

GRINNELL Figure 71 Flange Adapters 2 to 24 Inch (DN50 to DN600)

General Description

The GRINNELL 71 Flange Adapter allows a direct transition from flanged components to GRINNELL grooved components. Flange bolt patterns conform to ANSI Class 125 and 150 standards as well as PN10 and PN16 as indicated.

⚠WARNING

Never remove any piping component nor correct or modify any piping deficiencies without first de-pressurizing and draining the system. Failure to do so may result in serious personal injury, property damage, and/or impaired device performance.

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

The GRINNELL Products Figure 71 Flange Adapter 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.

Owners are responsible for maintaining their mechanical system and devices in proper operating condition. The installing contractor or device manufacturer should be contacted with any questions.

Technical Data

Sizes

2 Inch to 24 Inch (DN50 to DN600)

Maximum Pressure

Refer to Figures 1 and 2.

Approvals

UL, ULC, FM, LPCB, VdS, and NSF-61

Housing

Ductile iron conforming to ASTM A 536, Grade 65-45-12

Protective Coatings

- Non-lead orange paint
- RAL red (optional) non-lead paint
- Hot-dipped galvanized conforming to ASTM A 153

Gasket

- Grade "E" EPDM, Green color code -30°F to 230°F (-34°C to 110°C)
The Grade "E" EPDM Gasket is NSF-61 Approved.
- Grade "T" Nitrile, Orange color code -20°F to 180°F (-29°C to 82°C)

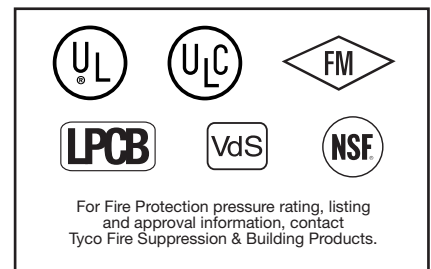
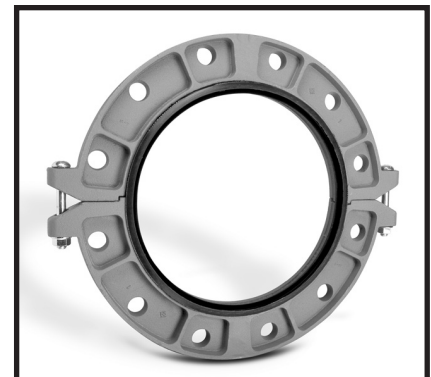
Refer to data sheet G610 for aid in selecting proper gasket.

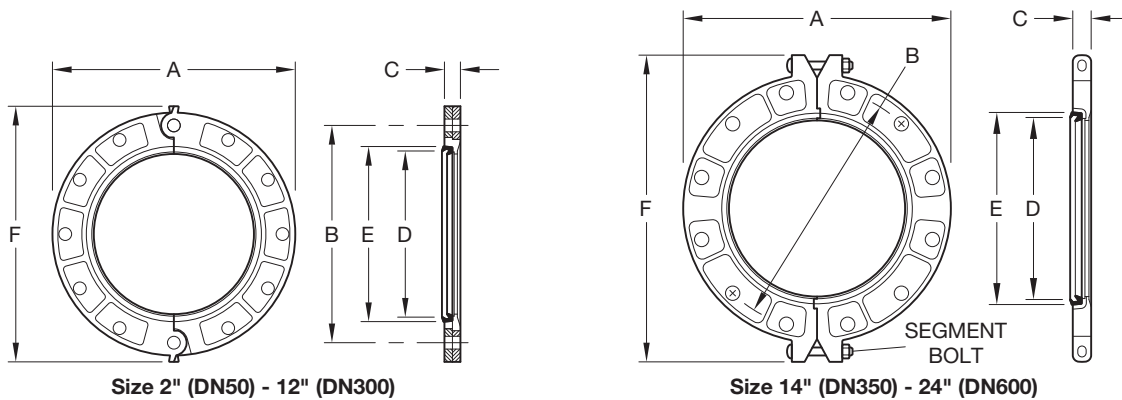
Segment Bolt Data

Refer to Table A.

Nominal Pipe Size		Segment Bolts	
ANSI Inch DN	O.D. Inches/(mm)	Size Dia. x Lg Inches	Bolt Torque Range Lbs.-ft. (Nm)
14 DN350	14.000 (355,6)	5/8 x 4-3/4	100-130 (149-190)
16 DN400	16.000 (406,4)		
18 DN450	18.000 (457,2)	3/4 x 4-3/4	130-180 (176-244)
20 DN500	20.000 (508,0)		
24 DN600	24.000 (609,6)		

**TABLE A
SEGMENT BOLT TORQUE**





Nominal Pipe Size		Max† Pressure psi (bar)	Max End Load† Lbs. (N)	Nominal Dimensions Inches (mm)						Recommended Flange Mating Bolts‡			Approx. Wt. Lbs. (kg)
ANSI Inch DN	O.D. Inches/ (mm)			A	B	C	*D	*E	F	Size Dia. x Lg. Inches	Qty.	Bolt Torque Range Lbs.-ft. (Nm)	
2 DN50	2.375 (60,3)	300 (20,7)	1,324 (5889)	6.38 (162,1)	4.75 (120,7)	0.75 (19,1)	2.38 (60,5)	3.41 (86,6)	7.25 (184,2)	5/8 x 3	4	110-140 (149-190)	3.0 (1,4)
2-1/2 DN65	2.875 (73,0)	300 (20,7)	1,948 (8665)	7.00 (178,0)	5.50 (140,0)	0.88 (22,0)	2.88 (73,0)	3.91 (99,0)	7.88 (200,0)	5/8 x 3	4	110-140 (149-190)	5.0 (2,3)
3 DN80	3.500 (88,9)	300 (20,7)	2,886 (12,838)	7.50 (190,5)	6.00 (152,4)	0.94 (23,9)	3.50 (88,9)	4.53 (115,1)	9.88 (251,0)	5/8 x 3	4	110-140 (149-190)	5.6 (2,5)
4 DN100	4.500 (114,3)	300 (20,7)	4,771 (21,222)	9.00 (228,6)	7.50 (190,5)	0.94 (23,9)	4.50 (114,3)	5.53 (140,5)	9.90 (251,5)	5/8 x 3	8	110-140 (149-190)	7.0 (3,2)
5 DN125	5.563 (141,3)	300 (20,7)	7,292 (32,436)	10.00 (254,0)	8.50 (215,9)	1.00 (25,4)	5.56 (141,2)	6.72 (170,7)	11.38 (289,1)	3/4 x 3-1/2	8	220-250 (298-339)	9.2 (4,2)
6 DN150	6.625 (168,3)	300 (20,7)	10,341 (45,999)	11.00 (279,4)	9.50 (241,3)	1.00 (25,4)	6.62 (168,1)	7.78 (197,6)	11.88 (301,8)	3/4 x 3-1/2	8	220-250 (298-339)	10.0 (4,5)
8 DN200	8.625 (219,1)	300 (20,7)	17,528 (77,968)	13.50 (342,9)	11.75 (298,5)	1.13 (28,7)	8.62 (218,9)	9.94 (252,5)	14.38 (365,3)	3/4 x 3-1/2	8	220-250 (298-339)	16.6 (7,5)
10 DN250	10.750 (273,0)	300 (20,7)	27,229 (121,121)	16.00 (406,4)	14.25 (362,0)	1.19 (30,2)	10.75 (273,1)	12.31 (312,7)	16.88 (428,8)	7/8 x 4	12	320-400 (434-542)	21.8 (9,9)
12 DN300	12.750 (323,9)	300 (20,7)	38,303 (170,380)	19.00 (482,6)	17.00 (431,8)	1.25 (31,8)	12.75 (323,9)	14.31 (363,5)	20.00 (508,0)	7/8 x 4	12	320-400 (434-542)	24.2 (11,0)
14** DN350	14.000 (355,6)	300 (20,7)	46,181 (205,423)	21.00 (533,4)	18.76 (476,5)	1.44 (36,5)	14.00 (355,6)	15.03 (381,8)	24.00 (609,6)	1 x 4-1/4	12	360-520 (488-705)	25.0 (11,3)
16** DN400	16.000 (406,4)	300 (20,7)	60,315 (268,294)	23.50 (596,9)	21.26 (540,0)	1.50 (38,10)	16.00 (406,4)	17.00 (431,7)	26.50 (673,1)	1 x 4-1/4	16	360-520 (488-705)	31.0 (14,0)
18** DN450	18.000 (457,2)	300 (20,7)	76,455 (340,089)	25.00 (635,0)	22.76 (578,1)	1.63 (41,3)	18.00 (457,2)	19.01 (482,8)	29.00 (736,6)	1-1/8 x 4-3/4	16	450-725 (610-982)	35.0 (15,8)
20** DN500	20.000 (508,0)	300 (20,7)	94,245 (419,223)	27.50 (698,5)	25.00 (635,0)	1.75 (44,5)	20.00 (508,0)	21.03 (534,2)	31.50 (800,1)	1-1/8 x 4-3/4	20	450-725 (610-982)	45.0 (20,4)
24** DN600	24.000 (609,6)	250 (17,2)	135,720 (603,713)	32.00 (812,8)	29.50 (749,3)	1.93 (49,0)	24.00 (609,6)	25.05 (636,3)	36.00 (914,4)	1-1/4 x 5-1/2	20	620-1000 (841-1356)	59.0 (26,8)

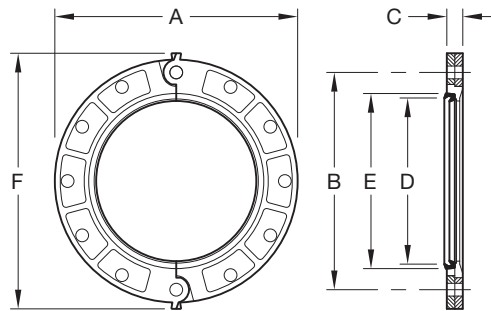
* Dimensions D and E represent minimum and maximum sealing surfaces.

** For Segment Bolt Torque Recommendations, refer to Table A.

† Maximum pressure and end load are total from all loads based on standard weight steel pipe. Pressure ratings and end loads may differ on other pipe materials and/or wall thickness. Contact GRINNELL Products for details.

‡ Mating Bolts and Nuts are not supplied. Flange Mating Bolts must be at least SAE J429 Grade 5 or stronger. Bolt lengths are standard; it is the responsibility of the purchaser to verify correct length for the intended application.

FIGURE 1
FIGURE 71 FLANGE ADAPTER
FOR USE WITH ANSI CLASS 125 AND 150 FLANGES



Size 2" (DN50) - 12" (DN300)

Nominal Pipe Size		Flange Bolt Pattern Designation	Max End Load† Lbs. (N)	Nominal Dimensions Inches (mm)						Recommended Flange Mating Bolts‡			Approx. Wt. Lbs. (kg)
ANSI Inch DN	O.D. (mm)			A	B	C	*D	*E	F	Size Dia. x Lg.	Qty.	Bolt Torque Range Nm	
2 DN50	60.3	PN10 / PN16	1,324 (5889)	6.38 (162,1)	4.92 (125,0)	0.75 (19,1)	2.38 (60,5)	3.41 (86,6)	7.25 (184,2)	M16 x 76	4	149-190	3.0 (1,4)
76,1 DN65	76,1	PN10 / PN16	1,948 (8665)	7.28 (184,9)	5.71 (145,0)	0.88 (22,4)	3.00 (76,1)	4.03 (102,4)	8.09 (205,5)	M16 x 76	4	149-190	5.0 (2,3)
3** DN80	88.9	PN10	2,886 (12,838)	7.88 (200,2)	6.30 (160,0)	0.94 (23,9)	3.50 (88,9)	4.53 (115,1)	8.75 (222,3)	M16 x 76	4	149-190	5.6 (2,5)
3 DN80	88.9	PN16	2,886 (12,838)	7.88 (200,2)	6.30 (160,0)	0.94 (23,9)	3.50 (88,9)	4.53 (115,1)	8.75 (222,3)	M16 x 76	8	149-190	5.6 (2,5)
4 DN100	114.3	PN10 / PN16	4,771 (21,222)	9.00 (228,6)	7.09 (180,1)	0.94 (23,9)	4.50 (114,3)	5.53 (140,5)	9.90 (251,5)	M16 x 76	8	149-190	7.0 (3,2)
5 DN125	139.7	PN10 / PN16	7,292 (32,436)	9.84 (249,9)	8.27 (210,1)	1.00 (25,4)	5.50 (139,7)	6.53 (165,9)	10.69 (271,5)	M16 x 89	8	149-190	9.2 (4,2)
165.1 DN150	165.1	PN10 / PN16	10,341 (45,999)	11.25 (285,8)	9.45 (240,0)	1.00 (25,4)	6.50 (165,1)	7.53 (191,3)	12.12 (307,8)	M20 x 89	8	298-339	10.0 (4,5)
6 DN150	168.3	PN10 / PN16	17,528 (77,968)	11.00 (279,4)	9.49 (241,1)	1.00 (25,4)	6.62 (168,1)	7.78 (197,6)	11.88 (301,8)	M20 x 89	8	298-339	16.6 (7,5)
8** DN200	219.1	PN10	27,229 (121,121)	13.38 (339,9)	11.61 (294,9)	1.13 (28,7)	8.62 (218,9)	9.94 (252,5)	14.31 (363,5)	M20 x 89	8	298-339	21.8 (9,9)
8 DN200	219.1	PN16	27,229 (121,121)	13.38 (339,9)	11.61 (294,9)	1.13 (28,7)	8.62 (218,9)	9.94 (252,5)	14.31 (363,5)	M20 x 89	12	298-339	21.8 (9,9)
10** DN250	273.0	PN10	38,303 (170,380)	15.56 (395,2)	13.78 (350,0)	1.19 (30,2)	10.75 (273,1)	12.31 (312,7)	16.50 (419,1)	M20 x 102	12	298-339	22.5 (10,2)
10 DN250	273.0	PN16	38,303 (170,380)	16.00 (406,4)	13.98 (355,1)	1.19 (30,2)	10.75 (273,1)	12.31 (312,7)	16.88 (428,8)	M22 x 102	12	434-542	24.2 (11,0)
12** DN300	323.9	PN10	29,621 (131,754)	17.52 (445,0)	17.52 (445,0)	1.25 (31,8)	12.75 (323,9)	14.31 (363,9)	16.56 (420,6)	M20 x 102	12	298-339	27.5 (12,5)
12 DN300	323.9	PN16	29,621 (131,754)	18.12 (460,2)	18.12 (460,2)	1.25 (31,8)	12.75 (323,9)	14.31 (363,9)	19.14 (486,2)	M22 x 102	12	434-542	28.0 (12,7)

Maximum Pressure rating is 20,7 bar (300 psi)

* Dimensions D and E represent minimum and maximum sealing surfaces.

** For noted sizes, PN10 and PN16 dimensional values differ.

† Maximum end load is total from all loads based on standard weight steel pipe. Pressure ratings and end loads may differ on other pipe materials and/or wall thickness. Contact GRINNELL Products for details.

‡ Mating Bolts and Nuts are not supplied. Flange Mating Bolts must be at least SAE J429 Grade 5 or stronger. Bolt lengths are standard; it is the responsibility of the purchaser to verify correct length for the intended application.

FIGURE 2
FIGURE 71 FLANGE ADAPTER
FOR USE WITH PN10 AND PN16 FLANGES

Limited Warranty

Products manufactured by Tyco Fire Suppression & Building Products (TFSBP) are warranted solely to the original Buyer for ten (10) years against defects in material and workmanship when paid for and properly installed and maintained under normal use and service. This warranty will expire ten (10) years from date of shipment by TFSBP. No warranty is given for products or components manufactured by companies not affiliated by ownership with TFSBP or for products and components which have been subject to misuse, improper installation or maintenance, corrosion, or other external sources of damage. Materials found by TFSBP to be defective shall be either repaired or replaced, at TFSBP's sole option. TFSBP neither assumes, nor authorizes any person to assume for it, any other obligation in connection with the sale of products or parts of products. TFSBP shall not be responsible for system design errors or inaccurate or incomplete information supplied by Buyer or Buyer's representatives.

In no event shall TFSBP be liable, in contract, tort, strict liability or under any other legal theory, for incidental, indirect, special or consequential damages, including but not limited to labor charges, regardless of whether TFSBP was informed about the possibility of such damages, and in no event shall TFSBP's liability exceed an amount equal to the sales price.

The foregoing warranty is made in lieu of any and all other warranties, express or implied, including warranties of merchantability and fitness for a particular purpose.

This limited warranty sets forth the exclusive remedy for claims based on failure of or defect in products, materials or components, whether the claim is made in contract, tort, strict liability or any other legal theory.

This warranty will apply to the full extent permitted by law. The invalidity, in whole or part, of any portion of this warranty will not affect the remainder.

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 the following:

- GRINNELL Figure 71 Flange Adapter;
- Quantity;
- Size: ANSI Inch size, DN, or pipe O.D.;
- Flange Bolt Pattern Designation: Class 125, 150 or PN10, PN16
- Protective coating: non-lead orange paint, RAL red non-lead paint, or hot-dipped galvanized; and
- Type of gasket: Grade "E" EPDM or Grade "T" Nitrile.