



GRINNELL **Stainless Steel, Full-Flow Grooved Fittings** **(Europe, Middle East, and Africa 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 de-pressurizing and draining the system. Failure to do so may result in serious personal injury, property damage, and/or impaired device performance.

It is the designer's responsibility to select products suitable for the intended service and to ensure that pressure ratings and performance data are not exceeded. Material and gasket selection should be verified 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

⚠ 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 data sheet for rating of coupling in use.

Material

Type 304 or Type 316 Stainless Steel conforming to ASTM A403 WPW or ASTM A403 CR.

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

Ordering Procedure

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

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 warranty terms and conditions, visit www.grinnell.com

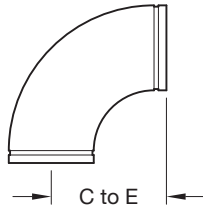


FIGURE 410
90° ELBOW

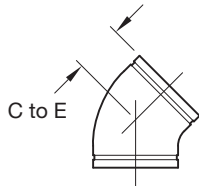


FIGURE 401
45° ELBOW

Nominal Size DN ANSI Inches	Pipe O.D. mm Inches	Figure 410		Figure 401	
		Nominal C to E mm Inches	Approx. Weight kg Lbs.	Nominal C to E mm Inches	Approx. Weight kg Lbs.
25 1	33,4 1.315	73,2 2.88	0,45 1.0	50,8 2.00	0,27 0.6
32 1-1/4	42,4 1.660	79,5 3.13	0,45 1.0	50,8 2.00	0,36 0.8
40 1-1/2	48,3 1.900	88,9 3.50	0,45 1.0	88,9 3.50	0,45 1.0
50 2	60,3 2.375	114,3 4.50	0,50 1.1	69,9 2.75	0,54 1.2
65 2-1/2	73,0 2.875	127,0 5.00	0,77 1.7	71,4 2.81	0,77 1.7
65 76,1mm	76,1 3.000	130,0 5.12	1,41 3.1	73,0 2.87	1,41 3.1
80 3	88,9 3.500	114,3 4.50	1,18 2.6	50,8 2.00	0,59 1.3
100 4	114,3 4.500	152,4 6.00	2,13 4.7	63,5 2.50	1,04 2.3
125 5	141,3 5.563	190,5 7.50	3,81 8.4	79,4 3.13	1,90 4.2
150 6	168,3 6.625	228,6 9.00	4,67 10.3	95,3 3.75	2,31 5.1
200 8	219,1 8.625	304,8 12.00	7,98 17.6	127,0 5.00	6,26 13.8
250 10	273,0 10.750	381,0 15.00	22,32 49.2	158,8 6.25	11,16 24.6
300 12	323,9 12.750	457,2 18.00	35,56 78.4	190,5 7.50	17,78 39.2

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

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

Nominal Size DN ANSI Inches	Pipe O.D. mm Inches	Nominal E to E mm Inches	Approx. Weight kg Lbs.
25 1	33,4 1.315	27,5 1.08	0,09 0.2
32 1-1/4	42,4 1.660	27,5 1.08	0,09 0.4
40 1-1/2	48,3 1.900	27,5 1.08	0,09 0.5
50 2	60,3 2.375	27,5 1.08	0,09 0.7
65 2-1/2	73,0 2.875	27,5 1.08	0,45 1.0
65 76,1mm	76,1 3.000	60,0 2.36	1,41 3.1
80 3	88,9 3.500	27,5 1.08	0,91 2.0
100 4	114,3 4.500	28,7 1.13	1,41 3.1
125 5	141,3 5.563	76,2 3.00 ^a	0,68 1.5
150 6	168,3 6.625	88,9 3.50 ^a	0,68 1.5
200 8	219,1 8.625	101,6 4.00 ^a	1,41 3.1
250 10	273,0 10.750	127,0 5.00 ^a	2,72 6.0
300 12	323,9 12.750	152,4 6.00 ^a	3,54 7.8

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

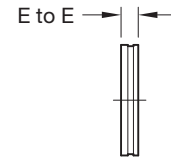


FIGURE 460
1 - 4 INCH END CAP

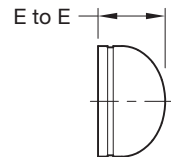
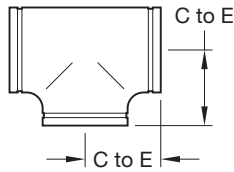


FIGURE 460
5 - 12 INCH END CAP

FIGURE 2
FIGURE 460 END CAP
NOMINAL DIMENSIONS

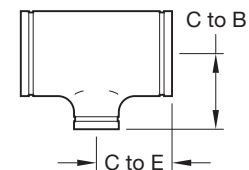


Nominal Size DN ANSI Inches	Pipe O.D. mm Inches	Nominal C to E mm Inches	Approx. Weight kg Lbs.
25 1	33,4 1.315	73,2 2.88	0,45 1.0
32 1-1/4	42,4 1.660	85,9 3.38	0,68 1.5
40 1-1/2	48,3 1.900	85,9 3.38	0,73 1.6
50 2	60,3 2.375	69,9 2.75	1,04 2.3
65 2-1/2	73,0 2.875	78,0 3.07	1,00 2.2
65 76,1mm	76,1 3.000	76,0 2.99	1,41 3.1
80 3	88,9 3.500	95,8 3.77	1,41 3.1
100 4	114,3 4.500	113,5 4.47	2,22 4.9
125 5	141,3 5.563	150,1 5.91	3,49 7.1
150 6	168,3 6.625	150,1 5.91	5,31 11.7
200 8	219,1 8.625	197,9 7.79	9,07 20.0
250 10	273,0 10.750	225,8 8.89	15,60 34.4
300 12	323,9 12.750	263,9 10.39	23,81 52.5

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

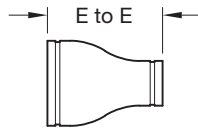
FIGURE 3
FIGURE 419 TEE
NOMINAL DIMENSIONS

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



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

FIGURE 4
FIGURE 421 REDUCING TEE
NOMINAL DIMENSIONS

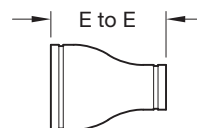


Nominal Size DN ANSI Inches	Pipe O.D. mm Inches	Nominal E to E mm Inches	Approx. Weight kg Lbs.
40 x 25 1-1/2 x 1	48,3 x 33,7 1.900 x 1.315	95,3 3.75	0,64 1.4
40 x 32 1-1/2 x 1-1/4	48,3 x 42,4 1.900 x 1.660	95,3 3.75	0,64 1.4
50 x 25 2 x 1	60,3 x 33,7 2.375 x 1.315	95,3 3.75	0,68 1.5
50 x 32 2 x 1-1/4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

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

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

Nominal Size DN ANSI/ Inches	Pipe O.D. mm Inches	Nominal E to E mm Inches	Approx. Weight kg Lbs.
125 x 80 5 x 3	141,3 x 88,9 5.563 x 3.500	228,6 9.00	3,18 7.0
125 x 100 5 x 4	141,3 x 114,3 5.563 x 4.500	228,6 9.00	3,18 7.0
150 x 50 6 x 2	168,3 x 60,3 6.625 x 2.375	228,6 9.00	3,18 7.0
150 x 65 6 x 2-1/2	168,3 x 73,0 6.625 x 2.875	381,0 15.00	3,18 7.0
150 x 80 6 x 3	168,3 x 88,9 6.625 x 3.500	139,7 5.50	3,13 6.9
150 x 100 6 x 4	168,3 x 114,3 6.625 x 4.500	139,7 5.50	3,18 7.0
200 x 100 8 x 4	219,1 x 114,3 8.625 x 4.500	152,4 6.00	4,35 9.6
200 x 150 8 x 6	219,1 x 168,3 8.625 x 6.625	152,4 6.00	4,35 9.6
250 x 100 10 x 4	273,0 x 114,3 10.750 x 4.500	254,0 10.00	5,62 12.4
250 x 150 10 x 6	273,0 x 168,3 10.750 x 6.625	177,8 7.00	5,62 12.4
250 x 200 10 x 8	273,0 x 219,1 10.750 x 8.625	177,8 7.00	6,76 14.9
300 x 150 12 x 6	323,9 x 168,3 12.750 x 6.625	355,6 14.00	9,98 22.0
300 x 200 12 x 8	323,9 x 219,1 12.750 x 8.625	355,6 14.00	9,98 22.0
300 x 250 12 x 10	323,9 x 273,0 12.750 x 10.750	355,6 14.00	11,79 26.0



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

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

