

## **GRINNELL** **Stainless Steel, Full-Flow Grooved Fittings** **(Americas Only)**

### **General Description**

GRINNELL Stainless Steel, Full-Flow Grooved fittings are made of light-weight, corrosion-resistant Type 304 and 316 stainless steel. The assortment of available fittings provides economical and efficient methods to change direction in, add outlets to, reduce, or cap piping systems.

#### **NOTICE**

*Never remove any piping component or correct or modify any piping deficiencies without first depressurizing and draining the system. Failure to do so may result in serious personal injury, property damage, and/or impaired device performance.*

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

*The GRINNELL Grooved Fittings described herein must be installed and maintained in compliance with this document, in addition to the standards of any authorities having jurisdiction. Failure to do so may result in serious personal injury or impair the performance of these devices.*

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

### **Technical Data**

#### **Approvals**

UL and ULC Listed

#### **⚠ CAUTION**

*Pressure performance values shown for GRINNELL couplings on light-wall (Sch. 5 and Sch. 10) stainless steel pipe are dependent on the use of the required special roll for roll grooving light-wall stainless steel pipe. Failure to utilize the required special roll for roll grooving light-wall stainless steel pipe may result in equipment failure.*

#### **Maximum Working Pressure**

See specific datasheet for rating of coupling in use.

#### **Material**

Type 304 or Type 316 Stainless Steel conforming to ASTM A 403 WPW or ASTM A 403 CR.

Fittings are Schedule 10 wall thickness. For Schedule 40, contact your GRINNELL representative.

### **Ordering Procedure**

Grinnell Mechanical Products, are available through a network of distribution centers. For the nearest distributor, visit [www.grinnell.com](http://www.grinnell.com).

When placing an order, indicate the full product name. Specify quantity, figure number, material (Type 304 or 316 Stainless Steel), and nominal size.

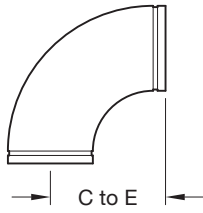
Fittings are Schedule 10 wall thickness. For Schedule 40, contact your GRINNELL sales representative.



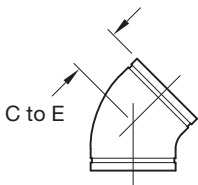
For fire protection pressure rating, listing and approval information, contact your Grinnell representative.



For warranty terms and conditions, visit [www.grinnell.com](http://www.grinnell.com)



**FIGURE 410A**  
**90° ELBOW**



**FIGURE 401A**  
**45° ELBOW**

Nominal Size ANSI Inches DN	Pipe O.D. Inches mm	Figure 410A		Figure 401A	
		Nominal C to E Inches mm	Approx. Weight lb kg	Nominal C to E Inches mm	Approx. Weight lb kg
1 25	1.315 33,4	2.88 73,2	1.0 0,45	2.00 50,8	0.6 0,27
1-1/4 32	1.660 42,4	3.13 79,5	1.0 0,45	2.00 50,8	0.8 0,36
1-1/2 40	1.900 48,3	3.50 88,9	1.0 0,45	3.50 88,9	1.0 0,45
2 50	2.375 60,3	4.50 114,3	1.1 0,50	2.75 69,9	1.2 0,54
2-1/2 65	2.875 73,0	5.00 127,0	1.7 0,77	2.81 71,4	1.7 0,77
3 80	3.500 88,9	4.50 114,3	2.6 1,18	2.00 50,8	1.3 0,59
4 100	4.500 114,3	6.00 152,4	4.7 2,13	2.50 63,5	2.3 1,04
5 125	5.563 141,3	7.50 190,5	8.4 3,81	3.13 79,4	4.2 1,90
6 150	6.625 168,3	9.00 228,6	10.3 4,67	3.75 95,3	5.1 2,31
8 200	8.625 219,1	12.00 304,8	17.6 7,98	5.00 127,0	13.8 6,26
10 250	10.750 273,0	15.00 381,0	49.2 22,32	6.25 158,8	24.6 11,16
12 300	12.750 323,9	18.00 457,2	78.4 35,56	7.50 190,5	39.2 17,78

**NOTES**

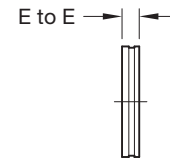
- Dimensions for U.S. and Non-U.S. sourced products are identical unless indicated otherwise.

**FIGURE 1**  
**FIGURE 410A 90° AND FIGURE 401A 45° ELBOW**  
**NOMINAL DIMENSIONS**

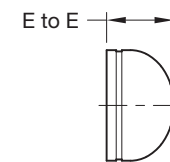
Nominal Size ANSI Inches DN	Pipe O.D. Inches mm	Nominal E to E Inches mm	Approx. Weight lb kg
1 25	1.315 33,4	1.08 27,5	0.2 0,09
1-1/4 32	1.660 42,4	1.08 27,5	0.4 0,09
1-1/2 40	1.900 48,3	1.08 27,5	0.5 0,09
2 50	2.375 60,3	1.08 27,5	0.7 0,09
2-1/2 65	2.875 73,0	1.08 27,5	1.0 0,45
3 80	3.500 88,9	1.08 27,5	2.0 0,91
4 100	4.500 114,3	1.13 28,7	3.1 1,41
5 125	5.563 141,3	3.00 <sup>a</sup> 76,2	1.5 0,68
6 150	6.625 168,3	3.50 <sup>a</sup> 88,9	1.5 0,68
8 200	8.625 219,1	4.00 <sup>a</sup> 101,6	3.1 1,41
10 250	10.750 273,0	5.00 <sup>a</sup> 127,0	6.0 2,72
12 300	12.750 323,9	6.00 <sup>a</sup> 152,4	7.8 3,54

**NOTES**

- a. Dished Cap
- b. General note - Dimensions for U.S. and Non-U.S. sourced products are identical unless indicated otherwise.

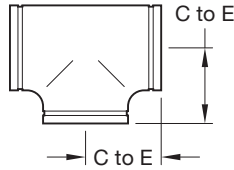


**FIGURE 460A**  
**1 - 4 INCH END CAP**



**FIGURE 460A**  
**5 - 12 INCH END CAP**

**FIGURE 2**  
**FIGURE 460A END CAP**  
**NOMINAL DIMENSIONS**



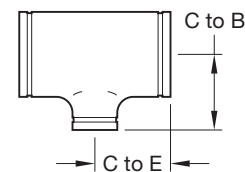
Nominal Size ANSI Inches DN	Pipe O.D. Inches mm	Nominal C to E Inches mm		Approx. Weight lb kg
1 25	1.315 33,4	2.88 73,2		1.0 0,45
1-1/4 32	1.660 42,4	3.38 85,9		1.5 0,68
1-1/2 40	1.900 48,3	3.38 85,9		1.6 0,73
2 50	2.375 60,3	Non-US	2.75 69,9	2.3 1,04
		US	4.00 101,6	1.8 0,82
2-1/2 65	2.875 73,0	Non-US	3.07 78,0	2.2 1,00
		US	4.63 117,6	3.6 1,63
3 80	3.500 88,9	3.77 95,8		3.1 1,41
4 100	4.500 114,3	4.47 113,5		4.9 2,22
5 125	5.563 141,3	5.91 150,1		7.1 3,49
6 150	6.625 168,3	5.91 150,1		11.7 5,31
8 200	8.625 219,1	7.79 197,9		20.0 9,07
10 250	10.750 273,0	8.89 225,8		34.4 15,60
12 300	12.750 323,9	10.39 263,9		52.5 23,81

**NOTES**

- Dimensions for U.S. and Non-U.S. sourced products are identical unless indicated otherwise.

**FIGURE 3**  
**FIGURE 419A TEE**  
**NOMINAL DIMENSIONS**

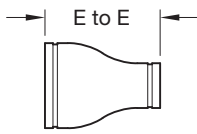
Nominal Size ANSI Inches DN	Pipe O.D. Inches mm	Nominal C to E Inches mm	Nominal C to B Inches mm	Approx. Weight lb kg
1-1/2 x 1-1/2 x 1 40 x 40 x 25	1.900 x 1.900 x 1.315 48,3 x 48,3 x 33,4	3.38 85,9	3.38 85,9	1.6 0,73
1-1/2 x 1-1/2 x 1-1/4 40 x 40 x 32	1.900 x 1.900 x 1.660 48,3 x 48,3 x 42,4	3.38 85,9	3.38 85,9	1.6 0,73
2 x 2 x 1 50 x 50 x 25	2.375 x 2.375 x 1.315 60,3 x 60,3 x 33,4	3.25 82,6	3.38 85,9	2.2 1,00
2 x 2 x 1-1/4 50 x 50 x 32	2.375 x 2.375 x 1.660 60,3 x 60,3 x 42,4	3.25 82,6	3.25 82,6	2.4 1,09
2 x 2 x 1-1/2 50 x 50 x 40	2.375 x 2.375 x 1.900 60,3 x 60,3 x 48,3	2.75 69,9	2.75 69,9	2.4 1,09
2-1/2 x 2-1/2 x 1 65 x 65 x 25	2.875 x 2.875 x 1.315 70,3 x 70,3 x 33,4	3.75 95,3	3.75 95,3	3.1 1,41
2-1/2 x 2-1/2 x 1-1/2 65 x 65 x 40	2.875 x 2.875 x 1.900 70,3 x 70,3 x 48,3	3.75 95,3	3.75 95,3	3.4 1,54
2-1/2 x 2-1/2 x 2 65 x 65 x 50	2.875 x 2.875 x 2.375 70,3 x 70,3 x 60,3	3.07 78,0	3.07 78,0	3.6 1,63
3 x 3 x 1 80 x 80 x 25	3.500 x 3.500 x 1.315 88,9 x 88,9 x 33,4	4.25 108,0	4.25 108,0	4.3 1,95
3 x 3 x 1-1/4 80 x 80 x 32	3.500 x 3.500 x 1.660 88,9 x 88,9 x 42,2	4.25 108,0	4.25 108,0	4.3 1,95
3 x 3 x 1-1/2 80 x 80 x 40	3.500 x 3.500 x 1.900 88,9 x 88,9 x 48,3	4.25 108,0	4.25 108,0	4.4 2,00
3 x 3 x 2 80 x 80 x 50	3.500 x 3.500 x 2.375 88,9 x 88,9 x 60,3	3.77 95,8	3.23 82,0	4.4 2,00
3 x 3 x 2-1/2 80 x 80 x 65	3.500 x 3.500 x 2.875 88,9 x 88,9 x 73,0	3.77 95,8	3.23 82,0	4.4 2,00
4 x 4 x 2 100 x 100 x 50	4.500 x 4.500 x 2.375 114,3 x 114,3 x 60,3	4.47 113,5	3.82 97,0	4.4 2,00
4 x 4 x 2-1/2 100 x 100 x 65	4.500 x 4.500 x 2.875 114,3 x 114,3 x 73,0	5.00 113,5	5.00 113,5	4.4 2,00
4 x 4 x 3 100 x 100 x 80	4.500 x 4.500 x 3.500 114,3 x 114,3 x 88,9	4.47 113,5	3.38 85,9	4.9 2,22
6 x 6 x 1-1/2 150 x 150 x 40	6.625 x 6.625 x 1.900 168,3 x 168,3 x 48,3	5.91 150,1	5.91 150,1	9.3 4,22
6 x 6 x 2 150 x 150 x 50	6.625 x 6.625 x 2.375 168,3 x 168,3 x 60,3	5.91 150,1	5.91 150,1	9.3 4,22
6 x 6 x 3 150 x 150 x 80	6.625 x 6.625 x 3.500 168,3 x 168,3 x 88,9	5.91 150,1	4.88 124,0	9.3 4,22
6 x 6 x 4 150 x 150 x 100	6.625 x 6.625 x 4.500 168,3 x 168,3 x 114,3	5.91 150,1	5.12 130,0	9.3 4,22
8 x 8 x 4 200 x 200 x 100	8.625 x 8.625 x 4.500 219,1 x 219,1 x 114,1	7.79 197,9	6.31 160,3	18.1 8,21
8 x 8 x 6 200 x 200 x 150	8.625 x 8.625 x 6.625 219,1 x 219,1 x 168,3	7.79 197,9	6.62 168,1	18.1 8,21
10 x 10 x 6 250 x 250 x 150	10.750 x 10.750 x 6.625 273,0 x 273,0 x 168,3	8.89 225,8	7.70 195,6	29.3 13,29
10 x 10 x 8 250 x 250 x 200	10.750 x 10.750 x 8.625 273,0 x 273,0 x 219,1	8.89 225,8	8.59 218,2	31.7 14,38
12 x 12 x 8 300 x 300 x 200	12.750 x 12.750 x 8.625 323,9 x 323,9 x 219,1	10.39 263,9	9.51 242,0	44 19,96
12 x 12 x 10 300 x 300 x 250	12.750 x 12.750 x 10.750 323,9 x 323,9 x 273,0	10.39 263,9	9.89 251,2	44 19,96



**NOTES**

- Dimensions for U.S. and Non-U.S. sourced products are identical unless indicated otherwise.

**FIGURE 4  
FIGURE 421A REDUCING TEE  
NOMINAL DIMENSIONS**



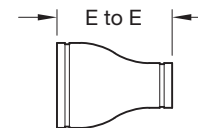
Nominal Size ANSI Inches DN	Pipe O.D. Inches mm	Nominal E to E Inches mm	Approx. Weight lb kg
1-1/2 x 1 40 x 25	1.900 x 1.315 48,3 x 33,7	3.75 95,3	1.4 0,64
1-1/2 x 1-1/4 40 x 32	1.900 x 1.660 48,3 x 42,4	3.75 95,3	1.4 0,64
2 x 1 50 x 25	2.375 x 1.315 60,3 x 33,7	3.75 95,3	1.5 0,68
2 x 1-1/4 50 x 32	2.375 x 1.660 60,3 x 42,4	3.75 95,3	2.5 1,13
2 x 1-1/2 50 x 40	2.375 x 1.900 60,3 x 48,3	5.00 127,0	2.5 1,13
2-1/2 x 1-1/2 65 x 40	2.875 x 1.900 73,0 x 48,3	5.00 127,0	3.5 1,59
2-1/2 x 2 65 x 50	2.875 x 2.375 73,0 x 60,3	5.00 127,0	3.5 1,59
3 x 1 80 x 25	3.500 x 1.315 88,9 x 33,7	5.00 127,0	4.0 1,81
3 x 1-1/4 80 x 32	3.500 x 1.660 88,9 x 42,4	5.00 127,0	4.3 1,95
3 x 1-1/2 80 x 40	3.500 x 1.900 88,9 x 48,3	5.00 127,0	4.4 2,00
3 x 2 80 x 50	3.500 x 2.375 88,9 x 60,3	5.00 127,0	4.8 2,17
3 x 2-1/2 80 x 65	3.500 x 2.875 88,9 x 73,0	5.00 127,0	4.8 2,17
4 x 2 100 x 50	4.500 x 2.375 114,3 x 60,3	5.00 127,0	4.8 2,17
4 x 2-1/2 100 x 65	4.500 x 2.875 114,3 x 73,0	5.00 127,0	4.8 2,17
4 x 3 100 x 80	4.500 x 3.500 114,3 x 88,9	5.00 127,0	5.0 2,27
5 x 3 125 x 80	5.563 x 3.500 141,3 x 88,9	9.00 228,6	7.0 3,18
5 x 4 125 x 100	5.563 x 4.500 141,3 x 114,3	9.00 228,6	7.0 3,18

**NOTES**

- Dimensions for U.S. and Non-U.S. sourced products are identical unless indicated otherwise.

**FIGURE 5 (1 OF 2)**  
**FIGURE 450A CONCENTRIC REDUCER**  
**NOMINAL DIMENSIONS**

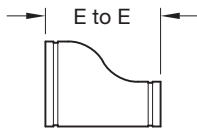
Nominal Size ANSI Inches DN	Pipe O.D. Inches mm	Nominal E to E Inches mm		Approx. Weight lb kg
6 x 2 150 x 50	6.625 x 2.375 168,3 x 60,3	9.00 228,6		7.0 3,18
6 x 2-1/2 150 x 65	6.625 x 2.875 168,3 x 73,0	15.00 381,0		7.0 3,18
6 x 3 150 x 80	6.625 x 3.500 168,3 x 88,9	Non-US	5.50 139,7	6.9 3,13
		US	9.00 228,6	7.4 3,36
6 x 4 150 x 100	6.625 x 4.500 168,3 x 114,3	5.50 139,7		7.0 3,18
8 x 4 200 x 100	8.625 x 4.500 219,1 x 114,3	Non-US	6.00 152,4	9.6 4,35
		US	9.00 228,6	7.1 3,22
8 x 6 200 x 150	8.625 x 6.625 219,1 x 168,3	6.00 152,4		9.6 4,35
10 x 4 250 x 100	10.750 x 4.500 273,0 x 114,3	10.00 254,0		12.4 5,62
10 x 6 250 x 150	10.750 x 6.625 273,0 x 168,3	Non-US	7.00 177,8	12.4 5,62
		US	10.00 254,0	21.0 9,53
10 x 8 250 x 200	10.750 x 8.625 273,0 x 219,1	7.00 177,8		14.9 6,76
12 x 6 300 x 150	12.750 x 6.625 323,9 x 168,3	14.00 355,6		22.0 9,98
12 x 8 300 x 200	12.750 x 8.625 323,9 x 219,1	14.00 355,6		22.0 9,98
12 x 10 300 x 250	12.750 x 10.750 323,9 x 273,0	14.00 355,6		26.0 11,79



**NOTES**

- Dimensions for U.S. and Non-U.S. sourced products are identical unless indicated otherwise.

**FIGURE 5 (2 OF 2)**  
**FIGURE 450A CONCENTRIC REDUCER**  
**NOMINAL DIMENSIONS**



Nominal Size ANSI Inches DN	Pipe O.D. Inches mm	Nominal E to E Inches mm		Approx. Weight lb kg
1-1/2 x 1 40 x 25	1.900 x 1.315 48,3 x 33,7	3.75 95,3		1.4 0,64
1-1/2 x 1-1/4 40 x 32	1.900 x 1.660 48,3 x 42,4	3.75 95,3		1.4 0,64
2 x 1 50 x 25	2.375 x 1.315 60,3 x 33,7	3.75 95,3		1.5 0,68
2 x 1-1/4 50 x 32	2.375 x 1.660 60,3 x 42,4	3.75 95,3		2.5 1,13
2 x 1-1/2 50 x 40	2.375 x 1.900 60,3 x 48,3	5.00 127,0		2.5 1,13
2-1/2 x 2 65 x 50	2.875 x 2.375 73,0 x 60,3	5.00 127,0		3.5 1,59
3 x 1 80 x 25	3.500 x 1.315 88,9 x 33,4	5.00 127,0		4.3 1,95
3 x 2 80 x 50	3.500 x 2.375 88,9 x 60,3	5.00 127,0		4.3 1,95
3 x 2-1/2 80 x 65	3.500 x 2.875 88,9 x 73,0	5.00 127,0		4.5 1,95
4 x 2 100 x 50	4.500 x 2.375 114,3 x 60,3	5.00 127,0		4.8 2,18
4 x 2-1/2 100 x 65	4.500 x 2.875 114,3 x 73,0	5.00 127,0		5.8 2,63
4 x 3 100 x 80	4.500 x 3.500 114,3 x 88,9	5.00 127,0		5.9 2,68
5 x 3 125 x 80	5.563 x 3.500 141,3 x 88,9	9.00 228,6		5.9 2,68
5 x 4 125 x 100	5.563 x 4.500 141,3 x 114,3	9.00 228,6		7.0 3,18
6 x 2 150 x 50	6.625 x 2.375 168,3 x 60,3	9.00 228,6		7.0 3,17
6 x 2-1/2 150 x 65	6.625 x 2.875 168,3 x 73,0	9.00 228,6		7.0 3,17
6 x 3 150 x 80	6.625 x 3.500 168,3 x 88,9	9.00 228,6		7.0 3,18
6 x 4 150 x 100	6.625 x 4.500 168,3 x 114,3	Non-US	5.00 127,0	7.0 3,18
		US	9.00 228,6	8.2 3,72
8 x 3 200 x 80	8.625 x 3.500 219,1 x 88,9	10.00 254,0		9.3 4,22
8 x 4 200 x 100	8.625 x 4.500 219,1 x 114,3	12.00 304,8		9.3 4,22
8 x 6 200 x 150	8.625 x 6.625 219,1 x 168,3	8.00 203,2		7.0 3,18
10 x 6 250 x 150	10.750 x 6.625 273,0 x 168,3	13.00 330,2		12.4 5,62
10 x 8 250 x 200	10.750 x 8.625 273,0 x 219,1	13.00 330,2		11.5 5,22
12 x 6 300 x 150	12.750 x 6.625 323,9 x 168,3	14.00 355,6		21.1 9,57
12 x 8 300 x 200	12.750 x 8.625 323,9 x 219,1	14.00 355,6		21.1 9,57
12 x 10 300 x 250	12.750 x 10.750 323,9 x 273,0	14.00 355,6		21.1 9,57

**NOTES**

- Dimensions for U.S. and Non-U.S. sourced products are identical unless indicated otherwise.

**FIGURE 6**  
**FIGURE 451A ECCENTRIC REDUCER**  
**NOMINAL DIMENSIONS**