

G-FIRE Figure 730 Mechanical Tees Threaded and Grooved Outlets

IMPORTANT

Refer to Technical Data Sheet TFP2300 for warnings pertaining to regulatory and health information.

Scan the QR code or enter the URL in a web browser to access the most up-to-date electronic version of this document. Data rates may apply.



docs.jci.com/tycofire/tfp1860

General Description

The GRINNELL G-FIRE 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.

Note: A mechanical cross can easily be assembled from the outlet halves of two mechanical tees. See Figure 3.

NOTICE

The GRINNELL G-FIRE Figure 730 Mechanical Tees described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the Approval agency, 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.

It is the designer's responsibility to select products suitable for the intended service and to ensure that pressure ratings and performance data are not exceeded. Material and gasket selection should be verified to be compatible for the specific application. Always read and understand the installation instructions.

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

Technical Data

Branch Outlet

Female Threaded (NPT or ISO 7-1)
Grooved

Maximum Working Pressure

See Tables A and B

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 Technical Services.

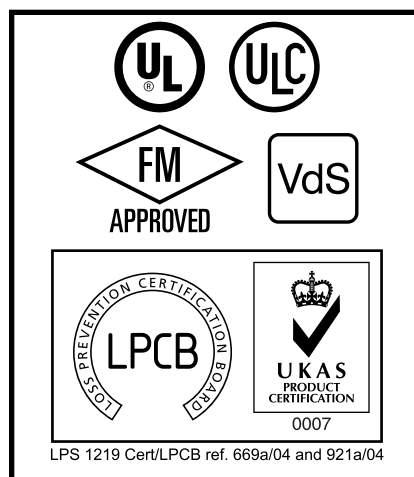
Approvals

UL and ULC Listed
FM Approved
VdS Approved
LPCB Certified

Note: For detailed information, see Tables A and B.

Housing

Ductile Iron conforming to ASTM A536, Grade 65-45-12



Finish

- Orange, non-lead paint
- RAL, red non-lead paint
- Hot-dipped galvanized conforming to ASTM A153

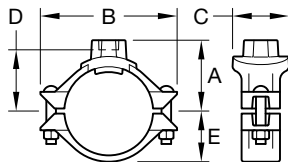
Gaskets

- Grade "E" EPDM, Green color code, -30°F to 230°F (-34°C to 110°C)

For proper gasket selection, refer to Technical Data Sheet TFP1895.

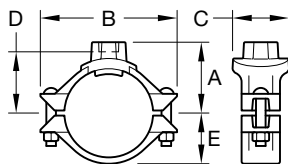
ANSI Bolts/Nuts

Carbon Steel oval neck track head bolts are heat-treated and conform to the physical properties of ASTM A183 Grade 2 and SAE J429 Grade 5 with a minimum tensile strength of 110,000 psi (758,422 kPa)



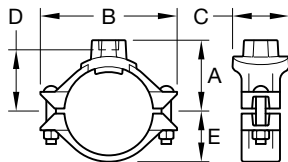
Nominal Size ^a Run x Branch ANSI in. (DN)	Hole Diameter ^{b,c} in. (mm)	Nominal Dimensions					Bolt ^d Size in. (metric)	Approx. Weight lb (kg)
		A in. (mm)	B in. (mm)	C in. (mm)	D in. (mm)	E in. (mm)		
2 x 1/2 (50 x 15)	1.50 (38,1)	2.62 (66,5)	4.88 (124,0)	3.07 (78,0)	2.12 (53,8)	1.59 (40,4)	3/8 x 2-1/4 (M10 x 57)	2.5 (1,1)
2 x 3/4 (50 x 20)	1.50 (38,1)	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)
2 x 1 (50 x 25)	1.50 (38,1)	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)
2 x 1-1/4 (50 x 32)	1.75 (44,5)	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)
2 x 1-1/2 (50 x 40)	1.75 (44,5)	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)
2-1/2 x 1/2 (65 x 15)	1.50 (38,1)	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)
2-1/2 x 3/4 (65 x 20)	1.50 (38,1)	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)
2-1/2 x 1 (65 x 25)	1.50 (38,1)	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)
2-1/2 x 1-1/4 (65 x 32)	2.00 (50,8)	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)
2-1/2 x 1-1/2 (65 x 40)	2.00 (50,8)	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)
2-1/2 x 2 (65 x 50)	2.00 (50,8)	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)
76,1 mm x 1/2 (65 x 15)	1.50 (38,1)	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)
76,1mm x 3/4 (65 x 20)	1.50 (38,1)	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)
76,1 mm x 1 (65 x 25)	1.50 (38,1)	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)
76,1 mm x 1-1/4 (65 x 32)	2.00 (50,8)	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)
76,1 mm x 1-1/2 (65 x 40)	2.00 (50,8)	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)
76,1mm x 2 (65 x 50)	2.00 (50,8)	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)
3 x 1/2 (80 x 15)	1.50 (38,1)	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)
3 x 3/4 (80 x 20)	1.50 (38,1)	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)
3 x 1 (80 x 25)	1.50 (38,1)	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)
3 x 1-1/4 (80 x 32)	1.75 (44,5)	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)
3 x 1-1/2 (80 x 40)	2.00 (50,8)	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)
3 x 2 (80 x 50)	2.50 (63,5)	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)
4 x 1/2 (100 x 15)	1.50 (38,1)	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)
4 x 3/4 (100 x 20)	1.50 (38,1)	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)
4 x 1 (100 x 25)	1.50 (38,1)	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)
4 x 1-1/4 (100 x 32)	1.75 (44,5)	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)
4 x 1-1/2 (100 x 40)	2.00 (50,8)	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)

FIGURE 1 (PART 1 OF 3)
FIGURE 730 MECHANICAL TEES
THREADED OUTLETS



Nominal Size ^a Run x Branch ANSI in. (DN)	Hole Diameter ^{b,c} in. (mm)	Nominal Dimensions					Bolt ^d Size in. (metric)	Approx. Weight lb (kg)
		A in. (mm)	B in. (mm)	C in. (mm)	D in. (mm)	E in. (mm)		
4 x 2 (100 x 50)	2.50 (63,5)	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)
4 x 2-1/2 (100 x 65)	2.75 (69,9)	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)
4 x 76,1 mm (100 x 65)	2.75 (69,9)	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)
4 x 3 (100 x 80)	3.50 (88,9)	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)
5 x 1-1/2 (125 x 40)	2.00 (50,8)	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)
5 x 2 (125 x 50)	2.50 (63,5)	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)
5 x 2-1/2 (125 x 65)	2.75 (69,9)	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)
5 x 76,1 mm (125 x 65)	2.75 (69,9)	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)
5 x 3 (125 x 80)	3.50 (88,9)	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)
139,7 mm x 1-1/2 (125 x 40)	2.00 (50,8)	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)
139,7 mm x 2 (125 x 50)	2.50 (63,5)	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)
139,7 mm x 2-1/2 (125 x 65)	2.75 (69,9)	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)
139,7 mm x 76,1 mm (125 x 65)	2.75 (69,9)	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)
139,7 mm x 3 (125 x 80)	3.50 (88,9)	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)
6 x 1-1/4 (150 x 32)	2.00 (50,8)	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)
6 x 1-1/2 (150 x 40)	2.00 (50,8)	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)
6 x 2 (150 x 50)	2.50 (63,5)	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)
6 x 2-1/2 (150 x 65)	2.75 (69,9)	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)
6 x 76,1 mm (150 x 65)	2.75 (69,9)	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)
6 x 3 (150 x 80)	3.50 (88,9)	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)
6 x 4 (150 x 100)	4.50 (114,3)	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)
165,1 mm x 1-1/4 (150 x 32)	2.00 (50,8)	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)
165,1 mm x 1-1/2 (150 x 40)	2.00 (50,8)	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)
165,1 mm x 2 (150 x 50)	2.50 (63,5)	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)
165,1 mm x 2-1/2 (150 x 65)	2.75 (69,9)	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)
165,1 mm x 76,1 mm (150 x 65)	2.75 (69,9)	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)
165,1 mm x 3 (150 x 80)	3.50 (88,9)	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)

FIGURE 1 (PART 2 OF 3)
FIGURE 730 MECHANICAL TEES
THREADED OUTLETS

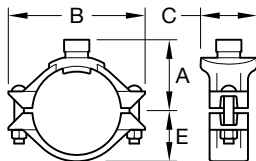


Nominal Size ^a Run x Branch ANSI in. (DN)	Hole Diameter ^{b,c} in. (mm)	Nominal Dimensions					Bolt ^d Size in. (metric)	Approx. Weight lb (kg)
		A in. (mm)	B in. (mm)	C in. (mm)	D in. (mm)	E in. (mm)		
8 x 2-1/2 (200 x 65)	2.75 (69,9)	6.25 (158,8)	12.50 (317,5)	4.38 (111,3)	5.12 (130,0)	4.90 (124,5)	3/4 x 4-1/4 (M20 x 108)	12.6 (5,7)
8 x 76,1 mm (200 x 65)	2.75 (69,9)	6.25 (158,8)	12.50 (317,5)	4.38 (111,3)	5.12 (130,0)	4.90 (124,5)	— (M20 x 108)	12.6 (5,7)
8 x 3 (200 x 80)	3.50 (88,9)	6.50 (165,1)	12.50 (317,5)	5.13 (130,3)	5.37 (136,4)	4.90 (124,5)	3/4 x 4-1/4 (M20 x 108)	13.6 (6,1)
8 x 4 (200 x 100)	4.50 (114,3)	6.38 (162,1)	12.50 (317,5)	6.13 (155,7)	5.56 (141,2)	4.90 (124,5)	3/4 x 4-1/4 (M20 x 108)	15.2 (6,9)

NOTES

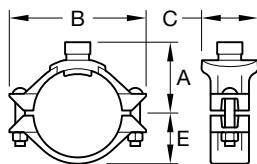
- a. For pipe outer diameter (O.D.) cross-reference information, see Table C.
b. Proper outlet hole preparation is required for effective sealing and performance. Inspect the pipe seal surface within 5/8 in. (15,9 mm) of the hole to ensure it is free from conditions that would adversely affect proper 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 Johnson Controls Technical Services representative.
c. Pipe hole cut diameter tolerance: +0.02 in. (0,5 mm), - 0 in. (0 mm).
d. Gold color coded metric bolt sizes are available upon request.

FIGURE 1 (PART 3 OF 3)
FIGURE 730 MECHANICAL TEES
THREADED OUTLETS



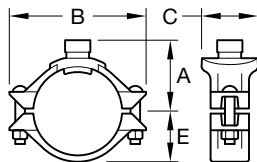
Nominal Size ^a Run x Branch ANSI in. (DN)	Hole Diameter ^{b,c} in. (mm)	Nominal Dimensions				Bolt ^d Size in. (metric)	Approx. Weight lb (kg)
		A in. (mm)	B in. (mm)	C in. (mm)	E in. (mm)		
2 x 1-1/4 (50 x 32)	1.75 (44,5)	2.78 (70,6)	4.88 (124,0)	3.32 (84,3)	1.59 (40,4)	3/8 x 2-1/4 (M10 x 57)	2.5 (1,1)
2 x 1-1/2 (50 x 40)	1.75 (44,5)	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)
2-1/2 x 1-1/4 (65 x 32)	2.00 (50,8)	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)
2-1/2 x 1-1/2 (65 x 40)	2.00 (50,8)	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)
2-1/2 x 2 (65 x 50)	2.00 (50,8)	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)
76,1 mm x 1 (65 x 25)	1.50 (38,1)	2.94 (74,5)	5.62 (142,7)	3.07 (78,0)	1.87 (47,5)	— (M10 x 57)	2.5 (1,1)
76,1 mm x 1-1/4 (65 x 32)	2.00 (50,8)	3.06 (77,7)	5.62 (142,7)	3.56 (90,4)	1.87 (47,5)	— (M10 x 57)	2.5 (1,1)
76,1 mm x 1-1/2 (65 x 40)	2.00 (50,8)	3.13 (79,5)	5.62 (142,7)	3.56 (90,4)	1.87 (47,5)	— (M10 x 57)	2.5 (1,1)
76,1 mm x 2 (65 x 50)	2.00 (50,8)	3.25 (82,6)	5.62 (142,7)	4.00 (101,6)	1.87 (47,5)	— (M10 x 57)	2.5 (1,1)

FIGURE 2 (PART 1 OF 3)
FIGURE 730 MECHANICAL TEES
GROOVED OUTLETS



Nominal Size ^a Run x Branch ANSI in. (DN)	Hole Diameter ^{b,c} in. (mm)	Nominal Dimensions				Bolt ^d Size in. (metric)	Approx. Weight lb (kg)
		A in. (mm)	B in. (mm)	C in. (mm)	E in. (mm)		
3 x 1-1/4 (80 x 32)	1.75 (44,5)	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)
3 x 1-1/2 (80 x 40)	2.00 (50,8)	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)
3 x 2 (80 x 50)	2.50 (63,5)	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)
4 x 1-1/4 (100 x 32)	1.75 (44,5)	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)
4 x 1-1/2 (100 x 40)	2.00 (50,8)	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)
4 x 2 (100 x 50)	2.50 (63,5)	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)
4 x 2-1/2 (100 x 65)	2.75 (69,9)	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)
4 x 76,1 mm (100 x 65)	2.75 (69,9)	4.00 (101,6)	7.13 (181,1)	4.38 (111,3)	2.78 (70,6)	— (M12 x 76)	5.9 (2,7)
4 x 3 (100 x 80)	3.50 (88,9)	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)
5 x 1-1/2 (125 x 40)	2.00 (50,8)	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)
5 x 2 (125 x 50)	2.50 (63,5)	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)
5 x 2-1/2 (125 x 65)	2.75 (69,9)	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)
5 x 76,1mm (125 x 65)	2.75 (69,9)	4.75 (120,7)	8.13 (206,5)	4.38 (111,3)	3.37 (85,6)	— (M16 x 121)	8.6 (3,9)
5 x 3 (125 x 80)	3.50 (88,9)	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)
139,7 mm x 1-1/2 (125 x 40)	2.00 (50,8)	4.63 (117,6)	8.13 (206,5)	3.56 (90,4)	3.37 (85,6)	— (M16 x 121)	7.7 (3,5)
139,7mm x 2 (125 x 50)	2.50 (63,5)	4.63 (117,6)	8.13 (206,5)	4.06 (103,1)	3.37 (85,6)	— (M16 x 121)	7.6 (3,4)
139,7 mm x 2-1/2 (125 x 65)	2.75 (69,9)	4.75 (120,7)	8.13 (206,5)	4.38 (111,3)	3.37 (85,6)	— (M16 x 121)	8.6 (3,9)
139,7 mm x 76,1 mm (125 x 65)	2.75 (69,9)	4.75 (120,7)	8.13 (206,5)	4.38 (111,3)	3.37 (85,6)	— (M16 x 121)	8.6 (3,9)
139,7 mm x 3 (125 x 80)	3.50 (88,9)	5.00 (127,0)	8.13 (206,5)	5.13 (130,3)	3.37 (85,6)	— (M16 x 121)	12.3 (5,6)
6 x 1-1/4 (150 x 32)	2.00 (50,8)	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)
6 x 1-1/2 (150 x 40)	2.00 (50,8)	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)
6 x 2 (150 x 50)	2.50 (63,5)	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)
6 x 2-1/2 (150 x 65)	2.75 (69,9)	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)
6 x 76,1 mm (150 x 65)	2.75 (69,9)	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)
6 x 3 (150 x 80)	3.50 (88,9)	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)
6 x 4 (150 x 100)	4.50 (114,3)	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)

FIGURE 2 (PART 2 OF 3)
FIGURE 730 MECHANICAL TEES
GROOVED OUTLETS



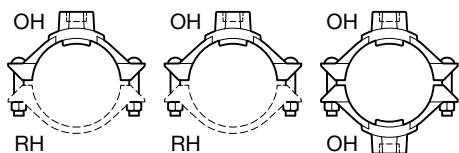
Nominal Size ^a Run x Branch ANSI in. (DN)	Hole Diameter ^{b,c} in. (mm)	Nominal Dimensions				Bolt ^d Size in. (metric)	Approx. Weight lb (kg)
		A in. (mm)	B in. (mm)	C in. (mm)	E in. (mm)		
165,1 mm x 1-1/4 (150 x 32)	2.00 (50,8)	5.13 (130,3)	9.25 (235,0)	3.56 (90,4)	3.90 (99,1)	— (M16 x 121)	7.7 (3,5)
165,1 mm x 1-1/2 (150 x 40)	2.00 (50,8)	5.13 (130,3)	9.25 (235,0)	3.56 (90,4)	3.90 (99,1)	— (M16 x 121)	7.6 (3,4)
165,1mm x 2 (150 x 50)	2.50 (63,5)	5.13 (130,3)	9.25 (235,0)	4.06 (103,1)	3.90 (99,1)	— (M16 x 121)	8.0 (3,6)
165,1 mm x 2-1/2 (150 x 65)	2.75 (69,9)	5.13 (130,3)	9.25 (235,0)	4.38 (111,3)	3.90 (99,1)	— (M16 x 121)	8.8 (4,0)
165,1 mm x 76,1 mm (150 x 65)	2.75 (69,9)	5.13 (130,3)	9.25 (235,0)	4.38 (111,3)	3.90 (99,1)	— (M16 x 121)	8.8 (4,0)
165,1mm x 3 (150 x 80)	3.50 (88,9)	5.50 (139,7)	9.25 (235,0)	5.13 (130,3)	3.90 (99,1)	— (M16 x 121)	10.1 (4,6)
8 x 2-1/2 (200 x 65)	2.75 (69,9)	6.25 (158,8)	12.50 (317,5)	4.38 (111,3)	4.90 (124,5)	3/4 x 4-1/4 (M20 x 108)	12.3 (5,6)
8 x 76,1 mm (200 x 65)	2.75 (69,9)	6.25 (158,8)	12.50 (317,5)	4.38 (111,3)	4.90 (124,5)	— (M20 x 108)	12.3 (5,6)
8 x 3 (200 x 80)	3.50 (88,9)	6.50 (165,1)	12.50 (317,5)	5.13 (130,3)	4.90 (124,5)	3/4 x 4-1/4 (M20 x 108)	13.2 (6,0)
8 x 4 (200 x 100)	4.50 (114,3)	6.38 (162,1)	12.50 (317,5)	6.13 (155,7)	4.90 (124,5)	3/4 x 4-1/4 (M20 x 108)	14.7 (6,7)

NOTES

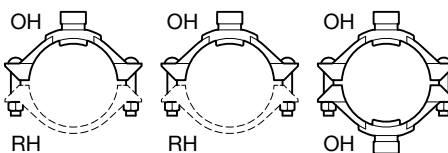
- a. For pipe outer diameter (O.D.) cross-reference information, see Table C.
b. Proper outlet hole preparation is required for effective sealing and performance. Inspect the pipe seal surface within 5/8 in. (15,9 mm) of the hole to ensure it is free from conditions that would adversely affect proper 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.
c. Pipe hole cut diameter tolerance: +0.02 in. (0,5 mm), - 0 in. (0 mm).
d. Gold color coded metric bolt sizes are available upon request.

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

THREADED TEES TO CROSS



GROOVED TEES TO CROSS



A mechanical cross can easily be assembled from the outlet halves (OH) of two mechanical tees, discarding the retaining halves (RH). All but dimension E of tees apply to cross conversions, see Figures 1 and 2.

**FIGURE 3
FIGURE 730 MECHANICAL TEES - THREADED AND GROOVED OUTLETS
CONVERSION TO CROSS**

Nominal Pipe Sizes ANSI Inches	Pipe Schedule ^b	Pressure Rating psi (bar)		
		UL	ULC	FM
2 x: 1/2; 3/4; 1; 1-1/4 2-1/2 x: 1/2; 3/4; 1; 1-1/4; 1-1/2 3 x: 1/2; 3/4; 1; 1-1/4; 1-1/2; 2 4 x: 1/2; 3/4; 1; 1-1/4; 1-1/2; 2; 2-1/2; 3 5 x: 1-1/2; 2; 2-1/2; 3 6 x: 1-1/4; 1-1/2; 2; 2-1/2 8 ^a x: 2-1/2; 3; 4	10	300 (20,7)	300 (20,7)	300 (20,7)
	40	300 (20,7)	300 (20,7)	300 (20,7)
2 x 1-1/2 2-1/2 x 2	10	—	—	300 (20,7)
	40	—	—	300 (20,7)
6 x: 3; 4	10	250 (17,2)	250 (17,2)	300 (20,7)
	40	250 (17,2)	250 (17,2)	300 (20,7)
4 x 76,1 mm	10	300 (20,7)	300 (20,7)	300 (20,7)
	40	300 (20,7)	300 (20,7)	300 (20,7)

Pipe O.D. mm	Pipe Specification ^b	Pressure Rating psi (bar)	
		UL	FM
76,1 x: 21,3; 26,7; 33,7; 42,4; 48,3 139,7 x: 60,3; 76,1 165,1 x: 48,3; 60,3; 88,9	ISO 4200 Type D, E, and F EN 10255 Medium EN 10255 Heavy	—	300 (20,7)
139,7 x: 48,3; 88,9 165,1 x 42,4	ISO 4200 Type D and E	300 (20,7)	300 (20,7)
	ISO 4200 Type F	300 (20,7)	300 (20,7)
	EN 10255 Heavy EN 10255 Medium	—	300 (20,7)
165,1 x 76,1	ISO 4200 Type D, E, and F	—	300 (20,7)
	EN 10255 Heavy EN 10255 Medium	300 (20,7)	300 (20,7)

Pipe O.D. Sizes mm	Pipe Specification ^c	Pressure Rating psi (bar)	
		LPCB	VdS
60,3 x: 21,3; 26,7; 33,7; 42,4; 48,3 76,1 x: 21,3; 26,7; 33,7; 42,4; 48,3; 60,3 88,9 x: 21,3; 26,7; 33,7; 42,4; 48,3; 60,3 114,3 x: 21,3; 26,7; 33,7; 42,4; 48,3; 60,3; 76,1; 88,9 165,1 x: 42,2; 48,3; 60,3; 76,1; 88,9	ISO 65 Medium	290 (20)	—
168,3 x: 42,4; 48,3; 60,3; 76,1; 88,9; 114,3 219,1 x: 76,1; 88,9; 114,3	ISO 4200 Wall Thickness 5,4 mm	290 (20)	—
60,3 x: 21,3; 26,7; 33,7; 42,4; 48,3 76,1 x: 21,3; 26,7; 33,7; 42,4; 48,3; 60,3 88,9 x: 21,3; 26,7; 33,7; 42,4; 48,3; 60,3 114,3 x: 21,3; 26,7; 33,7; 42,4; 48,3; 60,3; 76,1; 88,9 168,3 x: 42,4; 48,3; 60,3; 76,1 219,1 x 76,1	DIN 2448 or 2548	—	232 (16)

NOTES

- a. For 8 in. sizes, minimum allowed pipe wall thickness is 0.188.
b. For Listing/Approvals of other pipe specifications, refer to the Agency website:
• UL Website - see Online Certificate Directory, www.ul.com
• FM Global Website - www.approvalguide.com

- c. For Listing/Approvals of other pipe specifications, refer to the Agency website:
• LPCB Website - see Search Our Listings - Automatic Sprinklers, Water Spray and Deluge Systems, www.redbooklive.com
• VdS Website - see certifications, www.vds.de

TABLE A
FIGURE 730 MECHANICAL TEES – THREADED OUTLETS
LISTED/APPROVED PRESSURE RATINGS

Nominal Pipe Sizes ANSI Inches	Pipe Schedule ^b	Pressure Rating psi (bar)		
		UL	ULC	FM
2 x: 1-1/4 2-1/2 x: 1-1/4; 1-1/2 3 x: 1-1/4; 1-1/2; 2 4 x: 1-1/4; 1-1/2; 2; 2-1/2 5 x: 1-1/2; 2; 2-1/2; 3 6 x: 1-1/4; 1-1/2; 2; 2-1/2 8 ^a x 2-1/2	10	300 (20,7)	300 (20,7)	300 (20,7)
	40	300 (20,7)	300 (20,7)	300 (20,7)
2 x 1-1/2 2-1/2 x 2	10	—	—	300 (20,7)
	40	—	—	300 (20,7)
4 x 3	10	175 (12)	175 (12)	300 (20,7)
	40	175 (12)	175 (12)	300 (20,7)
6 x: 3; 4 8 ^a x: 3; 4	10	250 (17,2)	250 (17,2)	300 (20,7)
	40	250 (17,2)	250 (17,2)	300 (20,7)

Pipe O.D. mm	Pipe Specification ^b	Pressure Rating psi (bar)	
		UL	FM
76,1 x: 42,4; 48,3 165,1 x: 42,4; 48,3; 60,3	ISO 4200 Type D, E, and F	—	300 (20,7)
	EN 10255 Heavy EN 10255 Medium	250 (17,2)	300 (20,7)
76,1 x 60,3	ISO 4200 Type D, E, and F	—	300 (20,7)
	EN 10255 Heavy EN 10255 Medium	—	300 (20,7)
139,7 x: 48,3; 88,9;	ISO 4200 Type D and E	300 (20,7)	300 (20,7)
	ISO 4200 Type F		300 (20,7)
	EN 10255 Heavy EN 10255 Medium		300 (20,7)
139,7 x: 60,3; 76,1 165,1 x: 88,9	ISO 4200 Type D, E, and F	—	300 (20,7)
	EN 10255 Heavy EN 10255 Medium		
165,1 x 42,4	ISO 4200 Type D and E	300 (20,7)	300 (20,7)
	ISO 4200 Type F	—	300 (20,7)
	EN 10255 Heavy EN 10255 Medium	250 (17,2)	300 (20,7)
165,1 x 76,1	ISO 4200 Type D, E, and F	—	300 (20,7)
	EN 10255 Heavy EN 10255 Medium	300 (20,7)	300 (20,7)

NOTES

- a. For 8 in. sizes, minimum allowed pipe wall thickness is 0.188.
b. For Listing/Approvals of other pipe specifications, refer to the Agency website:
• UL Website - see Online Certificate Directory, www.ul.com
• FM Global Website - www.approvalguide.com

TABLE B (PART 1 OF 2)
FIGURE 730 MECHANICAL TEES – GROOVED OUTLETS
LISTED/APPROVED PRESSURE RATINGS

Pipe O.D. Size mm	Pipe Specification ^c	Pressure Rating psi (bar)	
		LPCB	VdS
60,3 x: 42,4; 48,3 76,1 x: 42,4; 48,3; 60,3 88,9 x: 42,4; 48,3; 60,3 114,3 x: 42,4; 48,3; 60,3; 76,1; 88,9 165,1 x: 42,2; 48,3; 60,3; 76,1; 88,9	ISO 65 Medium	290 (20)	—
168,3 x: 42,4; 48,3; 60,3; 76,1; 88,9; 114,3 219,1 x: 76,1; 88,9; 114,3	ISO 4200 Wall Thickness 5,4 mm	290 (20)	—
60,3 x: 42,4; 48,3 76,1 x: 42,4; 48,3; 60,3 88,9 x: 42,4; 48,3; 60,3 114,3 x: 42,4; 48,3; 60,3; 76,1; 88,9 168,3 x: 42,4; 48,3; 60,3; 76,1; 88,9; 114,3 219,1 x: 76,1; 88,9; 114,3	DIN 2448 or 2548	—	232 (16)

NOTES

c. For Listing/Approvals of other pipe specifications, refer to the Agency website:

- LPCB Website - see Search Our Listings - Automatic Sprinklers, Water Spray and Deluge Systems, www.redbooklive.com
- VdS Website - see certifications, www.vds.de

TABLE B (PART 2 OF 2)
FIGURE 730 MECHANICAL TEES – GROOVED OUTLETS
LISTED/APPROVED PRESSURE RATINGS

Pipe Size		Pipe Size		Pipe Size	
Nominal ANSI in. (DN)	O.D. in. (mm)	Nominal ANSI in. (DN)	O.D. in. (mm)	Nominal ANSI in. (DN)	O.D. in. (mm)
1/2 (15)	0.840 (21,3)	2 (50)	2.375 (60,3)	— (125)	5.500 (139,7)
3/4 (20)	1.050 (26,7)	2-1/2 (65)	2.875 (73,0)	5 (125)	5.563 (141,3)
1 (25)	1.315 (33,7)	— (65)	3.000 (76,1)	— (150)	6.500 (165,1)
1-1/4 (32)	1.660 (42,4)	3 (80)	3.500 (88,9)	6 (150)	6.625 (168,3)
1-1/2 (40)	1.900 (48,3)	4 (100)	4.500 (114,3)	8 (200)	8.625 (219,1)

TABLE C
PIPE SIZE CROSS REFERENCE

Carbon Steel heavy hex nuts conform to the physical properties of ASTM A183 Grade 2 and SAE J995 Grade 5. Bolts and nuts are zinc-electroplated conforming to ASTM B633.

Stainless Steel Bolts and Nuts are available upon request.

Metric Bolts/Nuts

Carbon Steel oval neck track head bolts (Gold color coded) are heat-treated and conform to the physical properties of ASTM F568M with a minimum tensile strength of 760 MPa.

Carbon Steel heavy hex nuts conform to the physical properties of ASTM A56M Class 9. Bolts and nuts are zinc-electroplated conforming to ASTM B633.

Care and Maintenance

The GRINNELL Figure 730 Mechanical Tees must be maintained in accordance with this section.

Before closing a fire protection system main control valve for maintenance work on the fire protection system that it controls, obtain permission to shut down the affected fire protection system from the proper authorities and notify all personnel who may be affected by this action.

The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards

of the NATIONAL FIRE PROTECTION ASSOCIATION, such as NFPA 25, in addition to the standards of any other authorities having jurisdiction. Contact the installing contractor or sprinkler manufacturer regarding any questions.

Automatic sprinkler systems should be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national code.

Nominal Size Run x Branch ANSI in. (DN)	Equivalent Length of Sch. 40 Steel Pipe, ft (m)		Nominal Size Run x Branch ANSI in. (DN)	Equivalent Length of Sch. 40 Steel Pipe, ft (m)	
	Threaded	Grooved		Threaded	Grooved
2 x 1/2 (DN50 x DN15)	8.5**	N/A	5 x 1-1/2 (DN125 x DN40)	3 (0,91)	
2 x 3/4 (DN50 x DN20)	17.6**	N/A	5 x 2 (DN125 x DN50)	6 (1,83)	
2 x 1 (DN50 x DN25)	2 (0,60)	N/A	5 x 2-1/2 (DN125 x DN65)	10 (3,05)	
2 x 1-1/4 (DN50 x DN32)	4 (1,22)		5 x 76,1mm* (DN125 x DN65)	10 (3,05)	
2 x 1-1/2 (DN50 x DN40)	11 (3,35)		5 x 3 (DN125 x DN80)	13 (3,96)	
2-1/2 x 1/2 (DN65 x DN15)	8.5**	N/A	139,7mm x 1-1/2 (DN125 x DN40)	3 (0,91)	
2-1/2 x 3/4 (DN65 x DN20)	17.6**	N/A	139,7mm x 2 (DN125 x DN50)	6 (1,83)	
2-1/2 x 1 (DN65 x DN25)	2 (0,60)	N/A	139,7mm x 2-1/2 (DN125 x DN65)	10 (3,05)	
2-1/2 x 1-1/4 (DN65 x DN32)	4 (1,22)		139,7mm x 76,1mm* (DN125 x DN65)	10 (3,05)	
2-1/2 x 1-1/2 (DN65 x DN40)	4 (1,22)		139,7mm x 3 (DN125 x DN80)	13 (3,96)	
2-1/2 x 2 (DN65 x DN50)	26 (7,92)		6 x 1-1/4 (DN150 x DN32)	2 (0,60)	
76,1mm x 1/2 (DN65 x DN15)	8.5**	N/A	6 x 1-1/2 (DN150 x DN40)	3 (0,91)	
76,1mm x 3/4 (DN65 x DN20)	17.6**	N/A	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)	8 (2,44)	
76,1mm x 1-1/4 (DN65 x DN32)	4 (1,22)		6 x 76,1mm* (DN150 x DN65)	8 (2,44)	
76,1mm x 1-1/2 (DN65 x DN40)	4 (1,22)		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)	13 (3,96)	
3 x 1/2 (DN80 x DN15)	8.5**	N/A	165,1mm x 1-1/4 (DN150 x DN32)	2 (0,60)	
3 x 3/4 (DN80 x DN20)	17.6**	N/A	165,1mm x 1-1/2 (DN150 x DN40)	3 (0,91)	
3 x 1 (DN80 x DN25)	2 (0,60)	N/A	165,1mm x 2 (DN150 x DN50)	5 (1,52)	
3 x 1-1/4 (DN80 x DN32)	4 (1,22)		165,1mm x 2-1/2 (DN150 x DN65)	8 (2,44)	
3 x 1-1/2 (DN80 x DN40)	3 (0,91)		165,1mm x 76,1mm* (DN150 x DN65)	8 (2,44)	
3 x 2 (DN80 x DN50)	5 (1,52)		165,1mm x 3 (DN150 x DN80)	9 (2,74)	
4 x 1/2 (DN100 x DN15)	8.5**	N/A	8 x 2-1/2 (DN200 x DN65)	11 (3,35)	
4 x 3/4 (DN100 x DN20)	17.6**	N/A	8 x 76,1mm* (DN200 x DN65)	11 (3,35)	
4 x 1 (DN100 x DN25)	2 (0,60)	N/A	8 x 3 (DN200 x DN80)	9 (2,74)	
4 x 1-1/4 (DN100 x DN32)	4 (1,22)		8 x 4 (DN200 x DN100)	13 (3,96)	
4 x 1-1/2 (DN100 x DN40)	3 (0,91)		NOTES * Note: Equivalent Length of EN10255:2004 Heavy Pipe ** Minimum Discharge Coefficient (k) Hazen Williams coefficient = 120 N/A = Not Available		
4 x 2 (DN100 x DN50)	5 (1,52)				
4 x 2-1/2 (DN100 x DN65)	11 (3,35)				
4 x 76,1mm* (DN100 x DN65)	11 (3,35)				
4 x 3 (DN100 x DN80)	14 (4,27)				

TABLE D
FIGURE 730 MECHANICAL TEES AND CROSSES
LOSS AS EQUIVALENT PIPE LENGTH

Limited Warranty

For warranty terms and conditions, visit www.tyco-fire.com.

Ordering Procedure

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

When placing an order indicate the full product name and description.

Specify: Quantity, Figure 730 Mechanical Tee, size (specify ANSI inch or pipe OD), outlet type (specify Threaded or Grooved), thread specification (threaded outlets only, specify NPT or ISO 7-1), Grade "E" EPDM gasket type