 65 x 50	2.00 50,8	2.13 54,0	3.19 81,0	5.25 133,4	4.00 101,6	1.81 46,0	3/8 x 2-1/4 M10 x 57	2.5 1,1	3.8 1,7
76,1mm x 1 65 x 25	1.50 38,1	1.63 41,3	2.94 74,5	5.62 142,7	3.07 78,0	1.87 47,5	- M10 x 57	2.5 1,1	3.5 1,6
76,1mm x 1-1/4 65 x 32	2.00 50,8	2.13 54,0	3.06 77,7	5.62 142,7	3.56 90,4	1.87 47,5	- M10 x 57	2.5 1,1	3.8 1,7
76,1mm x 1-1/2 65 x 40	2.00 50,8	2.13 54,0	3.13 79,5	5.62 142,7	3.56 90,4	1.87 47,5	- M10 x 57	2.5 1,1	3.9 1,8
76,1mm x 2 65 x 50	2.00 50,8	2.13 54,0	3.25 82,6	5.62 142,7	4.00 101,6	1.87 47,5	- M10 x 57	2.5 1,1	3.8 1,7
3 x 1 80 x 25	1.50 38,1	1.63 41,3	3.19 81,0	6.13 155,7	3.07 78,0	2.21 56,1	1/2 x 3 M12 x 76	3.7 1,7	5.2 2,4
3 x 1-1/4 80 x 32	1.75 44,5	1.88 47,6	3.34 84,8	6.13 155,7	3.32 84,3	2.21 56,1	1/2 x 3 M12 x 76	3.5 1,6	4.6 2,1
3 x 1-1/2 80 x 40	2.00 50,8	2.13 54,0	3.38 85,9	6.13 155,7	3.56 90,4	2.21 56,1	1/2 x 3 M12 x 76	3.6 1,6	5.0 2,3
3 x 2 80 x 50	2.50 63,5	2.63 66,7	3.50 88,9	6.13 155,7	4.09 103,9	2.21 56,1	1/2 x 3 M12 x 76	4.5 2,0	6.4 2,9
4 x 1 100 x 25	1.50 38,1	1.63 41,3	3.69 93,7	7.13 181,1	3.07 78,0	2.78 70,6	1/2 x 3 M12 x 76	4.8 2,2	5.6 2,5
4 x 1-1/4 100 x 32	1.75 44,5	1.88 47,6	3.92 99,6	7.13 181,1	3.32 84,3	2.78 70,6	1/2 x 3 M12 x 76	4.8 2,2	5.6 2,5
4 x 1-1/2 100 x 40	2.00 50,8	2.13 54,0	4.00 101,6	7.13 181,1	3.56 90,4	2.78 70,6	1/2 x 3 M12 x 76	5.0 2,3	6.2 2,8
4 x 2 100 x 50	2.50 63,5	2.63 66,7	4.00 101,6	7.13 181,1	4.06 103,1	2.78 70,6	1/2 x 3 M12 x 76	5.3 2,4	6.9 3,1
4 x 2-1/2 100 x 65	2.75 69,9	2.88 73,0	4.00 101,6	7.13 181,1	4.38 111,3	2.78 70,6	1/2 x 3 M12 x 76	5.9 2,7	8.2 3,7
4 x 76,1mm 100 x 65	2.75 69,9	2.88 73,0	4.00 101,6	7.13 181,1	4.38 111,3	2.78 70,6	- M12 x 76	5.9 2,7	8.2 3,7
4 x 3 100 x 80	3.50 88,9	3.63 92,1	4.13 104,9	7.13 181,1	5.13 130,3	2.78 70,6	1/2 x 3 M12 x 76	7.4 3,4	11.1 5,0
5 x 1-1/2 125 x 40	2.00 50,8	2.13 54,0	4.63 117,6	8.13 206,5	3.56 90,4	3.37 85,6	5/8 x 4-3/4 M16 x 121	7.7 3,5	9.2 4,2

† Proper outlet hole preparation is required for effective sealing and performance. Inspect the pipe seal surface within 5/8" (15,9 mm) of the hole to ensure it is free from conditions that would adversely affect proper gasket sealing. Remove any sharp or rough edges from the hole or upper housing contact area that might affect assembly, proper seating of the locating collar or flow from the outlet. For Mechanical Crosses, ensure double outlet holes are aligned on opposite sides of the pipe.

* Gold color coded metric bolt sizes are available upon request.

**FIGURE 2 (1 OF 3)
FIGURE 730 MECHANICAL TEES AND CROSSES
GROOVED OUTLETS**

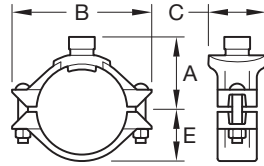


Figure 730 Tee
Grooved
Branch Outlet

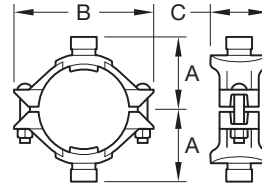


Figure 730 Cross
Grooved
Branch Outlets

Nominal Size Run x Branch ANSI Inches DN	Hole Diameter †		Nominal Dimensions				Bolt* Size Inches mm	Tee Approx. Weight Lbs. kg	Cross Approx. Weight Lbs. kg
	Min. Inches mm	Max. Inches mm	A Inches mm	B Inches mm	C Inches mm	E Inches mm			
5 x 2 125 x 50	2.50 63,5	2.63 66,7	4.63 117,6	8.13 206,5	4.06 103,1	3.37 85,6	5/8 x 4-3/4 M16 x 121	7.6 3,4	9.0 4,1
5 x 2-1/2 125 x 65	2.75 69,9	2.88 73,0	4.75 120,7	8.13 206,5	4.38 111,3	3.37 85,6	5/8 x 4-3/4 M16 x 121	8.6 3,9	11.0 5,0
5 x 76,1mm 125 x 65	2.75 69,9	2.88 73,0	4.75 120,7	8.13 206,5	4.38 111,3	3.37 85,6	— M16 x 121	8.6 3,9	11.0 5,0
5 x 3 125 x 80	3.50 88,9	3.63 92,1	5.00 127,0	8.13 206,5	5.13 130,3	3.37 85,6	5/8 x 4-3/4 M16 x 121	12.3 5,6	12.5 5,7
139,7mm x 1-1/2 125 x 40	2.00 50,8	2.13 54,0	4.63 117,6	8.13 206,5	3.56 90,4	3.37 85,6	— M16 x 121	7.7 3,5	9.2 4,2
139,7mm x 2 125 x 50	2.50 63,5	2.63 66,7	4.63 117,6	8.13 206,5	4.06 103,1	3.37 85,6	— M16 x 121	7.6 3,4	9.0 4,1
139,7mm x 2-1/2 125 x 65	2.75 69,9	2.88 73,0	4.75 120,7	8.13 206,5	4.38 111,3	3.37 85,6	— M16 x 121	8.6 3,9	11.0 5,0
139,7mm x 76,1mm 125 x 65	2.75 69,9	2.88 73,0	4.75 120,7	8.13 206,5	4.38 111,3	3.37 85,6	— M16 x 121	8.6 3,9	11.0 5,0
139,7mm x 3 125 x 80	3.50 88,9	3.63 92,1	5.00 127,0	8.13 206,5	5.13 130,3	3.37 85,6	— M16 x 121	12.3 5,6	12.5 5,7
6 x 1-1/4 150 x 32	2.00 50,8	2.13 54,0	5.13 130,3	9.25 235,0	3.56 90,4	3.90 99,1	5/8 x 4-3/4 M16 x 121	7.7 3,5	9.5 4,3
6 x 1-1/2 150 x 40	2.00 50,8	2.13 54,0	5.13 130,3	9.25 235,0	3.56 90,4	3.90 99,1	5/8 x 4-3/4 M16 x 121	7.6 3,4	9.3 4,2
6 x 2 150 x 50	2.50 63,5	2.63 66,7	5.13 130,3	9.25 235,0	4.06 103,1	3.90 99,1	5/8 x 4-3/4 M16 x 121	8.0 3,6	9.1 4,1
6 x 2-1/2 150 x 65	2.75 69,9	2.88 73,0	5.13 130,3	9.25 235,0	4.38 111,3	3.90 99,1	5/8 x 4-3/4 M16 x 121	8.8 4,0	10.8 4,9
6 x 76,1mm 150 x 65	2.75 69,9	2.88 73,0	5.13 130,3	9.25 235,0	4.38 111,3	3.90 99,1	5/8 x 4-3/4 M16 x 121	8.8 4,0	10.8 4,9
6 x 3 150 x 80	3.50 88,9	3.63 92,1	5.50 139,7	9.25 235,0	5.13 130,3	3.90 99,1	5/8 x 4-3/4 M16 x 121	10.1 4,6	13.3 6,0
6 x 4 150 x 100	4.50 114,3	4.63 117,5	5.38 136,7	9.25 235,0	6.13 155,7	3.90 99,1	5/8 x 4-3/4 M16 x 121	11.6 5,3	16.3 9,1
165,1mm x 1-1/4 150 x 32	2.00 50,8	2.13 54,0	5.13 130,3	9.25 235,0	3.56 90,4	3.90 99,1	— M16 x 121	7.7 3,5	9.5 4,3
165,1mm x 1-1/2 150 x 40	2.00 50,8	2.13 54,0	5.13 130,3	9.25 235,0	3.56 90,4	3.90 99,1	— M16 x 121	7.6 3,4	9.3 4,2
165,1mm x 2 150 x 50	2.50 63,5	2.63 66,7	5.13 130,3	9.25 235,0	4.06 103,1	3.90 99,1	— M16 x 121	8.0 3,6	9.1 4,1
165,1mm x 2-1/2 150 x 65	2.75 69,9	2.88 73,0	5.13 130,3	9.25 235,0	4.38 111,3	3.90 99,1	— M16 x 121	8.8 4,0	10.8 4,9
165,1mm x 76,1mm 150 x 65	2.75 69,9	2.88 73,0	5.13 130,3	9.25 235,0	4.38 111,3	3.90 99,1	— M16 x 121	8.8 4,0	10.8 4,9
165,1mm x 3 150 x 80	3.50 88,9	3.63 92,1	5.50 139,7	9.25 235,0	5.13 130,3	3.90 99,1	— M16 x 121	10.1 4,6	13.3 6,0
165,1mm x 4 150 x 100	4.50 114,3	4.63 117,5	5.38 136,7	9.25 235,0	6.13 155,7	3.90 99,1	— M16 x 121	11.6 5,3	16.3 7,4

† Proper outlet hole preparation is required for effective sealing and performance. Inspect the pipe seal surface within 5/8" (15,9 mm) of the hole to ensure it is free from conditions that would adversely affect proper gasket sealing. Remove any sharp or rough edges from the hole or upper housing contact area that might affect assembly, proper seating of the locating collar or flow from the outlet. For Mechanical Crosses, ensure double outlet holes are aligned on opposite sides of the pipe.

* Gold color coded metric bolt sizes are available upon request.

**FIGURE 2 (2 OF 3)
FIGURE 730 MECHANICAL TEES AND CROSSES
GROOVED OUTLETS**

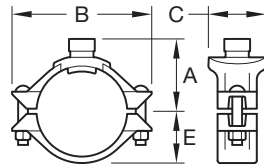


Figure 730 Tee
Grooved
Branch Outlet

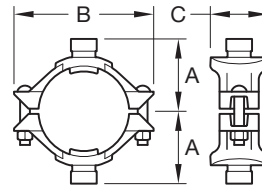


Figure 730 Cross
Grooved
Branch Outlets

Nominal Size Run x Branch ANSI Inches DN	Hole Diameter †		Nominal Dimensions				Bolt* Size Inches mm	Tee Approx. Weight Lbs. kg	Cross Approx. Weight Lbs. kg
	Min. Inches mm	Max. Inches mm	A Inches mm	B Inches mm	C Inches mm	E Inches mm			
8 x 2 200 x 50	2.50 63,5	2.63 66,7	6.25 158,8	12.50 317,5	4.06 103,1	4.90 124,5	3/4 x 4-3/4 M20 x 121	12.1 5,5	14.1 6,4
8 x 2-1/2 200 x 65	2.75 69,9	2.88 73,0	6.25 158,8	12.50 317,5	4.38 111,3	4.90 124,5	3/4 x 4-3/4 M20 x 121	12.3 5,6	14.5 6,6
8 x 76,1mm 200 x 65	2.75 69,9	2.88 73,0	6.25 158,8	12.50 317,5	4.38 111,3	4.90 124,5	- M20 x 121	12.3 5,6	14.5 6,6
8 x 3 200 x 80	3.50 88,9	3.63 92,1	6.50 165,1	12.50 317,5	5.13 130,3	4.90 124,5	3/4 x 4-3/4 M20 x 121	13.2 6,0	16.1 7,3
8 x 4 200 x 100	4.50 114,3	4.63 117,5	6.38 162,1	12.50 317,5	6.13 155,7	4.90 124,5	3/4 x 4-3/4 M20 x 121	14.7 6,7	19.0 8,6
216,3mm x 2 200 JIS x 50	2.50 63,5	2.63 66,7	6.25 158,8	12.50 317,5	4.06 103,1	4.90 124,5	3/4 x 4-3/4 M20 x 121	12.1 5,5	14.1 6,4
216,3mm x 2-1/2 200 JIS x 65	2.75 69,9	2.88 73,0	6.25 158,8	12.50 317,5	4.38 111,3	4.90 124,5	3/4 x 4-3/4 M20 x 121	12.3 5,6	14.5 6,6
216,3mm x 76,1mm 200 JIS x 65	2.75 69,9	2.88 73,0	6.25 158,8	12.50 317,5	4.38 111,3	4.90 124,5	- M20 x 121	12.3 5,6	14.5 6,6
216,3mm x 3 200 JIS x 80	3.50 88,9	3.63 92,1	6.50 165,1	12.50 317,5	5.13 130,3	4.90 124,5	3/4 x 4-3/4 M20 x 121	13.2 6,0	16.1 7,3
216,3mm x 4 200 JIS x 100	4.50 114,3	4.63 117,5	6.38 162,1	12.50 317,5	6.13 155,7	4.90 124,5	3/4 x 4-3/4 M20 x 121	14.7 6,7	19.0 8,6

† Proper outlet hole preparation is required for effective sealing and performance. Inspect the pipe seal surface within 5/8" (15,9 mm) of the hole to ensure it is free from conditions that would adversely affect proper gasket sealing. Remove any sharp or rough edges from the hole or upper housing contact area that might affect assembly, proper seating of the locating collar or flow from the outlet. For Mechanical Crosses, ensure double outlet holes are aligned on opposite sides of the pipe.

* Gold color coded metric bolt sizes are available upon request.

**FIGURE 2 (3 OF 3)
FIGURE 730 MECHANICAL TEES AND CROSSES
GROOVED OUTLETS**

Nominal Size Run x Branch ANSI Inches (DN)	Equivalent Length of Sch. 40 Steel Pipe, Feet (Meters)		Nominal Size Run x Branch ANSI Inches (DN)	Equivalent Length of Sch. 40 Steel Pipe, Feet (Meters)	
	Threaded	Grooved		Threaded	Grooved
2 x 1 (DN50 x DN25)	2 (0,60)	N/A	139,7mm x 2 (DN125 x DN50)	5 (1,52)	
2 x 1-1/4 (DN50 x DN32)	4 (1,22)		139,7mm x 2-1/2 (DN125 x DN65)	10 (3,05)	
2 x 1-1/2 (DN50 x DN40)	13 (3,96)		139,7mm x 76,1mm* (DN125 x DN65)	11 (3,35)	
2-1/2 x 1 (DN65 x DN25)	2 (0,60)	N/A	139,7mm x 3 (DN125 x DN80)	13 (3,96)	
2-1/2 x 1-1/4 (DN65 x DN32)	4 (1,22)		6 x 1-1/4 (DN150 x DN32)	4 (1,22)	
2-1/2 x 1-1/2 (DN65 x DN40)	3 (0,91)		6 x 1-1/2 (DN150 x DN40)	3 (0,91)	
2-1/2 x 2 (DN65 x DN50)	26 (7,92)		6 x 2 (DN150 x DN50)	5 (1,52)	
76,1mm x 1 (DN65 x DN25)	2 (0,60)	N/A	6 x 2-1/2 (DN150 x DN65)	10 (3,05)	
76,1mm x 1-1/4 (DN65 x DN32)	4 (1,22)		6 x 76,1mm* (DN150 x DN65)	11 (3,35)	
76,1mm x 1-1/2 (DN65 x DN40)	3 (0,91)		6 x 3 (DN150 x DN80)	9 (2,74)	
76,1mm x 2 (DN65 x DN50)	26 (7,92)		6 x 4 (DN150 x DN100)	14 (4,27)	
3 x 1 (DN80 x DN25)	2 (0,60)		165,1mm x 1-1/4 (DN150 x DN32)	4 (1,22)	
3 x 1-1/4 (DN80 x DN32)	4 (1,22)		165,1mm x 1-1/2 (DN150 x DN40)	3 (0,91)	
3 x 1-1/2 (DN80 x DN40)	3 (0,91)		165,1mm x 2 (DN150 x DN50)	5 (1,52)	
3 x 2 (DN80 x DN50)	5 (1,52)		165,1mm x 2-1/2 (DN150 x DN65)	10 (3,05)	
4 x 1 (DN100 x DN25)	2 (0,60)	N/A	165,1mm x 76,1mm* (DN150 x DN65)	11 (3,35)	
4 x 1-1/4 (DN100 x DN32)	4 (1,22)		165,1mm x 3 (DN150 x DN80)	9 (2,74)	
4 x 1-1/2 (DN100 x DN40)	3 (0,91)		165,1mm x 4 (DN150 x DN100)	14 (4,27)	
4 x 2 (DN100 x DN50)	5 (1,52)		8 x 2 (DN200 x DN50)	5 (1,52)	
4 x 2-1/2 (DN100 x DN65)	10 (3,05)		8 x 2-1/2 (DN200 x DN65)	10 (3,05)	
4 x 76,1mm* (DN100 x DN65)	11 (3,35)		8 x 76,1mm* (DN200 x DN65)	11 (3,35)	
4 x 3 (DN100 x DN80)	13 (3,96)		8 x 3 (DN200 x DN80)	N/A	9 (2,74)
5 x 1-1/2 (DN125 x DN40)	3 (0,91)		8 x 4 (DN200 x DN100)	N/A	14 (4,27)
5 x 2 (DN125 x DN50)	5 (1,52)		216,3mm x 2 (200 JIS x DN50)	5 (1,52)	
5 x 2-1/2 (DN125 x DN65)	10 (3,05)		216,3mm x 2-1/2 (200 JIS x DN65)	10 (3,05)	
5 x 76,1mm* (DN125 x DN65)	11 (3,35)		216,3mm x 76,1mm* (200 JIS x DN65)	11 (3,35)	
5 x 3 (DN125 x DN80)	13 (3,96)		216,3mm x 3 (200 JIS x DN80)	N/A	9 (2,74)
139,7mm x 1-1/2 (DN125 x DN40)	3 (0,91)		216,3mm x 4 (200 JIS x DN100)	N/A	14 (4,27)

* Note: Equivalent Length of EN10255:2004 Heavy Pipe
Hazen Williams coefficient = 120

TABLE A
FIGURE 730 MECHANICAL OUTLETS
LOSS AS EQUIVALENT PIPE LENGTH

Ordering Procedure

GRINNELL Products are available globally through a network of distribution centers. Visit www.grinnell.com for the nearest distributor.

When placing an order indicate the full product name. Specify the quantity, Figure 730, fitting type (specify), size (ANSI inch or pipe OD), outlet type (specify), thread specification (as applicable, specify), and gasket type (specify):

Fitting Type
Tee
Cross

Outlet Type
Threaded
Grooved

Thread Specification
NPT
ISO 7-1

Gasket Type
Grade "E" EPDM
Grade "T" Nitrile