Designation: D 3311 – ~~94~~02

An American National Standard

Standard Specification for Drain, Waste, and Vent (DWV) Plastic Fittings Patterns[1]

This standard is issued under the fixed designation D 3311; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification provides standard fitting geometries and laying lengths for plastic fittings intended for use in drain, waste, and vent applications.

1.2 Fittings meeting the requirements of this standard specification are designed for use with outside diameter controlled pipe. The inside diameter can vary significantly as the wall thickness and outside diameter varies and therefore is not suitable for use as a fitting socket.

1.3 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are provided for information only.

2. Referenced Documents

2.1 *ASTM Standards:*

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[1] This specification is under the jurisdiction of ASTM Committee F~~-~~17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.63 on Drain, Waste, and Vent Pipe and Tube.

Current edition approved Dec.~~ 15, 1994.~~ 10, 2002. Published~~ February 1995.~~ July 2003. Originally~~ published as D 3311 – 74.~~ approved in 1974. Last previous edition approved in 1994 as D 3311 – 9~~2~~4.

D 2661 Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe Fittings[2]

D 2665 Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings[2]

D 2749 Symbols for Dimensions of Plastic Pipe Fittings[2]

F 628 Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe with a Cellular Core[2]

F 891 Specification for Coextruded Poly(Vinyl Chloride) (PVC) Plastic Pipe with a Cellular Core[2]

3. Requirements

3.1 Fittings shall conform to the geometries and laying lengths as shown in Tables 1-4244 and Fig. 1. Tolerances shall be ±1⁄16 in. unless otherwise specified.

3.2 Spigot and hub dimensions shall conform to the requirements of the referencing standard.

3.3 The exact outside shape of a fitting is not determined by the outline drawings shown in this specification but rather by the socket dimensions, wall thickness requirements, waterway, laying lengths, and any other critical dimensions that may be specified.

3.4 The pitch of sockets for patterns with 90° angles (except vent fittings) shall be ¼ in./ft or 1° 12 min.

3.5 On double reducing sanitary tees, the *G2* dimension on branches will be calculated on the larger size and centerlines shall remain the same for both branches.

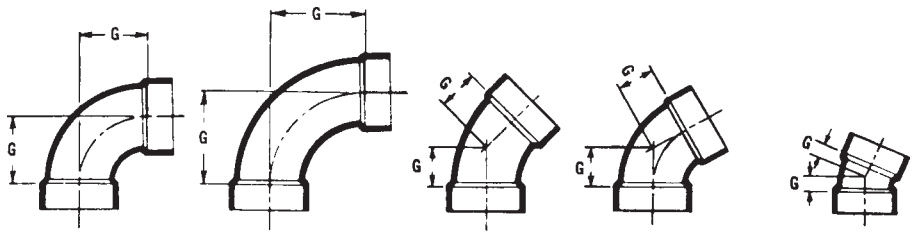
3.6 All other dimensions, materials and property requirements shall be in conformance with the referencing standard.

4. Keywords

4.1 DWV; fittings; plastic; Schedule 40; thermoplastic

[2] *Annual Book of ASTM Standards*, Vol 08.04.

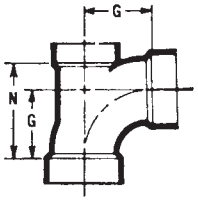
TABLE 1 Bends, in. (mm)



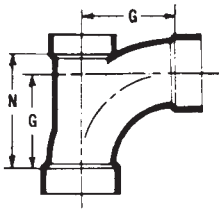
1/4 BEND | LONG SWEEP 1/4 BEND | 1/8 BEND | 1/6 BEND | 1/16 BEND

Nominal Pipe Size	¼ Bend	Long Sweep ¼ Bend	⅛ Bend	⅙ Bend	1⁄16 Bend
	G	*G*	*G*	*G*	*G*
~~1¼~~	~~1⁹⁄₁₆ (40)~~	~~2¼ (57)~~	~~1 (25)~~	~~⅞ (22)~~	~~716⁷⁄₁₆ (11)~~
1¼	1⁹⁄₁₆ (40)	2¼ (57)	1 (25)	⅞ (22)	⁷⁄₁₆ (11)
~~112 ½~~	~~134¾ (44)~~	~~234¾ (70)~~	~~118⅛ (29)~~	~~1 (25)~~	~~12½ (13)~~
1½	1¾ (44)	2¾ (70)	1⅛ (29)	1 (25)	½ (13)
~~2~~	~~2516⁵⁄₁₆ (59)~~	~~314¼ (83)~~	~~112½ (38)~~	~~1516 ⁵⁄₁₆ (33)~~	~~1116¹¹⁄₁₆ (17)~~
2	2⁵⁄₁₆ (59)	3¼ (83)	1½ (38)	1⁵⁄₁₆ (33)	¹¹⁄₁₆ (17)
~~3~~	~~3116¹⁄₁₆ (78)~~	~~4116¹⁄₁₆ (103)~~	~~134¾ (44)~~	~~11116 ¹¹⁄₁₆ (43)~~	~~1316¹³⁄₁₆ (21)~~
3	3¹⁄₁₆ (78)	4¹⁄₁₆ (103)	1¾ (44)	1¹¹⁄₁₆ (43)	¹³⁄₁₆ (21)
~~4~~	~~378⅞ (98)~~	~~41516¹⁵⁄₁₆ (125)~~	~~2316⁹⁄₁₆ (56)~~	~~2116¹⁄₁₆ (52)~~	~~1 (25)~~
4	3⅞ (98)	4¹⁵⁄₁₆ (125)	2³⁄₁₆ (56)	2¹⁄₁₆ (52)	1 (25)
~~6~~	~~5 (min) (127)~~	~~9 (229)~~	~~2 (min) (51)~~	~~338 ⅜ (86)~~	~~112½ (38)~~
6	5 (min) (127)	9 (229)	2 (min) (51)	3⅜ (86)	1½ (38)
~~8~~	~~6 (152)~~	~~. . .~~	~~2116 ¹⁄₁₆ (52)~~	~~. . .~~	~~112½ (38)~~
8	6 (152)	. . .	2¹⁄₁₆ (52)	. . .	1½ (38)

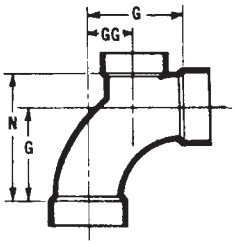
TABLE 2 Bends with Inlets, in. (mm)



1/4 BEND
With Low Heel Inlet



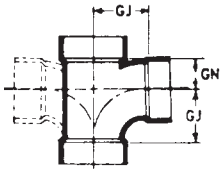
LONG SWEEP 1/4 BEND
With Low Heel Inlet



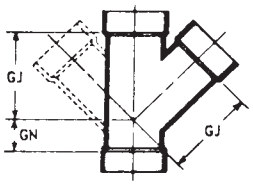
LONG SWEEP 1/4 BEND
With High Heel Inlet

Nominal Pipe Size	~~14~~¼ Bend with Low Heel Inlet		Long-Sweep ~~14~~¼ Bend with Low Heel Inlet		Long-Sweep ~~14~~¼ Bend with High Heel Inlet		
	G	*N*	*G*	*N*	*G*	*N*	*GG*
~~3 by 3 by 112½~~	~~3116/16 (78)~~	~~4316/16 (106)~~	~~4116/16 (103)~~	~~434 ¾ (121)~~	...	...	...
3 by 3 by 1½	3 1/16 (78)	4 3/16 (106)	4 1/16 (103)	4 ¾ (121)	...	...	...
~~3 by 3 by 2~~	~~3116/16 (78)~~	~~4716/16 (113)~~	~~4116/16 (103)~~	~~41516/16 (125)~~	~~4116/16 (103)~~	~~558/8 (143)~~	~~214¼ (57)~~
3 by 3 by 2	3 1/16 (78)	4 7/16 (113)	4 1/16 (103)	4 15/16 (125)	4 1/16 (103)	5 5/8 (143)	2¼ (57)
~~4 by 4 by 2~~	~~378 7/8 (98)~~	~~5716 7/16 (138)~~	~~41516 15/16 (125)~~	~~6 (152)~~	...	...	...
4 by 4 by 2	3 7/8 (98)	5 7/16 (138)	4 15/16 (125)	6 (152)	...	...	...

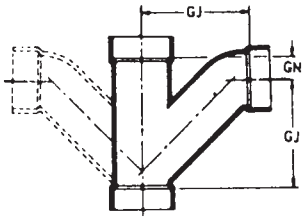
TABLE 3 Sanitary Tees, 45° Wyes, Combination Wyes and ⅛ Bends, in. (mm)



SANITARY TEE
Single & Double



45° WYE
Single & Double

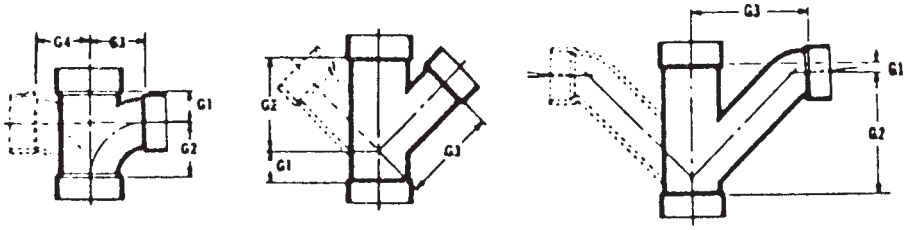


COMBINATION WYE
& 1/8 BEND
Single & Double

Nominal Pipe Size	Sanitary Tee Single and Double[A]		45° Wye, Single and Double		Combination Wye and 1/8 Bend Single and Double	
	GN	*GJ*	*GN*	*GJ*	*GN*	*GJ*
~~114 ¼~~	~~34¾ (19)~~	~~1916/16 (40)~~	~~1116/16 (27)~~	~~2916 9/16 (65)~~	~~716 7/16 (11)~~	~~21516/16 (75)~~
1¼	¾ (19)	1 9/16 (40)	1 1/16 (27)	2 9/16 (65)	7/16 (11)	2 15/16 (75)
~~112 ½~~	~~1 (25)~~	~~134 ¾ (44)~~	~~118 ⅛ (29)~~	~~278 7/8 (73)~~	~~12 ½ (13)~~	~~338⅜ (86)~~
1½	1 (25)	1¾ (44)	1⅛ (29)	2 7/8 (73)	½ (13)	3⅜ (86)
~~2~~	~~138⅜ (35)~~	~~2516/16 (59)~~	~~138⅜ (35)~~	~~358/8 (92)~~	~~1 (25)~~	~~412½ (114)~~
2	1⅜ (35)	2 5/16 (59)	1⅜ (35)	3⅝ (92)	1 (25)	4½ (114)
~~3~~	~~11316/16 (46)~~	~~3116/16 (78)~~	~~158/8 (41)~~	~~5 (127)~~	~~118 ⅛ (29)~~	~~6516/16 (160)~~
3	1 3/16 (46)	3 1/16 (78)	1⅝ (41)	5 (127)	1⅛ (29)	6 5/16 (160)
~~4~~	~~214¼ (57)~~	~~378⅞ (98)~~	~~178⅞ (48)~~	~~638⅜ (162)~~	~~11316/16 (46)~~	~~858⅝ (219)~~
4	2¼ (57)	3⅞ (98)	1⅞ (48)	6⅜ (162)	1 13/16 (46)	8⅝ (219)
~~6~~	~~312½ (89)~~	~~5 (127)~~	~~134 ¾ (44)~~	~~8716 7/16 (214)~~	~~B~~	~~B~~
6	3½ (89)	5 (127)	1¾ (44)	8 7/16 (214)	B	B
~~8~~	~~412½ (114)~~	~~6 (152)~~	~~238 ⅜ (60)~~	~~1134 ¾ (298)~~	~~B~~	~~B~~
8	4½ (114)	6 (152)	2⅜ (60)	11¾ (298)	B	B

[A] Non-reducing double sanitary tees are for vent use only.
[B] Combination wye and ⅛ bend is assembled from two standard fittings.

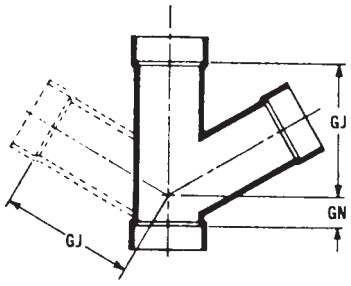
TABLE 4 Reducing Sanitary Tees, 45° Wyes, Combination Wyes, and ⅛ Bends, in. (mm)



Nominal Pipe Size	Sanitary Tee, Reducing Single and Double[A]				45° Wye, Reducing Single and Double			Combination Wye and ⅛ Bend Reducing Single and Double		
	G1	G2	G3	G4	G1	G2	G3	G1	G2	G3
1½ by 1¼ by 1¼	1116 11/16 (17)[B]	112 ½ (38)[B]	11116 11/16 (43)[B]	11116 11/16 (43)[B]	—	—	—	—	—	—
1½ by 1¼ by 1¼	11/16 (17)[B]	1½ (38)[B]	111/16 (43)[B]	111/16 (43)[B]	—	—	—	—	—	—
1½ by 1¼ by 1½	1 (25)	134 ¾ (44)	134 ¾ (44)	134 ¾ (44)	—	—	—	—	—	—
1½ by 1¼ by 1½	1 (25)	1¾ (44)	1¾ (44)	1¾ (44)	—	—	—	—	—	—
1½ by 1½ by 1¼	1316 13/16 (21)	11116 11/16 (43)	11316 13/16 (46)	11316 13/16 (46)	—	—	—	12 ½ (13)	314 ¼ (83)	3316 3/16 (81)
1½ by 1½ by 1¼	13/16 (21)	111/16 (43)	113/16 (46)	113/16 (46)	—	—	—	½ (13)	3¼ (83)	3¾6 (81)
2 by 1¼ by 1½	1316 3/16 (30)	11516 15/16 (49)	2316 3/16 (56)	2316 3/16 (56)	—	—	—	—	—	—
2 by 1¼ by 1½	1316 3/16 (30)	1151615/16 (49)	2316 3/16 (56)	2316 3/16 (56)	—	—	—	—	—	—
2 by 1½ by 1½	1316 3/16 (30)	11516 15/16 (49)	2316 3/16 (56)	2316 3/16 (56)	34 ¾ (19)[B]	21316 13/16 (71)[B]	21516 15/16 (75)[B]	916 9/16 (14)	31116 11/16 (94)	358⅝ (92)
2 by 1½ by 1½	13/16 (30)	115/16 (49)	23/16 (56)	23/16 (56)	¾ (19)[B]	213/16 (71)[B]	215/16 (75)[B]	9/16 (14)	311/16 (94)	3⅝ (92)
2 by 1½ by 2	1383/8 (35)	2516 5/16 (59)	2516 5/16 (59)	2516 5/16 (50)	1 (25)[B]	312 ½ (89)[B]	338 3/8 (86)[B]	1 (25)	412½ (114)	412½ (114)
2 by 1½ by 2	1⅜ (35)	25/16 (59)	25/16 (59)	25/16 (50)	1 (25)[B]	3½ (89)[B]	3⅜ (86)[B]	1 (25)	4½ (114)	4½ (114)
2 by 2 by 1¼	1316 3/16 (30)	11516 15/16 (49)	2316 3/16 (56)	2316 3/16 (56)	—	—	—	—	—	—
2 by 2 by 1¼	13/16 (30)	115/16 (49)	23/16 (56)	23/16 (56)	—	—	—	—	—	—
2 by 2 by 112 ½	1316 3/16 (30)	11516 15/16 (49)	2316 3/16 (56)	2316 3/16 (56)	1116 1/16 (27)	3516 5/16 (84)	3716 7/16 (87)	916 9/16 (14)	31116 11/16 (170)	358⅝ (92)
2 by 2 by 1½	13/16 (30)	115/16 (49)	23/16 (56)	23/16 (56)	1 1/16 (27)	3 5/16 (84)	3 7/16 (87)	9/16 (14)	3 11/16 (170)	3⅝ (92)
3 by 3 by 1½	1516 15/16 (24)	134¾ (44)	2916 9/16 (65)	2916 9/16 (65)	12 ½ (13)	334 ¾ (95)	4516 5/16 (110)	18 ⅛ (3)	3716 7/16 (87)	414¼ (108)
3 by 3 by 1½	15/16 (24)	1¾ (44)	29/16 (65)	29/16 (65)	½ (13)	3¾ (95)	4 5/16 (110)	⅛ (3)	3 7/16 (87)	4¼ (108)
3 by 3 by 2	1316 3/16 (30)	218⅛ (54)	278⅞ (73)	278 ⅞ (73)	78 ⅞ (22)	418 ⅛ (105)	458 ⅝ (117)	716 7/16 (11)	434 ¾ (121)	5516 5/16 (135)
3 by 3 by 2	1 3/16 (30)	2⅛ (54)	2⅞ (73)	2⅞ (73)	⅞ (22)	4⅛ (105)	4⅝ (117)	7/16 (11)	4¾ (121)	5 5/16 (135)
3 by 3 by 2 by 1½	1516 15/16 (24)[B]	2116 1/16 (52)[B]	2716 7/16 (62)[B]	212 ½ (64)[B]	—	—	—	—	—	—
3 by 3 by 2 by 1½	15/16 (24)[B]	2 1/16 (52)[B]	2 7/16 (62)[B]	2½ (64)[B]	—	—	—	—	—	—
4 by 4 by 1½	1116 1/16 (27)[B]	2 (51)[B]	314 ¼ (83)[B]	314 ¼ (83)[B]	0 (0)[B]	3516 5/16 (84)[B]	31516 15/16 (100)[B]	—	—	—
4 by 4 by 1½	1 1/16 (27)[B]	2 (51)[B]	3¼ (83)[B]	3¼ (83)[B]	0 (0)[B]	3 5/16 (84)[B]	3 15/16 (100)[B]	—	—	—
4 by 4 by 2	1183/8 (29)	2116 1/16 (52)	3516 5/16 (84)	3516 5/16 (84)	38 ⅜ (10)	41116 11/16 (119)	5916 9/16 (141)	516 5/16 (8)	434 ¾ (121)	578⅞ (149)
4 by 4 by 2	1⅛ (29)	2 1/16 (52)	3 5/16 (84)	3 5/16 (84)	⅜ (10)	4 11/16 (119)	5 9/16 (141)	5/16 (8)	4¾ (121)	5⅞ (149)
4 by 4 by 3	1343/4 (44)	3 (76)	3916 9/16 (90)	3916 9/16 (90)	1116 1/16 (27)	5916 9/16 (141)	6 (152)	1116 1/16 (27)	6383/8 (162)	6783/8 (175)
4 by 4 by 3	1¾ (44)	3 (76)	39/16 (90)	39/16 (90)	1 1/16 (27)	5 9/16 (141)	6 (152)	1 1/16 (27)	6⅜ (162)	6⅞ (175)
6 by 6 by 3	—	—	—	—	316 3/16 (5)[B]	61516 15/16 (176)[B]	7716 7/16 (189)[B]	1116 1/16 (17)[B]	71316 13/16 (198)[B]	81316 13/16 (224)[B]
6 by 6 by 3	—	—	—	—	3/16 (5)[B]	6 15/16 (176)[B]	7 7/16 (189)[B]	1 1/16 (17)[B]	7 13/16 (198)[B]	8 13/16 (224)[B]
6 by 6 by 4	2316 3/16 (56)[B]	358 ⅝ (92)[B]	4516 5/16 (110)[B]	4516 5/16 (110)[B]	316 3/16 (5)[B]	61116 1/16 (170)[B]	7716 7/16 (189)[B]	916 9/16 (14)[B]	71316 13/16 (198)[B]	81516 15/16 (227)[B]
6 by 6 by 4	2 3/16 (56)[B]	3⅝ (92)[B]	4 5/16 (110)[B]	4 5/16 (110)[B]	3/16 (5)[B]	6 11/16 (170)[B]	7 7/16 (189)[B]	9/16 (14)[B]	7 13/16 (198)[B]	8 15/16 (227)[B]
8 by 8 by 4	2583/8 (67)	418⅛ (105)	514¼ (133)	514 ¼ (133)	38 ⅜ (10)	758 ⅝ (194)	858 ⅝ (219)	[C]	[C]	[C]
8 by 8 by 4	2⅝ (67)	4⅛ (105)	5¼ (133)	5¼ (133)	⅜ (10)	7⅝ (194)	8⅝ (219)	[C]	[C]	[C]
8 by 8 by 6	3916 9/16 (90)	41316 13/16 (122)	512½ (140)	512½ (140)	1 (25)	912 ½ (241)	91316 13/16 (249)	[C]	[C]	[C]
8 by 8 by 6	3 9/16 (90)	4 13/16 (122)	5½ (140)	5½ (140)	1 (25)	9½ (241)	9 13/16 (249)	[C]	[C]	[C]

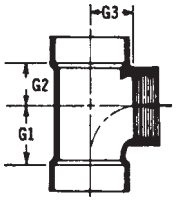
[A] Non-reducing double sanitary tees are for vent use only.
[B] This dimension is a minimum with no upper maximum limit.
[C] Combination Wye and ⅛ bend is assembled from two standard fittings.

TABLE 5 60° Wyes, Single, and Double, in. (mm)



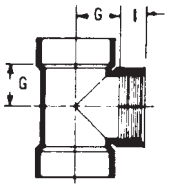
Nominal Pipe Size	GN	GJ
1|n$ ½	118⅛ (40)	278⅞ (73)
1½	1⅛ (40)	2⅞ (73)
2	138⅜ (37)	358⅝ (92)
2	1⅜ (37)	3⅝ (92)
3	158⅝ (37)	5 (127)
3	1⅝ (37)	5 (127)

TABLE 6 Fixture Tees, in. (mm)



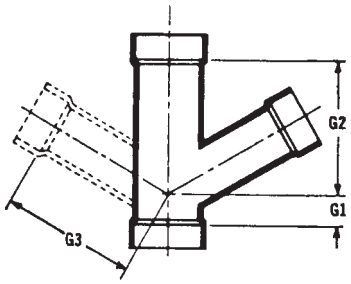
Nominal Pipe Size	G1	G2	G3
112½	1916⁹⁄₁₆ (40)	1316³⁄₁₆ (30)	114¼ (32)
1½	1⁹⁄₁₆ (40)	1³⁄₁₆ (30)	1¼ (32)
2 by 112½ by 112 ½	1716 ⁷⁄₁₆ (37)	1316 ³⁄₁₆ (30)	114¼ (32)
2 by 1½ by 1½	1⁷⁄₁₆ (37)	1³⁄₁₆ (30)	1¼ (32)
2 by 2 by 112 ½	1716 ⁷⁄₁₆ (37)	1516 ⁵⁄₁₆ (33)	114¼ (32)
2 by 2 by 1½	1⁷⁄₁₆ (37)	1⁵⁄₁₆ (33)	1¼ (32)

TABLE 7 Cleanout Tees, in. (mm)



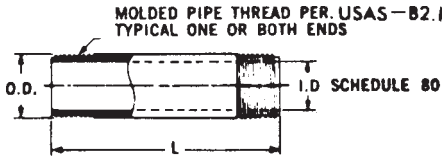
Nominal Pipe Size	G	I
112½	1316 ³⁄₁₆ (30)	58⅝ (16)
1½	1³⁄₁₆ (30)	⅝ (16)
2	112 ½ (38)	58⅝ (16)
2	1½ (38)	⅝ (16)
3	178 ⅞ (48)	34¾ (19)
3	1⅞ (48)	¾ (19)
4	212 ½ (64)	78⅞ (22)
4	2½ (64)	⅞ (22)

TABLE 8 60° Reducing Wyes, Single and Double, in. (mm)



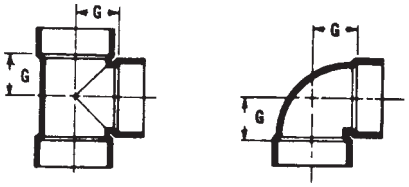
Nominal Pipe Size	G1	G2	G3
2 by 2 by 112½	1116 1/16 (27)	3716 7/16 (87)	3716 7/16 (87)
2 by 2 by 1½	1 1/16 (27)	3 7/16 (87)	3 7/16 (87)
3 by 3 by 112 ½	12½ (13)	334 3/4 (95)	4516 5/16 (110)
3 by 3 by 1½	½ (13)	3¾ (95)	4 5/16 (110)
3 by 3 by 2	78 7/8 (22)	418 1/8 (105)	458 5/8 (117)
3 by 3 by 2	7/8 (22)	4 1/8 (105)	4 5/8 (117)

TABLE 9 Molded Nipples, in. (mm)



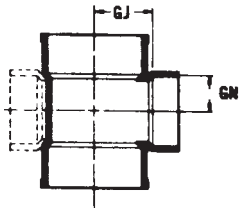
Nominal Pipe Size	OD	ID	Length
112½	1.900	1.500	12½-in. increments from close to 18 in. long
2	2.375	1.939	
3	3.500	2.900	
1½	1.900	1.500	½-in. increments from close to 18 in. long
2	2.375	1.939	
3	3.500	2.900	

TABLE 10 Vent Tees and ¼ Bend Vents, in. (mm)



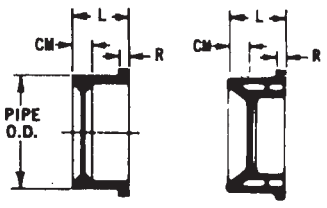
Nominal Pipe Size	Vent Tee	14¼ Bend Vent
114¼	1 (25)	1 (25)
1¼	1 (25)	1 (25)
112 ½	1316 3/16 (30)	1316 3/16 (30)
1½	1 3/16 (30)	1 3/16 (30)
2	112½ (38)	112½ (38)
2	1½ (38)	1½ (38)
3	178 7/8 (48)	178 7/8 (48)
3	1 7/8 (48)	1 7/8 (48)
4	212½ (64)	212½ (64)
4	2½ (64)	2½ (64)

TABLE 11 Reducing Vent Tees, Single, and Double, in. (mm)

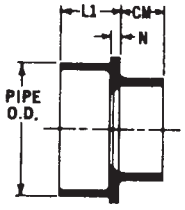


Nominal Pipe Size	GN	GJ
2 by 112½ by 112 ½	1316 3/16 (30)	112½ (38)
2 by 1½ by 1½	1 3/16 (30)	1½ (38)
2 by 2 by 112 ½	1316 3/16 (30)	112½ (38)
2 by 2 by 1½	1 3/16 (30)	1½ (38)
3 by 3 by 112 ½	1316 3/16 (30)	178⅞ (48)
3 by 3 by 1½	1 3/16 (30)	1⅞ (48)
3 by 3 by 2	112½ (38)	178⅞ (48)
3 by 3 by 2	1½ (38)	1⅞ (48)

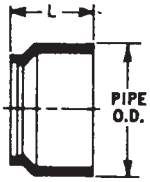
TABLE 12 Bushings, in. (mm)



BUSHING Style 1



BUSHING Style 2

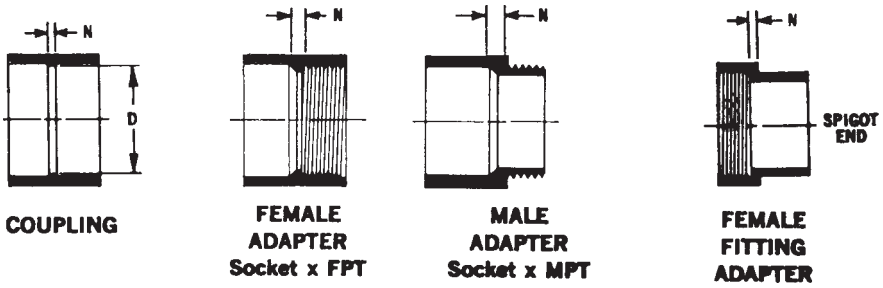


BUSHING Style 3

Nominal Pipe Size	Style 1 (a and b)[A]			Style 2			Style 3
	L	CM	R	L1	CM	N	L
1½ by 114 ¼	1516 15/16 (24)	316 3/16 (5)	316 3/16 (5)	...	...	...	1 (25)
1½ by 1¼	15/16 (24)	3/16 (5)	3/16 (5)	...	...	...	1 (25)
2 by 114 ¼	1116 1/16 (27)	516 5/16 (8)	316 3/16 (5)	...	...	...	118⅛ (29)
2 by 1¼	1 1/16 (27)	5/16 (8)	3/16 (5)	...	...	...	1⅛ (29)
2 by 112½	1116 1/16 (27)	516 5/16 (8)	316 3/16 (5)	...	...	...	1332 3/32 (28)
2 by 1½	1 1/16 (27)	5/16 (8)	3/16 (5)	...	...	...	1 3/32 (28)
3 by 112½	134¾ (44)	1 (25)	14 ¼ (6)	134 ¾ (44)	34 ¾ (19)	14 ¼ (6)	112½ (38)
3 by 1½	1¾ (44)	1 (25)	¼ (6)	1¾ (44)	¾ (19)	¼ (6)	1½ (38)
3 by 2	134 ¾ (44)	78 ⅞ (22)	14 ¼ (6)	134 ¾ (44)	78 ⅞ (22)	14 ¼ (6)	158⅝ (41)
3 by 2	1¾ (44)	⅞ (22)	¼ (6)	1¾ (44)	⅞ (22)	¼ (6)	1⅝ (41)
4 by 2	2 (51)	118 ⅛ (29)	14 ¼ (6)	2 (51)	78 ⅞ (22)	14 ¼ (6)	...
4 by 2	2 (51)	1⅛ (29)	¼ (6)	2 (51)	⅞ (22)	¼ (6)	...
4 by 3	2 (51)	12 ½ (13)	14 ¼ (6)	2 (51)	112 ½ (38)	14 ¼ (6)	...
4 by 3	2 (51)	½ (13)	¼ (6)	2 (51)	1½ (38)	¼ (6)	...
6 by 4	312 ½ (89)	134 ¾ (44)	12 ½ (13)	...	...	...	...
6 by 4	3½ (89)	1¾ (44)	½ (13)	...	...	...	...
8 by 4	458⅝ (117)	278 ⅞ (73)	58 ⅝ (16)	...	...	...	...
8 by 4	4⅝ (117)	2⅞ (73)	⅝ (16)	...	...	...	...
8 by 6	458⅝ (117)	158⅝ (41)	58⅝ (16)	...	...	...	...
8 by 6	4⅝ (117)	1⅝ (41)	⅝ (16)	...	...	...	...

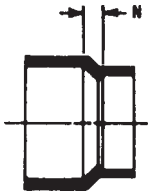
[A] No less than four ribs shall be used to support walls.

TABLE 13 Couplings, Adapters, in. (mm)



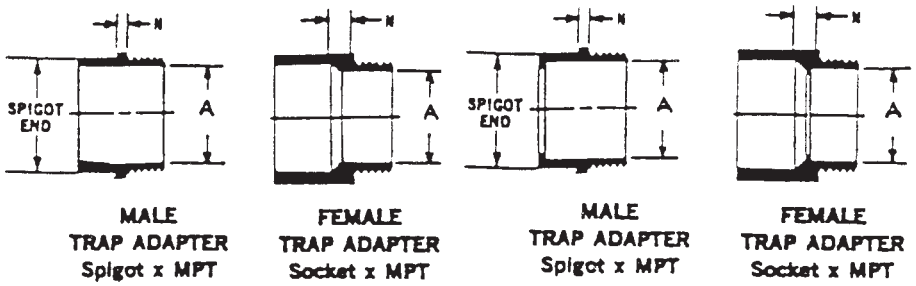
Nominal Pipe Size	Coupling		Female Adapter	Male Adapter		Female Fitting Adapter
	D	*N*, min	*N*, min	*N*, min	*A*, max	*N*, min
~~1 1/4~~	~~1.600 to 1.380~~	~~1/8 (3)~~	~~1/4 (6)~~	~~3/16 (5)~~	~~1.290 (32.77)~~	~~5/32 (4)~~
1¼	1.600 to 1.380	⅛ (3)	¼ (6)	3/16 (5)	1.290 (32.77)	5/32 (4)
~~1 1/2~~	~~1.840 to 1.610~~	~~1/8 (3)~~	~~1/4 (6)~~	~~3/16 (5)~~	~~1.552 (39.42)~~	~~5/32 (4)~~
1½	1.840 to 1.610	⅛ (3)	¼ (6)	3/16 (5)	1.552 (39.42)	5/32 (4)
~~2~~	~~2.320 to 2.067~~	~~1/8 (3)~~	~~1/4 (6)~~	~~3/16 (5)~~	~~2.067 (52.50)~~	~~5/32 (4)~~
2	2.320 to 2.067	⅛ (3)	¼ (6)	3/16 (5)	2.067 (52.50)	5/32 (4)
~~3~~	~~3.440 to 3.068~~	~~3/16 (5)~~	~~5/16 (8)~~	~~3/8 (10)~~	~~3.068 (77.93)~~	~~7/32 (6)~~
3	3.440 to 3.068	3/16 (5)	5/16 (8)	⅜ (10)	3.068 (77.93)	7/32 (6)
~~4~~	~~4.440 to 4.026~~	~~1/4 (6)~~	~~11/32 (9)~~	~~3/8 (10)~~	~~4.026 (102.26)~~	~~1/4 (6)~~
4	4.440 to 4.026	¼ (6)	11/32 (9)	⅜ (10)	4.026 (102.26)	¼ (6)
~~6~~	~~6.550 to 6.065~~	~~1/4 (6)~~	~~...~~	~~...~~	~~...~~	~~...~~
6	6.550 to 6.065	¼ (6)	...	...	...	...
~~8~~	~~8.655 to 8.610~~	~~1/4 (6)~~	~~...~~	~~...~~	~~...~~	~~...~~
8	8.655 to 8.610	¼ (6)	...	...	...	...

TABLE 14 Pipe Increasers, in. (mm)



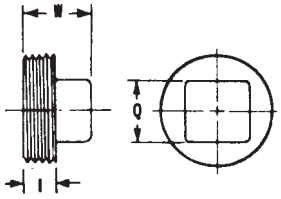
Nominal Pipe Size	*N*, min
~~1 1/4 by 1 1/2~~	~~13/32 (10)~~
1¼ by 1½	13/32 (10)
~~1 1/2 by 2~~	~~17/32 (13)~~
1½ by 2	17/32 (13)
~~1 1/2 by 3~~	~~1 3/32 (28)~~
1½ by 3	1 3/32 (28)
~~2 by 3~~	~~7/8 (22)~~
2 by 3	⅞ (22)
~~2 by 4~~	~~1 3/8 (35)~~
2 by 4	1⅜ (35)
~~3 by 4~~	~~15/16 (24)~~
3 by 4	15/16 (24)

TABLE 15 Trap Adapters, in. (mm)



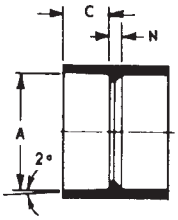
Without stop		*With Stop*
Nominal Pipe Size	*N*, min	*A*, min
~~114 ¼~~	~~316 3/16 (5)~~	~~1.250 (32)~~
1¼	3/16 (5)	1.250 (32)
~~112 ½~~	~~316 3/16 (5)~~	~~1.500 (38)~~
1½	3/16 (5)	1.500 (38)
~~2~~	~~316 3/16 (5)~~	~~2.000 (51)~~
2	3/16 (5)	2.000 (51)
~~114¼ by 112 ½~~	~~316 3/16 (5)~~	~~1.250 (32)~~
1¼ by 1½	3/16 (5)	1.250 (32)

TABLE 16 Pipe Plugs, in. (mm)

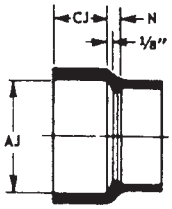


Nominal Pipe Size	I	W	Q
~~1¼~~	~~12½ (13)~~	~~1 (25)~~	~~1 (25)~~
1¼	½ (13)	1 (25)	1 (25)
~~1½~~	~~58⅝ (16)~~	~~138⅜ (35)~~	~~1 (25)~~
1½	⅝ (16)	1⅜ (35)	1 (25)
~~2~~	~~58 ⅝ (16)~~	~~138 ⅜ (35)~~	~~114¼ (32)~~
2	⅝ (16)	1⅜ (35)	1¼ (32)
~~2½~~	~~34¾ (19)~~	~~112½ (38)~~	~~114¼ (32)~~
2½	¾ (19)	1½ (38)	1¼ (32)
~~3~~	~~34 ¾ (19)~~	~~134 ¾ (44)~~	~~158⅝ (41)~~
3	¾ (19)	1¾ (44)	1⅝ (41)
~~3½~~	~~34¾ (19)~~	~~134¾ (44)~~	~~158⅝ (41)~~
3½	¾ (19)	1¾ (44)	1⅝ (41)
~~4~~	~~78 ⅞ (22)~~	~~178 ⅞ (48)~~	~~2 (51)~~
4	⅞ (22)	1⅞ (48)	2 (51)

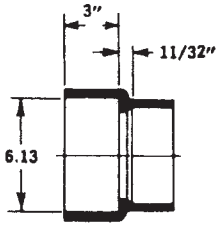
TABLE 17 Hubs, in. (mm)



PLASTIC HUB
Adapts Bituminized Fibre Spigot to Plastic Pipe



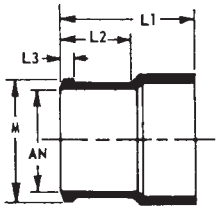
PLASTIC HUB
Adapts Cast Iron Spigot to Plastic Pipe



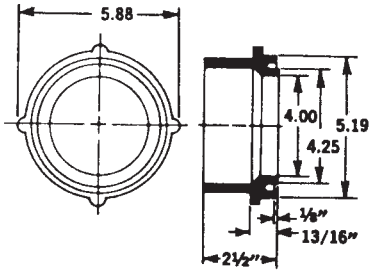
PLASTIC HUB
Adapts Clay Pipe Spigot to Plastic Pipe

Nominal Pipe Size	A	C	N	AJ	CJ	N
~~2~~	~~. . .~~	~~. . .~~	~~. . .~~	~~2.94 (74.7)~~	~~238 3/8 (60)~~	~~38 3/8 (10)~~
2	. . .	. . .	. . .	2.94 (74.7)	2 3/8 (60)	3/8 (10)
~~3~~	~~3.448 (87.58)~~	~~11116 11/16 (43)~~	~~516 5/16 (8)~~	~~3.94 (100.1)~~	~~258 5/8 (67)~~	~~716 7/16 (11)~~
3	3.448 (87.58)	1 11/16 (43)	5/16 (8)	3.94 (100.1)	2 5/8 (67)	7/16 (11)
~~4~~	~~4.493 (114.12)~~	~~11516 15/16 (49)~~	~~1132 11/32 (9)~~	~~4.94 (125.5)~~	~~278 7/8 (73)~~	~~12 1/2 (13)~~
4	4.493 (114.12)	1 15/16 (49)	11/32 (9)	4.94 (125.5)	2 7/8 (73)	1/2 (13)
~~Reducing 4 by 3~~	~~4.493 (114.12)~~	~~11516 15/16 (49)~~	~~516 5/16 (8)~~	~~4.94 (125.5)~~	~~278 7/8 (73)~~	~~716 7/16 (11)~~
Reducing 4 by 3	4.493 (114.12)	1 15/16 (49)	5/16 (8)	4.94 (125.5)	2 7/8 (73)	7/16 (11)

TABLE 18 Spigots, in. (mm)



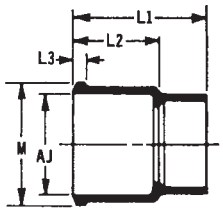
PLASTIC SPIGOT
Adapts Cast Iron Hub to Plastic Pipe



PLASTIC SPIGOT
Adapts Clay Pipe Hub to Plastic Pipe

Nominal Pipe Size	*L2*, min	*L1*, min	*L3*, min	*M*		*AN*
				max	min	
~~2~~	~~3 1/2 (89)~~	~~4 5/8 (117)~~	~~38 3/8 (10)~~	~~2.75 (69.9)~~	~~2.63 (66.8)~~	~~2.00 (50.8)~~
2	3 1/2 (89)	4 5/8 (117)	3/8 (10)	2.75 (69.9)	2.63 (66.8)	2.00 (50.8)
~~3~~	~~3 3/4 (95)~~	~~5 5/8 (143)~~	~~38 3/8 (10)~~	~~3.88 (98.6)~~	~~3.63 (92.2)~~	~~3.00 (76.2)~~
3	3 3/4 (95)	5 5/8 (143)	3/8 (10)	3.88 (98.6)	3.63 (92.2)	3.00 (76.2)
~~4~~	~~4 (102)~~	~~6 1/8 (156)~~	~~38 3/8 (10)~~	~~4.88 (124.0)~~	~~4.63 (117.6)~~	~~4.00 (101.6)~~
4	4 (102)	6 1/8 (156)	3/8 (10)	4.88 (124.0)	4.63 (117.6)	4.00 (101.6)

TABLE 19 Reducing Spigots, in. (mm)

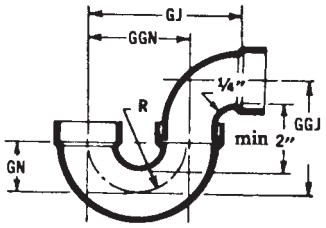


**PLASTIC SPIGOT, Reducing
Adapts Cast Iron Hub
to Plastic Pipe**

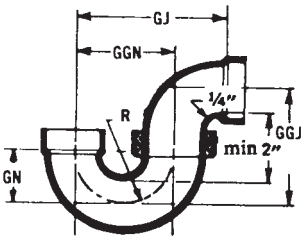
Nominal Pipe Size	*L2* min	*L1* min	*L3* min	*M*		*AJ*
				max	min	
~~2 by 112½~~	~~312½ (89)~~	~~414 ¼ (108)~~	~~38 ⅜ (10)~~	~~2.75 (69.9)~~	~~2.63 (66.8)~~	~~2.00 (50.8)~~
2 by 1½	3½ (89)	4¼ (108)	⅜ (10)	2.75 (69.9)	2.63 (66.8)	2.00 (50.8)
~~3 by 112½~~	~~334¾ (95)~~	~~412 ½ (114)~~	~~38 ⅜ (10)~~	~~3.88 (98.6)~~	~~3.63 (92.2)~~	~~3.00 (76.2)~~
3 by 1½	3¾ (95)	4½ (114)	⅜ (10)	3.88 (98.6)	3.63 (92.2)	3.00 (76.2)
~~3 by 2~~	~~334 ¾ (95)~~	~~458 ⅝ (117)~~	~~38 ⅜ (10)~~	~~3.88 (98.6)~~	~~3.63 (92.2)~~	~~3.00 (76.2)~~
3 by 2	3¾ (95)	4⅝ (117)	⅜ (10)	3.88 (98.6)	3.63 (92.2)	3.00 (76.2)
~~4 by 2~~	~~4 (102)~~	~~478 ⅞ (124)~~	~~38 ⅜ (10)~~	~~4.88 (124.0)~~	~~4.63 (117.6)~~	~~4.00 (101.6)~~
4 by 2	4 (102)	4⅞ (124)	⅜ (10)	4.88 (124.0)	4.63 (117.6)	4.00 (101.6)
~~4 by 3~~	~~4 (102)~~	~~512 ½ (140)~~	~~38 ⅜ (10)~~	~~4.88 (124.0)~~	~~4.63 (117.6)~~	~~4.00 (101.6)~~
4 by 3	4 (102)	5½ (140)	⅜ (10)	4.88 (124.0)	4.63 (117.6)	4.00 (101.6)

TABLE 20 P Traps, in. (mm)

**'P' TRAP
With
Solvent Weld
Joint**

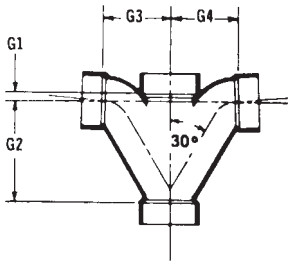


**'P' TRAP
With
Union Seal**



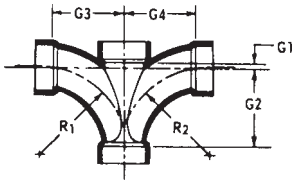
Nominal Pipe Size	min *GJ*	min *GGJ*	min *GGN*	min *GN*	min *R*
~~114¼~~	~~418⅛ (105)~~	~~338⅜ (86)~~	~~3 (76)~~	~~138 ⅜ (35)~~	~~158⅝ (41)~~
1¼	4⅛ (105)	3⅜ (86)	3 (76)	1⅜ (35)	1⅝ (41)
~~112 ½~~	~~4732 7/32 (107)~~	~~358 ⅝ (92)~~	~~3 (76)~~	~~138⅜ (35)~~	~~158⅝ (41)~~
1½	4 7/32 (107)	3⅝ (92)	3 (76)	1⅜ (35)	1⅝ (41)
~~2~~	~~714¼ (184)~~	~~4116 1/16 (103)~~	~~5 (127)~~	~~214 ¼ (57)~~	~~212½ (64)~~
2	7¼ (184)	4 1/16 (103)	5 (127)	2¼ (57)	2½ (64)
~~3~~	~~8716 7/16 (214)~~	~~6516 5/16 (160)~~	~~614¼ (159)~~	~~258⅝ (67)~~	~~318⅛ (79)~~
3	8 7/16 (214)	6 5/16 (160)	6¼ (159)	2⅝ (67)	3⅛ (79)
~~4~~	~~101316 13/16 (275)~~	~~778⅞ (200)~~	~~8116 1/16 (205)~~	~~3716 7/16 (87)~~	~~4116 1/16 (103)~~
4	10 13/16 (275)	7⅞ (200)	8 1/16 (205)	3 7/16 (87)	4 1/16 (103)

TABLE 21 Double Fixture Fitting, in. (mm)



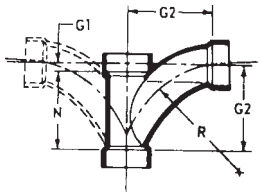
Nominal Pipe Size	G1	G2	G3	G4
112 ½	38⅜ (10)	3916⁹⁄₁₆ (90)	2716⁷⁄₁₆ (62)	2716⁷⁄₁₆ (62)
1½	⅜ (10)	3⁹⁄₁₆ (90)	2⁷⁄₁₆ (62)	2⁷⁄₁₆ (62)
2	38 ⅜ (10)	4916 ⁹⁄₁₆ (116)	3116 ¹⁄₁₆ (78)	3116¹⁄₁₆ (78)
2	⅜ (10)	4⁹⁄₁₆ (116)	3¹⁄₁₆ (78)	3¹⁄₁₆ (78)
3	12 ½ (13)	634 ¾ (171)	412 ½ (114)	412½ (114)
3	½ (13)	6¾ (171)	4½ (114)	4½ (114)
Reducing:				
2 by 1½ by 1½ by 1½	38⅜ (10)	3916⁹⁄₁₆ (90)	2716⁷⁄₁₆ (62)	2716⁷⁄₁₆ (62)
2 by 1½ by 1½ by 1½	⅜ (10)	3⁹⁄₁₆ (90)	2⁷⁄₁₆ (62)	2⁷⁄₁₆ (62)
2 by 1½ by 2 by 2	38 ⅜ (10)	4916 ⁹⁄₁₆ (116)	3116 ¹⁄₁₆ (78)	3116¹⁄₁₆ (78)
2 by 1½ by 2 by 2	⅜ (10)	4⁹⁄₁₆ (116)	3¹⁄₁₆ (78)	3¹⁄₁₆ (78)
2 by 1½ by 2 by 1½	38⅜ (10)	4916⁹⁄₁₆ (116)	3116¹⁄₁₆ (78)	3116¹⁄₁₆ (78)
2 by 1½ by 2 by 1½	⅜ (10)	4⁹⁄₁₆ (116)	3¹⁄₁₆ (78)	3¹⁄₁₆ (78)

TABLE 22 Double Fixture Fitting, in. (mm)



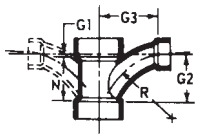
Nominal Pipe Size	Interchanges with Double Fixture Fittings					
	Double Fixture Fitting					
	G1	*G2*	*G3*	*G4*	*R1*	*R2*
1 12½	38⅜ (10)	3 18⅛ (79)	2 1116¹¹⁄₁₆ (68)	2 1116¹¹⁄₁₆ (68)	3 58⅝ (92)	3 58⅝ (92)
1 ½	⅜ (10)	3 ⅛ (79)	2 ¹¹⁄₁₆ (68)	2 ¹¹⁄₁₆ (68)	3 ⅝ (92)	3 ⅝ (92)
2	38⅜ (10)	4 14¼ (108)	3 12½ (89)	3 12½ (89)	4 12½ (114)	4 12½ (114)
2	⅜ (10)	4 ¼ (108)	3 ½ (89)	3 ½ (89)	4 ½ (114)	4 ½ (114)
3	12½ (13)	6 14¼ (159)	4 1516¹⁵⁄₁₆ (125)	4 1516¹⁵⁄₁₆ (125)	6 58⅝ (168)	6 58⅝ (168)
3	½ (13)	6 ¼ (159)	4 ¹⁵⁄₁₆ (125)	4 ¹⁵⁄₁₆ (125)	6 ⅝ (168)	6 ⅝ (168)
	Reducing					
2 by 1½ by 1½ by 1½	38⅜ (10)	3 18⅛ (79)	2 78⅞ (73)	2 78⅞ (73)	3 58⅝ (92)	3 58⅝ (92)
2 by 1½ by 1½ by 1½	⅜ (10)	3 ⅛ (79)	2 ⅞ (73)	2 ⅞ (73)	3 ⅝ (92)	3 ⅝ (92)
2 by 1½ by 1½ by 2	38 ⅜ (10)	4 14 ¼ (108)	2 78 ⅞ (73)	3 12 ½ (69)	3 58 ⅝ (92)	4 12½ (114)
2 by 1½ by 1½ by 2	⅜ (10)	4 ¼ (108)	2 ⅞ (73)	3 ½ (69)	3 ⅝ (92)	4 ½ (114)
2 by 1½ by 2 by 2	38⅜ (10)	4 14¼ (108)	3 12½ (89)	3 12½ (89)	4 12½ (114)	4 12½ (114)
2 by 1½ by 2 by 2	⅜ (10)	4 ¼ (108)	3 ½ (89)	3 ½ (89)	4 ½ (114)	4 ½ (114)
3 by 2 by 3 by 3	12 ½ (13)	6 14 ¼ (159)	4 1516 ¹⁵⁄₁₆ (125)	4 1516 ¹⁵⁄₁₆ (125)	6 58 ⅝ (168)	6 58⅝ (168)
3 by 2 by 3 by 3	½ (13)	6 ¼ (159)	4 ¹⁵⁄₁₆ (125)	4 ¹⁵⁄₁₆ (125)	6 ⅝ (168)	6 ⅝ (168)

TABLE 23 Single and Double Long Turn Tee, in. (mm)



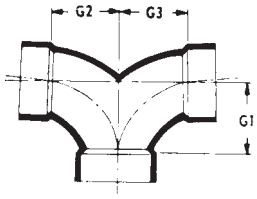
Nominal Pipe Size	Interchanges with Combination Wye 1 / 8 Bend			
	Single and Double Long Turn Tee			
	G1	*G2*	*N*	*R*
~~1¼~~	~~38⅜ (10)~~	~~3716⁷⁄₁₆ (87)~~	~~3116¹⁄₁₆ (78)~~	~~434¾ (121)~~
1¼	⅜ (10)	3⁷⁄₁₆ (87)	3¹⁄₁₆ (78)	4¾ (121)
~~1½~~	~~716⁷⁄₁₆ (11)~~	~~31516¹⁵⁄₁₆ (100)~~	~~312½ (89)~~	~~578⅞ (149)~~
1½	⁷⁄₁₆ (11)	3¹⁵⁄₁₆ (100)	3½ (89)	5⅞ (149)
~~2~~	~~1116 ¹¹⁄₁₆ (17)~~	~~518 ⅛ (130)~~	~~4716 ⁷⁄₁₆ (113)~~	~~7 (178)~~
2	¹¹⁄₁₆ (17)	5⅛ (130)	4⁷⁄₁₆ (113)	7 (178)
~~3~~	~~1116¹⁄₁₆ (27)~~	~~7916⁹⁄₁₆ (192)~~	~~612½ (165)~~	~~1018⅛ (257)~~
3	1¹⁄₁₆ (27)	7⁹⁄₁₆ (192)	6½ (165)	10⅛ (257)
~~4~~	~~112½ (38)~~	~~10 (254)~~	~~812 ½ (216)~~	~~1314¼ (337)~~
4	1½ (38)	10 (254)	8½ (216)	13¼ (337)
~~6~~	~~212½ (64)~~	~~1538⅜ (391)~~	~~1278⅞ (327)~~	~~19 (483)~~
6	2½ (64)	15⅜ (391)	12⅞ (327)	19 (483)

TABLE 24 Single and Double Long Turn Tee Reducing, in. (mm)



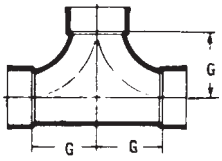
Nominal Pipe Size	Interchanges with Reducing Combination Wye 1 / 8 Bend				
	Single and Double Long Turn Tee Reducing				
	G1	*G3*	*N*	*G2*	*R*
1½ by 1¼ by 1¼	38⅜ (10)	358⅝ (92)	3116¹⁄₁₆ (78)	3716⁷⁄₁₆ (87)	434¾ (121)
1½ by 1¼ by 1¼	⅜ (10)	3⅝ (92)	3¹⁄₁₆ (78)	3⁷⁄₁₆ (87)	4¾ (121)
1½ by 1½ by 1¼	38⅜ (10)	358⅝ (92)	3116¹⁄₁₆ (78)	3716⁷⁄₁₆ (87)	434¾ (121)
1½ by 1½ by 1¼	⅜ (10)	3⅝ (92)	3¹⁄₁₆ (78)	3⁷⁄₁₆ (87)	4¾ (121)
2 by 1½ by 1½	716 ⁷⁄₁₆ (11)	4316 ³⁄₁₆ (107)	312 ½ (89)	31516 ¹⁵⁄₁₆ (100)	578⅞ (200)
2 by 1½ by 1½	⁷⁄₁₆ (11)	4³⁄₁₆ (107)	3½ (89)	3¹⁵⁄₁₆ (100)	5⅞ (200)
2 by 1½ by 2	1116 ¹¹⁄₁₆ (17)	518 ⅛ (130)	4716 ⁷⁄₁₆ (113)	518 ⅛ (130)	7 (178)
2 by 1½ by 2	¹¹⁄₁₆ (17)	5⅛ (130)	4⁷⁄₁₆ (113)	5⅛ (130)	7 (178)
2 by 2 by 1¼	38⅜ (10)	31316¹³⁄₁₆ (97)	3116¹⁄₁₆ (78)	3716⁷⁄₁₆ (87)	434¾ (121)
2 by 2 by 1¼	⅜ (10)	3¹³⁄₁₆ (97)	3¹⁄₁₆ (78)	3⁷⁄₁₆ (87)	4¾ (121)
2 by 2 by 1½	716 ⁷⁄₁₆ (11)	4316 ³⁄₁₆ (102)	312 ½ (89)	31516 ¹⁵⁄₁₆ (100)	578⅞ (149)
2 by 2 by 1½	⁷⁄₁₆ (11)	4³⁄₁₆ (102)	3½ (89)	3¹⁵⁄₁₆ (100)	5⅞ (149)
3 by 3 by 1½	716⁷⁄₁₆ (11)	434¾ (121)	312½ (89)	31516¹⁵⁄₁₆ (100)	578⅞ (149)
3 by 3 by 1½	⁷⁄₁₆ (11)	4¾ (121)	3½ (89)	3¹⁵⁄₁₆ (100)	5⅞ (149)
3 by 3 by 2	1116 ¹¹⁄₁₆ (17)	51116 ¹¹⁄₁₆ (128)	4716 ⁷⁄₁₆ (113)	518 ⅛ (130)	7 (178)
3 by 3 by 2	¹¹⁄₁₆ (17)	5¹¹⁄₁₆ (128)	4⁷⁄₁₆ (113)	5⅛ (130)	7 (178)
4 by 4 by 1½	38⅜ (10)	5316³⁄₁₆ (132)	3916⁹⁄₁₆ (90)	31516¹⁵⁄₁₆ (100)	578⅞ (149)
4 by 4 by 1½	⅜ (10)	5³⁄₁₆ (132)	3⁹⁄₁₆ (90)	3¹⁵⁄₁₆ (100)	5⅞ (149)
4 by 4 by 2	58⅝ (16)	618⅛ (156)	412½ (114)	518⅛ (130)	7 (178)
4 by 4 by 2	⅝ (16)	6⅛ (156)	4½ (114)	5⅛ (130)	7 (178)
4 by 4 by 3	1116¹⁄₁₆ (27)	8116¹⁄₁₆ (205)	612½ (165)	7916⁹⁄₁₆ (192)	1018⅛ (257)
4 by 4 by 3	1¹⁄₁₆ (27)	8¹⁄₁₆ (205)	6½ (165)	7⁹⁄₁₆ (192)	10⅛ (257)
6 by 6 by 2	916⁹⁄₁₆ (14)	718⅛ (181)	4916⁹⁄₁₆ (116)	518⅛ (130)	7 (178)
6 by 6 by 2	⁹⁄₁₆ (14)	7⅛ (181)	4⁹⁄₁₆ (116)	5⅛ (130)	7 (178)
6 by 6 by 3	1516 ¹⁵⁄₁₆ (24)	9116 ¹⁄₁₆ (230)	658 ⅝ (168)	7916 ⁹⁄₁₆ (192)	1018⅛ (257)
6 by 6 by 3	¹⁵⁄₁₆ (24)	9¹⁄₁₆ (230)	6⅝ (168)	7⁹⁄₁₆ (192)	10⅛ (257)
6 by 6 by 4	112½ (38)	11 (279)	812 ½ (216)	10 (254)	1314¼ (337)
6 by 6 by 4	1½ (38)	11 (279)	8½ (216)	10 (254)	13¼ (337)
6 by 6 by 5	2 (51)	13516⁵⁄₁₆ (338)	1034¾ (273)	1234¾ (324)	16 (406)
6 by 6 by 5	2 (51)	13⁵⁄₁₆ (338)	10¾ (273)	12¾ (324)	16 (406)

TABLE 25 Three-Way Ell, in. (mm)



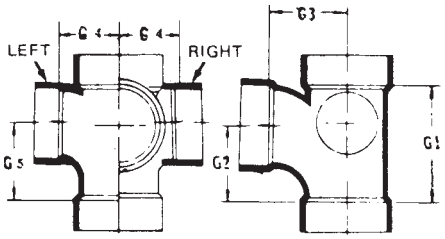
Nominal Pipe Size	*G1*	*G2*	*G3*
~~1½~~	~~1343/4 (44)~~	~~1343/4 (44)~~	~~1343/4 (44)~~
1½	1¾ (44)	1¾ (44)	1¾ (44)
~~2~~	~~2516 5/16 (59)~~	~~2516 5/16 (59)~~	~~2516 5/16 (59)~~
2	2 5/16 (59)	2 5/16 (59)	2 5/16 (59)
~~3~~	~~3116 1/16 (78)~~	~~3116 1/16 (78)~~	~~3116 1/16 (78)~~
3	3 1/16 (78)	3 1/16 (78)	3 1/16 (78)
~~4~~	~~378 7/8 (98)~~	~~378 7/8 (98)~~	~~378 7/8 (98)~~
4	3 7/8 (98)	3 7/8 (98)	3 7/8 (98)
Reducing			
~~2 by 1½ by 1½ (short)~~	~~158 5/8 (41)~~	~~158 5/8 (41)~~	~~158 5/8 (41)~~
2 by 1½ by 1½ (short)	1 5/8 (41)	1 5/8 (41)	1 5/8 (41)
~~3 by 2 by 3~~	~~3116 1/16 (78)~~	~~278 7/8 (73)~~	~~3116 1/16 (78)~~
3 by 2 by 3	3 1/16 (78)	2 7/8 (73)	3 1/16 (78)
~~2 by 1½ by 1½ (long)~~	~~11516 15/16 (49)~~	~~2316 3/16 (56)~~	~~2316 3/16 (56)~~
2 by 1½ by 1½ (long)	1 15/16 (49)	2 3/16 (56)	2 3/16 (56)

TABLE 26 Two Way Cleanout, in. (mm)



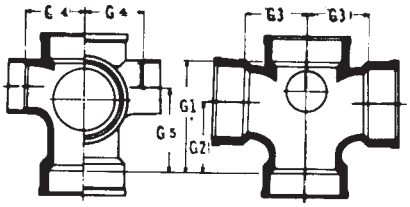
Nominal Pipe Size	*G*
~~3~~	~~4116 1/16 (103)~~
~~4~~	~~41516 15/16 (125)~~
3	4 1/16 (103)
4	4 15/16 (125)

TABLE 27 Sanitary Tees, with Side Inlet, in. (mm)



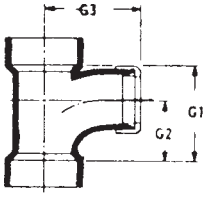
Nominal Pipe Size	*G1*	*G2*	*G3*	*G4*	*G5*
Left-Hand Side Inlet					
1½ by 1½ by 1½ by 1½	234¾ (70)	134¾ (44)	134¾ (44)	134¾ (44)	134¾ (44)
1½ by 1½ by 1½ by 1½	2¾ (70)	1¾ (44)	1¾ (44)	1¾ (44)	1¾ (44)
2 by 2 by 1½ by 1½	31116¹¹⁄₁₆ (94)	2516⁵⁄₁₆ (59)	2516⁵⁄₁₆ (59)	2516⁵⁄₁₆ (59)	2516⁵⁄₁₆ (59)
2 by 2 by 1½ by 1½	3¹¹⁄₁₆ (94)	2⁵⁄₁₆ (59)	2⁵⁄₁₆ (59)	2⁵⁄₁₆ (59)	2⁵⁄₁₆ (59)
3 by 3 by 2 by 1½	3516 ⁵⁄₁₆ (84)	218 ⅛ (54)	278 ⅞ (73)	2916 ⁹⁄₁₆ (65)	218⅛ (54)
3 by 3 by 2 by 1½	3⁵⁄₁₆ (84)	2⅛ (54)	2⅞ (73)	2⁹⁄₁₆ (65)	2⅛ (54)
3 by 3 by 2 by 2	3516⁵⁄₁₆ (84)	218⅛ (54)	278⅞ (73)	278⅞ (73)	218⅛ (54)
3 by 3 by 2 by 2	3⁵⁄₁₆ (84)	2⅛ (54)	2⅞ (73)	2⅞ (73)	2⅛ (54)
3 by 3 by 3 by 1½	478 ⅞ (124)	3116 ¹⁄₁₆ (78)	3116 ¹⁄₁₆ (78)	2916 ⁹⁄₁₆ (65)	31116¹¹⁄₁₆ (94)
3 by 3 by 3 by 1½	4⅞ (124)	3¹⁄₁₆ (78)	3¹⁄₁₆ (78)	2⁹⁄₁₆ (65)	3¹¹⁄₁₆ (94)
3 by 3 by 3 by 2	478⅞ (124)	3116¹⁄₁₆ (78)	3116¹⁄₁₆ (78)	278⅞ (73)	31116¹¹⁄₁₆ (94)
3 by 3 by 3 by 2	4⅞ (124)	3¹⁄₁₆ (78)	3¹⁄₁₆ (78)	2⅞ (73)	3¹¹⁄₁₆ (94)
4 by 4 by 4 by 2	618 ⅛ (156)	378 ⅞ (98)	378 ⅞ (98)	3516 ⁵⁄₁₆ (84)	5 (127)
4 by 4 by 4 by 2	6⅛ (156)	3⅞ (98)	3⅞ (98)	3⁵⁄₁₆ (84)	5 (127)
Right-Hand Side Inlet					
3 by 3 by 2 by 1½	3516⁵⁄₁₆ (84)	218⅛ (54)	278⅞ (73)	2916⁹⁄₁₆ (65)	218⅛ (54)
3 by 3 by 2 by 1½	3⁵⁄₁₆ (84)	2⅛ (54)	2⅞ (73)	2⁹⁄₁₆ (65)	2⅛ (54)
3 by 3 by 2 by 2	3516 ⁵⁄₁₆ (84)	218 ⅛ (54)	278 ⅞ (73)	278 ⅞ (73)	218⅛ (54)
3 by 3 by 2 by 2	3⁵⁄₁₆ (84)	2⅛ (54)	2⅞ (73)	2⅞ (73)	2⅛ (54)
3 by 3 by 3 by 1½	478⅞ (124)	3116¹⁄₁₆ (78)	3116¹⁄₁₆ (78)	2916⁹⁄₁₆ (65)	31116¹¹⁄₁₆ (94)
3 by 3 by 3 by 1½	4⅞ (124)	3¹⁄₁₆ (78)	3¹⁄₁₆ (78)	2⁹⁄₁₆ (65)	3¹¹⁄₁₆ (94)
3 by 3 by 3 by 2	478 ⅞ (124)	3116 ¹⁄₁₆ (78)	3116 ¹⁄₁₆ (78)	278 ⅞ (73)	31116¹¹⁄₁₆ (94)
3 by 3 by 3 by 2	4⅞ (124)	3¹⁄₁₆ (78)	3¹⁄₁₆ (78)	2⅞ (73)	3¹¹⁄₁₆ (94)
4 by 4 by 4 by 2	618⅛ (156)	378⅞ (98)	378⅞ (98)	3516⁵⁄₁₆ (84)	5 (127)
4 by 4 by 4 by 2	6⅛ (156)	3⅞ (98)	3⅞ (98)	3⁵⁄₁₆ (84)	5 (127)
Side Inlet Both Sides					
3 by 3 by 2 by 1½ by 1½	3516⁵⁄₁₆ (84)	218⅛ (54)	278⅞ (73)	2916⁹⁄₁₆ (65)	218⅛ (54)
3 by 3 by 2 by 1½ by 1½	3⁵⁄₁₆ (84)	2⅛ (54)	2⅞ (73)	2⁹⁄₁₆ (65)	2⅛ (54)
3 by 3 by 2 by 2 by 2	3516 ⁵⁄₁₆ (84)	218 ⅛ (54)	278 ⅞ (73)	278 ⅞ (73)	218⅛ (54)
3 by 3 by 2 by 2 by 2	3⁵⁄₁₆ (84)	2⅛ (54)	2⅞ (73)	2⅞ (73)	2⅛ (54)
3 by 3 by 3 by 1½ by 1½	478 ⅞ (124)	3116 ¹⁄₁₆ (78)	3116 ¹⁄₁₆ (78)	2916 ⁹⁄₁₆ (65)	31116¹¹⁄₁₆ (94)
3 by 3 by 3 by 1½ by 1½	4⅞ (124)	3¹⁄₁₆ (78)	3¹⁄₁₆ (78)	2⁹⁄₁₆ (65)	3¹¹⁄₁₆ (94)
3 by 3 by 3 by 2 by 2	478⅞ (124)	3116¹⁄₁₆ (78)	3116¹⁄₁₆ (78)	278⅞ (73)	31116¹¹⁄₁₆ (94)
3 by 3 by 3 by 2 by 2	4⅞ (124)	3¹⁄₁₆ (78)	3¹⁄₁₆ (78)	2⅞ (73)	3¹¹⁄₁₆ (94)
4 by 4 by 4 by 2 by 2	618 ⅛ (156)	378 ⅞ (98)	378 ⅞ (98)	3516 ⁵⁄₁₆ (84)	5 (127)
4 by 4 by 4 by 2 by 2	6⅛ (156)	3⅞ (98)	3⅞ (98)	3⁵⁄₁₆ (84)	5 (127)

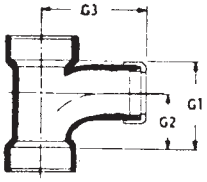
TABLE 28 Sanitary Tee, Double with Side Inlets, in. (mm)



Nominal Pipe Size	*G1*	*G2*	*G3*	*G4*	*G5*
Single Side Inlet					
~~3 by 3 by 3 by 3 by 1½~~	~~4787/8 (124)~~	~~3116 1/16 (78)~~	~~3116 1/16 (78)~~	~~2916 9/16 (65)~~	~~31116 11/16 (94)~~
3 by 3 by 3 by 3 by 1½	4 7/8 (124)	3 1/16 (78)	3 1/16 (78)	2 9/16 (65)	3 11/16 (94)
~~3 by 3 by 3 by 3 by 2~~	~~478 7/8 (124)~~	~~3116 1/16 (78)~~	~~3116 1/16 (78)~~	~~278 7/8 (73)~~	~~31116 11/16 (94)~~
3 by 3 by 3 by 3 by 2	4 7/8 (124)	3 1/16 (78)	3 1/16 (78)	2 7/8 (73)	3 11/16 (94)
~~4 by 4 by 4 by 4 by 2~~	~~618 1/8 (156)~~	~~378 7/8 (98)~~	~~378 7/8 (98)~~	~~3516 5/16 (84)~~	~~378 7/8 (min) (98)~~
4 by 4 by 4 by 4 by 2	6 1/8 (156)	3 7/8 (98)	3 7/8 (98)	3 5/16 (84)	3 7/8 (min) (98)
Inlet Both Sides					
~~3 by 3 by 3 by 3 by 1½ by 1½~~	~~4787/8 (124)~~	~~3116 1/16 (78)~~	~~3116 1/16 (78)~~	~~2916 9/16 (65)~~	~~31116 11/16 (94)~~
3 by 3 by 3 by 3 by 1½ by 1½	4 7/8 (124)	3 1/16 (78)	3 1/16 (78)	2 9/16 (65)	3 11/16 (94)
~~3 by 3 by 3 by 3 by 2 by 2~~	~~478 7/8 (124)~~	~~3116 1/16 (78)~~	~~3116 1/16 (78)~~	~~278 7/8 (73)~~	~~31116 11/16 (94)~~
3 by 3 by 3 by 3 by 2 by 2	4 7/8 (124)	3 1/16 (78)	3 1/16 (78)	2 7/8 (73)	3 11/16 (94)
~~4 by 4 by 4 by 4 by 2 by 2~~	~~618 1/8 (156)~~	~~378 7/8 (98)~~	~~378 7/8 (98)~~	~~3516 5/16 (84)~~	~~5 (127)~~
4 by 4 by 4 by 4 by 2 by 2	6 1/8 (156)	3 7/8 (98)	3 7/8 (98)	3 5/16 (84)	5 (127)

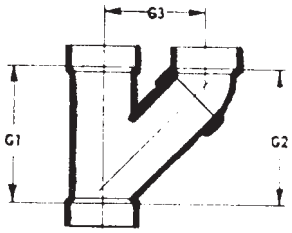
TABLE 29 Sanitary Tees, with Slip Joint, in. (mm)





Nominal Pipe Size	Sanitary Tee			Sanitary Tee Through Wall		
	G1	*G2*	*G3*, min	*G1*	*G2*	*G3, min*
~~1¼~~	~~214¼ (57)~~	~~112½ (38)~~	~~2316 7/16 (56)~~	~~214¼ (57)~~	~~112½ (38)~~	~~3 (76)~~
1¼	2¼ (57)	1½ (38)	2 9/16 (56)	2¼ (57)	1½ (38)	3 (76)
~~112 ½~~	~~234¾ (70)~~	~~134¾ (44)~~	~~2716 7/16 (62)~~	~~234¾ (70)~~	~~134¾ (44)~~	~~3 (76)~~
1½	2¾ (70)	1¾ (44)	2 7/16 (62)	2¾ (70)	1¾ (44)	3 (76)
~~1½ by 1¼ by 1½~~	~~212½ (64)~~	~~134¾ (44)~~	~~2716 7/16 (62)~~	~~212½ (64)~~	~~134¾ (44)~~	~~3 (76)~~
1½ by 1¼ by 1½	2½ (64)	1¾ (44)	2 7/16 (62)	2½ (64)	1¾ (44)	3 (76)

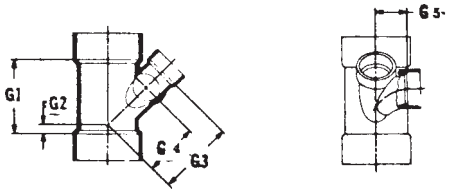
TABLE 30 Upright Wye, in. (mm)



Nominal Pipe Size	*G1* min	*G2* min	*G3* min
~~2 by 2 by 2~~	~~512½ (140)~~	~~5316⅜₁₆ (132)~~	~~334¾ (95)~~
~~3 by 3 by 3~~	~~712½ (191)~~	~~7 38⅜ (187)~~	~~514¼ (133)~~
~~Reducing~~			
2 by 2 by 2	5½ (140)	5⅜₁₆ (132)	3¾ (95)
3 by 3 by 3	7½ (191)	7⅜ (187)	5¼ (133)
Reducing			
~~2 by 2 by 1 12½~~	~~414 ¼ (108)~~	~~418⅛ (105)~~	~~3116¹⁄₁₆ (78)~~
~~3 by 3 by 2~~	~~5316⅜₁₆ (132)~~	~~5 516⁵⁄₁₆ (135)~~	~~4916⁹⁄₁₆ (116)~~
2 by 2 by 1 ½	4¼ (108)	4⅛ (105)	3¹⁄₁₆ (78)
3 by 3 by 2	5⅜₁₆ (132)	5⁵⁄₁₆ (135)	4⁹⁄₁₆ (116)

TABLE 31 Single 45° Wye, with Auxiliary Inlet, in. (mm)

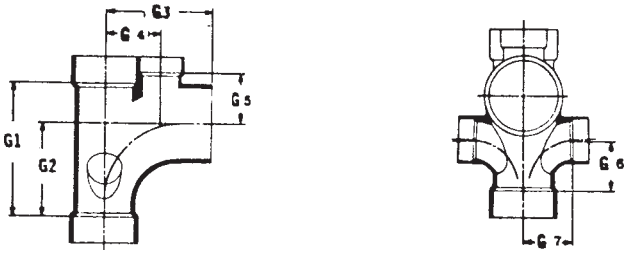
NOTE—RH.AI = Right Hand Auxiliary Inlet
LH.AI = Left Hand Auxiliary Inlet
DBL.AI = Double Auxiliary Inlets
V = Vent



Nominal Pipe Size	G1	G2	G3	G4	G5
~~3 by 3 by 1½ V by 1½ RH.AI~~	~~414 ¼ (108)~~	~~12 ½ (13)~~	~~4516 ⁵⁄₁₆ (110)~~	~~3316 ³⁄₁₆ (81)~~	~~134¾ (44)~~
3 by 3 by 1½ V by 1½ RH.AI	4¼ (108)	½ (13)	4⁵⁄₁₆ (110)	3³⁄₁₆ (81)	1¾ (44)
~~3 by 3 by 1½ V by 1½ LH.AI~~	~~414 ¼ (108)~~	~~12 ½ (13)~~	~~4516 ⁵⁄₁₆ (110)~~	~~3316 ³⁄₁₆ (81)~~	~~134¾ (44)~~
3 by 3 by 1½ V by 1½ LH.AI	4¼ (108)	½ (13)	4⁵⁄₁₆ (110)	3³⁄₁₆ (81)	1¾ (44)
~~3 by 3 by 2 V by 2 RH.AI~~	~~5 (127)~~	~~78 ⅞ (22)~~	~~458 ⅝ (117)~~	~~314 ¼ (83)~~	~~2516⁵⁄₁₆ (59)~~
3 by 3 by 2 V by 2 RH.AI	5 (127)	⅞ (22)	4⅝ (117)	3¼ (83)	2⁵⁄₁₆ (59)
~~3 by 3 by 2 V by 2 LH.AI~~	~~5 (127)~~	~~78 ⅞ (22)~~	~~458 ⅝ (117)~~	~~314 ¼ (83)~~	~~2516⁵⁄₁₆ (59)~~
3 by 3 by 2 V by 2 LH.AI	5 (127)	⅞ (22)	4⅝ (117)	3¼ (83)	2⁵⁄₁₆ (59)

TABLE 32 Vertical Closet Bend, with Auxiliary Inlets, in. (mm)

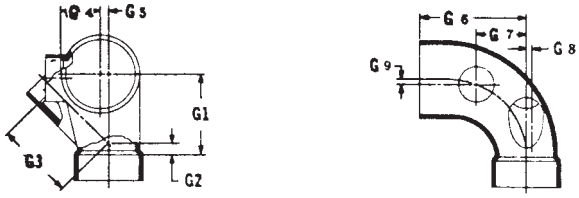
NOTE—RH.AI = Right Hand Auxiliary Inlet
LH.AI = Left Hand Auxiliary Inlet
DBL.AI = Double Auxiliary Inlets
V = Vent



Nominal Pipe Size	G1	G2	G3	G4	G5	G6	G7
~~3 by 3 by 4 by 2V by 2 RH.AI~~	~~712 ½ (191)~~	~~538 ⅜ (137)~~	~~618 ⅛ (156)~~	~~3532 ⁵⁄₃₂ (80)~~	~~234 ¾ (70)~~	~~278 ⅞ (73)~~	~~278⅞ (73)~~
3 by 3 by 4 by 2V by 2 RH.AI	7½ (191)	5⅜ (137)	6⅛ (156)	3⁵⁄₃₂ (80)	2¾ (70)	2⅞ (73)	2⅞ (73)
~~3 by 3 by 4 by 2V by 2 LH.AI~~	~~712½ (191)~~	~~538⅜ (137)~~	~~618⅛ (156)~~	~~5532⁵⁄₃₂ (80)~~	~~234¾ (70)~~	~~278⅞ (73)~~	~~278⅞ (73)~~
3 by 3 by 4 by 2V by 2 LH.AI	7½ (191)	5⅜ (137)	6⅛ (156)	5⁵⁄₃₂ (80)	2¾ (70)	2⅞ (73)	2⅞ (73)
~~3 by 3 by 4 by 2V by 2 by 2 DBL.AI~~	~~712 ½ (191)~~	~~538 ⅜ (137)~~	~~618 ⅛ (156)~~	~~3532 ⁵⁄₃₂ (80)~~	~~234 ¾ (70)~~	~~278 ⅞ (73)~~	~~278⅞ (73)~~
3 by 3 by 4 by 2V by 2 by 2 DBL.AI	7½ (191)	5⅜ (137)	6⅛ (156)	3⁵⁄₃₂ (80)	2¾ (70)	2⅞ (73)	2⅞ (73)

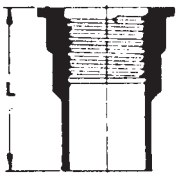
TABLE 33 Horizontal Closet Bend, with Auxiliary Inlets, in. (mm)

NOTE—RH.AI = Right Hand Auxiliary Inlet
LH.AI = Left Hand Auxiliary Inlet
DBL.AI = Double Auxiliary Inlets
V = Vent

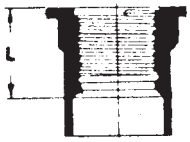


Nominal Pipe Size	G1	G2	G3	G4	G5	G6	G7	G8	G9
~~3 by 4 by 2V by 2 RH.AI~~	~~458⅝ (117)~~	~~916⁹⁄₁₆ (14)~~	~~412½ (114)~~	~~2516⁵⁄₁₆ (59)~~	~~1532¹⁵⁄₃₂ (12)~~	~~6316³⁄₁₆ (157)~~	~~278⅞ (73)~~	~~932⁹⁄₃₂ (7)~~	~~14¼ (6)~~
~~3 by 4 by 2V by 2 LH.AI~~	~~458⅝ (117)~~	~~916⁹⁄₁₆ (14)~~	~~412½ (114)~~	~~2516⁵⁄₁₆ (59)~~	~~1532¹⁵⁄₃₂ (12)~~	~~6316³⁄₁₆ (157)~~	~~278⅞ (73)~~	~~932⁹⁄₃₂ (7)~~	~~14¼ (6)~~
3 by 4 by 2V by 2 RH.AI	4⅝ (117)	⁹⁄₁₆ (14)	4½ (114)	2⁵⁄₁₆ (59)	¹⁵⁄₃₂ (12)	6³⁄₁₆ (157)	2⅞ (73)	⁹⁄₃₂ (7)	¼ (6)
3 by 4 by 2V by 2 LH.AI	4⅝ (117)	⁹⁄₁₆ (14)	4½ (114)	2⁵⁄₁₆ (59)	¹⁵⁄₃₂ (12)	6³⁄₁₆ (157)	2⅞ (73)	⁹⁄₃₂ (7)	¼ (6)

TABLE 34 Strainer Adapter, in. (mm)



TRAY PLUG ADAPTER
Fem. NPSM x Spigot



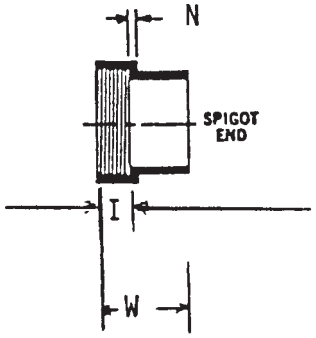
TRAY PLUG ADAPTER
Fem. NPSM x Hub

Nominal Pipe Size	Fem. NPSM × Spigot	Fem. NPSM ×Hub
	L	*L*, min
~~1 1/2~~	~~3 3/8 (86)~~	~~1 7/8 (48)~~
1½	3⅜ (86)	1⅞ (48)

TABLE 35 Swivel Strainer, Adapter, in. (mm)

Nominal Pipe Size	Short		Long	
	L1	*L2*	*L1*	*L2*
~~1 1/2~~	~~1 11/16 (43)~~	~~5 8/8 (16)~~	~~2 7/16 (62)~~	~~5 8/8 (16)~~
1½	1 11/16 (43)	⅝ (16)	2 7/16 (62)	⅝ (16)

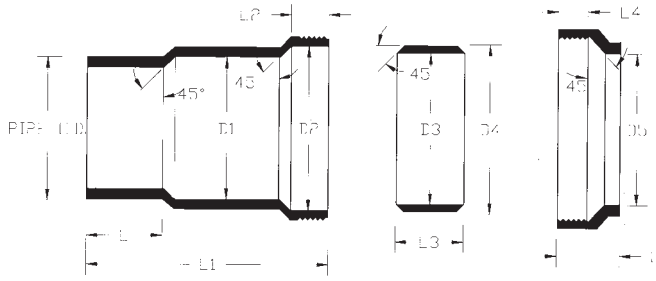
TABLE 36 Cleanout Female Fitting Adapter, in. (mm)



Nominal Pipe Size	*N*, min	*I*, min	*W*, min
~~1 1/4~~	~~5 32 (4)~~	~~1 2 (13)~~	~~1 1 32 (34)~~
1¼	5/32 (4)	½ (13)	1 11/32 (34)
~~1 1/2~~	~~5 32 (4)~~	~~5 8 (16)~~	~~1 15 32 (37)~~
1½	5/32 (4)	⅝ (16)	1 15/32 (37)
~~2~~	~~5 32 7 32 (4)~~	~~5 8 (16)~~	~~1 17 32 (39)~~
2	5/32 7/32 (4)	⅝ (16)	1 17/32 (39)
~~3~~	~~7 / 32 (6)~~	~~3 4 (19)~~	~~2 15 32 (63)~~
3	(6)	¾ (19)	2 15/32 (63)
~~4~~	~~1 4 (6)~~	~~7 8 (22)~~	~~2 3 4 (70)~~
4	¼ (6)	⅞ (22)	2¾ (70)

TABLE 37 Cut-In Adapter

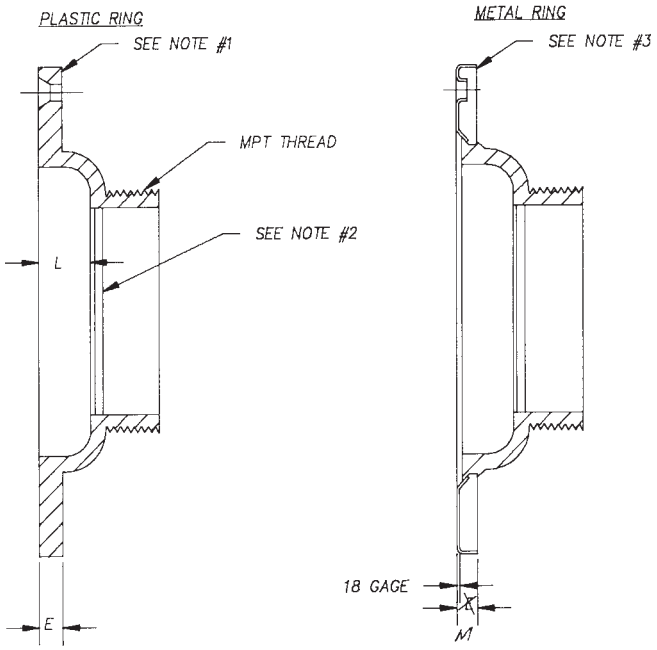
NOTE 1—Adjustable plastic ring optional.
NOTE 2—Knockout optional in all configurations.
NOTE 3—Adjustable metal ring optional and must be protected by a corrosion-resisant coating.



Minimum Dimensions, in. (mm)

	~~1½~~ 1½	~~2~~ 2	~~3~~ 3	~~4~~ 4
~~L~~	~~. . .~~	~~1¼ (32)~~	~~. . .~~	~~. . .~~
L	. . .	1¼ (32)	. . .	. . .
~~L1~~	~~. . .~~	~~2½ (64)~~	~~. . .~~	~~. . .~~
L1	. . .	2½ (64)	. . .	. . .
L2	. . .	0.60 (15.2)	. . .	. . .
L3	. . .	1 (25)	. . .	. . .
L4	. . .	0.53 (13.5)	. . .	. . .
~~L5~~	~~. . .~~	~~1¼ (32)~~	~~. . .~~	~~. . .~~
L5	. . .	1¼ (32)	. . .	. . .
D1	. . .	2.385 (60.58)	. . .	. . .
D2	. . .	2.940 (74.69)	. . .	. . .
D3	. . .	2.380 (60.45)	. . .	. . .
D4	. . .	2.577 (65.46)	. . .	. . .
D5	. . .	2.385 (60.58)	. . .	. . .

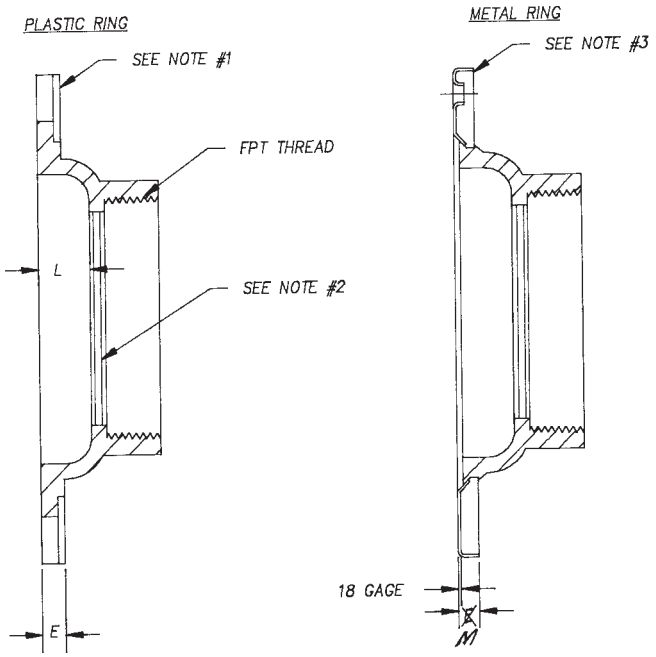
TABLE 38 4 by 3 in. Closet Flange (MPT)



M (min)	E (min)	L (min)	TH'D (min)
~~1 732/32~~ (~~512 ½~~)	~~14¼~~ (~~6~~)	~~34¾~~ (~~18~~)	~~3″–8~~
1 7/32 (5½)	¼ (6)	¾ (18)	3″–8

TABLE 39 4 by 3 in. Threaded Closet Flange (FPT)

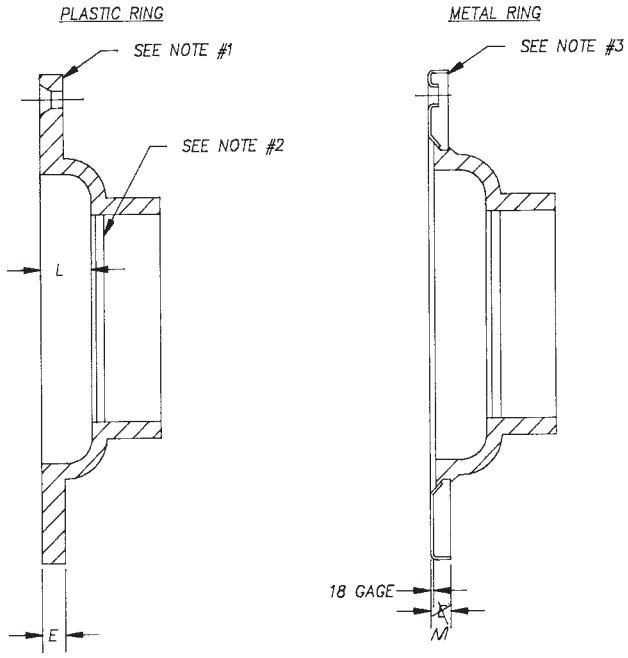
NOTE 1—Adjustable plastic ring optional.
NOTE 2—Knockout optional in all configurations.
NOTE 3—Adjustable metal ring optional and must be protected by a corrosion-resisant coating.



M (min)	E (min)	L (min)	TH'D (min)
~~732 7/32~~	~~14¼~~	~~34¾~~	~~3″–8~~
~~(512 ½)~~	~~(6)~~	~~(18)~~	
7/32	¼	¾	3″–8
(5½)	(6)	(18)	

TABLE 40 4 by 3 in. Closet Flange (Spigot)

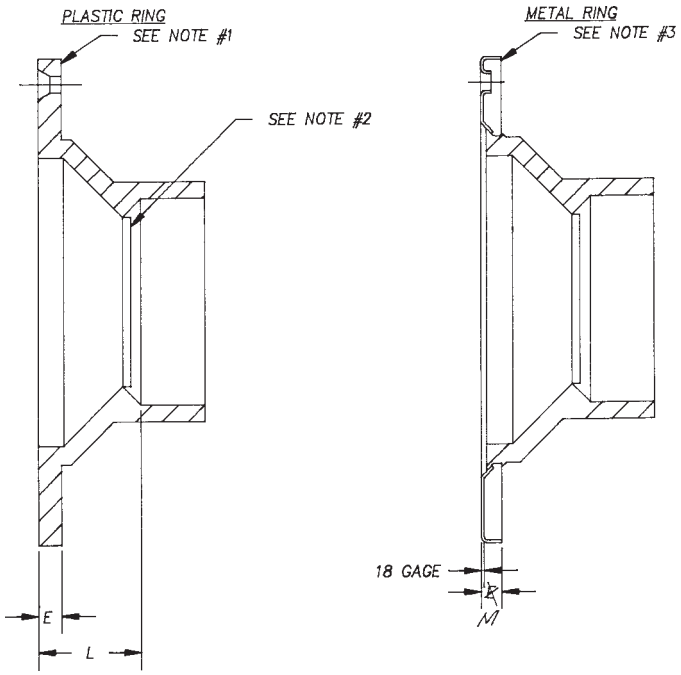
NOTE 1—Adjustable plastic ring optional.
NOTE 2—Knockout optional in all configurations.
NOTE 3—Adjustable metal ring optional and must be protected by a corrosion-resisant coating.



M (min)	E (min)	L (min)
~~732 7/32~~ ~~(512 ½)~~	~~14¼~~ ~~(6)~~	~~34¾~~ ~~(18)~~
7/32 (5½)	¼ (6)	¾ (18)

TABLE 41 4 by 3 in. Closet Flange (HUB)

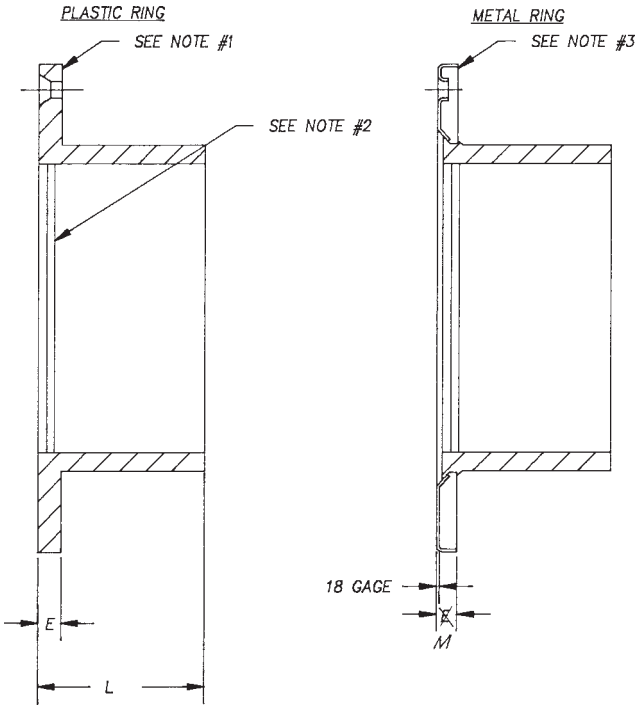
NOTE 1—Adjustable plastic ring optional.
NOTE 2—Knockout optional in all configurations.
NOTE 3—Adjustable metal ring optional and must be protected by a corrosion-resisant coating.



M (min)	E (min)	L (min)
~~732 7/32~~ ~~(512 ½)~~ 7/32 (5½)	~~14¼~~ ~~(6)~~ ¼ (6)	~~114¼~~ ~~(32)~~ 1¼ (32)

TABLE 42 4 by 4 in. Closet Flange (HUB)

NOTE 1—Adjustable plastic ring optional.
NOTE 2—Knockout optional in all configurations.
NOTE 3—Adjustable metal ring optional and must be protected by a corrosion-resisant coating.

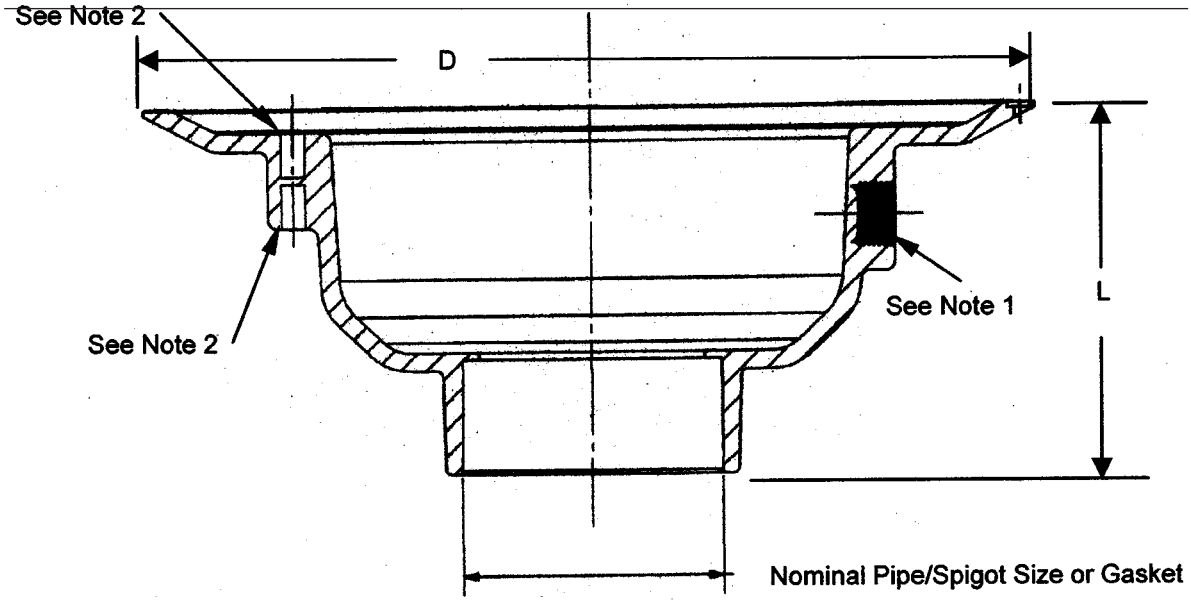


M (min)	E (min)	L (min)
~~732 7/32~~ ~~(512 ½)~~ 7/32 (5½)	~~14¼~~ ~~(6)~~ ¼ (6)	~~2~~ ~~(51)~~ 2 (51)

TABLE 43 Drain Base Hub/Spigot for Roof, Floor and Sediment Drains

NOTE 1—½ in. FPT Primer Tap, Optional in All Configurations with Optional Knockout

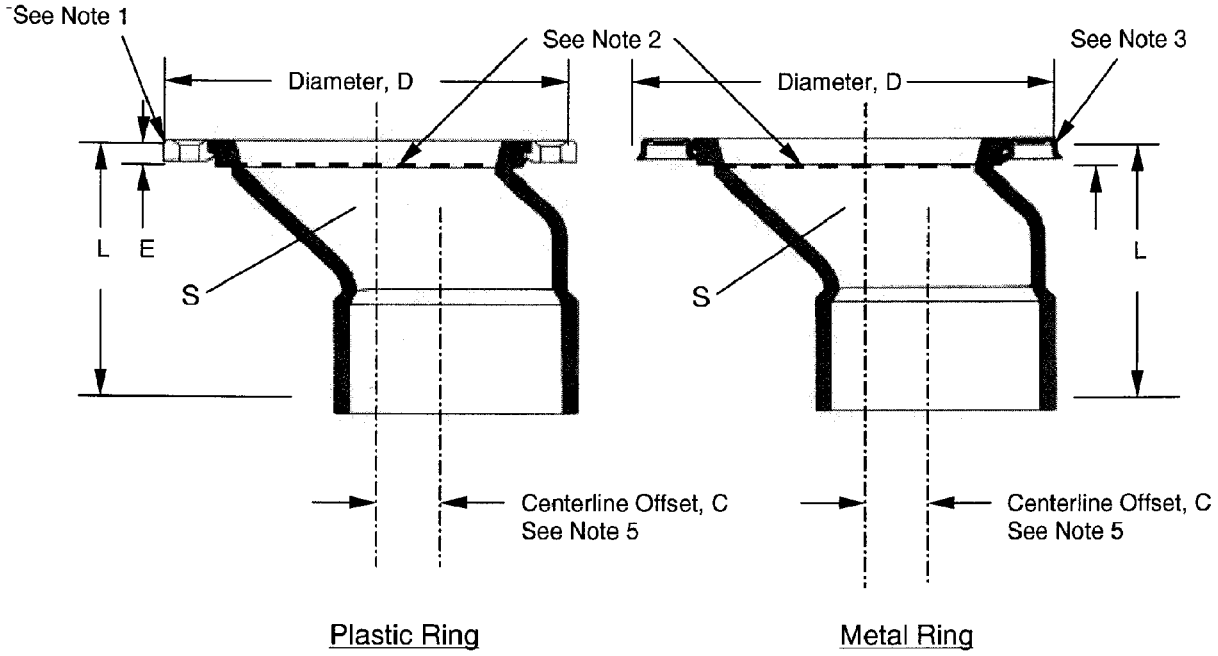
NOTE 2—Inserts Used in Securing Clamping Collars or Underdeck Clamp, Optional in all Configurations Nominal Pipe/Spigot or Gasket Sizes: 1 ½ in., 2 in., 3 in., 4 in., 6 in.



Nominal Pipe Size	L	D
2	5.25 ± 0.10 (13.3 ± 0.25)	12 (30.5)
3	5.00 ± 0.10 (12.7 ± 0.25)	12 (30.5)
4	5.25 ± 0.10 (13.3 ± 0.25)	12 (30.5)
6	6.00 ± 0.10 (15.2 ± 0.25)	12 (30.5)

TABLE 44 4 by 3in. Offset Closet Flange (Hub)

NOTE 1—Adjustable Plastic Ring Optional
NOTE 2—Knockout Optional in all Configurations
NOTE 3—Adjustable Metal Ring Optional Cylinder B must be Free of Ledges and Corners and must be protected by a corrosion-resistant coating
NOTE 4—Cylinder S must be Free of Ledges and Corners
NOTE 5—Offset, Centerline to Centerline



L, Typical Height	C, Offset	D, Diameter	E, Flange Thickness
4.5 ± -⅛ (11.4 ± 0.32)	2 ± -¼ (5.1 ± 0.64)	7 ± -¼ (17.8 ± 0.64)	¼ min. (0.64)

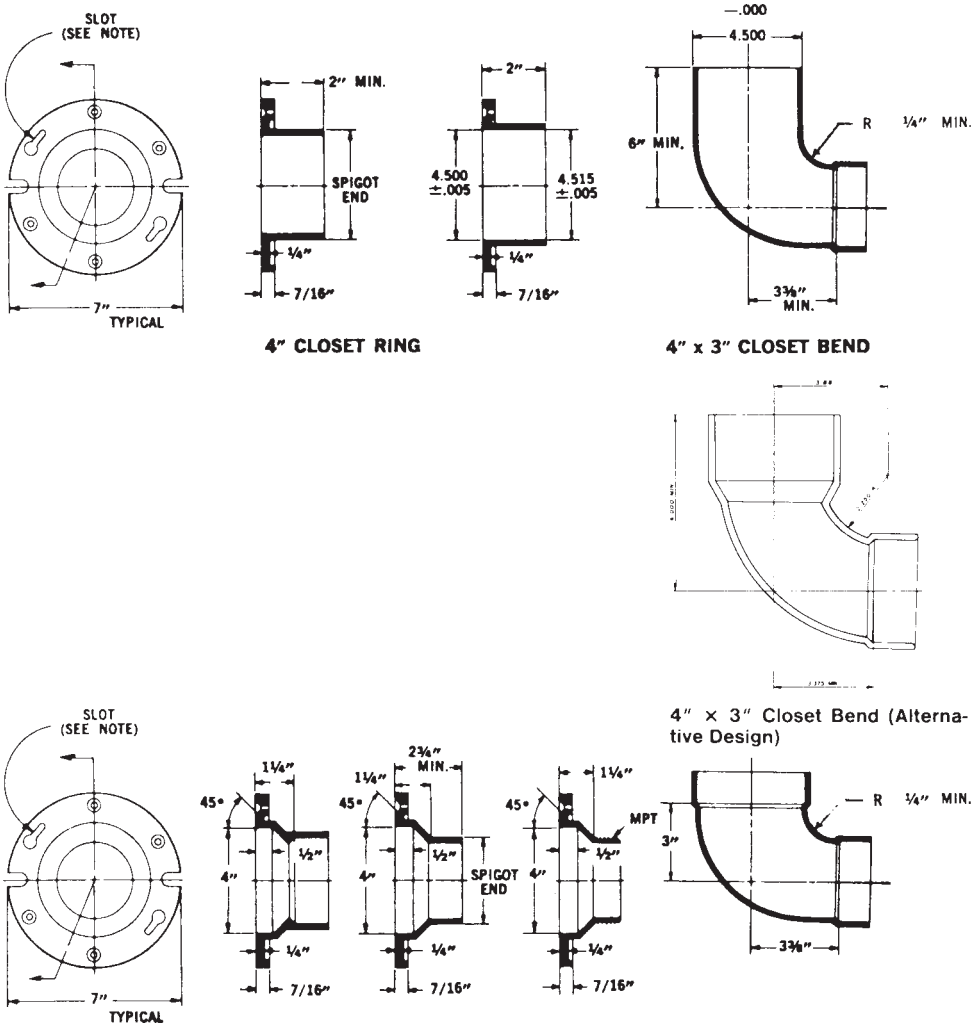


FIG. 1 Closet Rings and Closet Bends[A], in.

NOTE-Slot is optional if fully reinforced with a corrosion-resistant material.

[A] All dimensions minimum, unless otherwise noted.