



Submittal - 024 Pump Station

SIGMA C110 Ductile Iron Flanged Fittings (Submittal on the following page(s), this sheet is the response page)

Response:

MKEC ENGINEERING, INC.
411 North Webb Road - Wichita, KS 67206

Reviewed Reviewed As Noted
 Revise and Resubmit Rejected
 Not Required by the Contract Documents

Reviewed for conformance with the design concept of the project and compliance with the information given in the contract documents. Contractor is responsible for dimensions to be confirmed and correlated at the job site, information that pertains solely to the fabrication process or to techniques of construction, and coordination of work of all other trades. If "Resubmit" or "Rejected" are not checked resubmission is neither desired or required.

By *Billy Inull* Date *6-28-16*

C110 DUCTILE IRON FLANGED FITTINGS

C110 DUCTILE IRON FLANGED FITTINGS

BASIC SPECIFICATIONS

Flange fittings as needed for job completion

- SIZES:** • 2" - 64"
- MATERIAL:** • Ductile Iron ASTM A536 Grade 60-42-10, 65-45-12 or 70-50-05.
- PRESSURE:** • 250 PSI Water Working Pressure for Ductile Iron sizes 2" - 48".
• 150 PSI Water Working Pressure for Ductile Iron sizes 54" - 64".
- TESTING:** • In accordance with ANSI / AWWA C110 / A21.10 where applicable.
• Other items are in accordance with manufacturer's standards.
• 54" and above Flanged Fittings are manufactured as per AWWA C153/A21.53.
• All fittings are hydrostatically tested in accordance with SIGMA Quality Management Standard.
• All fittings are heat coded to ensure traceability and verification of metallurgical properties in accordance with SIGMA Quality Management Standards.
- LAYING LENGTH:** • In accordance with ANSI / AWWA C110 / A21.10 where applicable.
• Other items are in accordance with manufacturer's standards.
• 54" and above Flanged Fittings are manufactured as per AWWA C153/A21.53.
- CEMENT LINING:** • Double cement lined in accordance with ANSI/AWWA C104 / A21.4.
- COATING:** • Interior of fitting is seal coated (asphalt material) in accordance with ANSI / AWWA C104/A21.4 and NSF61 approved.
~~• Red Primer Outside.~~
• For special conditions, other types of coatings and linings are available.
• Please specify when ordering.
- GASKETS:** • SBR in accordance with ANSI/AWWA C111/A21.11 & ANSI/AWWA C111/A21.11.
~~• Also available in EPDM, NBR and CR.~~
- APPROVALS:** • 2"-16" Underwriters Laboratories listed and Factory Mutual Approved.
- STANDARDS:** • Certified to NSF61 Standard including Annex G.
• ANSI / AWWA C110 / A21.10 Where applicable.
• Other items are in accordance with manufacturer's standards.
• 54" and above Flanged Fittings are manufactured as per AWWA C153/A21.53.
- INSTALLATION:** • Per ANSI/AWWA C600 and C111 using DIP conforming to C150/C151 and PVC pipe conforming to C900/C905.

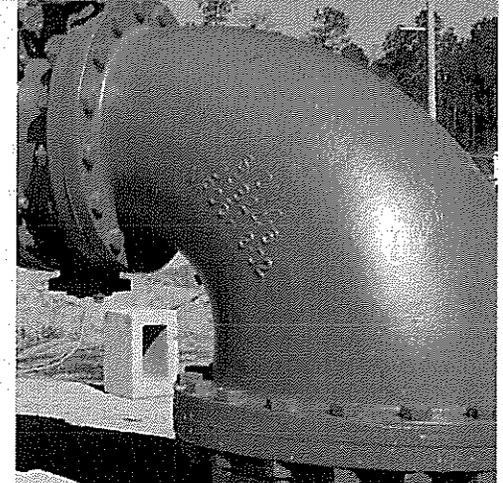
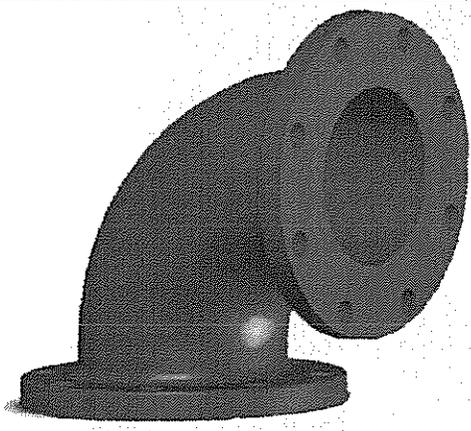
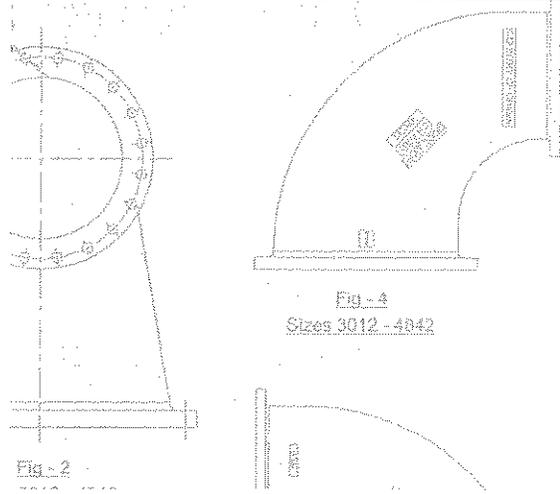
Tnemec Series 66
High-Build Epoxoline



Engineers Note: We will use FLG x FLG DIP pieces stubbed in the wet well. For the 10" discharge pipe, we will use a FLG 90 and then a FLG x FLG (length as supplied by Wildcat) to connect to the 10" Flange Tapped for Studs x wall collar x MJ Tapped for Studs Wall Pipe. After we exit wet well, we will install a 12 x 10 (MJ x PE) Large End Bell Reducer into the Wet well wall and begin 12".



Quality – Service – Commitment – Delivered.



**2" - 64" CAST IRON/DUCTILE IRON FLANGED FITTINGS
BASIC SPECIFICATIONS**

- MATERIAL:** Cast Iron: ASTM A48, Grade 25B (2" - 14") / Grade 30B (16" - 54")
Ductile Iron ASTM A536
- PRESSURE:** 250 PSI Water Working Pressure for Cast Iron sizes 2" - 12"
250 PSI Water Working Pressure for Ductile Iron sizes 2" - 48"
150 PSI Water Working Pressure for Ductile Iron sizes 54" - 64"
150 PSI Water Working Pressure for Cast Iron sizes 14" - 54"
- TESTING:** In accordance with ANSI / AWWA C110 / A21.10 where applicable.
Other items are in accordance with manufacturer's standards.
54" and above Flanged Fittings are manufactured as per AWWA C153/A21.53
- LAYING LENGTH:** In accordance with ANSI / AWWA C110 / A21.10 where applicable.
Other items are in accordance with manufacturer's standards.
54" and above Flanged Fittings are manufactured as per AWWA C153/A21.53
- CEMENT LINING:** In accordance with ANSI / AWWA C104 / A21.4
- COATING:** Tar coated (bituminous) inside in accordance with ANSI / AWWA C104 / A21.04
~~Red Primer Outside.~~
For special conditions, other types of coatings and linings are available.
Please specify when ordering.
- STANDARDS:** ANSI / AWWA C110 / A21.10 Where applicable.
Other items are in accordance with manufacturer's standards.
54" and above Flanged Fittings are manufactured as per AWWA C153/A21.53

**Tnemec Series
66-High-Build
Epoxoline**



SIGMA Corporation

700 Goldman Drive
Cream Ridge, NJ 08514

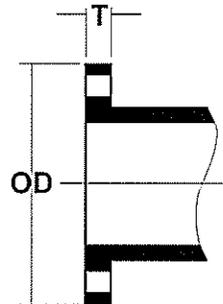
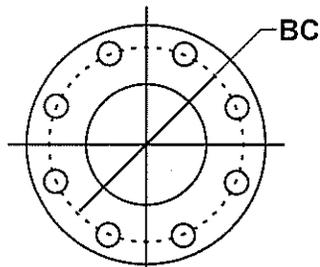
800 989 2550 p
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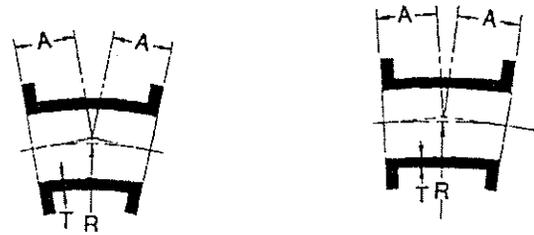
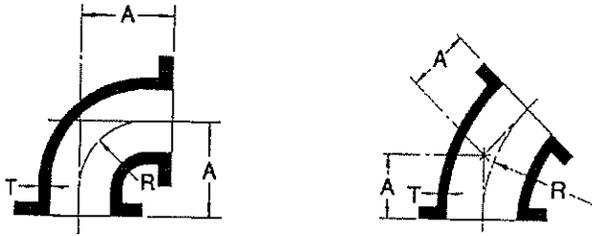
Flanged Fittings

BENDS	
90 Deg Bends	2
45 Deg Bends	2
22 1/2 Deg Bends	2
11 1/4 Deg Bends	2
90 Deg Reducing Bends	3
90 Deg Long Radius Bends	3
90 Deg Base Bends	7
BLIND FLANGES - Solid and Tapped	
	10
CROSSES	
Size-on-size Crosses	6
Reducing Crosses	6
FLARES	
Straight Flare Pieces	11
90 Deg Flare Bends	11
90 Deg Flare Bends, Long Radius	11

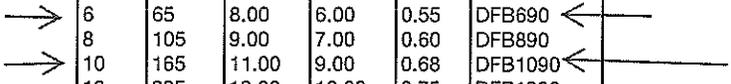
REDUCERS	
Concentric Reducers	9
Eccentric Reducers	9
TEES	
Size-on-size Tees	4
Reducing Tees	5
Base Tees	7
Tees reducing on the run	4
Bullhead Tees	4
WYES	
45 Deg size-on-size Lateral Wyes	8
45 Deg Reducing Lateral Wyes	8
True Wyes	10
Boss and Tap Locations	
	12
Designation of Outlets	
	13



Size	OD	BC	T	Hole Dia.	Bolt Size	No. Bolts
2	6.00	4.75	0.62	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
54	66.25	62.75	3.00	2.00	1 3/4 x 8 1/2	44



BENDS, 1/4 (90 DEG)



Size	Wt.	A	R	T	DUCTILE IRON
2	16	4.50	3.00	0.31	DFB290
3	25	5.50	4.00	0.48	DFB390
4	45	6.50	4.50	0.52	DFB490
5	52	7.50	5.50	0.52	DFB590
6	65	8.00	6.00	0.55	DFB690
8	105	9.00	7.00	0.60	DFB890
10	165	11.00	9.00	0.68	DFB1090
12	235	12.00	10.00	0.75	DFB1290
14	290	14.00	11.50	0.66	DFB1490
16	370	15.00	12.50	0.70	DFB1690
18	450	16.50	14.00	0.75	DFB1890
20	580	18.00	15.50	0.80	DFB2090
24	900	22.00	18.50	0.89	DFB2490
30	1430	25.00	21.50	1.03	DFB3090
36	2135	28.00	24.50	1.15	DFB3690
42	3055	31.00	27.50	1.28	DFB4290
48	4095	34.00	30.50	1.42	DFB4890
54	3740	39.00	34.50	0.90	DFB5490

BENDS, 1/8 (45 DEG)

Size	Wt.	A	R	T	DUCTILE IRON
2	12	2.50	2.41	.31	DFB245
3	20	3.00	3.62	.48	DFB345
4	40	4.00	4.81	.52	DFB445
5	45	4.50	6.04	.52	DFB545
6	55	5.00	7.25	.55	DFB645
8	90	5.50	8.44	.60	DFB845
10	130	6.50	10.88	.68	DFB1045
12	195	7.50	13.25	.75	DFB1245
14	220	7.50	12.06	.66	DFB1445
16	280	8.00	13.25	.70	DFB1645
18	325	8.50	14.50	.75	DFB1845
20	430	9.50	16.88	.80	DFB2045
24	630	11.00	18.12	.89	DFB2445
30	1120	15.00	27.75	1.03	DFB3045
36	1755	18.00	35.00	1.15	DFB3645
42	2600	21.00	42.25	1.28	DFB4245
48	3580	24.00	49.50	1.42	DFB4845
54	2735	20.50	42.32	0.90	DFB5445

BENDS, 1/16 (22-1/2 DEG)

Size	Wt.	A	R	T	DUCTILE IRON
2	12	2.50	6.04	0.31	DFB222
3	20	3.00	7.56	0.48	DFB322
4	40	4.00	10.06	0.52	DFB422
5	45	4.50	10.86	0.52	DFB522
6	55	5.00	15.06	0.55	DFB622
8	90	5.50	17.62	0.60	DFB822
10	135	6.50	22.62	0.68	DFB1022
12	205	7.50	27.62	0.75	DFB1222
14	225	7.50	25.12	0.66	DFB1422
16	285	8.00	27.62	0.70	DFB1622
18	335	8.50	30.19	0.75	DFB1822
20	435	9.50	35.19	0.80	DFB2022
24	640	11.00	37.69	0.89	DFB2422
30	1135	15.00	57.81	1.03	DFB3022
36	1790	18.00	72.88	1.15	DFB3622
42	2665	21.00	88.00	1.28	DFB4222
48	3665	24.00	103.06	1.42	DFB4822

BENDS, 1/32 (11-1/4 DEG)

Size	Wt.	A	R	T	DUCTILE IRON
2	12	2.50	12.69	0.31	DFB211
3	20	3.00	15.25	0.48	DFB311
4	40	4.00	20.31	0.52	DFB411
5	45	4.50	22.85	0.52	DFB511
6	55	5.00	30.50	0.55	DFB611
8	90	5.50	35.50	0.60	DFB811
10	135	6.50	45.69	0.68	DFB1011
12	205	7.50	55.81	0.75	DFB1211
14	225	7.50	50.75	0.66	DFB1411
16	285	8.00	55.81	0.70	DFB1611
18	335	8.50	60.94	0.75	DFB1811
20	435	9.50	71.06	0.80	DFB2011
24	645	11.00	76.12	0.89	DFB2411
30	1150	15.00	116.75	1.03	DFB3011
36	1805	18.00	147.25	1.15	DFB3611
42	2680	21.00	177.69	1.28	DFB4211
48	3695	24.00	208.12	1.42	DFB4811

CAST IRON Flanged Fittings are available upon request.

Manufactured in accordance with AWWA/ANSI C110/A21.10.
 54" fittings are manufactured in accordance with manufacturer's standards in general guidance of AWWA/ANSI C153/A21.53
 Flanges are drilled and faced in accordance with ANSI B16.1 CLASS 125

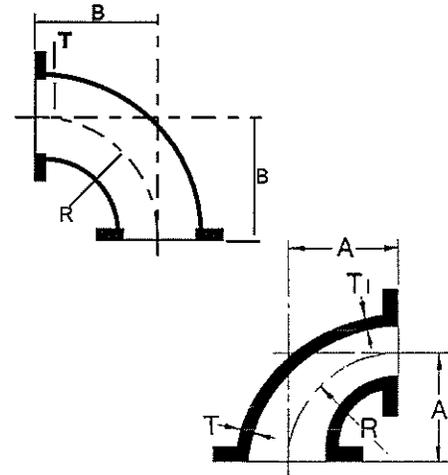
Dimensions in inches
Weights in pounds

Flanged Fittings

12 x 10 FLG Red 90 will be used in Wet Well to transition between 10" and 12" DIP

LONG RADIUS BENDS

Size	Wt.	B	R	T	DUCTILE IRON
3	30	7.75	6.25	0.48	DFL390
4	50	9.00	7.00	0.52	DFL490
6	80	11.50	9.50	0.55	DFL690
8	140	14.00	12.00	0.60	DFL890
10	215	16.50	14.50	0.68	DFL1090
12	325	19.00	17.00	0.75	DFL1290
14	385	21.50	19.00	0.66	DFL1490
16	505	24.00	21.50	0.70	DFL1690
18	630	26.50	24.00	0.75	DFL1890
20	810	29.00	26.50	0.80	DFL2090
24	1240	34.00	30.50	0.89	DFL2490
30	2105	41.50	38.00	1.03	DFL3090
36	3285	49.00	45.50	1.15	DFL3690
42	4865	56.50	53.00	1.28	DFL4290
48	6790	64.00	60.50	1.42	DFL4890



REDUCING 90 DEGREE BENDS

Size	Wt.	A	R	T	T1	DUCTILE IRON
3 x 2	22	5.60	4.0	.48	.31	DFB32
4 x 3	29	6.50	4.5	.52	.48	DFB43
6 x 3	56	8.00	6.0	.55	.48	DFB63
6 x 4	55	8.00	6.0	.55	.52	DFB64
6 x 5	65	8.00	6.0	.55	.52	DFB65
8 x 4	75	9.00	7.0	.60	.52	DFB84
8 x 5	80	9.00	7.0	.60	.52	DFB85
8 x 6	85	9.00	7.0	.60	.55	DFB86
10 x 4	130	11.00	9.0	.68	.52	DFB104
10 x 6	135	11.00	9.0	.68	.55	DFB106
10 x 8	150	11.00	9.0	.68	.60	DFB108
12 x 4	140	12.00	10.0	.75	.52	DFB124
12 x 6	160	12.00	10.0	.75	.55	DFB126
12 x 8	180	12.00	10.0	.75	.60	DFB128
12 x 10	200	12.00	10.0	.75	.68	DFB1210
14 x 6	144	14.00	11.5	.66	.55	DFB146
14 x 8	215	14.00	11.5	.66	.60	DFB148
14 x 10	240	14.00	11.5	.66	.68	DFB1410
14 x 12	270	14.00	11.5	.66	.75	DFB1412
16 x 6	220	15.00	12.5	.70	.55	DFB166
16 x 8	240	15.00	12.5	.70	.60	DFB168
16 x 10	280	15.00	12.5	.70	.68	DFB1610
16 x 12	310	15.00	12.5	.70	.75	DFB1612
16 x 14	335	15.00	12.5	.70	.66	DFB1614
18 x 6	260	16.50	14.0	.75	.55	DFB186
18 x 8	330	16.50	14.0	.75	.60	DFB188
18 x 10	330	16.50	14.0	.75	.68	DFB1810
18 x 12	350	16.50	14.0	.75	.75	DFB1812
18 x 14	385	16.50	14.0	.75	.66	DFB1814
18 x 16	420	16.50	14.0	.75	.70	DFB1816
20 x 6	320	18.00	15.5	.80	.55	DFB206
20 x 8	345	18.00	15.5	.80	.60	DFB208
20 x 10	445	18.00	15.5	.80	.68	DFB2010
20 x 12	415	18.00	15.5	.80	.75	DFB2012
20 x 14	455	18.00	15.5	.80	.66	DFB2014
20 x 16	495	18.00	15.5	.80	.70	DFB2016
20 x 18	525	18.00	15.5	.80	.75	DFB2018

Size	Wt.	A	R	T	T1	DUCTILE IRON
24 x 6	480	22.00	18.5	.89	.55	DFB246
24 x 8	505	22.00	18.5	.89	.60	DFB248
24 x 10	545	22.00	18.5	.89	.68	DFB2410
24 x 12	575	22.00	18.5	.89	.75	DFB2412
24 x 14	635	22.00	18.5	.89	.66	DFB2414
24 x 16	685	22.00	18.5	.89	.70	DFB2416
24 x 18	675	22.00	18.5	.89	.75	DFB2418
24 x 20	740	22.00	18.5	.89	.80	DFB2420
30 x 12	840	25.00	21.50	1.03	.75	DFB3012
30 x 14	1090	25.00	21.50	1.03	.66	DFB3014
30 x 16	900	25.00	21.50	1.03	.70	DFB3016
30 x 18	980	25.00	21.50	1.03	.75	DFB3018
30 x 20	1070	25.00	21.50	1.03	.80	DFB3020
30 x 24	1205	25.00	21.50	1.03	.89	DFB3024
36 x 12	1195	28.00	24.50	1.15	.75	DFB3612
36 x 14	1215	28.00	24.50	1.15	.66	DFB3614
36 x 16	1255	28.00	24.50	1.15	.70	DFB3616
36 x 18	1295	28.00	24.50	1.15	.75	DFB3618
36 x 20	1360	28.00	24.50	1.15	.80	DFB3620
36 x 24	1520	28.00	24.50	1.15	.89	DFB3624
36 x 30	1785	28.00	24.50	1.15	1.03	DFB3630
42 x 12	1655	31.00	27.50	1.28	.75	DFB4212
42 x 14	1675	31.00	27.50	1.28	.66	DFB4214
42 x 16	1715	31.00	27.50	1.28	.70	DFB4216
42 x 18	1755	31.00	27.50	1.28	.75	DFB4218
42 x 20	1895	31.00	27.50	1.28	.80	DFB4220
42 x 24	1980	31.00	27.50	1.28	.89	DFB4224
42 x 30	2345	31.00	27.50	1.28	1.03	DFB4230
42 x 36	3390	31.00	27.50	1.28	1.15	DFB4236
48 x 12	2175	34.00	30.50	1.42	.75	DFB4812
48 x 14	2195	34.00	30.50	1.42	.66	DFB4814
48 x 16	2235	34.00	30.50	1.42	.70	DFB4816
48 x 18	2275	34.00	30.50	1.42	.75	DFB4818
48 x 20	2340	34.00	30.50	1.42	.80	DFB4820
48 x 24	3240	34.00	30.50	1.42	.89	DFB4824
48 x 30	3600	34.00	30.50	1.42	1.03	DFB4830
48 x 36	3255	34.00	30.50	1.42	1.15	DFB4836
48 x 42	4685	34.00	30.50	1.42	1.28	DFB4842

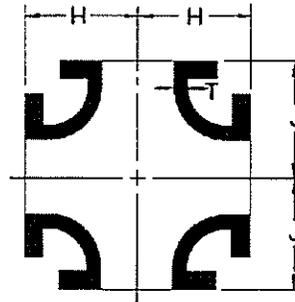
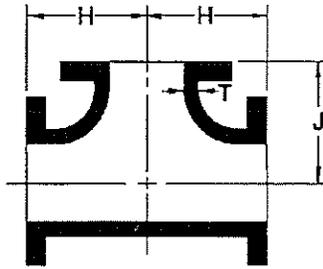
CAST IRON Flanged Fittings are available upon request.

Manufactured in accordance with AWWA/ANSI C110/A21.10.

54" fittings are manufactured in accordance with manufacturer's standards in general guidance of AWWA/ANSI C153/A21.53

Flanges are drilled and faced in accordance with ANSI B16.1 CLASS 125

Dimensions in inches
Weights in pounds

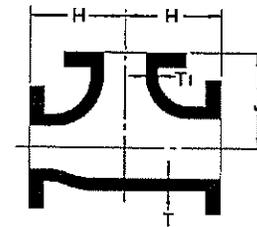


TEES & CROSSES

Size	TEES		Wt.	H	J	T	CROSSES	
	DUCTILE IRON						DUCTILE IRON	Wt.
2	DFT22	20	4.50	4.50	0.31	DFC22	30	
3	DFT33	40	5.50	5.50	0.48	DFC33	50	
4	DFT44	65	6.50	6.50	0.52	DFC44	80	
5	DFT55	85	7.50	7.50	0.52	DFC55	105	
6	DFT66	95	8.00	8.00	0.55	DFC66	120	
8	DFT88	155	9.00	9.00	0.60	DFC88	195	
10	DFT1010	270	11.00	11.00	0.80	DFC1010	330	
12	DFT1212	385	12.00	12.00	0.87	DFC1212	460	
14	DFT1414	435	14.00	14.00	0.66	DFC1414	530	
16	DFT1616	550	15.00	15.00	0.70	DFC1616	665	
18	DFT1818	665	16.50	16.50	0.75	DFC1818	795	
20	DFT2020	855	18.00	18.00	0.80	DFC2020	1015	
24	DFT2424	1330	22.00	22.00	0.89	DFC2424	1570	
30	DFT3030	2150	25.00	25.00	1.03	DFC3030	2500	
36	DFT3636	3160	28.00	28.00	1.15	DFC3636	3620	
42	DFT4242	5580	31.00	31.00	1.78	DFC4242	6155	
48	DFT4848	7385	34.00	34.00	1.96	DFC4848	8005	
54	DFT5454	6025	39.00	39.00	1.05			

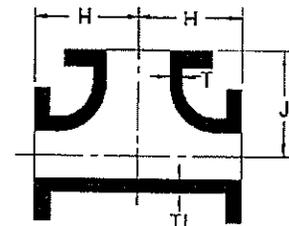
REDUCING ON RUN TEES

Size	Wt.	H	J	T	T1	DUCTILE IRON
6 x 4 x 4	85	8.00	8.00	.55	.52	DRT644
6 x 4 x 6	90	8.00	8.00	.55	.52	DRT646
8 x 6 x 4	125	9.00	9.00	.60	.55	DRT864
8 x 6 x 6	135	9.00	9.00	.60	.55	DRT866
8 x 6 x 8	145	9.00	9.00	.60	.65	DRT868



BULLHEAD TEES

Size	Wt.	H	J	T	T1	DUCTILE IRON
4 x 4 x 6	90	8.00	8.00	.52	.55	DBT446
6 x 6 x 8	140	9.00	9.00	.55	.60	DBT668
8 x 8 x 10	260	11.00	11.00	.60	.67	DBT810
10 x 10 x 12	355	12.00	12.00	.80	.87	DBT1012



CAST IRON Flanged Fittings are available upon request.

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54" fittings are manufactured in accordance with manufacturer's standards in general guidance of AWWA/ANSI C153/A21.53
Flanges are drilled and faced in accordance with ANSI B16.1 CLASS 125

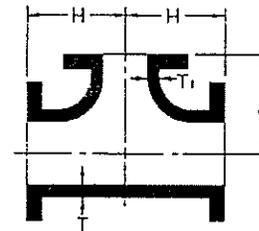
Dimensions in inches
Weights in pounds

Flanged Fittings

REDUCING TEES

Size	Wt.	H	J	T	T1	DUCTILE IRON
3 x 2	35	5.50	6.50	.48	.31	DFT32
4 x 2	50	6.50	6.50	.52	.31	DFT42
4 x 2 1/2	55	6.50	6.50	.52	.31	DFT425
4 x 3	60	6.50	6.50	.52	.48	DFT43
6 x 2	85	8.00	8.00	.55	.31	DFT62
6 x 3	85	8.00	8.00	.55	.48	DFT63
6 x 4	90	8.00	8.00	.55	.52	DFT64
8 x 4	140	9.00	9.00	.60	.52	DFT84
8 x 6	145	9.00	9.00	.60	.55	DFT86
10 x 4	205	11.00	11.00	.68	.52	DFT104
10 x 6	215	11.00	11.00	.68	.55	DFT106
10 x 8	225	11.00	11.00	.68	.60	DFT108
12 x 4	290	12.00	12.00	.75	.52	DFT124
12 x 6	295	12.00	12.00	.75	.55	DFT126
12 x 8	310	12.00	12.00	.75	.60	DFT128
12 x 10	360	12.00	12.00	.87	.80	DFT1210
14 x 6	375	14.00	14.00	.66	.55	DFT146
14 x 8	390	14.00	14.00	.66	.60	DFT148
14 x 10	400	14.00	14.00	.66	.68	DFT1410
14 x 12	425	14.00	14.00	.66	.75	DFT1412
16 x 6	465	15.00	15.00	.70	.55	DFT166
16 x 8	475	15.00	15.00	.70	.60	DFT168
16 x 10	495	15.00	15.00	.70	.68	DFT1610
16 x 12	520	15.00	15.00	.70	.75	DFT1612
16 x 14	530	15.00	15.00	.70	.66	DFT1614
18 x 6	480	13.00	15.50	.75	.55	DFT186
18 x 8	495	13.00	15.50	.75	.60	DFT188
18 x 10	510	13.00	15.50	.75	.68	DFT1810
18 x 12	535	13.00	15.50	.75	.75	DFT1812
18 x 14	630	16.50	16.50	.75	.66	DFT1814
18 x 16	650	16.50	16.50	.75	.70	DFT1816
20 x 6	610	14.00	17.00	.80	.55	DFT206
20 x 8	620	14.00	17.00	.80	.60	DFT208
20 x 10	635	14.00	17.00	.80	.68	DFT2010
20 x 12	660	14.00	17.00	.80	.75	DFT2012
20 x 14	665	14.00	17.00	.80	.66	DFT2014
20 x 16	810	18.00	18.00	.80	.70	DFT2016
20 x 18	820	18.00	18.00	.80	.75	DFT2018
24 x 6	845	15.00	19.00	.89	.55	DFT246
24 x 8	860	15.00	19.00	.89	.60	DFT248
24 x 10	880	15.00	19.00	.89	.68	DFT2410
24 x 12	890	15.00	19.00	.89	.75	DFT2412
24 x 14	900	15.00	19.00	.89	.66	DFT2414
24 x 16	915	15.00	19.00	.89	.70	DFT2416
24 x 18	1220	22.00	22.00	.89	.75	DFT2418
24 x 20	1255	22.00	22.00	.89	.80	DFT2420

Size	Wt.	H	J	T	T1	DUCTILE IRON
30 x 12	1490	18.00	23.00	1.03	.75	DFT3012
30 x 14	1490	18.00	23.00	1.03	.66	DFT3014
30 x 16	1505	18.00	23.00	1.03	.70	DFT3016
30 x 18	1515	18.00	23.00	1.03	.75	DFT3018
30 x 20	1540	18.00	23.00	1.03	.80	DFT3020
30 x 24	2025	25.00	25.00	1.03	.89	DFT3024
36 x 12	2170	20.00	26.00	1.15	.75	DFT3612
36 x 14	2175	20.00	26.00	1.15	.66	DFT3614
36 x 16	2185	20.00	26.00	1.15	.70	DFT3616
36 x 18	2190	20.00	26.00	1.15	.75	DFT3618
36 x 20	2210	20.00	26.00	1.15	.80	DFT3620
36 x 24	2255	20.00	26.00	1.15	.89	DFT3624
36 x 30	3000	28.00	28.00	1.15	1.03	DFT3630
42 x 12	3165	23.00	30.00	1.28	.75	DFT4212
42 x 14	3170	23.00	30.00	1.28	.66	DFT4214
42 x 16	3180	23.00	30.00	1.28	.70	DFT4216
42 x 18	3185	23.00	30.00	1.28	.75	DFT4218
42 x 20	3205	23.00	30.00	1.28	.80	DFT4220
42 x 24	3245	23.00	30.00	1.28	.89	DFT4224
42 x 30	4125	31.00	31.00	1.28	1.03	DFT4230
42 x 36	5360	31.00	31.00	1.28	1.15	DFT4236
48 x 12	4315	26.00	34.00	1.42	.75	DFT4812
48 x 14	4315	26.00	34.00	1.42	.66	DFT4814
48 x 16	4330	26.00	34.00	1.42	.70	DFT4816
48 x 18	4330	26.00	34.00	1.42	.75	DFT4818
48 x 20	4350	26.00	34.00	1.42	.80	DFT4820
48 x 24	4385	26.00	34.00	1.42	.89	DFT4824
48 x 30	4455	26.00	34.00	1.42	1.03	DFT4830
48 x 36	5555	34.00	34.00	1.42	1.15	DFT4836
48 x 42	7195	34.00	34.00	1.42	1.28	DFT4842



CAST IRON Flanged Fittings are available upon request.

Dimensions in inches
Weights in pounds

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Manufactured in accordance with AWWA/ANSI C110/A21.10.
54" fittings are manufactured in accordance with manufacturer's standards in general guidance of AWWA/ANSI C153/A21.53
Flanges are drilled and faced in accordance with ANSI B16.1 CLASS 125

Flanged Fittings

ECCENTRIC REDUCERS

Size	Wt.	L	T	T1	DUCTILE IRON
3 x 2	16	6	0.48	0.31	DFE32
3 x 2 1/2	21	6	0.48	0.31	DFE325
4 x 2	25	7	0.52	0.31	DFE42
4 x 2 1/2	28	7	0.52	0.31	DFE425
4 x 3	30	7	0.52	0.48	DFE43
6 x 2	35	9	0.55	0.31	DFE62
6 x 2 1/2	38	9	0.55	0.31	DFE625
6 x 3	40	9	0.55	0.48	DFE63
6 x 4	45	9	0.55	0.52	DFE64
6 x 5	51	9	0.55	0.52	DFE65
8 x 4	65	11	0.60	0.52	DFE84
8 x 5	70	11	0.60	0.52	DFE85
8 x 6	75	11	0.60	0.55	DFE86
10 x 4	85	12	0.68	0.52	DFE104
10 x 6	90	12	0.68	0.55	DFE106
10 x 8	110	12	0.68	0.60	DFE108
12 x 4	120	14	0.75	0.52	DFE124
12 x 6	130	14	0.75	0.55	DFE126
12 x 8	145	14	0.75	0.60	DFE128
12 x 10	170	14	0.75	0.68	DFE1210
14 x 6	155	16	0.66	0.55	DFE146
14 x 8	175	16	0.66	0.60	DFE148
14 x 10	190	16	0.66	0.68	DFE1410
14 x 12	220	16	0.66	0.75	DFE1412
16 x 6	190	18	0.70	0.55	DFE166
16 x 8	210	18	0.70	0.60	DFE168
16 x 10	235	18	0.70	0.68	DFE1610



Size	Wt.	L	T	T1	DUCTILE IRON
16 x 12	265	18	0.70	0.75	DFE1612
16 x 14	280	18	0.70	0.66	DFE1614
18 x 8	240	19	0.75	0.60	DFE188
18 x 10	265	19	0.75	0.68	DFE1810
18 x 12	295	19	0.75	0.75	DFE1812
18 x 14	310	19	0.75	0.66	DFE1814
18 x 16	340	19	0.75	0.70	DFE1816
20 x 10	310	20	0.80	0.68	DFE2010
20 x 12	345	20	0.80	0.75	DFE2012
20 x 14	355	20	0.80	0.66	DFE2014
20 x 16	390	20	0.80	0.70	DFE2016
20 x 18	410	20	0.80	0.75	DFE2018
24 x 12	480	24	0.89	0.75	DFE2412
24 x 14	490	24	0.89	0.66	DFE2414
24 x 16	525	24	0.89	0.70	DFE2416
24 x 18	550	24	0.89	0.75	DFE2418
24 x 20	590	24	0.89	0.80	DFE2420
30 x 18	810	30	1.03	0.75	DFE3018
30 x 20	870	30	1.03	0.80	DFE3020
30 x 24	970	30	1.03	0.89	DFE3024
36 x 20	1230	36	1.15	0.80	DFE3620
36 x 24	1345	36	1.15	0.89	DFE3624
36 x 30	1555	36	1.15	1.03	DFE3630
42 x 24	1820	42	1.28	0.89	DFE4224
42 x 30	2060	42	1.28	1.03	DFE4230
42 x 36	2345	42	1.28	1.15	DFE4236
48 x 30	2625	48	1.42	1.03	DFE4830
48 x 36	2950	48	1.42	1.15	DFE4836
48 x 42	3320	48	1.42	1.28	DFE4842

CONCENTRIC REDUCERS

Size	Wt.	L	T	T1	DUCTILE IRON
3 x 2	16	6	.48	.31	DFR32
3 x 2 1/2	21	6	.48	.31	DFR325
4 x 2	25	7	.52	.31	DFR42
4 x 2 1/2	28	7	.52	.31	DFR425
4 x 3	30	7	.52	.48	DFR43
6 x 2	35	9	.55	.31	DFR62
6 x 2 1/2	38	9	.55	.31	DFR625
6 x 3	40	9	.55	.48	DFR63
6 x 4	45	9	.55	.52	DFR64
6 x 5	51	9	.55	.52	DFR65
8 x 4	65	11	.60	.52	DFR84
8 x 5	70	11	.60	.52	DFR85
8 x 6	75	11	.60	.55	DFR86
10 x 4	85	12	.68	.52	DFR104
10 x 6	90	12	.68	.55	DFR106
10 x 8	110	12	.68	.60	DFR108
12 x 4	120	14	.75	.52	DFR124
12 x 6	130	14	.75	.55	DFR126
12 x 8	145	14	.75	.60	DFR128
12 x 10	170	14	.75	.68	DFR1210
14 x 6	155	16	.66	.55	DFR146
14 x 8	175	16	.66	.60	DFR148
14 x 10	190	16	.66	.68	DFR1410
14 x 12	220	16	.66	.75	DFR1412
16 x 6	190	18	.70	.55	DFR166
16 x 8	210	18	.70	.60	DFR168
16 x 10	235	18	.70	.68	DFR1610



Size	Wt.	L	T	T1	DUCTILE IRON
16 x 12	265	18	.70	.75	DFR1612
16 x 14	280	18	.70	.66	DFR1614
18 x 8	240	19	.75	.60	DFR188
18 x 10	265	19	.75	.68	DFR1810
18 x 12	295	19	.75	.75	DFR1812
18 x 14	310	19	.75	.66	DFR1814
18 x 16	340	19	.75	.70	DFR1816
20 x 10	310	20	.80	.68	DFR2010
20 x 12	345	20	.80	.75	DFR2012
20 x 14	355	20	.80	.66	DFR2014
20 x 16	390	20	.80	.70	DFR2016
20 x 18	410	20	.80	.75	DFR2018
24 x 12	480	24	.89	.75	DFR2412
24 x 14	490	24	.89	.66	DFR2414
24 x 16	525	24	.89	.70	DFR2416
24 x 18	550	24	.89	.75	DFR2418
24 x 20	590	24	.89	.80	DFR2420
30 x 18	810	30	1.03	.75	DFR3018
30 x 20	870	30	1.03	.80	DFR3020
30 x 24	970	30	1.03	.89	DFR3024
36 x 20	1230	36	1.15	.80	DFR3620
36 x 24	1345	36	1.15	.89	DFR3624
36 x 30	1555	36	1.15	1.03	DFR3630
42 x 24	1820	42	1.28	.89	DFR4224
42 x 30	2060	42	1.28	1.03	DFR4230
42 x 36	2345	42	1.28	1.15	DFR4236
48 x 30	2625	48	1.42	1.03	DFR4830
48 x 36	2950	48	1.42	1.15	DFR4836
48 x 42	3320	48	1.42	1.28	DFR4842
54 x 48	1695	18	0.90	0.80	DFR5448

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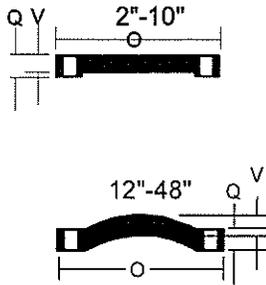
54" fittings are manufactured in accordance with manufacturer's standards in general guidance of AWWA/ANSI C153/A21.53

Flanges are drilled and faced in accordance with ANSI B16.1 CLASS 125

Dimensions in inches
Weights in pounds

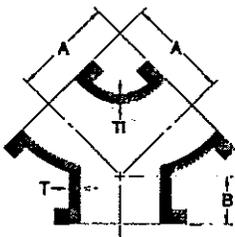
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BLIND FLANGES



Size	Weight	O	Q	V	DUCTILE IRON	
					Solid	Tapped
3	9	7.50	0.75	0.69	BDF3	DTF3
4	14	9.00	0.94	0.88	BDF4	DTF4
6	24	11.00	1.00	0.94	BDF6	DTF6
8	38	13.50	1.12	1.06	BDF8	DTF8
10	59	16.00	1.19	1.12	BDF10	DTF10
12	76	19.00	1.25	0.81	BDF12	DTF12
14	110	21.00	1.38	0.88	BDF14	DTF14
16	145	23.50	1.44	1.00	BDF16	DTF16
18	185	25.00	1.56	1.06	BDF18	DTF18
20	217	27.50	1.69	1.12	BDF20	DTF20
24	370	32.00	1.88	1.25	BDF24	DTF24
30	500	38.75	2.12	1.44	BDF30	DTF30
36	790	46.00	2.38	1.62	BDF36	DTF36
42	1175	53.00	2.62	1.81	BDF42	DTF42
48	1585	59.50	2.75	2.00	BDF48	DTF48
54	2600	66.25	3.00	2.25	BDF54	DTF54

TRUE WYES



Size	Wt.	A	B	T	T1	DUCTILE IRON
3 x 3	30	5.50	3.00	0.48	0.48	DFW33
4 x 4	55	6.50	3.00	0.52	0.52	DFW44
6 x 4	60	6.50	3.50	0.55	0.52	DFW64
6 x 6	85	8.00	3.50	0.55	0.55	DFW66
8 x 6	100	8.00	4.50	0.60	0.55	DFW86
8 x 8	140	9.00	4.50	0.60	0.60	DFW88
10 x 8	155	9.00	5.00	0.68	0.60	DFW108
10 x 10	185	11.00	5.00	0.68	0.68	DFW1010
12 x 8	210	9.00	5.50	0.75	0.60	DFW128
12 x 12	300	12.00	5.50	0.75	0.75	DFW1212
14 x 14	435	14.00	6.00	0.66	0.66	DFW1414
16 x 16	580	15.00	6.50	0.70	0.70	DFW1616
18 x 18	680	16.50	7.00	0.75	0.75	DFW1818
20 x 20	960	18.00	8.00	0.80	0.80	DFW2020
24 x 24	1370	22.00	9.00	0.89	0.89	DFW2424
30 x 18	1185	25.00	10.00	1.03	0.75	DFW3018
30 x 20	1210	25.00	10.00	1.03	0.80	DFW3020
30 x 24	1585	25.00	10.00	1.03	0.89	DFW3024
30 x 30	2630	25.00	10.00	1.03	1.03	DFW3030
36 x 24	2080	28.00	12.00	1.15	0.89	DFW3624
36 x 30	2655	28.00	15.00	1.15	1.03	DFW3630
36 x 36	3470	28.00	15.00	1.15	1.15	DFW3636
42 x 30	3410	31.00	11.75	1.28	1.03	DFW4230
42 x 36	4205	31.00	19.00	1.28	1.15	DFW4236
42 x 42	5235	31.00	21.00	1.28	1.28	DFW4242
48 x 36	4415	28.00	14.00	1.42	1.15	DFW4836
48 x 48	6565	34.00	18.00	1.42	1.42	DFW4848

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Dimensions in inches
 Weights in pounds