

GROOVED FITTINGS

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Grooved Fittings

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General notes: Additional information is included in our data sheets and is available upon request. It is the Designer's responsibility to select products suitable for the intended service and to ensure that pressure ratings and performance data is not exceeded. Always read and understand the installation constructions. Never remove any piping components nor correct or modify any piping deficiencies without first depressurising and draining the system. Material and gasket selection should be verified with the gasket recommendation listing for the specific application.

Fittings Specifications

Tech Data Sheet: G180



Fitting Friction Resistance Chart

Pipe Size		Elbows 90° m Feet	Elbows 45° m Feet	Tee Branch m Feet	Tee Run m Feet
Nominal mm Inches	O.D. mm Inches				
25	33.7	0.5	0.2	1.3	0.5
1	1.315	1.6	0.7	4.3	1.6
32	42.4	0.6	0.3	1.5	0.6
1 1/4	1.660	1.9	1.0	4.8	1.9
40	48.3	0.7	0.4	1.8	0.7
1 1/2	1.900	2.3	1.2	5.8	2.3
50	60.3	1.0	0.5	2.5	1.0
2	2.375	3.2	1.6	8.0	3.2
65	73.0	1.2	0.6	3.0	1.2
2 1/2	2.875	3.9	2.0	9.8	3.9
65	76.1	1.2	0.6	3.1	1.2
76,1mm	3.000	4.1	2.1	10.3	4.1
80	88.9	1.5	0.7	3.7	1.5
3	3.500	4.9	2.4	12.2	4.9
100	108.0	2.0	1.0	5.0	2.0
108.0mm	4.252	6.5	3.3	16.3	6.5
100	114.3	2.0	1.0	5.0	2.0
4	4.500	6.5	3.3	16.3	6.5
125	133.0	2.4	1.3	6.1	2.4
133.0mm	5.236	8.0	4.1	20.0	8.0
125	139.7	2.4	1.3	6.1	2.4
139,7mm	5.500	8.0	4.1	20.0	8.0
125	141.3	2.5	1.3	6.3	2.5
5	5.563	8.2	4.1	20.5	8.2
125	159.0	2.9	1.4	7.2	2.9
159.0mm	6.260	9.5	4.8	23.8	9.5
150	165.1	2.9	1.4	7.2	2.9
165,1mm	6.500	9.5	4.8	23.8	9.5
150	168.3	3.0	1.5	7.6	3.0
6	6.625	9.9	5.0	24.8	9.9
200	219.1	4.0	2.0	10.0	4.0
8	8.625	13.1	6.6	32.8	13.1
250	273.0	5.0	2.5	12.6	5.0
10	10.750	16.5	8.3	41.3	16.5
300	323.9	6.1	3.0	15.1	6.1
12	12.750	19.9	9.9	49.7	19.9
350	355.6	7.0	5.5	20.7	7.0
14	14.000	23.0	18.0	67.9	23.0
400	406.4	7.9	6.1	23.8	7.9
16	16.000	25.9	20.0	78.1	25.9
450	457.2	8.8	7.0	25.9	8.8
18	18.000	28.9	23.0	85.0	28.9
500	508.0	10.1	7.9	30.5	10.1
20	20.000	33.1	25.9	100.1	33.1
600	609.6	12.2	9.1	35.1	12.2
24	24.000	40.0	29.9	115.2	40.0

For reducing tee branches, use value corresponding to the branch size.
 For example, for a 200 x 200 x 50mm (8" x 8" x 2") tee,
 use a branch value of 50mm (2") is 2,5m (8.0').
 For sizes not listed, interpolate from the values shown.
 Expressed as Equivalent Straight Pipe.

GRINNELL Grooved Fittings in ductile iron and fabricated steel provide an economical and efficient method of changing direction, adding an outlet, and reducing or capping piping systems.

GRINNELL Grooved Fittings are rated at the pressure rating of the coupling in use.

MATERIAL SPECIFICATIONS

Ductile Iron Fitting Specifications

- ASTM A 536 - Standard specification for ductile iron castings, Grade 65-45-12
- Tensile Strength, minimum 4482 Bar (65,000 psi)
- Yield Strength, minimum 3103 Bar (45,000 psi)
- Elongation in 50mm (2"), minimum 12%
- ASTM A 153 – Standard specification for hot-dip galvanising

Fabricated Steel Fitting Specifications

- Conform Standard EN 10253
- Carbon Steel: According to ASTM A 53, Grade B
- Tensile Strength, minimum 4137 Bar (60,000 psi)
- Yield Strength, minimum 2413 Bar (35,000 psi)
- Sizes 32mm – 250mm (1 1/4" – 10") Schedule 40
- Sizes 300mm – 600mm (12" – 24") STD (.375)

Coatings

- Red – Non-lead paint (RAL 3000) (standard)
- White – Non-lead paint (RAL 9010) (optional)
- Hot-Dipped, Zinc Galvanised (optional)

Threads

- BSP (standard)

Grooved Fittings



For detailed Listing / Approval information contact
 GRINNELL Mechanical Products

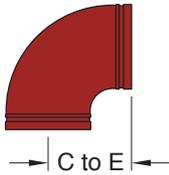
Figure 210 90° Elbows

Tech Data Sheet: G180

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Part Number	Pipe Size		C to E mm Inches	Approx. Weight Kg. Lbs.
	Nominal mm Inches	O.D. mm Inches		
210M00034*	25	33.7	57.0	0.4
	1	1.315	2.24	0.9
210M00042*	32	42.4	69.9	0.5
	1 1/4	1.660	2.75	1.0
210M00048*	40	48.3	69.9	0.6
	1 1/2	1.900	2.75	1.3
210M00060*	50	60.3	82.6	0.8
	2	2.375	3.25	1.8
210M00073*	65	73.0	95.3	1.4
	2 1/2	2.875	3.75	3.1
210M00076*	65	76.1	95.3	1.5
	76,1mm	3.000	3.75	3.2
210M00089*	80	88.9	108.0	2.2
	3	3.500	4.25	4.8
210M00108*	100	108.0	121.0	3.9
	108,0mm	4.252	4.76	86
210M00114*	100	114.3	127.0	3.4
	4	4.500	5.00	7.5
210M00133*	125	133.0	133.0	5.1
	133,0mm	5.236	5.24	11.3
210M00139*	125	139.7	139.7	5.1
	139,7mm	5.500	5.50	11.3
210M00141*	125	141.3	139.7	5.3
	5	5.563	5.50	11.6
210M00159*	150	159.0	152.0	6.6
	159,0mm	6.260	5.98	14.6
210M00165*	150	165.1	165.1	7.7
	165,1mm	6.500	6.50	16.9
210M00168*	150	168.3	165.1	7.5
	6	6.625	6.50	16.6
210M00219*	200	219.1	196.9	13.4
	8	8.625	7.75	29.6
210M00273*	250	273.0	228.6	22.0
	10	10.750	9.00	48.5
210M00324*	300	323.9	254.0	30.1
	12	12.750	10.00	66.4

* = 1 for red paint finish, 2 for hot dipped galvanised finish .

For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 39 for fitting specifications.

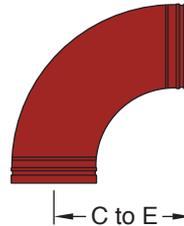
For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Figures 210LR & 310LR 90° Long Radius Elbows

Tech Data Sheet: G180



Figure 310LR
90° Fabricated Elbow
(Shown)



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Pipe Size		Figure 210LR - Cast			Figure 310LR - Fabricated		
Nominal mm Inches	O.D. mm Inches	Part Number	C to E mm Inches	Approx. Weight Kg. Lbs.	Part Number	C to E mm Inches	Approx. Weight Kg. Lbs.
50 2	60.3 2.375	210LR0060*	111.3 4.38	1.1 2.4	-	-	-
65 2½	73.0 2.875	210LR0073*	127.0 5.00	2.3 5.1	-	-	-
65 76,1mm	76.1 3.000	210LR0076*	127.0 5.00	2.0 4.4	-	-	-
80 3	88.9 3.500	210LR0089*	149.4 5.88	3.0 6.6	-	-	-
100 4	114.3 4.500	210LR0114*	190.5 7.50	5.3 11.6	-	-	-
125 139,7mm	139.7 5.500	210LR0139*	241.3 9.50	8.6 19.0	-	-	-
125 5	141.3 5.563	210LR0141*	241.3 9.50	9.1 20.0	-	-	-
150 165,1mm	165.1 6.500	210LR0165*	273.1 10.75	12.0 26.4	-	-	-
150 6	168.3 6.625	210LR0168*	273.1 10.75	13.4 29.5	-	-	-
200 8	219.1 8.625	210LR0219*	362.0 14.25	28.2 62.1	-	-	-
250 10	273.0 10.750	210LR0273*	438.0 17.24	27.2 60.0	-	-	-
300 12	323.9 12.750	210LR0324*	521.0 20.51	30.4 67.0	-	-	-
350 14	355.6 14.000	210LR0355*	533.4 21.00	59.4 131.0	310T00355*	583.0 22.95	76.7 169.1
400 16	406.4 16.000	210LR0406*	609.6 24.00	81.6 180.0	310T00406*	660.0 25.98	100.7 222.0
450 18	457.2 18.000	-	-	-	310T00457*	736.0 28.98	127.0 280.0
500 20	508.0 20.000	-	-	-	310T00508*	812.0 31.97	156.0 343.9
600 24	609.6 24.000	-	-	-	310T00610*	964.0 37.95	222.3 490.1

* = 1 for red paint finish, 2 for hot dipped galvanised finish.

For information on alternative sizes, contact a GRINNELL Sales Representative.

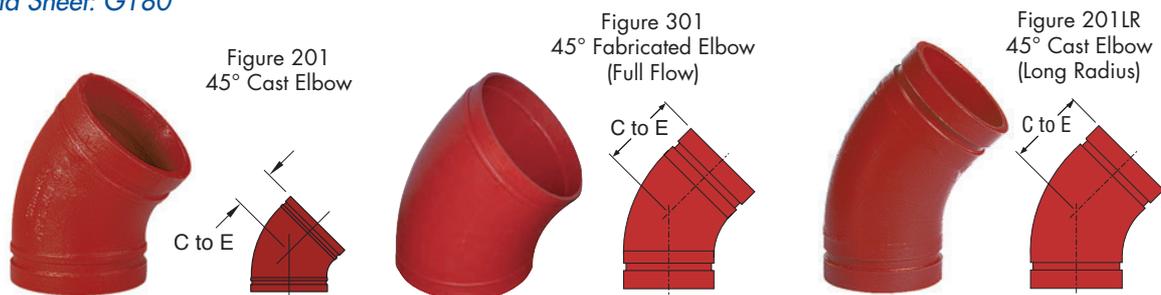
See page 39 for fitting specifications.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Figure 201, 301 & 201LR 45° Elbows

Tech Data Sheet: G180

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Pipe Size		Figure 201 - Cast			Figure 301 - Fabricated			Figure 201LR - Long Radius, Cast		
Nominal mm Inches	O.D. mm Inches	Part Number	C to E mm Inches	Approx. Weight Kg. Lbs.	Part Number	C to E mm Inches	Approx. Weight Kg. Lbs.	Part Number	C to E mm Inches	Approx. Weight Kg. Lbs.
25	33.7	201M00034*	45.0	0.3	-			-		
1	1.315		1.77	0.7						
32	42.4	201M00042*	44.5	0.4	-			-		
1 1/4	1.660		1.75	0.8						
40	48.3	201M00048*	44.5	0.4	-			-		
1 1/2	1.900		1.75	0.9						
50	60.3	201M00060*	50.8	0.6	-			-		
2	2.375		2.00	1.3						
65	73.0	201M00073*	57.2	1.0	-			-		
2 1/2	2.875		2.25	2.1						
65	76.1	201M00076*	57.2	1.0	-			-		
76,1mm	3.000		2.25	2.2						
80	88.9	201M00089*	63.5	1.6	-			-		
3	3.500		2.50	3.5						
100	108.0	201M00108*	73.0	2.5	-			-		
108,0mm	4.252		2.87	5.5						
100	114.3	201M00114*	76.2	2.5	-			-		
4	4.500		3.00	5.5						
125	133.0	201M00133*	82.6	3.5	-			-		
133.0mm	5.236		3.25	7.7						
125	139.7	201M00139*	82.6	3.5	-			-		
139,7mm	5.500		3.25	7.7						
125	141.3	201M00141*	82.6	3.7	-			-		
5	5.563		3.25	8.1						
150	159.0	201M00159*	88.9	5.4	-			-		
159,0mm	6.260		3.50	11.9						
150	165.1	201M00165*	88.9	5.4	-			-		
165,1mm	6.500		3.50	11.9						
150	168.3	201M00168*	88.9	5.4	-			-		
6	6.625		3.50	11.9						
200	219.1	201M00219*	108.0	8.6	-			-		
8	8.625		4.25	19.0						
250	273.0	201M00273*	120.7	12.7	-			-		
10	10.750		4.75	28.0						
300	323.9	201M00324*	133.4	22.0	-			-		
12	12.750		5.25	48.0						
350	355.6	-			301T00355*	271.0	41.7	201LR00355*	379.0	40.1
14	14.000					10.67	91.9		14.92	88.4
400	406.4	-			301T00406*	303.0	53.1	201LR00406*	434.0	47.9
16	16.000					11.93	117.1		17.09	105.6
450	457.2	-			301T00457*	340.0	66.2	-		
18	18.000					13.39	145.9			
500	508.0	-			301T00508*	366.0	81.2	-		
20	20.000					14.41	179.0			
600	609.6	-			301T00610*	429.0	115.7	-		
24	24.000					16.89	255.1			

* = 1 for red paint finish, 2 for hot dipped galvanised finish and 5 (201 only) for white paint finish

Note: Fabricated Full Flow 1.5D. C to E Dimensions differ from DIN 2605/01 to allow for insulation.

For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 39 for fitting specifications.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Figures 212 & 312 22 1/2° Elbows

Tech Data Sheet: G180



Figure 212
22 1/2° Cast Elbow

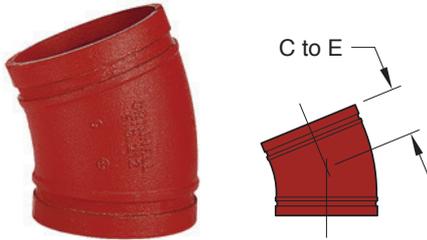
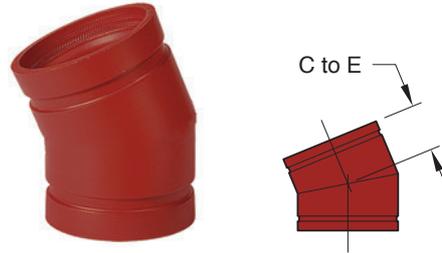


Figure 312
22 1/2° Fabricated Elbow



Pipe Size		Figure 212 - Cast			Figure 312 - Fabricated		
Nominal mm Inches	O.D. mm Inches	Part Number	C to E mm Inches	Approx. Weight Kg. Lbs.	Part Number	C to E mm Inches	Approx. Weight Kg. Lbs.
32 1 1/4	42.4 1.660	212A00042*	44.5 1.75	0.4 0.8	-	-	-
40 1 1/2	48.3 1.900	212A00048*	44.5 1.75	0.5 1.0	-	-	-
50 2	60.3 2.375	212A00060*	47.8 1.88	0.6 1.3	-	-	-
65 2 1/2	73.0 2.875	-	-	-	312F00073*	50.8 2.00	0.8 1.8
65 76,1mm	76.1 3.000	212M00076*	50.8 2.00	0.9 2.0	-	-	-
80 3	88.9 3.500	212A00089*	57.2 2.25	1.3 2.9	-	-	-
100 4	114.3 4.500	212A00114*	66.8 2.63	2.1 4.7	-	-	-
125 139,7mm	139.7 5.500	212M00139*	73.2 2.88	3.1 6.9	-	-	-
125 5	141.3 5.563	-	-	-	312F00141*	73.2 2.88	3.0 6.7
150 165,1mm	165.1 6.500	-	-	-	312F00165*	79.5 3.13	4.3 9.4
150 6	168.3 6.625	212A00168*	79.5 3.13	4.3 9.4	-	-	-
200 8	219.1 8.625	-	-	-	312F00219*	98.6 3.88	8.1 17.8
250 10	273.0 10.750	-	-	-	312F00273*	111.3 4.38	6.4 14.0
300 12	323.9 12.750	-	-	-	312F00324*	124.0 4.88	10.0 22.0
350 14	355.6 14.000	-	-	-	312T00355*	127.0 5.00	20.9 46.0
400 16	406.4 16.000	-	-	-	312T00406*	127.0 5.00	23.7 52.2
450 18	457.2 18.000	-	-	-	312T00457*	139.7 5.50	29.5 65.0
500 20	508.0 20.000	-	-	-	312T00508*	152.4 6.00	36.3 80.0
600 24	609.6 24.000	-	-	-	312T00610*	177.8 7.00	50.8 112.0

* = 1 for red paint finish, 2 for hot dipped galvanised finish

For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 39 for fitting specifications.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

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Figures 211 & 311 11 1/4° Elbows

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Figure 211
11 1/4° Cast Elbow



Figure 311
11 1/4° Fabricated Elbow



Pipe Size		Figure 211 - Cast			Figure 311 - Fabricated		
Nominal mm Inches	O.D. mm Inches	Part Number	C to E mm Inches	Approx. Weight Kg. Lbs.	Part Number	C to E mm Inches	Approx. Weight Kg. Lbs.
32 1 1/4	42.4 1.660	211A00042*	35.1 1.38	0.3 0.7	-	-	-
40 1 1/2	48.3 1.900	211A00048*	35.1 1.38	0.4 0.8	-	-	-
50 2	60.3 2.375	211A00060*	35.1 1.38	0.5 1.1	-	-	-
65 2 1/2	73.0 2.875	-	-	-	311F00073*	38.1 1.50	0.6 1.3
65 76,1mm	76.1 3.000	211M00076*	38.1 1.50	0.7 1.7	-	-	-
80 3	88.9 3.500	211A00089*	38.1 1.50	1.0 2.2	-	-	-
100 4	114.3 4.500	211A00114*	44.5 1.75	1.5 3.4	-	-	-
125 139,7mm	139.7 5.500	211M00139*	50.8 2.00	2.3 5.1	-	-	-
125 5	141.3 5.563	-	-	-	311F00141*	50.8 2.00	2.0 4.4
150 165,1mm	165.1 6.500	211M00165*	50.8 2.00	2.9 6.4	-	-	-
150 6.625	168.3 6.625	211A00168*	50.8 2.00	2.9 6.5	-	-	-
200 8	219.1 8.625	-	-	-	311F00219*	50.8 2.00	4.0 8.6
250 10	273.0 10.750	-	-	-	311F00273*	54.1 2.13	4.1 9.1
300 12	323.9 12.750	-	-	-	311F00324*	57.2 2.25	7.6 16.7
350 14	355.6 14.000	-	-	-	311F00355*	88.9 3.50	14.6 32.1
400 16	406.4 16.000	-	-	-	311F00406*	101.6 4.00	19.1 42.0
450 18	457.2 18.000	-	-	-	311F00457*	114.3 4.50	24.2 53.2
500 20	508.0 20.000	-	-	-	311F00508*	127.0 5.00	29.8 65.7
600 24	609.6 24.000	-	-	-	311F00610*	152.4 6.00	43.5 96.0

* = 1 for red paint finish, 2 for hot dipped galvanized finish

For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 39 for fitting specifications.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Figures 219 & 319 Tees

Tech Data Sheet: G180



Figure 219
Cast Tee



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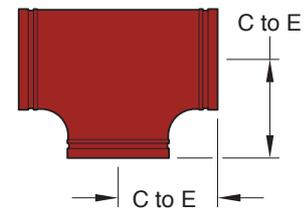
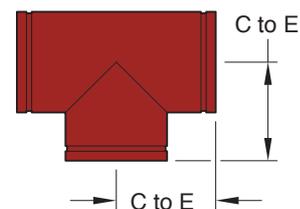


Figure 319
Fabricated Tee



Pipe Size		Figure 219 - Cast			Figure 319 - Fabricated		
Nominal mm Inches	O.D. mm Inches	Part Number	C to E mm Inches	Approx Weight Kg. Lbs.	Part Number	C to E mm Inches	Approx Weight Kg. Lbs.
32 1 1/4	42.4 1.660	219M00042*	69.9 2.75	0.8 1.7	-	-	-
40 1 1/2	48.3 1.900	219M00048*	69.9 2.75	1.0 2.1	-	-	-
50 2	60.3 2.375	219M00060*	82.6 3.25	1.3 2.7	-	-	-
65 2 1/2	73.0 2.875	219M00073*	95.3 3.75	2.0 4.4	-	-	-
65 76,1mm	76.1 3.000	219M00076*	95.3 3.75	2.9 6.5	-	-	-
80 3	88.9 3.500	219M00089*	108.0 4.25	2.9 6.5	-	-	-
100 4	114.3 4.500	219M00114*	127.0 5.00	4.8 10.7	-	-	-
125 139,7mm	139.7 5.500	219M00139*	139.7 5.50	6.9 15.2	-	-	-
125 5	141.3 5.563	219M00141*	139.7 5.50	7.0 15.5	-	-	-
150 165,1mm	165.1 6.500	219M00165*	165.1 6.50	11.0 24.2	-	-	-
150 6	168.3 6.625	219M00168*	165.1 6.50	10.4 23.0	-	-	-
200 8	219.1 8.625	219M00219*	196.9 7.75	19.8 43.7	-	-	-
250 10	273.0 10.750	219M00273*	228.6 9.00	25.9 57.0	-	-	-
300 12	323.9 12.750	219M00324*	254.0 10.00	49.9 110.0	-	-	-
350 14	355.6 14.000	219M00355*	279.0 11.00	61.2 135.0	319T00355*	329.0 12.95	53.6 118.2
400 16	406.4 16.000	219M00406*	305.0 12.00	61.7 136.0	319T00406*	355.0 13.98	66.3 146.2
450 18	457.2 18.000	-	-	-	319T00457*	393.0 15.47	99.0 218.3
500 20	508.0 20.000	-	-	-	319T00508*	431.0 16.97	125.0 275.6
600 24	609.6 24.000	-	-	-	319T00610*	482.0 18.98	172.0 379.2

* = 1 for red paint finish, 2 for hot dipped galvanised finish

For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 39 for fitting specifications.

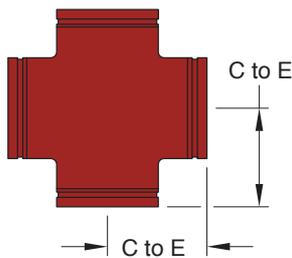
For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Figure 227 Cross

Tech Data Sheet: G180



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Fittings



Part Number	Pipe Size		C to E mm Inches	Approx Weight Kg. Lbs.
	Nominal mm Inches	O. D. mm Inches		
227M00042*	32 1 ¼	42.4 1.660	69.9 2.75	1.0 2.2
227M00048*	40 1 ½	48.3 1.900	69.9 2.75	1.1 2.5
227M00060*	50 2	60.3 2.375	82.6 3.25	1.7 3.7
227M00073*	65 2 ½	73.0 2.875	95.3 3.75	2.6 5.8
227M00076*	65 76,1mm	76.1 3.000	95.3 3.75	2.7 6.0
227M00089*	80 3	88.9 3.500	108.0 4.25	3.9 8.6
227M00108*	100 108.0mm	108.0 4.252	121.0 4.76	5.3 11.7
227M00114*	100 4	114.3 4.500	127.0 5.00	9.4 20.7
222M0139*	125 139,7mm	139.7 5.500	139.7 5.50	6.8 15.0
327F00141*	125 5	141.3 5.563	139.7 5.50	8.0 17.6
327F00165*	150 165,1mm	165.1 6.500	165.1 6.50	12.4 27.3
227M00168*	150 6	168.3 6.625	165.1 6.50	13.0 28.6
227M00219*	200 8	219.1 8.625	196.9 7.75	21.7 48.0
227M002732	250 10	273.0 10.750	228.6 9.00	34.0 75.0
227M003242	300 12	323.9 12.750	254.0 10.00	43.4 95.8

* = 1 for red paint finish, 2 for hot dipped galvanised finish

For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 39 for fitting specifications.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Figures 260 & 360 End Caps

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10
YEAR
LIMITED
WARRANTY

Figure 260 Cap
Cast

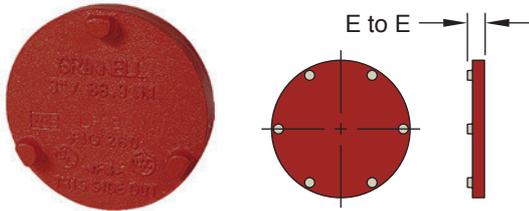


Figure 360 Cap
Fabricated



Pipe Size		Figure 260 - Cast			Figure 360 - Fabricated		
Nominal mm Inches	O.D. mm Inches	Part Number	E to E mm Inches	Approx Weight Kg. Lbs.	Part Number	E to E mm Inches	Approx Weight Kg. Lbs.
25 1	33.7 1.315	260M00034*	21.1 0.83	0.1 0.2	-	-	-
32 1 1/4	42.4 1.660	260M00042*	21.1 0.83	0.1 0.3	-	-	-
40 1 1/2	48.3 1.900	260M00048*	21.1 0.83	0.2 0.4	-	-	-
50 2	60.3 2.375	260M00060*	23.4 0.92	0.3 0.7	-	-	-
65 2 1/2	73.0 2.875	260M00073*	23.4 0.92	0.5 1.0	-	-	-
65 76,1mm	76.1 3.000	260M00076*	21.8 0.86	0.6 1.3	-	-	-
80 3	88.9 3.500	260M00089*	23.4 0.92	0.6 1.4	-	-	-
100 4	114.3 4.500	260M00114*	25.4 1.00	1.2 2.6	-	-	-
125 139,7mm	139.7 5.500	260M00139*	23.4 0.92	2.1 4.7	-	-	-
125 5	141.3 5.563	260M00141*	25.4 1.00	2.3 5.0	-	-	-
125 159,0mm	159.0 6.260	260M00159*	25.0 0.98	3.8 8.4	-	-	-
150 165,1mm	165.1 6.500	260M00165*	23.4 0.92	2.9 6.4	-	-	-
150 6	168.3 6.625	260M00168*	25.4 1.00	2.8 6.2	-	-	-
200 8	219.1 8.625	260M00219*	27.0 1.06	3.2 7.1	-	-	-
250 10	273.0 10.750	260M00273*	25.8 1.02	11.1 24.5	-	-	-
300 12	323.9 12.750	260M00324*	25.8 1.02	14.1 31.0	-	-	-
350 14	355.6 14.000	-	-	-	360T00355*	154.0 6.06	16.6 36.6
400 16	406.4 16.000	-	-	-	360T00406*	228.6 9.00	19.7 43.5
450 18	457.2 18.000	-	-	-	360T00457*	173.0 6.81	25.6 56.4
500 20	508.0 20.000	-	-	-	360T00508*	279.4 11.00	34.3 75.7
600 24	609.6 24.000	-	-	-	360T00610*	205.0 8.07	45.8 101.0

* = 1 for red paint (RAL 3000) finish, 2 for hot dipped galvanised finish

For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 39 for fitting specifications.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

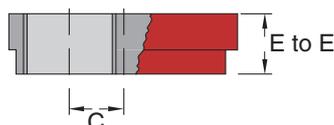
Grooved
Fittings

Figures 361, 362, 363, 364 & 365 End Caps with ISO R7 Threaded Outlets

(Page 1 of 2)



Grooved
Fittings



Pipe Size		E to E mm In.	Fig. 363 – DN20 3/4"			
Nominal mm In.	O.D. mm In.		Part Number	C mm In.	Outlet size ISO R7 In.	Approx. Weight Kg. Lbs.
50	60.3	25	363M00060*	-	DN20	0.2
2	2.375	0.98		-	3/4	0.4
65	76.1	25	363M00076*	9	DN20	0.4
76.1mm	3.000	0.98		0.35	3/4	0.9
80	88.9	25	363M00089*	15	DN20	0.5
3	3.500	0.98		0.59	3/4	1.1
100	114.3	25	363M00114*	28	DN20	1.3
4	4.500	0.98		1.10	3/4	2.9
125	139.7	25	363M00139*	40	DN20	1.8
139.7mm	5.500	0.98		1.57	3/4	4.0
125	141.3	25	363M00141*	41	DN20	1.8
5	5.563	0.98		1.61	3/4	4.0
150	165.1	25	363M00165*	53	DN20	2.7
165.1mm	6.500	0.98		2.09	3/4	6.0
150	168.3	25	363M00168*	54	DN20	2.7
6	6.625	0.98		2.13	3/4	6.0
200	219.1	31	363M00219*	79	DN20	5.0
8	8.625	1.22		3.11	3/4	11.0

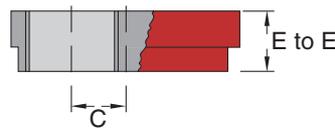
* = 1 for red paint (RAL 3000) finish, 2 for hot dipped galvanised finish
For information on alternative sizes, contact a GRINNELL Sales Representative.
See page 39 for fitting specifications.
For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Pipe Size		E to E mm In.	Fig. 364 – DN25 1"				Fig. 365 – DN32 1 1/4"			
Nominal mm In.	O.D. mm In.		Part Number	C mm In.	Outlet size ISO R7 In.	Approx. Weight Kg. Lbs.	Part Number	C mm In.	Outlet size ISO R7 In.	Approx. Weight Kg. Lbs.
50	60.3	25	364M00060*	-	DN25	0.2	365M00060*	-	DN32	0.2
2	2.375	0.98		-	1	0.4		-	1 1/4	0.4
65	76.1	25	364M00076*	9	DN25	0.4	365M00076*	9	DN32	0.4
76.1mm	3.000	0.98		0.35	1	0.9		0.35	1 1/4	0.9
80	88.9	25	364M00089*	15	DN25	0.5	365M00089*	15	DN32	0.5
3	3.500	0.98		0.59	1	1.1		0.59	1 1/4	1.1
100	114.3	25	364M00114*	28	DN25	1.3	365M00114*	28	DN32	1.3
4	4.500	0.98		1.10	1	2.9		1.10	1 1/4	2.9
125	139.7	25	364M00139*	40	DN25	1.8	365M00139*	40	DN32	1.8
139.7mm	5.500	0.98		1.57	1	4.0		1.57	1 1/4	4.0
125	141.3	25	364M00141*	41	DN25	1.8	-	-	-	-
5	5.563	0.98		1.61	1	4.0		-	-	-
150	165.1	25	364M00165*	53	DN25	2.7	365M00165*	53	DN32	2.7
165.1mm	6.500	0.98		2.09	1	6.0		2.09	1 1/4	6.0
150	168.3	25	364M00168*	54	DN25	2.7	365M00168*	54	DN32	2.7
6	6.625	0.98		2.13	1	6.0		2.13	1 1/4	6.0
200	219.1	31	364M00219*	79	DN25	5.0	365M00219*	79	DN32	5.0
8	8.625	1.22		3.11	1	11.0		3.11	1 1/4	11.0

* = 1 for red paint (RAL 3000) finish, 2 for hot dipped galvanised finish
For information on alternative sizes, contact a GRINNELL Sales Representative.
See page 39 for fitting specifications.
For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Figures 361, 362, 363, 364 & 365 End Caps with ISO R7 Threaded Outlets

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 Grooved
Fittings

Pipe Size		E to E mm In.	Fig. 361 – DN40 1 1/2"				Fig. 362 – DN50 2"			
Nominal mm In.	O.D. mm In.		Part Number	C mm In.	Outlet size ISO R7 In.	Approx. Weight Kg. Lbs.	Part Number	C mm In.	Outlet size ISO R7 In.	Approx. Weight Kg. Lbs.
50 2	60.3 2.375	25 0.98	361M00060*	- -	DN40 1 1/2	0.2 0.4	- -	- -	- -	- -
65 76.1mm	76.1 3.000	25 0.98	361M00076*	9 0.35	DN40 1 1/2	0.4 0.9	362M00076*	4 0.16	DN50 2	0.3 0.7
80 3	88.9 3.500	25 0.98	361M00089*	15 0.59	DN40 1 1/2	0.5 1.1	362M00089*	9 0.35	DN50 2	1.3 2.9
100 4	114.3 4.500	25 0.98	361M00114*	28 1.10	DN40 1 1/2	1.3 2.9	362M00114*	22 0.87	DN50 2	1.3 2.9
125 139.7mm	139.7 5.500	25 0.98	361M00139*	40 1.57	DN40 1 1/2	1.8 4.0	362M00139*	34 1.34	DN50 2	1.8 4.0
125 5	141.3 5.563	25 0.98	361M00141*	41 1.61	DN40 1 1/2	1.8 4.0	362M00141*	34 1.34	DN50 2	1.8 4.0
150 165.1mm	165.1 6.500	25 0.98	361M00165*	53 2.09	DN40 1 1/2	2.7 6.0	362M00165*	47 1.85	DN50 2	2.7 6.0
150 6	168.3 6.625	25 0.98	361M00168*	54 2.13	DN40 1 1/2	2.7 6.0	362M00168*	48 1.89	DN50 2	2.7 6.0
200 8	219.1 8.625	31 1.22	361M00219*	79 3.11	DN40 1 1/2	5.0 11.0	362M00219*	73 2.87	DN50 2	5.0 11.0
250 10	273.0 10.750	31 1.22	361M00273*	90 3.54	DN40 1 1/2	7.2 15.9	362M00273*	90 3.54	DN50 2	7.2 15.9

* = 1 for red paint (RAL 3000) finish, 2 for hot dipped galvanized finish

For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 39 for fitting specifications.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Figures 221 & 321 Reducing Tees

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Tech Data Sheet: G180

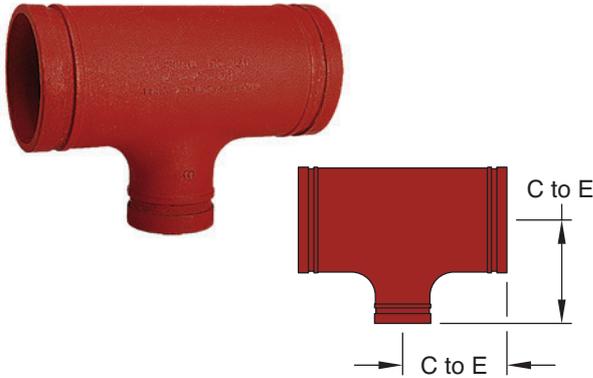


Figure 221 Reducing Tee Cast

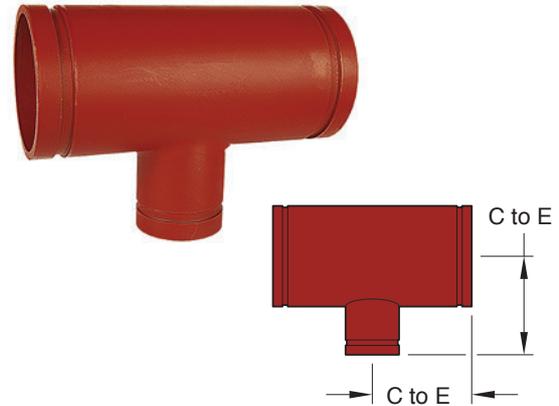


Figure 321 Reducing Tee Fabricated

Grooved
Fittings

Pipe Size		Figure 221 - Cast			Figure 321 - Fabricated		
Nominal mm Inches	O.D. mm Inches	Part Number	C to E mm Inches	Approx. Weight Kg. Lbs.	Part Number	C to E mm Inches	Approx. Weight Kg. Lbs.
50 x 50 x 25 2 x 2 x 1	60.3 x 60.3 x 33.7 2.375 x 2.375 x 1.315	-	-	-	321F02010*	88.6 3.25	0.74 1.6
50 x 50 x 40 2 x 2 x 1½	60.3 x 60.3 x 48.3 2.375 x 2.375 x 1.900	221M02015*	82.6 3.25	1.2 2.7	-	-	-
65 x 65 x 50 2½ x 2½ x 2	73.0 x 73.0 x 60.3 2.875 x 2.875 x 2.375	221M02520*	95.3 3.75	1.9 4.2	-	-	-
65 x 65 x 40 76,1mm x 76,1mm x 1½	76.1 x 76.1 x 48.3 3.000 x 3.000 x 1.900	221M02615*	95.3 3.75	2.0 4.5	-	-	-
65 x 65 x 50 76,1mm x 76,1mm x 2	76.1 x 76.1 x 60.3 3.000 x 3.000 x 2.375	221M02620*	95.3 3.75	2.0 4.3	-	-	-
80 x 80 x 25 3 x 3 x 1	88.9 x 88.9 x 33.7 3.500 x 3.500 x 1.315	221M03010*	108.0 4.25	2.5 5.6	-	-	-
80 x 80 x 40 3 x 3 x 1½	88.9 x 88.9 x 48.3 3.500 x 3.500 x 1.900	-	-	-	321F03015*	108.0 4.25	2.5 5.6
80 x 80 x 50 3 x 3 x 2	88.9 x 88.9 x 60.3 3.500 x 3.500 x 2.375	221M03020*	108.0 4.25	2.7 6.0	-	-	-
80 x 80 x 65 3 x 3 x 2½	88.9 x 88.9 x 73.0 3.500 x 3.500 x 2.875	221M03025*	108.0 4.25	2.8 6.2	-	-	-
80 x 80 x 65 3 x 3 x 76,1mm	88.9 x 88.9 x 76.1 3.500 x 3.500 x 3.000	221M03026*	108.0 4.25	2.7 6.0	-	-	-
100 x 100 x 50 4 x 4 x 2	114.3 x 114.3 x 60.3 4.500 x 4.500 x 2.375	221M04220*	127.0 5.00	4.1 9.1	-	-	-
100 x 100 x 65 4 x 4 x 2½	114.3 x 114.3 x 73.0 4.500 x 4.500 x 2.875	221M04225*	127.0 5.00	4.3 9.5	-	-	-
100 x 100 x 65 4 x 4 x 76,1mm	114.3 x 114.3 x 76.1 4.500 x 4.500 x 3.000	221M04226*	127.0 5.00	4.3 9.5	-	-	-
100 x 100 x 80 4 x 4 x 3	114.3 x 114.3 x 88.9 4.500 x 4.500 x 3.500	221M04230*	127.0 5.00	4.4 9.7	-	-	-
125 x 125 x 80 139,7 x 139,7 x 76,1mm	139.7 x 139.7 x 76.1 5.500 x 5.500 x 3.000	-	-	-	321F05226*	139.7 5.50	6.6 14.5
125 x 125 x 80 139,7 x 139,7mm x 3	139.7 x 139.7 x 88.9 5.500 x 5.500 x 3.500	221M05230*	139.7 5.50	5.8 12.7	-	-	-

Figures 221 & 321 Reducing Tees

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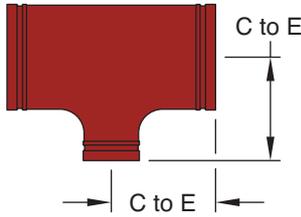


Figure 221 Reducing Tee
Cast

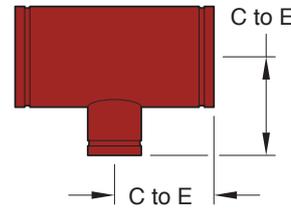


Figure 321 Reducing Tee
Fabricated

Pipe Size		Figure 221 - Cast			Figure 321 - Fabricated		
Nominal mm Inches	O.D. mm Inches	Part Number	C to E mm Inches	Approx. Weight Kg. Lbs.	Part Number	C to E mm Inches	Approx. Weight Kg. Lbs.
125 x 125 x 100 139,7 x 139,7mm x 4	139.7 x 139.7 x 114.3 5.500 x 5.500 x 4.500	221M05242*	139.7 5.50	6.1 13.4	-	-	-
125 x 125 x 65 5 x 5 x 2½	141.3 x 141.3 x 73.0 5.563 x 5.563 x 2.875	-	-	-	321F05325*	139.7 5.50	6.4 14.0
125 x 125 x 80 5 x 5 x 3	141.3 x 141.3 x 88.9 5.563 x 5.563 x 3.500	-	-	-	321F05330*	139.7 5.50	6.5 14.3
125 x 125 x 100 5 x 5 x 4	141.3 x 141.3 x 114.3 5.563 x 5.563 x 4.500	-	-	-	321F05342X	139.7 5.50	6.7 14.8
150 x 150 x 50 165,1 x 165,1mm x 2	165.1 x 165.1 x 60.3 6.500 x 6.500 x 2.375	-	-	-	321F06220*	165.1 6.50	11.9 26.2
150 x 150 x 65 165,1 x 165,1 x 76,1mm	165.1 x 165.1 x 76.1 6.500 x 6.500 x 3.000	-	-	-	321F06226*	165.1 6.50	12.1 26.7
150 x 150 x 80 165,1 x 165,mm x 3	165.1 x 165.1 x 88.9 6.500 x 6.500 x 3.500	221M06230*	165.1 6.50	8.2 18.0	-	-	-
150 x 150 x 100 165,1 x 165,mm x 4	165.1 x 165.1 x 114.3 6.500 x 6.500 x 4.500	221M06242*	165.1 6.50	8.9 19.5	-	-	-
150 x 150 x 50 6 x 6 x 2	168.3 x 168.3 x 60.3 6.625 x 6.625 x 2.375	221M06320*	165.1 6.50	8.8 19.4	-	-	-
150 x 150 x 65 6 x 6 x 2½	168.3 x 168.3 x 73.0 6.625 x 6.625 x 2.875	221M06325*	165.1 6.50	9.8 21.2	-	-	-
150 x 150 x 65 6 x 6 x 76,1mm	168.3 x 168.3 x 76.1 6.625 x 6.625 x 3.000	221M06326*	165.1 6.50	9.8 21.2	-	-	-
150 x 150 x 80 6 x 6 x 3	168.3 x 168.3 x 88.9 6.625 x 6.625 x 3.500	221M06330*	165.1 6.50	9.5 21.0	-	-	-
150 x 150 x 100 6 x 6 x 4	168.3 x 168.3 x 114.3 6.625 x 6.625 x 4.500	221M06342*	165.1 6.50	9.9 21.8	-	-	-
150 x 150 x 125 6 x 6 x 139,7mm	168.3 x 168.3 x 139.7 6.625 x 6.625 x 5.500	221M06352*	165.1 6.50	10.4 23.0	-	-	-
200 x 200 x 100 8 x 8 x 4	219.1 x 219.1 x 114.1 8.625 x 8.625 x 4.500	221A08042*	196.9 7.75	16.9 37.2	-	-	-
200 x 200 x 125 8 x 8 x 139,7mm	219.1 x 219.1 x 139.7 8.625 x 8.625 x 5.500	221M08052*	196.9 7.75	17.1 37.7	-	-	-
200 x 200 x 150 8 x 8 x 165,1mm	219.1 x 219.1 x 165.1 8.625 x 8.625 x 6.500	221M08062*	196.9 7.75	17.1 37.7	-	-	-
200 x 200 x 150 8 x 8 x 6	219.1 x 219.1 x 168.3 8.625 x 8.625 x 6.625	221A08063*	196.9 7.75	17.0 37.4	-	-	-
250 x 250 x 50 10 x 10 x 2	273.0 x 273.0 x 60.3 10.750 x 10.750 x 2.375	-	-	-	321T01120*	228.0 8.98	29.0 63.9
250 x 250 x 80 10 x 10 x 3	273.0 x 273.0 x 88.9 10.750 x 10.750 x 3.500	-	-	-	321T01130*	228.0 8.98	29.0 63.9
250 x 250 x 100 10 x 10 x 4	273.0 x 273.0 x 114.3 10.750 x 10.750 x 4.500	221M01142*	228.6 9.00	29.9 65.9	321T01142*	228.0 8.98	29.0 63.9
250 x 250 x 125 10 x 10 x 139,7mm	273.0 x 273.0 x 139.7 10.750 x 10.750 x 5.500	-	-	-	321F01152*	228.6 9.00	26.2 57.8

Grooved
Fittings

Figures 221 & 321 Reducing Tees

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Tech Data Sheet: G180

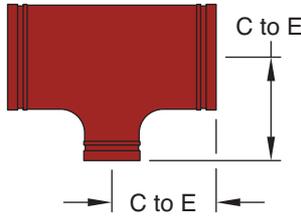


Figure 221 Reducing Tee
Cast

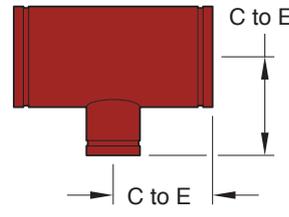


Figure 321 Reducing Tee
Fabricated

Pipe Size		Figure 221 - Cast			Figure 321 - Fabricated		
Nominal mm Inches	O.D. mm Inches	Part Number	C to E mm Inches	Approx. Weight Kg. Lbs.	Part Number	C to E mm Inches	Approx. Weight Kg. Lbs.
250 x 250 x 150 10 x 10 x 165,1mm	273.0 x 273.0 x 165.1 10.750 x 10.750 x 6.500	-	-	-	321F01162*	228.6 9.00	26.2 57.8
250 x 250 x 150 10 x 10 x 6	273.0 x 273.0 x 168.3 10.750 x 10.750 x 6.625	221M01163*	228.6 9.00	30.8 67.9	321T01163*	228.0 8.98	29.0 63.9
250 x 250 x 200 10 x 10 x 8	273.0 x 273.0 x 219.1 10.750 x 10.750 x 8.625	221M01180*	228.6 9.00	31.8 70.1	321T01180*	228.0 8.98	29.0 63.9
300 x 300 x 80 12 x 12 x 3	323.9 x 323.9 x 88.9 12.750 x 12.750 x 3.500	-	-	-	321T01330*	253.0 9.96	40.0 88.2
300 x 300 x 100 12 x 12 x 4	323.9 x 323.9 x 114.3 12.750 x 12.750 x 4.500	-	-	-	321T01342*	253.0 9.96	40.0 88.2
300 x 300 x 125 12 x 12 x 139,7mm	323.9 x 323.9 x 139.7 12.750 x 12.750 x 5.500	-	-	-	321F01352*	254.0 10.00	40.0 88.2
300 x 300 x 150 12 x 12 x 165,1mm	323.9 x 323.9 x 165.1 12.750 x 12.750 x 6.500	-	-	-	321F01362*	254.0 10.00	36.7 80.9
300 x 300 x 150 12 x 12 x 6	323.9 x 323.9 x 168.3 12.750 x 12.750 x 6.625	-	-	-	321T01363*	253.0 9.96	40.0 88.2
300 x 300 x 200 12 x 12 x 8	323.9 x 323.9 x 219.1 12.750 x 12.750 x 8.625	-	-	-	321T01380*	253.0 9.96	40.0 88.2
300 x 300 x 250 12 x 12 x 10	323.9 x 323.9 x 273.0 12.750 x 12.750 x 10.750	-	-	-	321T01311*	253.0 9.96	40.0 88.2
350 x 350 x 100 14 x 14 x 4	355.6 x 355.6 x 114.3 14.000 x 14.000 x 4.500	-	-	-	321T01442*	279.4 11.00	46.9 103.3
350 x 350 x 150 14 x 14 x 6	355.6 x 355.6 x 168.3 14.000 x 14.000 x 6.625	-	-	-	321T01463*	380.0 14.96	45.2 99.6
350 x 350 x 200 14 x 14 x 8	355.6 x 355.6 x 219.1 14.000 x 14.000 x 8.625	-	-	-	321T01480*	380.0 14.96	45.2 99.6
350 x 350 x 250 14 x 14 x 10	355.6 x 355.6 x 273.0 14.000 x 14.000 x 10.750	-	-	-	321T01411*	380.0 14.96	45.2 99.6
350 x 350 x 300 14 x 14 x 12	355.6 x 355.6 x 323.9 14.000 x 14.000 x 12.750	-	-	-	321T01413*	380.0 14.96	45.2 99.6
400 x 400 x 100 16 x 16 x 4	406.4 x 406.4 x 114.3 16.000 x 16.000 x 4.500	-	-	-	321T01642*	406.0 15.98	59.2 130.5
400 x 400 x 150 16 x 16 x 6	406.4 x 406.4 x 168.3 16.000 x 16.000 x 6.625	-	-	-	321T01663*	406.0 15.98	59.2 130.5
400 x 400 x 200 16 x 16 x 8	406.4 x 406.4 x 219.1 16.000 x 16.000 x 8.625	-	-	-	321T01680*	406.0 15.98	59.2 130.5
400 x 400 x 250 16 x 16 x 10	406.4 x 406.4 x 273.0 16.000 x 16.000 x 10.750	-	-	-	321T01611*	406.0 15.98	59.2 130.5
400 x 400 x 300 16 x 16 x 12	406.4 x 406.4 x 323.9 16.000 x 16.000 x 12.750	-	-	-	321T01613*	406.0 15.98	59.2 130.5
400 x 400 x 350 16 x 16 x 14	406.4 x 406.4 x 355.6 16.000 x 16.000 x 14.000	-	-	-	321T01614*	406.0 15.98	59.2 130.5
450 x 450 x 150 18 x 18 x 6	457.2 x 457.2 x 168.3 18.000 x 18.000 x 6.625	-	-	-	321T01863*	431.0 16.97	85.0 187.4

Figures 221 & 321 Reducing Tees

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Tech Data Sheet: G180

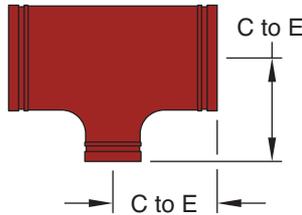


Figure 221 Reducing Tee
Cast

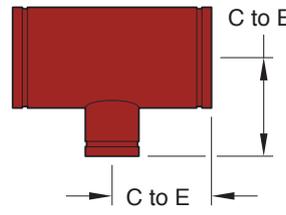


Figure 321 Reducing Tee
Fabricated

Pipe Size		Figure 221 - Cast			Figure 321 - Fabricated		
Nominal mm Inches	O.D. mm Inches	Part Number	C to E mm Inches	Approx. Weight Kg. Lbs.	Part Number	C to E mm Inches	Approx. Weight Kg. Lbs.
450 x 450 x 200 18 x 18 x 8	457.2 x 457.2 x 219.1 18.000 x 18.000 x 8.625	-	-	-	321T01880*	431.0 16.97	85.0 187.4
450 x 450 x 250 18 x 18 x 10	457.2 x 457.2 x 273.0 18.000 x 18.000 x 10.750	-	-	-	321T01811*	431.0 16.97	85.0 187.4
450 x 450 x 300 18 x 18 x 12	457.2 x 457.2 x 323.9 18.000 x 18.000 x 12.750	-	-	-	321T01813*	431.0 16.97	85.0 187.4
450 x 450 x 350 18 x 18 x 14	457.2 x 457.2 x 355.6 18.000 x 18.000 x 14.000	-	-	-	321T01814*	431.0 16.97	85.0 187.4
450 x 450 x 400 18 x 18 x 16	457.2 x 457.2 x 406.4 18.000 x 18.000 x 16.000	-	-	-	321T01816*	431.0 16.97	85.0 187.4
500 x 500 x 150 20 x 20 x 6	508.0 x 508.0 x 168.3 20.000 x 20.000 x 6.625	-	-	-	321T02163*	558.0 21.97	120.0 264.6
500 x 500 x 200 20 x 20 x 8	508.0 x 508.0 x 219.1 20.000 x 20.000 x 8.625	-	-	-	321T02180*	558.0 21.97	120.0 264.6
500 x 500 x 250 20 x 20 x 10	508.0 x 508.0 x 273.0 20.000 x 20.000 x 10.750	-	-	-	321T02111*	558.0 21.97	120.0 264.6
500 x 500 x 300 20 x 20 x 12	508.0 x 508.0 x 323.9 20.000 x 20.000 x 12.750	-	-	-	321T02113*	558.0 21.97	120.0 264.6
500 x 500 x 350 20 x 20 x 14	508.0 x 508.0 x 355.6 20.000 x 20.000 x 14.000	-	-	-	321T02114*	558.0 21.97	120.0 264.6
500 x 500 x 400 20 x 20 x 16	508.0 x 508.0 x 406.4 20.000 x 20.000 x 16.000	-	-	-	321T02116*	558.0 21.97	120.0 264.6
500 x 500 x 450 20 x 20 x 18	508.0 x 508.0 x 457.2 20.000 x 20.000 x 18.000	-	-	-	321T02118*	558.0 21.97	120.0 264.6
600 x 600 x 200 24 x 24 x 8	609.6 x 609.6 x 219.1 24.000 x 24.000 x 8.625	-	-	-	321T02480*	558.0 21.97	162.0 357.1
600 x 600 x 250 24 x 24 x 10	609.6 x 609.6 x 273.0 24.000 x 24.000 x 10.750	-	-	-	321T02411*	558.0 21.97	162.0 357.1
600 x 600 x 300 24 x 24 x 12	609.6 x 609.6 x 323.9 24.000 x 24.000 x 12.750	-	-	-	321T02413*	558.0 21.97	162.0 357.1
600 x 600 x 350 24 x 24 x 14	609.6 x 609.6 x 355.6 24.000 x 24.000 x 14.000	-	-	-	321T02414*	558.0 21.97	162.0 357.1
600 x 600 x 400 24 x 24 x 16	609.6 x 609.6 x 406.4 24.000 x 24.000 x 16.000	-	-	-	321T02416*	558.0 21.97	162.0 357.1
600 x 600 x 450 24 x 24 x 18	609.6 x 609.6 x 457.2 24.000 x 24.000 x 18.000	-	-	-	321T02418*	558.0 21.97	162.0 357.1
600 x 600 x 500 24 x 24 x 20	609.6 x 609.6 x 508.0 24.000 x 24.000 x 20.000	-	-	-	321T02421*	558.0 21.97	162.0 357.1

* = 1 for red paint finish, 2 for hot dipped galvanised finish

For information on alternative sizes, contact a GRINNELL Sales Representative.

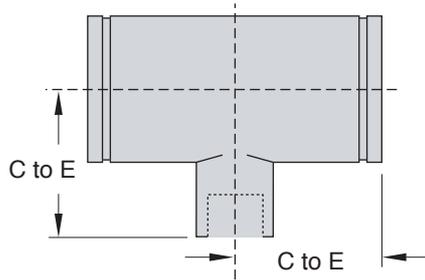
See page 39 for fitting specifications.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Grooved
Fittings

Figure 322 Reducing Tees (Groove x Groove x Female BSP Thread)

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Grooved
Fittings

Part Number	Pipe Size		C to GE & C to TE mm Inches	Approx. Weight Kg. Lbs.
	Nominal mm Inches	O.D. mm Inches		
322F020202	50 x 50 x 50	60.3 x 60.3 x 60.3 ISO R7	82.6	1.2
	2 x 2 x 2	2.375 x 2.375 x 2.375	3.25	2.6
322F026202	65 x 65 x 50	76.1 x 76.1 x 60.3 ISO R7	95.2	1.8
	76.1 x 76.1mm x 2	3.000 x 3.000 x 2.375	3.75	4.0
322F026252	65 x 65 x 50	76.1 x 76.1 x 76.1 ISO R7	95.2	1.9
	76.1 x 76.1 x 76.1mm	3.000 x 3.000 x 3.000	3.75	4.2
322F030202	80 x 80 x 50	88.9 x 88.9 x 60.3 ISO R7	108.0	2.2
	3 x 3 x 2	3.500 x 3.500 x 2.375	4.25	4.9
322F030252	80 x 80 x 65	88.9 x 88.9 x 73.0 ISO R7	108.0	2.3
	3 x 3 x 2 1/2	3.500 x 3.500 x 2.875	4.25	5.1
322F042202	100 x 100 x 50	114.3 x 114.3 x 60.3 ISO R7	127.0	2.6
	4 x 4 x 2	4.500 x 4.500 x 2.375	5.00	5.7
322F042262	100 x 100 x 65	114.3 x 114.3 x 76.1 ISO R7	127.0	2.8
	4 x 4 x 76.1mm	4.500 x 4.500 x 3.00	5.00	6.2

Only available in hot dipped galvanised finish

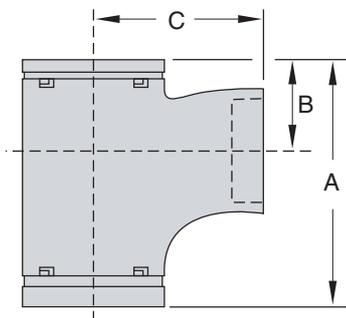
For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 39 for fitting specifications.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Figure 222 Hydrant Tee (Groove x Groove X Female BSP Thread)

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Part Number	Pipe Size		Hydrant Outlet ISO	Max. Working Pressure psi Bar	A mm In.	B mm In.	C mm In.	Approx. Weight Kg. Lbs.
	Nominal Size DN In.	Pipe OD mm In.						
222V42262	100	114.3	R7	20.7	190	70	133	4.6
	4	4.500	DN65	300	7.48	2.76	5.24	10.1

Available in hot dipped galvanising only.

See page 39 for fitting specifications.

For information on alternative sizes, contact a GRINNELL Sales Representative.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Figures 250 & 350 Concentric Reducers

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Tech Data Sheet: G180

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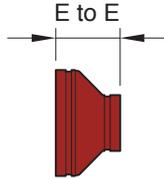


Figure 250
Concentric Reducer Cast

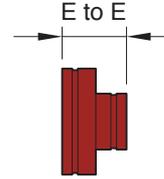


Figure 350
Concentric Reducer Fabricated

Pipe Size		Figure 250 - Cast			Figure 350 - Fabricated		
Nominal DN In.	O.D. mm In.	Part Number	E to E mm In.	Approx. Weight kg Lbs.	Part Number	E to E mm In.	Approx. Weight kg Lbs.
32 x 25 1-1/4 x 1	42.4 x 33.7 1.660 x 1.315	250M01210*	63.5 2.50	0.3 0.7	-	-	-
40 x 25 1-1/2 x 1	48.3 x 33.7 1.900 x 1.315	250M01510*	63.5 2.50	0.3 0.7	-	-	-
40 x 32 1-1/2 x 1-1/4	48.3 x 42.4 1.900 x 1.660	250A01512*	63.5 2.50	0.3 0.8	-	-	-
50 x 25 2 x 1	60.3 x 33.7 2.375 x 1.315	250M02010*	63.5 2.50	0.4 0.9	-	-	-
50 x 32 2 x 1-1/4	60.3 x 42.4 2.375 x 1.660	250M02012*	63.5 2.50	0.4 0.9	-	-	-
50 x 40 2 x 1-1/2	60.3 x 48.3 2.375 x 1.900	250M02015*	63.5 2.50	0.5 1.0	-	-	-
65 x 25 2-1/2 x 1	73.0 x 33.7 2.875 x 1.315	-	-	-	350F02610*	63.5 2.50	0.5 1.2
65 x 50 2-1/2 x 2	73.0 x 60.3 2.875 x 2.375	250M02520*	63.5 2.50	0.6 1.3	-	-	-
65 x 32 76.1mm x 1-1/4	76.1 x 42.4 3.000 x 1.660	250M02612*	63.5 2.50	0.6 1.4	-	-	-
65 x 40 76.1mm x 1-1/2	76.1 x 48.3 3.000 x 1.900	250M02615*	63.5 2.50	0.6 1.4	-	-	-
65 x 50 76.1mm x 2	76.1 x 60.3 3.000 x 2.375	250M02620*	63.5 2.50	0.7 1.5	-	-	-
80 x 40 3 x 1-1/2	88.9 x 48.3 3.500 x 1.900	250A03015*	63.5 2.50	0.8 1.8	-	-	-
80 x 50 3 x 2	88.9 x 60.3 3.500 x 2.375	250M03020*	63.5 2.50	0.8 1.7	-	-	-
80 x 65 3 x 2-1/2	88.9 x 73.0 3.500 x 2.875	250M03025*	63.5 2.50	0.8 1.7	-	-	-
80 x 65 3 x 76.1mm	88.9 x 76.1 3.500 x 3.000	250M03026*	63.5 2.50	0.9 2.0	-	-	-
100 x 50 4 x 2	114.3 x 60.3 4.500 x 2.375	250M04220*	76.2 3.00	1.1 2.4	-	-	-
100 x 65 4 x 2-1/2	114.3 x 73.0 4.500 x 2.875	250M04225*	76.2 3.00	1.2 2.7	-	-	-
100 x 65 4 x 76.1mm	114.3 x 76.1 4.500 x 3.000	250M04226*	76.2 3.00	1.5 3.2	-	-	-
100 x 80 4 x 3	114.3 x 88.9 4.500 x 3.500	250M04230*	76.2 3.00	1.3 2.8	-	-	-
100 x 100 4 x 108.0mm	114.3 x 108.0 4.500 x 4.252	-	-	-	350F04241*	140.0 5.51	1.5 3.3
125 x 80 139.7mm x 3	139.7 x 88.9 5.500 x 3.500	250M05230*	88.9 3.50	1.9 4.2	-	-	-
125 x 100 139.7mm x 4	139.7 x 114.3 5.500 x 4.500	250M05242*	88.9 3.50	2.0 4.4	-	-	-
125 x 100 5 x 4	141.3 x 114.3 5.563 x 4.500	250M05342*	88.9 3.50	2.0 4.4	-	-	-
150 x 80 165.1mm x 3	165.1 x 88.9 6.500 x 3.500	250M06230*	101.6 4.00	2.5 5.5	-	-	-
150 x 100 165.1mm x 4	165.1 x 114.3 6.500 x 4.500	250M06242*	101.6 4.00	2.7 6.0	-	-	-

Grooved
Fittings

Figures 250 & 350 Concentric Reducers

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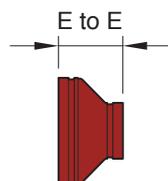


Figure 250
Cast Concentric
Reducer

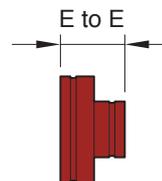


Figure 350
Fabricated Concentric
Reducer

Pipe Size		Figure 250 - Cast			Figure 350 - Fabricated		
Nominal DN In.	O.D. mm In.	Part Number	E to E mm In.	Approx. Weight kg Lbs.	Part Number	E to E mm In.	Approx. Weight kg Lbs.
150 x 125 165.1 x 139.7mm	165.1 x 139.7 6.500 x 5.500	250M06252*	101.6 4.00	2.5 5.6	-	-	-
150 x 50 6 x 2	168.3 x 60.3 6.625 x 2.375	250M06320*	101.6 4.00	2.7 6.1	-	-	-
150 x 65 6 x 76.1mm	168.3 x 76.1 6.625 x 3.000	250M06326*	101.6 4.00	2.7 6.1	-	-	-
150 x 80 6 x 3	168.3 x 88.9 6.625 x 3.500	250A06330*	101.6 4.00	2.6 5.8	-	-	-
150 x 100 6 x 4	168.3 x 114.3 6.625 x 4.500	250M06342*	101.6 4.00	2.7 6.0	-	-	-
150 x 125 6 x 139.7mm	168.3 x 139.7 6.625 x 5.500	250M06352*	101.6 4.00	2.3 6.3	-	-	-
150 x 125 6 x 5	168.3 x 141.3 6.625 x 5.563	250M06353*	101.6 4.00	2.8 6.2	-	-	-
150 x 125 6 x 159.0mm	168.3 x 159.0 6.625 x 6.260	-	-	-	350F06361*	140.0 5.00	3.2 7.1
150 x 150 6 x 165.1mm	168.3 x 165.1 6.625 x 6.500	-	-	-	350F06362*	127.0 5.00	5.5 12.1
200 x 100 8 x 4	219.1 x 114.3 8.625 x 4.500	250A08042*	127.0 5.00	4.9 10.7	-	-	-
200 x 125 8 x 139.7mm	219.1 x 139.7 8.625 x 5.500	250M08052*	127.0 5.00	4.5 10.0	-	-	-
200 x 125 8 x 5	219.1 x 141.3 8.625 x 5.563	-	127.0 5.00	4.9 10.8	350F08053*	-	-
200 x 150 8 x 165.1mm	219.1 x 165.1 8.625 x 6.500	250M08062*	127.0 5.00	5.0 11.0	-	-	-
200 x 150 8 x 6	219.1 x 168.3 8.625 x 6.625	250A08063*	127.0 5.00	5.1 11.3	-	-	-
250 x 100 10 x 4	273.0 x 114.3 10.750 x 4.500	-	-	-	350F01142*	152.4 6.00	9.3 20.5
250 x 125 10 x 139.7mm	273.0 x 139.7 10.750 x 5.500	-	-	-	350F01152*	152.4 6.00	9.1 20.1
250 x 150 10 x 165.1mm	273.0 x 165.1 10.750 x 6.500	250M01162*	152.4 6.00	8.0 17.8	-	-	-
250 x 150 10 x 6	273.0 x 168.3 10.750 x 6.625	250A01163*	152.4 6.00	7.4 16.3	-	-	-
250 x 200 10 x 8	273.0 x 219.1 10.750 x 8.625	250A01180*	152.4 6.00	8.3 18.3	-	-	-
300 x 100 12 x 4	323.9 x 114.3 12.750 x 4.500	-	-	-	350F01342*	177.8 7.00	12.5 27.5
300 x 150 12 x 165.1mm	323.9 x 165.1 12.750 x 6.500	-	-	-	350F01362*	303.0 7.00	11.3 24.9
300 x 150 12 x 6	323.9 x 168.3 12.750 x 6.625	-	-	-	350F01363*	177.8 7.00	12.7 28.1
300 x 200 12 x 8	323.9 x 219.1 12.750 x 8.625	250A01380*	177.8 7.00	11.7 25.8	-	-	-
300 x 250 12 x 10	323.9 x 273.0 12.750 x 10.750	250A01311*	177.8 7.00	12.8 28.2	-	-	-
350 x 150 14 x 165.1mm	355.6 x 165.1 14.000 x 6.500	-	-	-	350T01462*	330.2 13.0	24.6 54.3
350 x 150 14 x 6	355.6 x 168.3 14.000 x 6.625	-	-	-	350T01463*	380.0 14.96	26.4 58.2
350 x 200 14 x 8	355.6 x 219.1 14.000 x 8.625	-	-	-	350T01480*	330.2 13.0	24.7 54.5

Figures 250 & 350 Concentric Reducers

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Tech Data Sheet: G180

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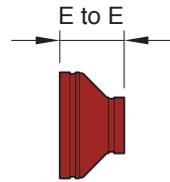


Figure 250
Cast Concentric
Reducer

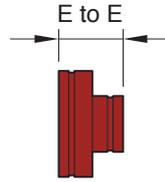


Figure 350
Fabricated Concentric
Reducer

Pipe Size		Figure 250 - Cast			Figure 350 - Fabricated		
Nominal DN In.	O.D. mm In.	Part Number	E to E mm In.	Approx. Weight kg Lbs.	Part Number	E to E mm In.	Approx. Weight kg Lbs.
350 x 250	355.6 x 273.0	-	—	—	350T01411*	380.0	27.0
14 x 10	14.000 x 10.750	-	—	—		14.96	59.5
350 x 300	355.6 x 323.9	-	—	—	350T01413*	380.0	27.3
14 x 12	14.000 x 12.750	-	—	—		14.96	60.2
400 x 200	406.4 x 219.1	-	—	—	350T01680*	406.0	31.1
16 x 8	16.000 x 8.625	-	—	—		15.98	68.6
400 x 250	406.4 x 273.0	-	—	—	350T01611*	406.0	31.1
16 x 10	16.000 x 10.750	-	—	—		15.98	68.6
400 x 300	406.4 x 323.9	-	—	—	350T01613*	406.0	31.8
16 x 12	16.000 x 12.750	-	—	—		15.98	70.1
400 x 350	406.4 x 355.6	-	—	—	350T01614*	406.0	32.3
16 x 14	16.000 x 14.000	-	—	—		15.98	71.2
450 x 300	457.2 x 323.9	-	—	—	350T01813*	381.0	37.9
18 x 12	18.000 x 12.750	-	—	—		15.0	83.6
450 x 350	457.2 x 355.6	-	—	—	350T01814*	431.0	38.2
18 x 14	18.000 x 14.000	-	—	—		16.97	84.2
450 x 400	457.2 x 406.4	-	—	—	350T01816*	381.0	39.6
18 x 16	18.000 x 16.000	-	—	—		15.0	87.2
500 x 250	508.0 x 273.0	-	—	—	350T02111*	508.0	56.6
20 x 10	20.000 x 10.750	-	—	—		20.0	124.7
500 x 300	508.0 x 323.9	-	—	—	350T02113*	508.0	56.6
20 x 12	20.000 x 12.750	-	—	—		20.0	124.7
500 x 350	508.0 x 355.6	-	—	—	350T02114*	508.0	58.5
20 x 14	20.000 x 14.000	-	—	—		20.0	129.0
500 x 400	508.0 x 406.4	-	—	—	350T02116*	558.0	56.4
20 x 16	20.000 x 16.000	-	—	—		21.97	124.3
500 x 450	508.0 x 457.2	-	—	—	350T02118*	508.0	60.5
20 x 18	20.000 x 18.000	-	—	—		20.0	133.4
600 x 250	609.6 x 273.0	-	—	—	350T02411*	508.0	67.6
24 x 10	24.000 x 10.750	-	—	—		20.0	149.1
600 x 300	609.6 x 323.9	-	—	—	350T02413*	508.0	68.2
24 x 12	24.000 x 12.750	-	—	—		20.0	150.4
600 x 350	609.6 x 355.6	-	—	—	350T02414*	508.0	68.8
24 x 14	24.000 x 14.000	-	—	—		20.0	151.6
600 x 400	609.6 x 406.4	-	—	—	350T02416*	508.0	69.3
24 x 16	24.000 x 16.000	-	—	—		20.0	152.8
600 x 450	609.6 x 457.2	-	—	—	350T02418*	508.0	69.9
24 x 18	24.000 x 18.000	-	—	—		20.0	154.1
600 x 500	609.6 x 508.0	-	—	—	350T02421*	508.0	70.5
24 x 20	24.000 x 20.000	-	—	—		20.0	155.5

* = 1 for red paint finish, 2 for hot dipped galvanised finish

◆ Contact GRINNELL Sales Representative for dimension details.

For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 39 for fitting specifications.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Grooved
Fittings

Figures 251 & 351 Eccentric Reducers

(Page 1 of 3)

Tech Data Sheet: G180

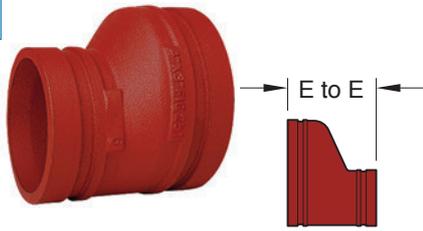


Figure 251
Cast Eccentric Reducer

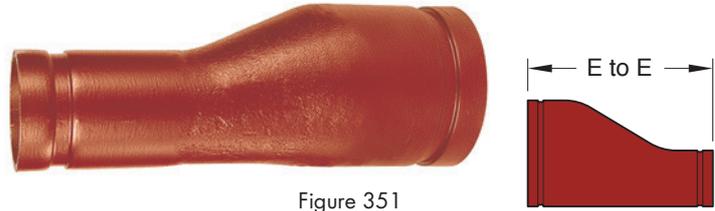


Figure 351
Fabricated Eccentric Reducer
(Segment Welded)

Pipe Size		Figure 251 - Cast			Figure 351 - Fabricated		
Nominal mm Inches	O.D. mm Inches	Part Number	E to E mm Inches	Approx. Weight Kg. Lbs.	Part Number	E to E mm Inches	Approx. Weight Kg. Lbs.
50 x 25 2 x 1	60.3 x 33.7 2.375 x 1.315	-	-	-	351F02010*	223.6 9.0	1.0 2.2
50 x 32 2 x 1 1/4	60.3 x 42.4 2.375 x 1.660	-	-	-	351F02012*	228.6 9.0	1.1 2.4
50 x 40 2 x 1 1/2	60.3 x 48.3 2.375 x 1.900	-	-	-	351F02015*	228.6 9.0	1.1 2.5
65 x 40 76,1mm x 1 1/2	76.1 x 48.3 3.000 x 1.900	-	-	-	351F02615*	241.3 9.5	1.6 3.6
65 x 50 76,1mm x 2	76.1 x 60.3 3.000 x 2.375	-	-	-	351F02620*	241.3 9.5	1.8 4.0
80 x 50 3 x 2	88.9 x 60.3 3.500 x 2.375	-	-	-	351F03020*	241.3 9.5	2.1 4.8
80 x 65 3 x 2 1/2	88.9 x 73.0 3.500 x 2.875	251A03025*	88.9 3.5	1.0 2.2	-	-	-
80 x 65 3 x 76,1mm	88.9 x 76.1 3.500 x 3.000	-	-	-	351F03026*	241.3 9.5	2.8 6.1
100 x 50 4 x 2	114.3 x 60.3 4.500 x 2.375	-	-	-	351F04220*	254.0 10.0	3.1 6.9
100 x 65 4 x 2 1/2	114.3 x 73.0 4.500 x 2.875	251A04225*	101.6 4.0	1.4 3.1	-	-	-
100 x 65 4 x 76,1mm	114.3 x 76.1 4.500 x 3.000	-	-	-	351F04226*	254.0 10.0	3.7 8.2
100 x 80 4 x 3	114.3 x 88.9 4.500 x 3.500	-	-	-	351F04230*	254.0 10.0	3.6 7.9
125 x 80 139.7mm x 3	139.7 x 88.9 5.500 x 3.500	-	-	-	351F05230*	279.4 11.0	5.7 12.6
125 x 100 139.7mm x 4	139.7 x 114.3 5.500 x 4.500	-	-	-	351F05242*	279.4 11.0	5.9 13.0
125 x 100 5 x 4	141.3 x 114.3 5.563 x 4.500	251A05342*	127.5 5.0	2.6 5.7	-	-	-
150 x 50 165,1mm x 2	165.1 x 60.3 6.500 x 2.375	-	-	-	351F06220*	292.1 11.5	6.7 14.8
150 x 80 165,1mm x 3	165.1 x 88.9 6.500 x 3.500	-	-	-	351F06230*	292.1 11.5	6.2 14.7
150 x 100 165,1mm x 4	165.1 x 114.3 6.500 x 4.500	-	-	-	351F06242*	292.1 11.5	7.1 14.9
150 x 100 165,1 x 139.7mm	165.1 x 139.7 6.500 x 5.500	-	-	-	351F06252*	292.1 11.5	7.2 15.9
150 x 50 6 x 2	168.3 x 60.3 6.625 x 2.375	-	-	-	351F06320*	292.1 11.5	5.5 12.2
150 x 80 6 x 3	168.3 x 88.9 6.625 x 3.500	-	-	-	351F06330*	292.1 11.50	6.1 13.5

Figures 251 & 351 Eccentric Reducers

(Page 2 of 3)

Tech Data Sheet: G180

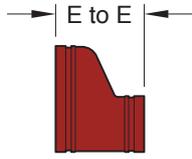


Figure 251
Cast Eccentric Reducer

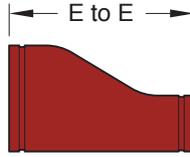


Figure 351
Fabricated Eccentric Reducer
(Segment Welded)

Pipe Size		Figure 251 - Cast			Figure 351 - Fabricated		
Nominal mm Inches	O.D. mm Inches	Part Number	E to E mm Inches	Approx. Weight Kg. Lbs.	Part Number	E to E mm Inches	Approx. Weight Kg. Lbs.
150 x 100 6 x 4	168.3 x 114.3 6.625 x 4.500	-	— —	— —	351F06342*	292.1 11.50	6.7 14.8
150 x 125 6 x 139.7mm	168.3 x 139.7 6.625 x 5.500	-	— —	— —	351F06352*	292.1 11.5	7.2 15.9
150 x 125 6 x 5	168.3 x 141.3 6.625 x 5.563	251A06353*	139.7 5.5	3.7 8.1	-	— —	— —
200 x 80 8 x 3	219.1 x 88.9 8.625 x 3.500	-	— —	— —	351F08030*	304.8 12.0	8.1 17.9
200 x 100 8 x 4	219.1 x 114.3 8.625 x 4.500	-	— —	— —	351F08042*	304.8 12.0	9.8 19.7
200 x 125 8 x 139.7mm	219.1 x 139.7 8.625 x 5.500	-	— —	— —	351F08052*	304.8 12.0	9.7 21.4
200 x 125 8 x 5	219.1 x 141.3 8.625 x 5.563	-	— —	— —	351F08053*	304.8 12.0	9.7 21.4
200 x 150 8 x 165,1mm	219.1 x 165.1 8.625 x 6.500	-	— —	— —	351F08062*	304.8 12.0	10.9 24.0
200 x 150 8 x 6	219.1 x 168.3 8.625 x 6.625	-	— —	— —	351F08063*	304.8 12.0	10.9 24.0
250 x 100 10 x 4	273.0 x 114.3 10.750 x 4.500	-	— —	— —	351F01142*	330.2 13.0	13.5 29.7
250 x 125 10 x 139.7mm	273.0 x 139.7 10.750 x 5.500	-	— —	— —	351F01152*	330.2 13.0	14.4 31.7
250 x 125 10 x 5	273.0 x 141.3 10.750 x 5.563	-	— —	— —	351F01153*	330.2 13.0	14.4 31.7
250 x 150 10 x 165,1mm	273.0 x 165.1 10.750 x 6.500	-	— —	— —	351F01162*	330.2 13.0	15.4 34.0
250 x 150 10 x 6	273.0 x 168.3 10.750 x 6.625	-	— —	— —	351F01163*	330.2 13.0	15.4 34.0
250 x 200 10 x 8	273.0 x 219.1 10.750 x 8.625	-	— —	— —	351F01180*	330.2 13.0	15.6 34.4
300 x 100 12 x 4	323.9 x 114.3 12.750 x 4.500	-	— —	— —	351F01342*	355.6 14.0	20.3 44.8
300 x 150 12 x 165,1mm	323.9 x 165.1 12.750 x 6.500	-	— —	— —	351F01362*	355.6 14.0	20.5 45.2
300 x 150 12 x 6	323.9 x 168.3 12.750 x 6.625	-	— —	— —	351F01363*	355.6 14.0	20.5 45.2
300 x 200 12 x 8	323.9 x 219.1 12.750 x 8.625	-	— —	— —	351F01380*	355.6 14.0	21.6 47.7
300 x 250 12 x 10	323.9 x 273.0 12.750 x 10.750	-	— —	— —	351F01411*	355.6 14.0	23.6 52.0
350 x 150 14 x 165,1mm	355.6 x 165.1 14.000 x 6.500	-	— —	— —	351T01462*	482.6 19.0	35.4 78.0
350 x 150 14 x 6	355.6 x 168.3 14.000 x 6.625	-	— —	— —	351T01463*	482.6 19.0	35.4 78.0
350 x 200 14 x 8	355.6 x 219.1 14.000 x 8.625	-	— —	— —	351T01480*	482.6 19.0	36.3 80.0

Grooved
Fittings

Figures 251 & 351 Eccentric Reducers

(Page 3 of 3)

Tech Data Sheet: G180

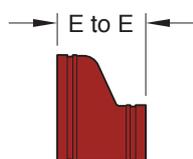


Figure 251
Cast Eccentric Reducer

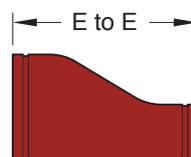


Figure 351
Fabricated Eccentric Reducer
(Segment Welded)

Pipe Size		Figure 251 - Cast			Figure 351 - Fabricated		
Nominal mm Inches	O.D. mm Inches	Part Number	E to E mm Inches	Approx. Weight Kg. Lbs.	Part Number	E to E mm Inches	Approx. Weight Kg. Lbs.
350 x 250	355.6 x 273.0	-	—	—	351T01411*	482.6	38.1
14 x 10	14.000 x 10.750		—	—		19.0	84.0
350 x 300	355.6 x 323.9	-	—	—	351T01413*	380.0	27.3
14 x 12	14.000 x 12.750		—	—		14.96	60.2
400 x 200	406.4 x 219.1	-	—	—	351T01680*	508.0	41.3
16 x 8	16.000 x 8.625		—	—		20.0	91.0
400 x 250	406.4 x 273.0	-	—	—	351T01611*	508.0	43.5
16 x 10	16.000 x 10.750		—	—		20.0	96.0
400 x 300	406.4 x 323.9	-	—	—	351T01613*	406.0	31.8
16 x 12	16.000 x 12.750		—	—		15.98	70.1
400 x 350	406.4 x 355.6	-	—	—	351T01614*	406.0	32.3
16 x 14	16.000 x 14.000		—	—		15.98	71.2
450 x 300	457.2 x 323.9	-	—	—	351T01813*	533.0	51.3
18 x 12	18.000 x 12.750		—	—		21.0	113.0
450 x 350	457.2 x 355.6	-	—	—	351T01814*	533.0	53.1
18 x 14	18.000 x 14.000		—	—		21.0	117.0
450 x 400	457.2 x 406.4	-	—	—	351T01816*	533.0	54.9
18 x 16	18.000 x 16.000		—	—		21.0	121.0
500 x 250	508.0 x 273.0	-	—	—	351T02111*	660.4	65.8
20 x 10	20.000 x 10.750		—	—		26.0	145.0
500 x 300	508.0 x 323.9	-	—	—	351T02113*	660.4	67.6
20 x 12	20.000 x 12.750		—	—		26.0	149.0
500 x 350	508.0 x 355.6	-	—	—	351T02114*	660.4	68.9
20 x 14	20.000 x 14.000		—	—		26.0	152.0
500 x 400	508.0 x 406.4	-	—	—	351T02116*	660.4	70.8
20 x 16	20.000 x 16.000		—	—		26.0	156.0
500 x 450	508.0 x 457.2	-	—	—	351T02118*	660.4	72.6
20 x 18	20.000 x 18.000		—	—		26.0	160.0
600 x 250	609.6 x 273.0	-	—	—	351T02411*	660.4	78.9
24 x 10	24.000 x 10.750		—	—		26.0	147.0
600 x 300	609.6 x 323.9	-	—	—	351T02413*	660.4	81.2
24 x 12	24.000 x 12.750		—	—		26.0	179.0
600 x 350	609.6 x 355.6	-	—	—	351T02414*	660.4	83.5
24 x 14	24.000 x 14.000		—	—		26.0	184.0
600 x 400	609.6 x 406.4	-	—	—	351T02416*	660.4	85.7
24 x 16	24.000 x 16.000		—	—		26.0	189.0
600 x 450	609.6 x 457.2	-	—	—	351T02418*	660.4	88.0
24 x 18	24.000 x 18.000		—	—		26.0	194.0
600 x 500	609.6 x 508.0	-	—	—	351T02421*	660.4	90.3
24 x 20	24.000 x 20.000		—	—		26.0	199.0

* = 1 for red paint finish, 2 for hot dipped galvanised finish

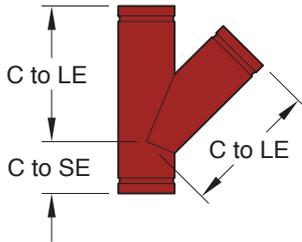
For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 39 for fitting specifications.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Figure 314 45° Laterals

Tech Data Sheet: G180



Grooved
Fittings

Part Number	Pipe Size		C to LE mm Inches	C to SE mm Inches	Approx. Weight Kg. Lbs.
	Nominal mm Inches	O.D. mm Inches			
314F00034*	25	33.7	127.0	57.0	0.7
	1	1.315	5.00	2.24	1.5
314F00042*	32	42.4	146.1	63.5	1.11
	1 ¼	1.660	5.75	2.50	2.4
314F00048*	40	48.3	158.8	69.9	1.6
	1 ½	1.900	6.25	2.75	3.5
314F00060*	50	60.3	177.8	69.9	2.0
	2	2.375	7.00	2.75	4.4
314F00076*	65	76.1	196.9	76.2	4.5
	76,1mm	3.000	7.75	3.00	9.9
314F00089*	80	88.9	215.9	82.6	5.0
	3	3.500	8.50	3.25	11.0
314F00114*	100	114.3	266.7	95.3	8.3
	4	4.500	10.50	3.75	18.3
314F00139*	125	139.7	317.5	102.0	13.6
	139,7mm	5.500	12.50	4.00	30.0
314F00165*	150	165.1	355.6	114.3	21.1
	165,1mm	6.500	14.00	4.50	46.5
314F00168*	150	168.3	355.6	114.3	21.1
	6	6.625	14.00	4.50	46.5
314F00219*	200	219.1	457.2	152.4	37.6
	8	8.625	18.00	6.00	82.9
314F00273*	250	273.0	520.7	165.71	57.4
	10	10.750	20.50	6.50	126.5
314F00324*	300	323.9	584.2	177.8	74.8
	12	12.750	23.00	7.00	164.9

* = 1 for red paint finish, 2 for hot dipped galvanised finish

For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 39 for fitting specifications.

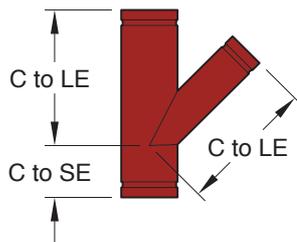
For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Figure 325 45° Reducing Laterals

Tech Data Sheet: G180

10
YEAR
LIMITED
WARRANTY

Grooved
Fittings



Part Number	Pipe Size		C to LE mm Inches	C to SE mm Inches	Approx. Weight Kg. Lbs.
	Nominal mm Inches	O.D. mm Inches			
325F03020*	80 x 50	88.9 x 60.3	215.9	82.6	4.1
	3 x 2	3.500 x 2.375	8.50	3.25	9.0
325F03026*	80 x 76.1	88.9 x 76.1	216.0	83.0	5.2
	3 x 76,1mm	3.500 x 3.000	8.50	3.25	11.5
325F04220*	100 x 50	114.3 x 60.3	266.7	95.3	6.7
	4 x 2	4.500 x 2.375	10.50	3.75	14.7
325F04226*	100 x 65	114.3 x 76.1	267.0	95.0	7.7
	4 x 76,1mm	4.500 x 3.000	10.50	3.75	16.9
325F04230*	100 x 80	114.3 x 88.9	266.7	95.3	7.7
	4 x 3	4.500 x 3.500	10.50	3.75	16.9
325F05220*	125 x 50	139.7 x 60.3	318.1	102.0	10.2
	139,7mm x 2	5.500 x 2.375	12.50	4.00	22.4
325F05230*	125 x 80	139.7 x 88.9	318.0	102.0	12.0
	139,7mm x 3	5.500 x 3.500	12.50	4.00	26.5
325F05242*	125 x 100	139.7 x 114.3	318.0	102.0	13.8
	139,7mm x 4	5.500 x 4.500	12.50	4.00	30.4
325F06220*	150 x 50	165.1 x 60.3	356.0	114.0	15.0
	165,1mm x 2	6.500 x 2.375	14.00	4.50	33.1
325F06230*	150 x 80	165.1 x 88.9	356.0	114.0	16.8
	165,1mm x 3	6.500 x 3.500	14.00	4.50	37.0
325F06242*	150 x 100	165.1 x 114.3	356.0	114.0	18.1
	165,1mm x 4	6.500 x 4.500	14.00	4.50	39.9
325F06252*	150 x 125	165.1 x 139.7	356.0	114.0	20.4
	165,1 x 139,7mm	6.500 x 5.500	14.00	4.50	45.0
325F06320*	150 x 50	168.3 x 60.3	355.6	114.3	14.4
	6 x 2	6.625 x 2.375	14.00	4.50	31.7
325F06330*	150 x 80	168.3 x 88.9	355.6	114.3	15.6
	6 x 3	6.625 x 3.500	14.00	4.50	34.4
325F06342*	150 x 100	168.3 x 114.3	355.6	114.3	16.6
	6 x 4	6.625 x 4.500	14.00	4.50	36.5
325F06352*	150 x 125	168.3 x 139.7	356.0	114.0	20.4
	6 x 139,7mm	6.625 x 5.500	14.00	4.50	45.0
325F08042*	200 x 100	219.1 x 114.1	457.2	152.4	26.7
	8 x 4	8.625 x 4.500	18.00	6.00	58.9
325F08052*	200 x 125	219.1 x 139.7	457.0	152.0	30.8
	8 x 139,7mm	8.625 x 5.500	18.00	6.00	67.9
325F08063*	200 x 150	219.1 x 168.3	457.2	152.4	30.0
	8 x 6	8.625 x 6.625	18.00	6.00	66.1
325F01042*	250 x 100	273.0 x 114.3	520.7	165.1	39.6
	10 x 4	10.750 x 4.500	20.50	6.50	87.3
325F01052*	250 x 125	273.0 x 139.7	521.0	165.0	45.4
	10 x 139,7mm	10.750 x 5.500	20.50	6.50	100.1
325F01063*	250 x 150	273.0 x 168.3	520.7	165.1	43.0
	10 x 6	10.750 x 6.625	20.50	6.50	94.7
325F01080*	250 x 200	273.0 x 219.1	520.7	165.1	45.0
	10 x 8	10.750 x 8.625	20.50	6.50	99.2
325F01242*	300 x 100	323.9 x 114.3	584.2	177.8	54.7
	12 x 4	12.750 x 4.500	23.00	7.00	120.6
325F01263*	300 x 150	323.9 x 168.3	584.2	177.8	58.3
	12 x 6	12.750 x 6.625	23.00	7.00	128.5
325F01280*	300 x 200	323.9 x 219.1	584.2	177.8	60.4
	12 x 8	12.750 x 8.625	23.00	7.00	133.1

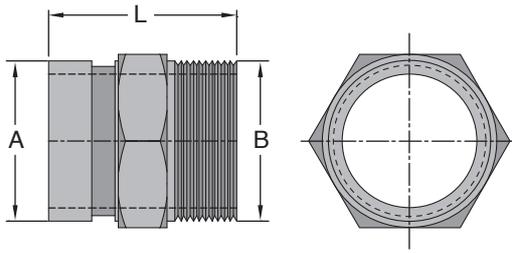
* = 1 for red paint finish, 2 for hot dipped galvanised finish

For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 39 for fitting specifications.

For instructions on part numbers, ordering information, and availability, refer to page 13 or contact a GRINNELL Sales Representative.

Figure 304 Groove x Male BSP Thread Nipple, Machined



10
YEAR
LIMITED
WARRANTY

Part Number	Nominal Size mm Inches	ØA mm Inches	B mm Inches	L mm Inches	Approx. Weight Kg. Lbs.
304H000342	25 1	33.7 1.315	33.2 1.31	55 2.17	0.1 0.2
304H000422	32 1¼	42.4 1.660	41.9 1.65	63 2.48	0.2 0.4
304H000482	40 1½	48.3 1.900	47.8 1.88	59 2.32	0.3 0.7
304H000602	50 2	60.3 2.375	59.6 2.35	68 2.68	0.5 1.1
304H000762	65 76.1mm	76.1 3.000	75.2 2.96	75 2.95	0.8 1.8
304H000892	80 3	88.9 3.500	87.9 3.46	80 3.15	1.4 3.1



Grooved
Fittings

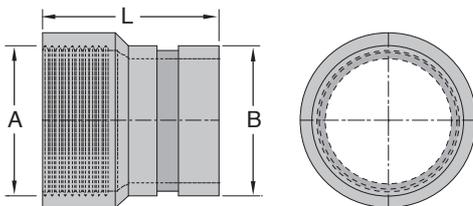
Only available in galvanised finish.

a range of fabricated adaptor nipple; grooved to plain or BSP is also available on request.

Please contact your GRINNELL sales representative or Sales Office for further information
See page 39 for fitting specifications.

For instructions on part numbers, ordering information, and availability, refer to page 13 or
contact a GRINNELL Sales Representative.

Figure 305 Groove x Female BSP Thread Nipple, Machined



10
YEAR
LIMITED
WARRANTY

Part Number	Nominal Size mm Inches	ØA mm Inches	B mm Inches	L mm Inches	Approx. Weight Kg. Lbs.
305H000342	25 1	33.7 1.315	33.2 1.31	50 1.97	0.1 0.2
305H000422	32 1¼	42.4 1.660	41.9 1.65	50 1.97	0.2 0.4
305H000482	40 1½	48.3 1.900	47.8 1.88	50 1.97	0.3 0.7
305H000602	50 2	60.3 2.375	59.6 2.35	100 3.94	0.5 1.1
305H000762	65 76.1mm	76.1 3.000	75.1 2.96	100 3.94	0.8 1.8
305H000892	80 3	88.9 3.500	88.5 3.48	100 3.94	1.2 2.6



Only available in galvanised finish.

For information on alternative sizes, contact a GRINNELL Sales Representative.

See page 39 for fitting specifications.

For instructions on part numbers, ordering information, and availability, refer to page 13 or
contact a GRINNELL Sales Representative.