

## ENGINEERING SUBMITTAL DATA

Metalfit manufactures Ductile Iron and Gray Cast Iron Flanged Fittings for both Waterworks and Industrial applications and conforms fully to the required industry standards. Flanged Fittings are manufactured in accordance with ANSI/AWWA C110/A21.10 and ANSI B16.1, Class 125. Metalfit 2" through 12" Flanged Fittings are also listed by Underwriters Laboratories for fire protection service. Additionally, **Metalfit hydrostatically tests every fitting** to ensure quality casting integrity. These tests are performed at 1.5 times the rated working pressure.

### Mechanical Properties

#### **Cast Iron to ASTM A48**

Minimum Tensile Strength 31,000 psi

#### **Ductile Iron to ASTM A 536**

Minimum Tensile Strength 70,000 psi

Yield Strength 50,000 psi

Elongation 5%

### Water Working Pressure

#### **Gray Cast Iron**

2" - 12" CI Fittings rated 250 psi

14" - 42" CI Fittings rated 150 psi

#### **Ductile Iron**

All DI Fittings Rated 250 psi

As noted in ANSI/AWWA C111/A21/11, ductile iron flanged joints in the 24" and smaller sizes may be rated to 350 psi with the use of "special" gaskets.

## COATINGS & LININGS

### Interior Linings

Flanged fittings are furnished cement lined and seal coated per ANSI/AWWA C104/A21.4. Fittings are also available unlined for air service or with other special linings for particular service conditions.

### Exterior Coatings

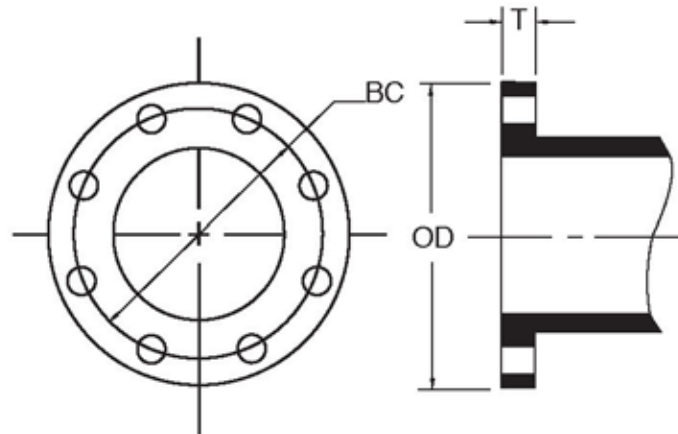
Flanged fittings are furnished standard with a red epoxy primer or tar coated at the customer's discretion. Special primer coatings are also available for particular service conditions.

**All standard coatings and linings are provided in full accordance with ANSI/NSF 61.**

## COMMITMENT TO QUALITY

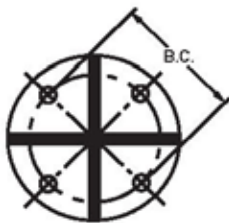
Metalfit takes pride in producing the finest quality Flanged Fittings available in today's market. Our manufacturing standards and a strict adherence to the quality control procedures, developed over many years, make certain that we abide by our commitment to be the best.

## Flanged Joint Dimensions ANSI/AWWA C110/A21.10



Size	OD	BC	T	Hole Dia.	Bolt Size	No. Bolts
2	6.00	4.75	0.62	0.75	5/8 x 2-1/4	4
2-1/2	7.00	5.50	0.69	0.75	5/8 x 2-1/2	4
3	7.50	6.00	0.75	0.75	5/8 x 2-1/2	4
4	9.00	7.50	0.94	0.75	5/8 x 3	8
5	10.00	8.50	0.94	0.88	3/4 x 3	8
6	11.00	9.50	1.00	0.88	3/4 x 3-1/2	8
8	13.50	11.75	1.12	0.88	3/4 x 3-1/2	8
10	16.00	14.25	1.19	1.00	7/8 x 4	12
12	19.00	17.00	1.25	1.00	7/8 x 4	12
14	21.00	18.75	1.38	1.12	1 x 4-1/2	12
16	23.50	21.25	1.44	1.12	1 x 4-1/2	16
18	25.00	22.75	1.56	1.25	1-1/8 x 5	16
20	27.50	25.00	1.69	1.25	1-1/8 x 5	20
24	32.00	29.50	1.88	1.37	1-1/4 x 5-1/2	20
30	38.75	36.00	2.12	1.37	1-1/4 x 6-1/2	28
36	46.00	42.75	2.38	1.62	1-1/2 x 7	32
42	53.00	49.50	2.62	1.62	1-1/2 x 7-1/2	36
48	59.50	56.00	2.75	1.62	1-1/2 x 8	44

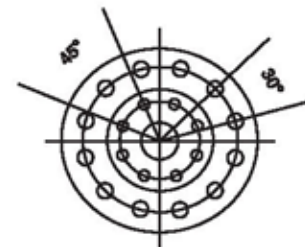
### BASE DIMENSIONS



Size	B.C.	Hole Dia.	No. Bolts
3	3.88	0.62	4
4	4.75	0.75	4
6	5.50	0.75	4
8	7.50	0.75	4
10	7.50	0.75	4
12	9.50	0.88	4
14	9.50	0.88	4
16	9.50	0.88	4
18	11.75	0.88	4
20	11.75	0.88	4
24	11.75	0.88	4
30	14.25	1.00	4
36	17.00	1.00	4
42	21.25	1.12	4
48	22.75	1.25	4

### INSTALLATION NOTE

Drilling Templates are furnished in multiples of four. Standard flanged reducers, with a different number of holes in each flange, will have only two centerlines which are common to the drilling templates of both flanges.

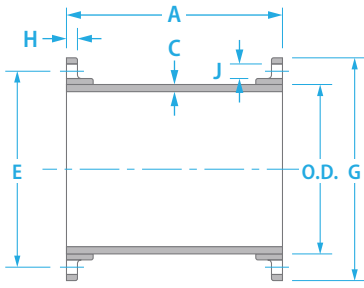


ANSI/AWWA C110/A21.10

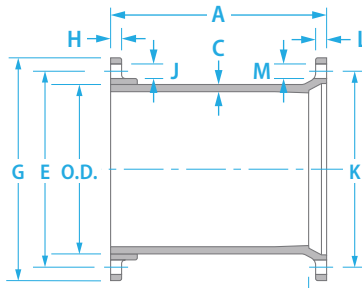
Dimensions in inches.  
Weights in pounds.

# Fabricated Flange Pipes

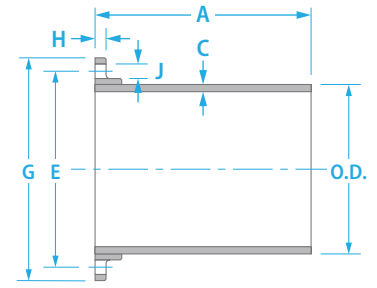
Rev. 02072020



FLG. x FLG.



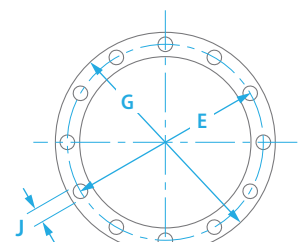
FLG. x M.J.



FLG. x P.E.

Size	A	B	C	O.D.		E	G	H		No. of Flg'd Bolt Holes	J	K		L		No. Of M.J. Bolt H0es	M		P
				Min.	Max.			Min.	Max.			Min.	Max.	Min.	Max.				
3	•	•	0.31	3.90	4.02	6.00	7.50	0.63	0.87	4	0.750	6.13	6.25	0.88	0.94	4	0.75	0.81	2.50
4	A	A	0.32	4.74	4.86	7.50	9.00	0.82	1.06	8	0.750	7.44	7.56	0.94	1.00	4	0.875	0.935	2.50
6	S	S	0.34	6.84	6.96	9.50	11.00	0.88	1.12	8	0.875	9.44	9.56	1.00	1.06	6	0.875	0.935	2.50
8	•	•	0.36	8.99	9.11	11.75	13.50	1.00	1.24	8	0.875	11.69	11.81	1.04	1.12	6	0.875	0.935	2.50
10	•	•	0.38	11.04	11.16	14.25	16.00	1.07	1.31	12	1.000	13.94	14.06	1.11	1.19	8	0.875	0.935	2.50
12	R	R	0.40	13.14	13.26	17.00	19.00	1.13	1.37	12	1.000	16.19	16.31	1.17	1.25	8	0.875	0.935	2.50
14	E	E	0.42	15.22	15.35	18.75	21.00	1.19	1.57	12	1.125	18.69	18.81	1.19	1.31	10	0.875	0.935	3.50
16	Q	Q	0.43	17.32	17.45	21.25	23.50	1.25	1.63	16	1.125	20.94	21.06	1.26	1.38	12	0.875	0.935	3.50
18	U	U	0.44	19.42	19.55	22.75	25.00	1.37	1.75	16	1.250	23.19	23.31	1.32	1.44	12	0.875	0.935	3.50
20	I	I	0.45	21.52	21.65	25.00	27.50	1.50	1.88	20	1.250	25.44	25.56	1.38	1.50	14	0.875	0.935	3.50
24	R	R	0.47	25.72	25.85	29.50	32.00	1.69	2.07	20	1.375	29.94	30.06	1.50	1.62	16	0.875	0.935	3.50
30	E	E	0.51	31.94	32.08	36.00	38.75	1.87	2.37	28	1.375	36.82	36.94	1.69	1.81	20	1.125	1.185	4.00
36	D	D	0.58	38.24	38.38	42.75	46.00	2.13	2.63	32	1.625	43.69	43.81	1.88	2.00	24	1.125	1.185	4.00
42	•	•	0.65	44.44	44.58	49.50	53.00	2.37	2.87	36	1.625	50.56	50.68	1.88	2.00	28	1.375	1.435	4.00
48	•	•	0.72	50.74	50.88	56.00	59.50	2.50	3.00	44	1.625	57.44	57.56	1.88	2.00	32	1.375	1.435	4.00
54	•	•	0.81	57.40	57.64	62.75	62.75	2.75	3.25	44	1.875	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
60	•	•	0.83	61.51	61.65	69.25	73.00	2.87	3.37	52	2.000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
64	•	•	0.87	65.57	65.71	76.00	80.00	3.13	3.63	52	2.000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

1. Tolerance on length of FLG. x FLG. and FLG. x M.J. pipe shall be  $\pm 0.125''$ .
2. Tolerance on length of FLG. x P.E. shall be  $\pm 0.25''$ .
3. Above material shall meet all applicable sections of ANSI A21.10, A21.15, A21.51, B2.1, B16.1 & AWWA C110, C115, C150, C151 and all revisions thereto.
4. Flanged pipe shall be ductile iron pipe with ductile iron flanges threaded on.
5. Flange pipe is provided with cement lining per AWWA C104/A21.4. If other linings are required, contact your local sales representative.
6. The mechanical joint bell for 30" and 36" sizes of ductile iron pipe have thicknesses different from those shown in ANSI A21.11, which are based on gray iron pipe. These reduced thicknesses provide a lighter-weight bell which is compatible with the wall thickness of ductile iron pipe.
7. Submitted material only. Consult your engineer for application.
8. 250 lb. faced and drilled flanges available upon request.
9. Flange-Tyte gaskets are included with all 14" or larger ductile iron flanged joint products supplied by U.S. Pipe. These are required during installation, and failure to use these gaskets could result in voiding the manufacturer's warranty. Refer to product data sheets for additional information.



FLG. DETAIL