

## G-FIRE Figure 730 Mechanical Tees and Crosses Threaded and Grooved Outlets

### IMPORTANT

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

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### 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. The Mechanical Tee can easily be converted to a cross.

### NOTICE

The GRINNELL G-FIRE Figure 730 Mechanical Tees and Crosses 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

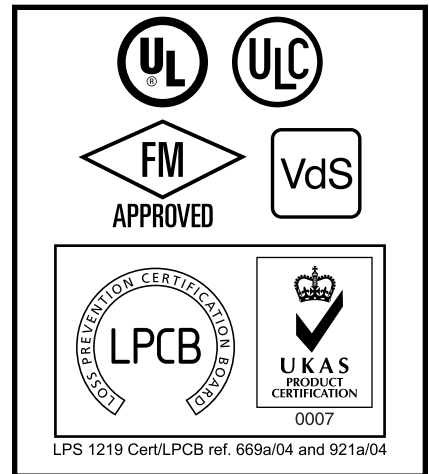
Refer to Tables A and B

**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

Refer to Tables B and C for details.



#### 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.

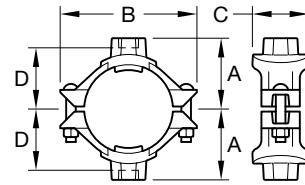
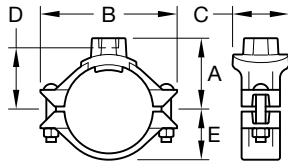


Figure 730 Tee Female NPT or ISO 7-1 Threaded Branch Outlet  
 Figure 730 Cross Female NPT or ISO 7-1 Threaded Branch Outlets

Nominal Size <sup>c</sup> Run x Branch ANSI Inches (DN)	Hole Diameter <sup>a</sup>		Nominal Dimensions					Bolt <sup>b</sup> Size Inches (metric)	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)
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)

- a. 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.
- b. Gold color coded metric bolt sizes are available upon request.
- c. Refer to Table C for pipe O.D. cross-reference.

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

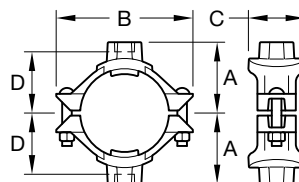
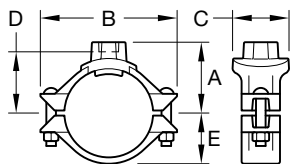


Figure 730 Tee  
Female NPT or ISO 7-1 Threaded Branch Outlet

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

Nominal Size <sup>c</sup> Run x Branch ANSI Inches (DN)	Hole Diameter <sup>a</sup>		Nominal Dimensions					Bolt <sup>b</sup> Size Inches (metric)	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 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)
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)

- a. 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.
- b. Gold color coded metric bolt sizes are available upon request.
- c. Refer to Table C for pipe O.D. cross-reference.

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

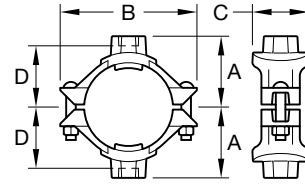
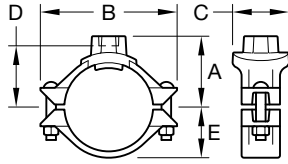


Figure 730 Tee

Figure 730 Cross

Female NPT or ISO 7-1 Threaded Branch Outlet

Female NPT or ISO 7-1 Threaded Branch Outlets

Nominal Size <sup>c</sup> Run x Branch ANSI Inches (DN)	Hole Diameter <sup>a</sup>		Nominal Dimensions					Bolt <sup>b</sup> Size Inches (metric)	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 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)
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 4-1/4 (M20 x 108)	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 4-1/4 (M20 x 108)	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 108)	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 4-1/4 (M20 x 108)	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 4-1/4 (M20 x 108)	15.2 (6,9)	20.0 (9,1)

- a. 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.
- b. Gold color coded metric bolt sizes are available upon request.
- c. Refer to Table C for pipe O.D. cross-reference.

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

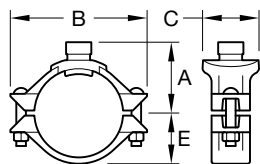


Figure 730 Tee  
Grooved Branch Outlet

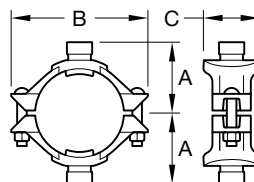
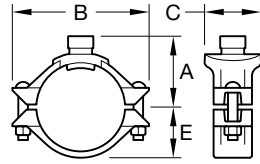


Figure 730 Cross  
Grooved Branch Outlet

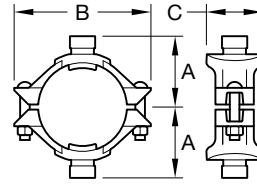
Nominal Size <sup>c</sup> Run x Branch ANSI Inches (DN)	Hole Diameter <sup>a</sup>		Nominal Dimensions				Bolt <sup>b</sup> Size Inches (metric)	Tee Approx. Weight Lbs. (kg)	Cross Approx. Weight Lbs. (kg)
	Min. Inches (mm)	Max. Inches (mm)	A Inches (mm)	B Inches (mm)	C Inches (mm)	E Inches (mm)			
2 x 1-1/4 (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 1-1/4 (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 1-1/4 (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 1-1/4 (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)
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)

- a. 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.
- b. Gold color coded metric bolt sizes are available upon request.
- c. Refer to Table C for pipe O.D. cross-reference.

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



**Figure 730 Tee**  
**Grooved Branch Outlet**



**Figure 730 Cross**  
**Grooved Branch Outlet**

Nominal Size <sup>c</sup> Run x Branch ANSI Inches (DN)	Hole Diameter <sup>a</sup>		Nominal Dimensions				Bolt <sup>b</sup> Size Inches (metric)	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)			
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 (7,4)
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)
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 4-1/4 (M20 x 108)	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 4-1/4 (M20 x 108)	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 108)	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 4-1/4 (M20 x 108)	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 4-1/4 (M20 x 108)	14.7 (6,7)	19.0 (8,6)

a. 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.

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

c. Refer to Table C for pipe O.D. cross-reference.

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

Nominal Pipe Sizes ANSI Inches	Pipe Schedule <sup>b</sup>	Pressure Rating psi (bar)		
		UL	ULC	FM
2 x: 1/2; 3/4; 1; 1-1/4; 1-1/2 2-1/2 x: 1/2; 3/4; 1; 1-1/4; 1-1/2; 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 <sup>a</sup> x: 2; 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)
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 <sup>b</sup>	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; 114,3	ISO 4200 Type D, E, and F EN 10255 Medium EN 10255 Heavy	—	300 (20,7)	
	ISO 4200 Type D and E	300 (20,7)	300 (20,7)	
	ISO 4200 Type F EN 10255 Heavy EN 10255 Medium	300 (20,7)	300 (20,7)	
139,7 x: 48,3; 88,9 165,1 x 42,4	ISO 4200 Type D, E, and F	—	300 (20,7)	
	EN 10255 Heavy EN 10255 Medium	300 (20,7)	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 <sup>c</sup>	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; 114,3	ISO 65 Medium	290 (20)	—	
	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: 60,3; 76,1	DIN 2448 or 2548	—	232 (16)	

- a. For 8 in. sizes, minimum allowed pipe wall thickness is 0.188.  
b. See Agency website for Listing/Approvals of other pipe specifications:  
UL Website - see Online Certificate Directory, [www.ul.com](http://www.ul.com)  
FM Global Website - [www.approvalguide.com](http://www.approvalguide.com)  
c. See Agency website for Listing/Approvals of other pipe specifications:  
LPCB Website - see Search Our Listings - Automatic Sprinklers, Water Spray and Deluge Systems, [www.redbooklive.com](http://www.redbooklive.com)  
VdS Website - see certifications, [www.vds.de](http://www.vds.de)

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

Nominal Pipe Sizes ANSI Inches	Pipe Schedule <sup>b</sup>	Pressure Rating psi (bar)		
		UL	ULC	FM
2 x: 1-1/4; 1-1/2 2-1/2 x: 1-1/4; 1-1/2; 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 <sup>a</sup> x: 2; 2-1/2	10	300 (20,7)	300 (20,7)	300 (20,7)
	40	300 (20,7)	300 (20,7)	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 <sup>a</sup> 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 <sup>b</sup>	Pressure Rating psi (bar)	
		UL	FM
76,1 x: 42,4; 48,3; 60,3 165,1 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)
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; 114,3	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)

a. For 8 in. sizes, minimum allowed pipe wall thickness is 0.188.  
b. See Agency website for Listing/Approvals of other pipe specifications:  
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 AND CROSSES – GROOVED OUTLETS**  
**LISTED/APPROVED PRESSURE RATINGS**



Pipe O.D. Size mm	Pipe Specification <sup>c</sup>	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; 114,3	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: 60,3; 76,1; 88,9; 114,3	DIN 2448 or 2548	—	232 (16)

c. See Agency website for Listing/Approvals of other pipe specifications:  
LPCB Website - see Search Our Listings - Automatic Sprinklers, Water Spray and Deluge Systems, [www.redbooklive.com](http://www.redbooklive.com)  
VdS Website - see certifications, [www.vds.de](http://www.vds.de)

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

Pipe Size		Pipe Size		Pipe Size	
Nominal ANSI Inches (DN)	O.D. Inches (mm)	Nominal ANSI Inches (DN)	O.D. Inches (mm)	Nominal ANSI Inches (DN)	O.D. Inches (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**

**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)

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 and Crosses 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 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 1/2 (DN50 x DN15)	8.5**	N/A	5 x 2 (DN125 x DN50)	5 (1,52)	
2 x 3/4 (DN50 x DN20)	20**	N/A	5 x 2-1/2 (DN125 x DN65)	10 (3,05)	
2 x 1 (DN50 x DN25)	2 (0,60)	N/A	5 x 76,1mm* (DN125 x DN65)	11 (3,35)	
2 x 1-1/4 (DN50 x DN32)	4 (1,22)		5 x 3 (DN125 x DN80)	13 (3,96)	
2 x 1-1/2 (DN50 x DN40)	13 (3,96)		139,7mm x 1-1/2 (DN125 x DN40)	3 (0,91)	
2-1/2 x 1 (DN65 x DN25)	2 (0,60)	N/A	139,7mm x 2 (DN125 x DN50)	5 (1,52)	
2-1/2 x 1-1/4 (DN65 x DN32)	4 (1,22)		139,7mm x 2-1/2 (DN125 x DN65)	10 (3,05)	
2-1/2 x 1-1/2 (DN65 x DN40)	3 (0,91)		139,7mm x 76,1mm* (DN125 x DN65)	11 (3,35)	
2-1/2 x 2 (DN65 x DN50)	26 (7,92)		139,7mm x 3 (DN125 x DN80)	13 (3,96)	
76,1mm x 1/2 (DN65 x DN15)	8.5**	N/A	6 x 1-1/4 (DN150 x DN32)	4 (1,22)	
76,1mm x 3/4 (DN65 x DN20)	20**	N/A	6 x 1-1/2 (DN150 x DN40)	3 (0,91)	
76,1mm x 1 (DN65 x DN25)	2 (0,60)	N/A	6 x 2 (DN150 x DN50)	5 (1,52)	
76,1mm x 1-1/4 (DN65 x DN32)	4 (1,22)		6 x 2-1/2 (DN150 x DN65)	10 (3,05)	
76,1mm x 1-1/2 (DN65 x DN40)	3 (0,91)		6 x 76,1mm* (DN150 x DN65)	11 (3,35)	
76,1mm x 2 (DN65 x DN50)	26 (7,92)		6 x 3 (DN150 x DN80)	9 (2,74)	
3 x 1/2 (DN80 x DN15)	8.5**	N/A	6 x 4 (DN150 x DN100)	14 (4,27)	
3 x 3/4 (DN80 x DN20)	20**	N/A	165,1mm x 1-1/4 (DN150 x DN32)	4 (1,22)	
3 x 1 (DN80 x DN25)	2 (0,60)		165,1mm x 1-1/2 (DN150 x DN40)	3 (0,91)	
3 x 1-1/4 (DN80 x DN32)	4 (1,22)		165,1mm x 2 (DN150 x DN50)	5 (1,52)	
3 x 1-1/2 (DN80 x DN40)	3 (0,91)		165,1mm x 2-1/2 (DN150 x DN65)	10 (3,05)	
3 x 2 (DN80 x DN50)	5 (1,52)		165,1mm x 76,1mm* (DN150 x DN65)	11 (3,35)	
4 x 1/2 (DN100 x DN15)	8.5**	N/A	165,1mm x 3 (DN150 x DN80)	9 (2,74)	
4 x 3/4 (DN100 x DN20)	20**	N/A	165,1mm x 4 (DN150 x DN100)	14 (4,27)	
4 x 1 (DN100 x DN25)	2 (0,60)	N/A	8 x 2 (DN200 x DN50)	5 (1,52)	
4 x 1-1/4 (DN100 x DN32)	4 (1,22)		8 x 2-1/2 (DN200 x DN65)	10 (3,05)	
4 x 1-1/2 (DN100 x DN40)	3 (0,91)		8 x 76,1mm* (DN200 x DN65)	11 (3,35)	
4 x 2 (DN100 x DN50)	5 (1,52)		8 x 3 (DN200 x DN80)	N/A	9 (2,74)
4 x 2-1/2 (DN100 x DN65)	10 (3,05)		8 x 4 (DN200 x DN100)	N/A	14 (4,27)
4 x 76,1mm* (DN100 x DN65)	11 (3,35)				
4 x 3 (DN100 x DN80)	13 (3,96)				
5 x 1-1/2 (DN125 x DN40)	3 (0,91)				

\* Note: Equivalent Length of EN10255:2004 Heavy Pipe  
 \*\* Minimum Discharge Coefficient (K)  
 Hazen Williams coefficient = 120  
 N/A = Not Available

**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](http://www.tyco-fire.com).

## Ordering Procedure

GRINNELL Products are available globally through a network of distribution centers. Visit [www.tyco-fire.com](http://www.tyco-fire.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