

FIBERBOND®

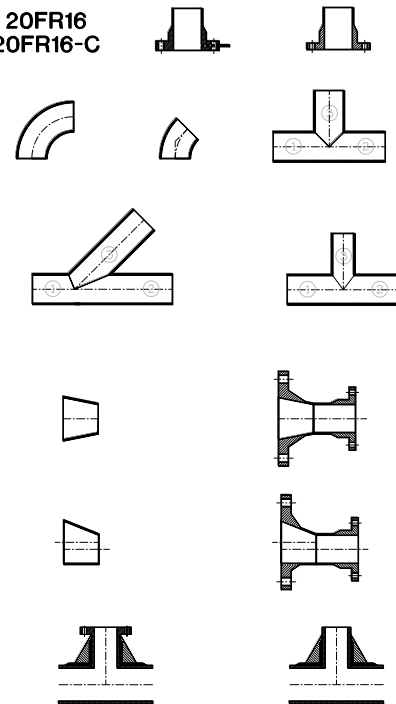
ENGINEERED COMPOSITE PIPING SYSTEMS

SERIES 20FR16 FITTINGS GUIDE 10bar Items

FIBERBOND® SERIES

- 20FR16
 - 20FR16-C
- 26", 28", 30", 32", 34", 36" 10bar

20FR16
20FR16-C



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FUTURE PIPE INDUSTRIES

January 2015 Edition

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FIBERBOND® Fittings Guide - Series 20FR16 and 20FR16-C Special Items - 26", 28", 32", 34" 10bar

PIPE SERIES:

The fittings contained in this book are available in the following series (unless otherwise noted):

- | | |
|----------|--|
| 20FR16 | Product for seawater, cooling water, and other high pressure lines, with fire endurance properties. 16bar up to 24", 10bar up to 36" |
| 20FR16-C | Identical to 20FR16, except it has an electrically conductive exterior for use where grounding is required. |

Data on sizes 30" and 36" are also listed, even though these are standard sizes.

CHANGES FROM THE PREVIOUS EDITION

January 2015: Combined flanges and blinds into one section. Moved bleed rings, vanstone flanges and Fig.19MH/MC blinds to the Special Fittings Guide. Removed Fig.80F3.

January 2013: Added note on flange neck lengths. Added note on the pigmented exterior of fittings and flanges (in the Elbows section).

January 2012: Changed the layout of information for the threaded connections.

September 2010: Increased the "LS" dimension for Fig.46 flanged branches, for branch sizes 10" and larger.

March 2010: Clarified that the Fig.46 and Fig.48 olets consist of the branch fitting only.

February 2010: Corrected the LTHK2 and L2 lengths for the Fig.10-O orifice flanges.

August 2008: Changed wording on material choices for the Fig.47JF MNPT olet and Fig.94 threaded blind flange. Changed "metallic" to "alloy" throughout the document.

May 2008: Corrected POD, PROD, PBOD, FOD, and FROD dimensions for all items in sizes 26" thru 36". Corrected POD and PBOD dimensions for Fig.48 and 80 in all sizes.

December 2006: Added 10" thru 24" olets (Fig.46 and Fig.48). Note: 10" and larger olets are listed for these sizes since they are on the 26" and larger headers, thus they are only rated for 150psig (10bar). 10" and larger olets are not available on the 12" thru 24" headers since these would be rated for 232psig (16bar). So, you can specify a 30"x10" olet (rated for 150psig, 10bar), but not a 24"x10".

November 2006: First draft release.

OLETS, PLAIN AND FLANGED (cont'd)

Flanged End Olet Dimensions (cont'd)

Size	LS		A2		LTHK		FLOD		Weight	
	(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	(lb)	(kg)
30"x28"										
30"x26"										
30"x24"	42.00"	1067	24.00"	610	2.88"	73	32.00"	813	439.8	199.7
30"x20"	38.00"	965	22.00"	559	2.57"	65	27.50"	699	274.4	124.6
30"x18"	36.00"	914	21.00"	533	2.32"	59	25.00"	635	210.1	95.4
30"x16"	35.00"	889	20.00"	508	2.34"	59	23.50"	597	155.8	70.7
30"x14"	33.00"	838	18.00"	457	2.03"	52	21.00"	533	109.8	49.8
30"x12"	32.00"	813	16.00"	406	1.95"	50	19.00"	483	75.4	34.2
30"x10"	30.00"	762	14.00"	356	1.69"	43	16.00"	406	54.2	24.6
30"x8"	28.00"	711	12.00"	305	1.36"	35	13.50"	343	30.4	13.8
30"x6"	25.00"	635	10.00"	254	1.19"	30	11.00"	279	16.3	7.4
30"x5"	25.00"	635	10.00"	254	1.10"	28	10.00"	254	12.0	5.4
30"x4"	22.00"	559	8.00"	203	1.01"	26	9.00"	229	7.6	3.5
30"x3"	21.00"	533	7.00"	178	0.77"	20	7.50"	191	5.0	2.3
30"x2.5"	21.00"	533	7.00"	178	0.72"	18	7.00"	178	4.3	2.0
30"x2"	21.00"	533	6.00"	152	0.64"	16	6.00"	152	3.3	1.5
30"x1.5"	21.00"	533	6.00"	152	0.52"	13	5.00"	127	2.5	1.1
30"x1"	21.00"	533	6.00"	152	0.50"	13	4.25"	108	2.0	0.9
32"x30"	43.00"	1092	30.00"	762	2.86"	73	38.75"	984	428.1	194.4
32"x28"										
32"x26"										
32"x24"	43.00"	1092	24.00"	610	2.88"	73	32.00"	813	439.8	199.7
32"x20"	39.00"	991	22.00"	559	2.57"	65	27.50"	699	274.4	124.6
32"x18"	37.00"	940	21.00"	533	2.32"	59	25.00"	635	210.1	95.4
32"x16"	36.00"	914	20.00"	508	2.34"	59	23.50"	597	155.8	70.7
32"x14"	34.00"	864	18.00"	457	2.03"	52	21.00"	533	109.8	49.8
32"x12"	33.00"	838	16.00"	406	1.95"	50	19.00"	483	75.4	34.2
32"x10"	31.00"	787	14.00"	356	1.69"	43	16.00"	406	54.2	24.6
32"x8"	29.00"	737	12.00"	305	1.36"	35	13.50"	343	30.4	13.8
32"x6"	26.00"	660	10.00"	254	1.19"	30	11.00"	279	16.3	7.4
32"x5"	26.00"	660	10.00"	254	1.10"	28	10.00"	254	12.0	5.4
32"x4"	23.00"	584	8.00"	203	1.01"	26	9.00"	229	7.6	3.5
32"x3"	22.00"	559	7.00"	178	0.77"	20	7.50"	191	5.0	2.3
32"x2.5"	22.00"	559	7.00"	178	0.72"	18	7.00"	178	4.3	2.0
32"x2"	22.00"	559	6.00"	152	0.64"	16	6.00"	152	3.3	1.5
32"x1.5"	22.00"	559	6.00"	152	0.52"	13	5.00"	127	2.5	1.1
32"x1"	22.00"	559	6.00"	152	0.50"	13	4.25"	108	2.0	0.9

OLETS, PLAIN AND FLANGED (cont'd)

Flanged End Olet Dimensions (cont'd)

Size	LS		A2		LTHK		FLOD		Weight	
	(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	(lb)	(kg)
34"x32"										
34"x30"	44.00"	1118	30.00"	762	2.86"	73	38.75"	984	428.1	194.4
34"x28"										
34"x26"										
34"x24"	44.00"	1118	24.00"	610	2.88"	73	32.00"	813	439.8	199.7
34"x20"	40.00"	1016	22.00"	559	2.57"	65	27.50"	699	274.4	124.6
34"x18"	38.00"	965	21.00"	533	2.32"	59	25.00"	635	210.1	95.4
34"x16"	37.00"	940	20.00"	508	2.34"	59	23.50"	597	155.8	70.7
34"x14"	35.00"	889	18.00"	457	2.03"	52	21.00"	533	109.8	49.8
34"x12"	34.00"	864	16.00"	406	1.95"	50	19.00"	483	75.4	34.2
34"x10"	32.00"	813	14.00"	356	1.69"	43	16.00"	406	54.2	24.6
34"x8"	30.00"	762	12.00"	305	1.36"	35	13.50"	343	30.4	13.8
34"x6"	27.00"	686	10.00"	254	1.19"	30	11.00"	279	16.3	7.4
34"x5"	27.00"	686	10.00"	254	1.10"	28	10.00"	254	12.0	5.4
34"x4"	24.00"	610	8.00"	203	1.01"	26	9.00"	229	7.6	3.5
34"x3"	23.00"	584	7.00"	178	0.77"	20	7.50"	191	5.0	2.3
34"x2.5"	23.00"	584	7.00"	178	0.72"	18	7.00"	178	4.3	2.0
34"x2"	23.00"	584	6.00"	152	0.64"	16	6.00"	152	3.3	1.5
34"x1.5"	23.00"	584	6.00"	152	0.52"	13	5.00"	127	2.5	1.1
34"x1"	23.00"	584	6.00"	152	0.50"	13	4.25"	108	2.0	0.9
36"x34"										
36"x32"										
36"x30"	45.00"	1143	30.00"	762	2.86"	73	38.75"	984	428.1	194.4
36"x28"										
36"x26"										
36"x24"	45.00"	1143	24.00"	610	2.88"	73	32.00"	813	439.8	199.7
36"x20"	41.00"	1041	22.00"	559	2.57"	65	27.50"	699	274.4	124.6
36"x18"	39.00"	991	21.00"	533	2.32"	59	25.00"	635	210.1	95.4
36"x16"	38.00"	965	20.00"	508	2.34"	59	23.50"	597	155.8	70.7
36"x14"	36.00"	914	18.00"	457	2.03"	52	21.00"	533	109.8	49.8
36"x12"	35.00"	889	16.00"	406	1.95"	50	19.00"	483	75.4	34.2
36"x10"	33.00"	838	14.00"	356	1.69"	43	16.00"	406	54.2	24.6
36"x8"	31.00"	787	12.00"	305	1.36"	35	13.50"	343	30.4	13.8
36"x6"	28.00"	711	10.00"	254	1.19"	30	11.00"	279	16.3	7.4
36"x5"	28.00"	711	10.00"	254	1.10"	28	10.00"	254	12.0	5.4
36"x4"	25.00"	635	8.00"	203	1.01"	26	9.00"	229	7.6	3.5
36"x3"	24.00"	610	7.00"	178	0.77"	20	7.50"	191	5.0	2.3
36"x2.5"	24.00"	610	7.00"	178	0.72"	18	7.00"	178	4.3	2.0
36"x2"	24.00"	610	6.00"	152	0.64"	16	6.00"	152	3.3	1.5
36"x1.5"	24.00"	610	6.00"	152	0.52"	13	5.00"	127	2.5	1.1
36"x1"	24.00"	610	6.00"	152	0.50"	13	4.25"	108	2.0	0.9

OLETS, PLAIN AND FLANGED (cont'd)

Plain End Olet Dimensions (cont'd)

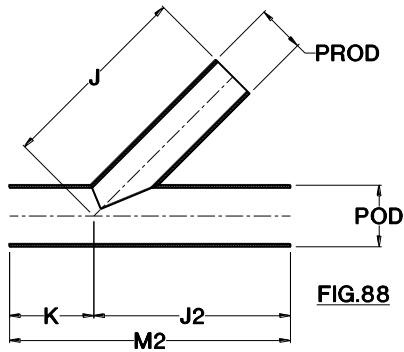
Size	H		A2		POD		PBOD		Weight	
	(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	(lb)	(kg)
30"x28"										
30"x26"										
30"x24"	33.00"	838	24.00"	610	31.71"	805	26.07"	662	324.7	147.4
30"x20"	33.00"	838	22.00"	559	31.71"	805	21.77"	553	199.0	90.3
30"x18"	33.00"	838	21.00"	533	31.71"	805	19.63"	499	152.2	69.1
30"x16"	33.00"	838	20.00"	508	31.71"	805	17.49"	444	108.5	49.2
30"x14"	33.00"	838	18.00"	457	31.71"	805	15.33"	389	76.3	34.6
30"x12"	33.00"	838	16.00"	406	31.71"	805	12.92"	328	49.7	22.6
30"x10"	33.00"	838	14.00"	356	31.71"	805	10.78"	274	29.5	13.4
30"x8"	33.00"	838	12.00"	305	31.71"	805	8.64"	219	16.2	7.4
30"x6"	33.00"	838	10.00"	254	31.71"	805	6.50"	165	8.0	3.6
30"x5"	33.00"	838	10.00"	254	31.71"	805	5.50"	140	5.6	2.5
30"x4"	33.00"	838	8.00"	203	31.71"	805	4.50"	114	3.2	1.5
30"x3"	33.00"	838	7.00"	178	31.71"	805	3.50"	89	2.3	1.0
30"x2.5"	33.00"	838	7.00"	178	31.71"	805	3.00"	76	2.0	0.9
30"x2"	33.00"	838	6.00"	152	31.71"	805	2.50"	64	1.6	0.7
30"x1.5"	33.00"	838	6.00"	152	31.71"	805	2.00"	51	1.3	0.6
30"x1"	33.00"	838	6.00"	152	31.71"	805	2.00"	51	0.9	0.4
32"x30"	33.00"	838	30.00"	762	33.79"	858	31.71"	805	284.0	128.9
32"x28"										
32"x26"										
32"x24"	33.00"	838	24.00"	610	33.79"	858	26.07"	662	324.7	147.4
32"x20"	33.00"	838	22.00"	559	33.79"	858	21.77"	553	199.0	90.3
32"x18"	33.00"	838	21.00"	533	33.79"	858	19.63"	499	152.2	69.1
32"x16"	33.00"	838	20.00"	508	33.79"	858	17.49"	444	108.5	49.2
32"x14"	33.00"	838	18.00"	457	33.79"	858	15.33"	389	76.3	34.6
32"x12"	33.00"	838	16.00"	406	33.79"	858	12.92"	328	49.7	22.6
32"x10"	33.00"	838	14.00"	356	33.79"	858	10.78"	274	29.5	13.4
32"x8"	33.00"	838	12.00"	305	33.79"	858	8.64"	219	16.2	7.4
32"x6"	33.00"	838	10.00"	254	33.79"	858	6.50"	165	8.0	3.6
32"x5"	33.00"	838	10.00"	254	33.79"	858	5.50"	140	5.6	2.5
32"x4"	33.00"	838	8.00"	203	33.79"	858	4.50"	114	3.2	1.5
32"x3"	33.00"	838	7.00"	178	33.79"	858	3.50"	89	2.3	1.0
32"x2.5"	33.00"	838	7.00"	178	33.79"	858	3.00"	76	2.0	0.9
32"x2"	33.00"	838	6.00"	152	33.79"	858	2.50"	64	1.6	0.7
32"x1.5"	33.00"	838	6.00"	152	33.79"	858	2.00"	51	1.3	0.6
32"x1"	33.00"	838	6.00"	152	33.79"	858	1.50"	38	0.9	0.4

OLETS, PLAIN AND FLANGED (cont'd)

Plain End Olet Dimensions (cont'd)

Size	H		A2		POD		PBOD		Weight	
	(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	(lb)	(kg)
34"x32"										
34"x30"	33.00"	838	30.00"	762	35.89"	912	31.71"	805	284.0	128.9
34"x28"										
34"x26"										
34"x24"	33.00"	838	24.00"	610	35.89"	912	26.07"	662	324.7	147.4
34"x20"	33.00"	838	22.00"	559	35.89"	912	21.77"	553	199.0	90.3
34"x18"	33.00"	838	21.00"	533	35.89"	912	19.63"	499	152.2	69.1
34"x16"	33.00"	838	20.00"	508	35.89"	912	17.49"	444	108.5	49.2
34"x14"	33.00"	838	18.00"	457	35.89"	912	15.33"	389	76.3	34.6
34"x12"	33.00"	838	16.00"	406	35.89"	912	12.92"	328	49.7	22.6
34"x10"	33.00"	838	14.00"	356	35.89"	912	10.78"	274	29.5	13.4
34"x8"	33.00"	838	12.00"	305	35.89"	912	8.64"	219	16.2	7.4
34"x6"	33.00"	838	10.00"	254	35.89"	912	6.50"	165	8.0	3.6
34"x5"	33.00"	838	10.00"	254	35.89"	912	5.50"	140	5.6	2.5
34"x4"	33.00"	838	8.00"	203	35.89"	912	4.50"	114	3.2	1.5
34"x3"	33.00"	838	7.00"	178	35.89"	912	3.50"	89	2.3	1.0
34"x2.5"	33.00"	838	7.00"	178	35.89"	912	3.00"	76	2.0	0.9
34"x2"	33.00"	838	6.00"	152	35.89"	912	2.50"	64	1.6	0.7
34"x1.5"	33.00"	838	6.00"	152	35.89"	912	2.00"	51	1.3	0.6
34"x1"	33.00"	838	6.00"	152	35.89"	912	2.00"	51	0.9	0.4
36"x34"										
36"x32"										
36"x30"	33.00"	838	30.00"	762	37.99"	965	31.71"	805	284.0	128.9
36"x28"										
36"x26"										
36"x24"	33.00"	838	24.00"	610	37.99"	965	26.07"	662	324.7	147.4
36"x20"	33.00"	838	22.00"	559	37.99"	965	21.77"	553	199.0	90.3
36"x18"	33.00"	838	21.00"	533	37.99"	965	19.63"	499	152.2	69.1
36"x16"	33.00"	838	20.00"	508	37.99"	965	17.49"	444	108.5	49.2
36"x14"	33.00"	838	18.00"	457	37.99"	965	15.33"	389	76.3	34.6
36"x12"	33.00"	838	16.00"	406	37.99"	965	12.92"	328	49.7	22.6
36"x10"	33.00"	838	14.00"	356	37.99"	965	10.78"	274	29.5	13.4
36"x8"	33.00"	838	12.00"	305	37.99"	965	8.64"	219	16.2	7.4
36"x6"	33.00"	838	10.00"	254	37.99"	965	6.50"	165	8.0	3.6
36"x5"	33.00"	838	10.00"	254	37.99"	965	5.50"	140	5.6	2.5
36"x4"	33.00"	838	8.00"	203	37.99"	965	4.50"	114	3.2	1.5
36"x3"	33.00"	838	7.00"	178	37.99"	965	3.50"	89	2.3	1.0
36"x2.5"	33.00"	838	7.00"	178	37.99"	965	3.00"	76	2.0	0.9
36"x2"	33.00"	838	6.00"	152	37.99"	965	2.50"	64	1.6	0.7
36"x1.5"	33.00"	838	6.00"	152	37.99"	965	2.00"	51	1.3	0.6
36"x1"	33.00"	838	6.00"	152	37.99"	965	1.50"	38	0.9	0.4

REDUCING LATERAL OLETS



K							
6"	6"	6"	8"	10"	10"	12"	12"

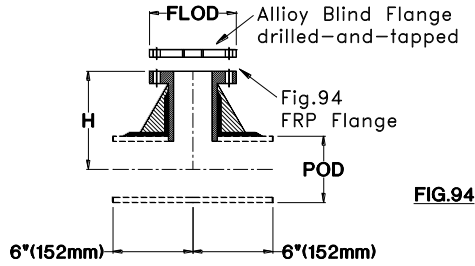
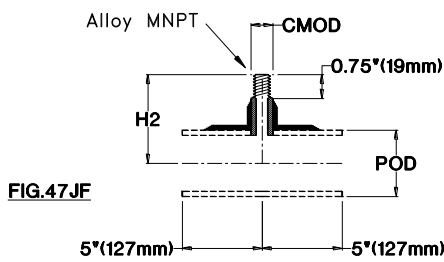
Branch Diameter							
1", 1.5", 2"	2.5", 3"	4"	5", 6"	8"	10"	12"	14"

J
10"
12"
12"
14"
16"
16"
20"
24"
26"
30"
32"
36"
38"
42"
52"
62"
72"

Header Diameter
1"
1.5"
2"
2.5"
3"
4"
5"
6"
8"
10"
12"
14"
16"
18"
20"
24"
30"
36"
42"
48"
54"
60"

J2							
10"	12"						
10"	12"						
10"	12"	14"					
10"	12"	14"	15"				
10"	12"	14"	16"				
12"	13"	14"	16"	20"			
14"	15"	16"	18"	20"	24"		
16"	17"	18"	20"	22"	24"	26"	
18"	19"	20"	22"	24"	26"	28"	30"
20"	21"	22"	24"	26"	28"	30"	32"
22"	23"	24"	26"	28"	30"	32"	34"
26"	27"	28"	30"	32"	34"	36"	38"
32"	33"	34"	36"	38"	40"	42"	44"
38"	39"	40"	42"	44"	46"	48"	50"
44"	45"	46"	48"	50"	52"	54"	56"

THREADED CONNECTIONS



Size	Fig.47JF,94,97	
	POD	
	(in.)	(mm)
26"	27.53"	699
28"	29.61"	752
30"	31.71"	805
32"	33.79"	858
34"	35.89"	912
36"	37.99"	965

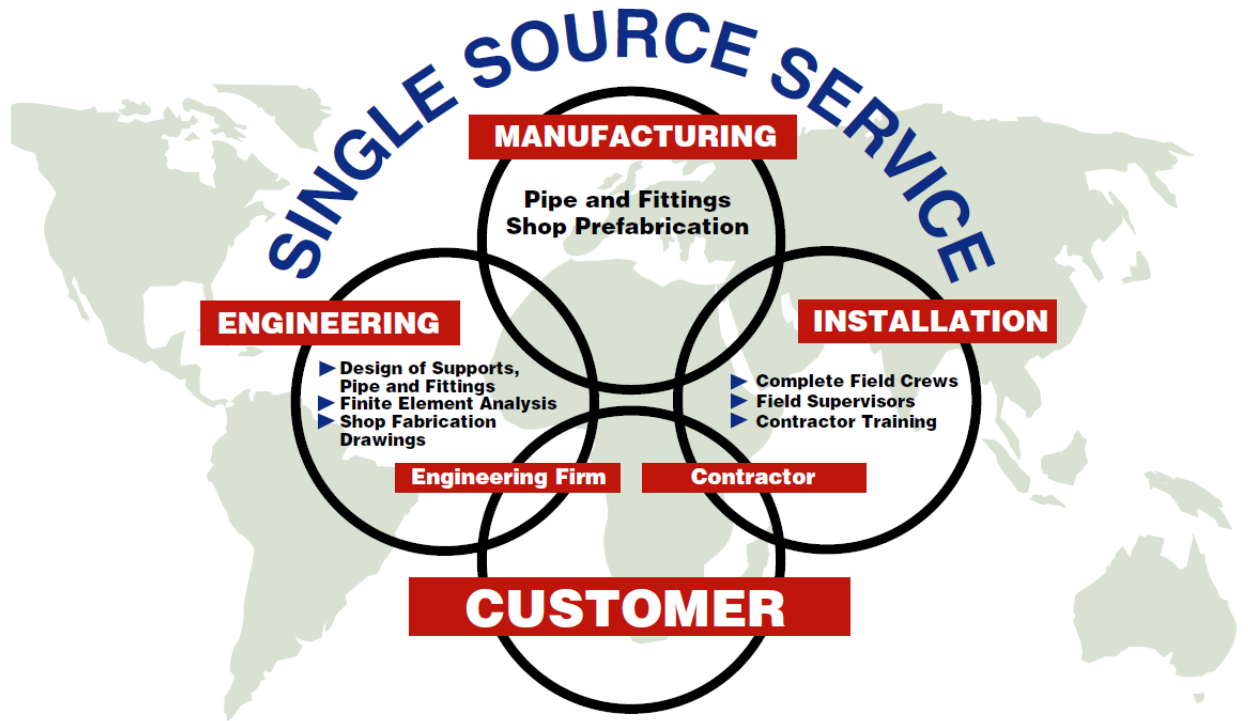
Fig.47JF		Fig.94	
H2		H	
(in.)	(mm)	(in.)	(mm)
13.50"	343	19"	483
15.00"	381	20"	508
19.75"	502	21"	533
17.00"	432	22"	559
18.00"	457	23"	584
22.88"	581	24"	610

1. The Fig.47JF sizes are 0.50", 0.75", 1.0", 1.25", and 1.5" MNPT. The 'H2' dimension is approximate and will vary based on the pipe wall thickness. Material choices include 316SS, 90/10 Cu-Ni, Titanium, Monel, and others.
2. The Fig.94 threaded alloy blind includes the drilled-and-tapped alloy blind flange only. The branch size is 2" diameter, standard. Other branch sizes are available upon request. Material choices for the alloy blind flange include 316SS, 90/10 Cu-Ni and others.
3. CMODs are 0.56" (14.3mm) for 1/2", 0.81" (20.6mm) for 3/4", 1.06" (27.0mm) for 1", 1.31" (33.3mm) for 1 1/4", and 1.56" (39.7mm) for 1 1/2" MNPTs.

Threaded Connection Weights

Size
26"x1/2", 28"x1/2", ..., 36"x1/2"
26"x3/4", 28"x3/4", ..., 36"x3/4"
26"x1", 28"x1", ..., 36"x1"
26"x1.25", 28"x1.25", ..., 36"x1.25"
26"x1.5", 28"x1.5", ..., 36"x1.5"
26"x2", 28"x2", ..., 36"x2"

Fig.47JF		Fig.94	
(lb)	(kg)	(lb)	(kg)
1.6	0.7		
1.7	0.8		
2.5	1.2		
2.6	1.2		
2.7	1.2		
		6.1	2.8



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