GOVAL

ITALY

FLNAGES TECHNICAL CATALOG

Catálogo Técnico FLANGIA

SPECTACLE BLINDS

PADDLE BLINDS (SPADES)

RING SPACERS

GOVAL ITALY

MANUFACTURING & DISTRIBUTOR

GOVAL ITALY S.r.L

GOVAL ITALY established in 2009, a fast-growing company based in Milano Italy, specializes in the supply of valves, pipes, and pipe fittings to variety of industries such as Gas & Oil and Water.
Our policy is to provide high end products sourced from quality assessed manufacturers, whose products meet the EU standards.
Furthermore, we operate internationally and exports products to customers overseas. We make sure that we provide a streamlined process for all of our clients.

Our business model enables manufacturers to have full access to global trade, empowering them to focus on their c ore markets. We provide our retail partners with high demand products and offer direct to customer fulfillment to help build their extended aisle assortments.

Why US:
Privileges to work with us:
-We stock all of our products in warehouse located in Milano industrial area. We are ready to ship and fulfill your immediate needs.
-We carry a very wide range of valves, pipes and fittings, covering a wide range of corporate needs.
-We are constantly revamping logistics and supply chain processes, so as to keep costs down and our prices competitive.

Our Mission
We adopt the latest technology to guarantee excellent quality and services.

Our Vision
To make a difference through providing the technical solutions that appropriate to every customer's needs.

GENERAL

This standard provides dimensions for operating line blanks (or "blinds") in sizes NPS 1/2 through NPS 24 for installation between ANSI B16.5 flanges in the 150,300, 600, 900, 1500, and 2500 pound pressure classes. Line blanks used only for pressure testing are not part of this standard.

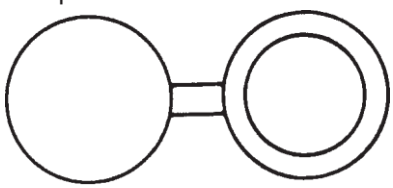


FIG. 1

A Figure 8 blank (also called a spectacle blank) is a pressure retaining plate with one solid end and one open end connected with a web or tie bar (see Figure 1)

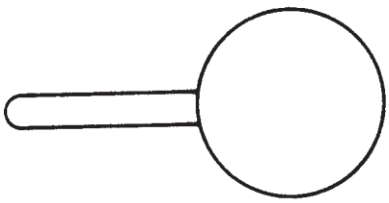


FIG. 2

A paddle blank is similar to the solid end of a figure 8 blank (with a handle) and is generally used in conjunction with a paddle spacer in large sizes (see Figure 2).

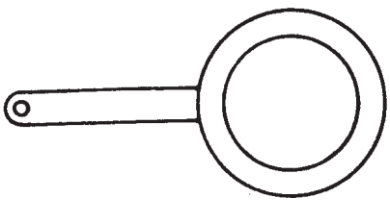


FIG. 3

A paddle spacer is similar to the open end figure 8 blank (with a handle) and is generally used in conjuction with a paddle blank (see Figure 3).

CAUTION: Paddle blanks shall not be supplied with indicator or bolt holes.

Paddle spacer handles shall have one 1/2 inch (13 millimeter) minimum diameter hole located near the outer end. This hole serves as a remote visual indicator.

MATERIALS

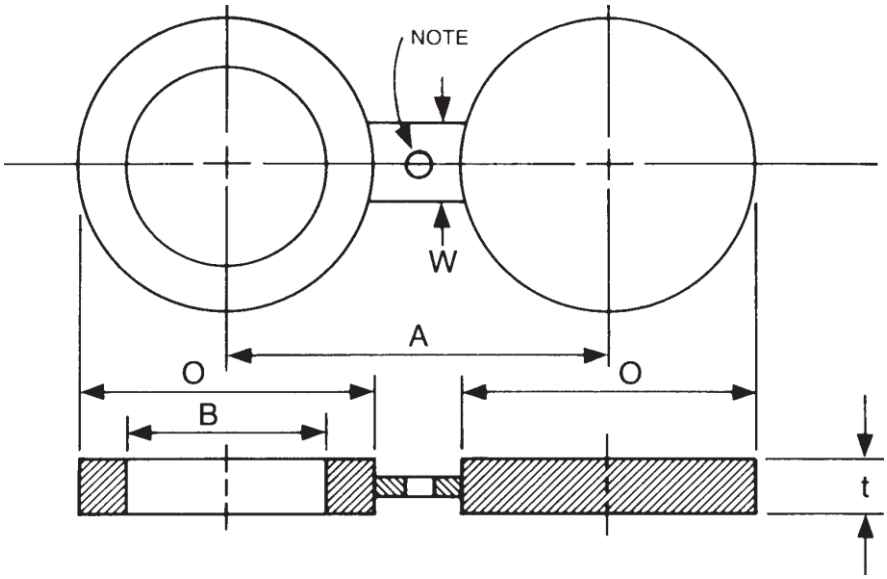
MATERIALS	FORGING SPEC.-GR	PLATES SPEC.-GR
CARBON	A105	A516-70
CARBON	A350-LF2	A516-70 NORM
1-1/4 Cr-1/2 Mo	A182-F11	A387-11 CL.2
2-1/4 Cr-1 Mo	A182-F22	A387-22 CL.3
5 Cr-1/2 Mo	A182-F5	A387-5 CL.4
9 Cr-9 Mo	A182-F9	A387-9 CL.5
304SS	A182-GR.F304	A240 GR.304
316SS	A182-GR.F316	A240 GR.316
321SS	A182-GR.F321	A240 GR.321
347SS	A182-GR.F347	A240 GR.347

NOTE: - Other materials available upon request
- Approved weld procedures for all of the above materials

FIGURE 8 BLINDS

ASME B16.48

Dimensions of Class 150 Raised Face Figure 8 Blanks



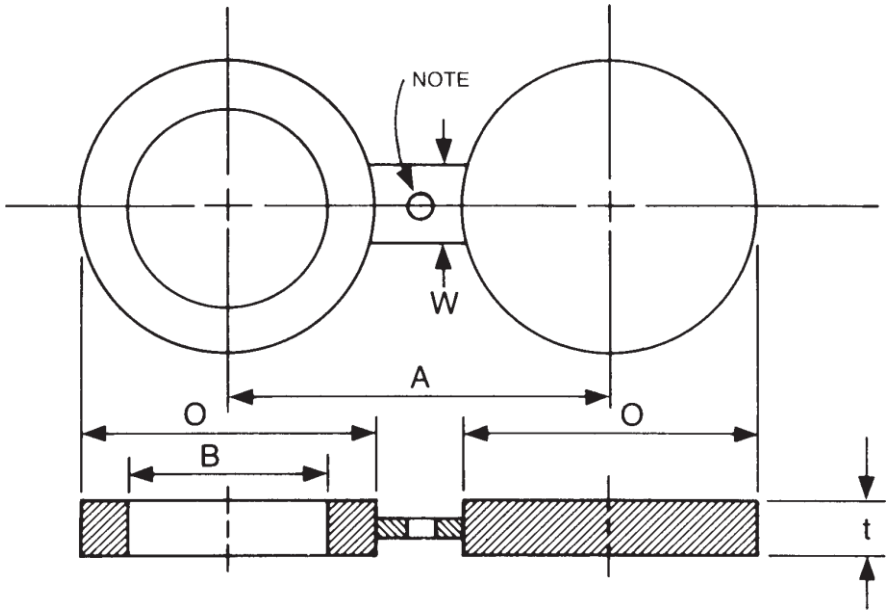
	Inside Diameter *B*		Outside Diameter *O*		Centerline Dimension *A*		Thickness *t*		Web Width *W*			
NPS	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	HOLE	WGT
1/2	0.62	16	1.75	44	2.38	60	0.12	3	1.50	38	0.62	0.3
3/4	0.82	21	2.12	54	2.75	70	0.12	3	1.50	38	0.62	0.3
1	1.05	27	2.50	64	3.12	79	0.12	6	1.50	38	0.62	0.3
1 1/4	1.66	42	2.88	73	3.50	89	0.25	6	1.50	38	0.62	0.5
1 1/2	1.90	48	3.25	83	3.88	99	0.25	6	1.50	38	0.62	0.7
2	2.38	60	4.00	102	4.75	121	0.25	6	2.00	51	0.75	0.9
2 1/2	2.88	73	4.75	121	5.50	140	0.25	6	2.00	51	0.75	1.8
3	3.50	89	5.25	133	6.00	152	0.25	10	2.50	64	0.75	2.7
3 1/2	4.00	102	6.25	159	7.00	178	0.38	10	2.50	64	0.75	3.4
4	4.50	114	6.75	171	7.50	190	0.38	10	2.50	64	0.75	4.0
5	5.56	141	7.62	194	8.50	216	0.38	13	3.00	76	0.88	6.7
6	6.62	168	8.62	219	9.50	241	0.50	13	3.00	76	0.88	9.4
8	8.62	219	10.88	276	11.75	298	0.50	13	3.00	76	0.88	19.1
10	10.75	273	13.25	337	14.25	362	0.62	16	4.00	102	1.00	32.0
12	12.75	324	16.00	406	17.00	432	0.75	19	4.00	102	1.00	56.0
14	14.00	356	17.62	448	18.75	476	0.75	19	4.25	108	1.12	79.0
16	16.00	406	20.12	511	21.25	540	0.88	22	4.25	108	1.12	115.0
18	18.00	457	21.50	546	22.75	578	1.00	25	4.50	114	1.25	138.0
20	20.00	508	23.75	603	25.00	635	1.12	28	4.75	121	1.25	179.0
24	24.00	610	28.12	714	29.50	749	1.25	32	5.50	140	1.38	306.0

NOTE: Hole size (where required due to bolt spacing) shall be the same as the flange bolt hole.

FIGURE 8 BLINDS

ASME B16.48

Dimensions of Class 300 Raised Face Figure 8 Blanks



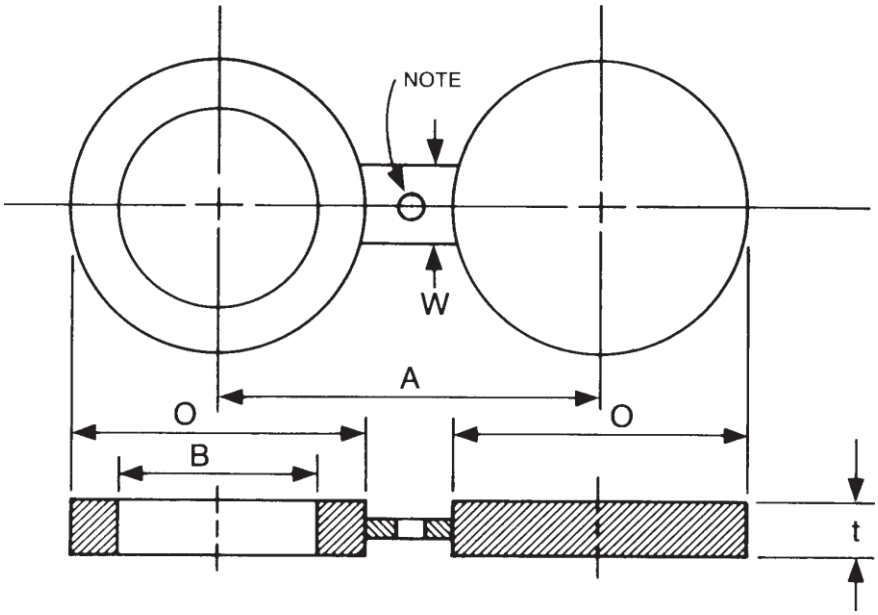
	Inside Diameter *B*		Outside Diameter *O*		Centerline Dimension *A*		Thickness *t*		Web Width *W*			
NPS	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	HOLE	WGT
1/2	0.62	16	2.00	51	2.62	67	0.25	6	1.50	38	0.62	0.5
3/4	0.82	21	2.50	64	3.25	83	0.25	6	1.50	38	0.75	0.5
1	1.05	27	2.75	70	3.50	89	0.25	6	1.50	38	0.75	0.5
1 1/4	1.66	42	3.12	79	3.88	99	0.25	6	1.50	38	0.75	0.9
1 1/2	1.90	48	3.62	92	4.50	114	0.25	6	2.00	51	0.88	1.3
2	2.38	60	4.25	108	5.00	127	0.38	10	2.00	51	0.75	1.8
2 1/2	2.88	73	5.00	127	5.88	149	0.38	10	2.50	64	0.88	2.4
3	3.50	89	5.75	146	6.62	168	0.38	10	2.50	64	0.88	2.9
3 1/2	4.00	102	6.38	162	7.25	184	0.50	13	2.50	64	0.88	5.4
4	4.50	114	7.00	178	7.88	200	0.50	13	2.50	64	0.88	7.8
5	5.56	141	8.38	213	9.25	235	0.62	16	3.00	76	0.88	14.0
6	6.62	168	9.75	248	10.62	270	0.62	16	3.00	76	0.88	20.1
8	8.62	219	12.00	305	13.00	330	0.88	22	3.50	89	1.00	40.0
10	10.75	273	14.12	359	15.25	387	1.00	25	4.00	102	1.12	65.0
12	12.75	324	16.50	419	17.75	451	1.12	28	4.00	102	1.25	103.0
14	14.00	356	19.00	483	20.25	514	1.25	32	4.75	121	1.25	153.0
16	16.00	406	21.12	537	22.50	572	1.50	38	4.88	124	1.38	215.0
18	18.00	457	23.38	594	24.75	629	1.62	41	4.50	114	1.38	295.0
20	20.00	508	25.62	651	27.00	686	1.75	44	4.75	121	1.38	374.0
24	24.00	610	30.38	772	32.00	813	2.00	51	5.50	140	1.62	625.0

NOTE: Hole size (where required due to bolt spacing) shall be the same as the flange bolt hole.

FIGURE 8 BLINDS

ASME B16.48

Dimensions of Class 600 Raised Face Figure 8 Blanks



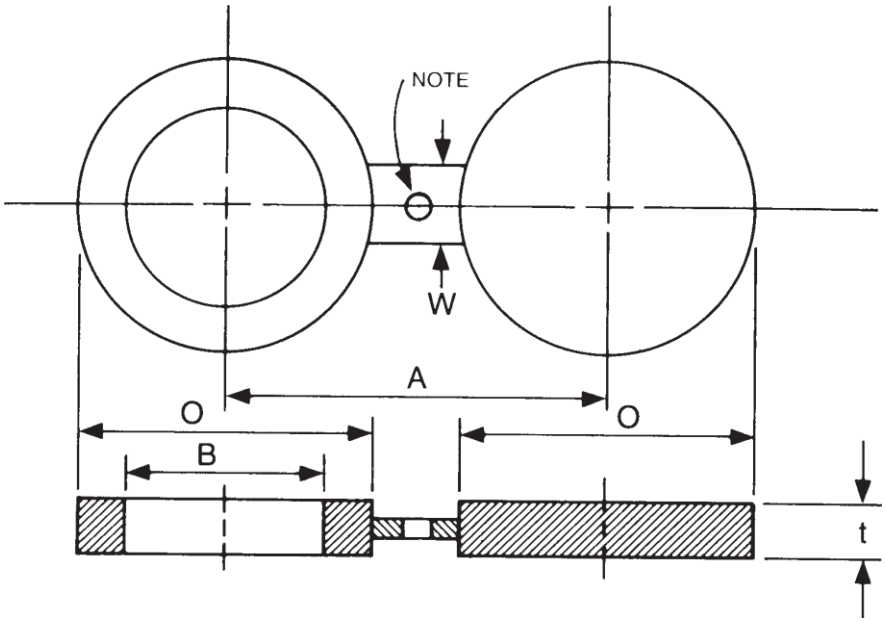
	Inside Diameter *B*		Outside Diameter *O*		Centerline Dimension *A*		Thickness *t*		Web Width *W*			
NPS	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	HOLE	WGT
1/2	0.62	16	2.00	51	2.62	67	0.25	6	1.50	38	0.62	0.5
3/4	0.82	21	2.50	64	3.25	83	0.25	6	1.50	38	0.75	0.5
1	1.05	27	2.75	70	3.50	89	0.25	6	2.25	57	0.75	0.8
1 1/4	1.44	37	3.12	79	3.88	99	0.38	10	2.25	57	0.75	1.1
1 1/2	1.68	43	3.62	92	4.50	114	0.38	10	2.62	67	0.88	1.3
2	2.16	55	4.25	108	5.00	127	0.38	10	2.25	57	0.75	2.2
2 1/2	2.64	67	5.00	127	5.88	149	0.50	13	2.62	67	0.88	3.9
3	3.26	83	5.75	146	6.62	168	0.50	13	2.62	67	0.88	5.5
3 1/2	3.76	96	6.25	159	7.25	184	0.62	16	3.00	76	1.00	8.8
4	4.26	108	7.50	191	8.50	216	0.62	16	3.00	76	1.00	12.0
5	5.30	135	9.38	238	10.50	267	0.75	19	3.38	86	1.12	23.5
6	6.36	162	10.38	264	11.50	292	0.88	22	3.38	86	1.12	35.0
8	8.33	212	12.50	318	13.75	349	1.12	28	3.75	95	1.25	60.0
10	10.42	265	15.62	397	17.00	432	1.38	35	4.12	105	1.38	117.5
12	12.39	315	17.88	454	19.25	489	1.62	41	4.12	105	1.38	185.0
14	13.62	346	19.25	489	20.75	527	1.75	44	4.50	114	1.50	230.0
16	15.62	397	22.12	562	23.75	603	2.00	51	4.88	124	1.62	340.0
18	17.62	448	24.00	610	25.75	654	2.12	54	5.25	133	1.75	450.0
20	19.56	497	26.75	679	28.50	724	2.50	64	5.25	133	1.75	620.0
24	23.50	597	31.00	787	33.00	838	2.88	73	6.00	152	2.00	975.0

NOTE: Hole size (where required due to bolt spacing) shall be the same as the flange bolt hole.

FIGURE 8 BLINDS

ASME B16.48

Dimensions of Class 900 Raised Face Figure 8 Blanks



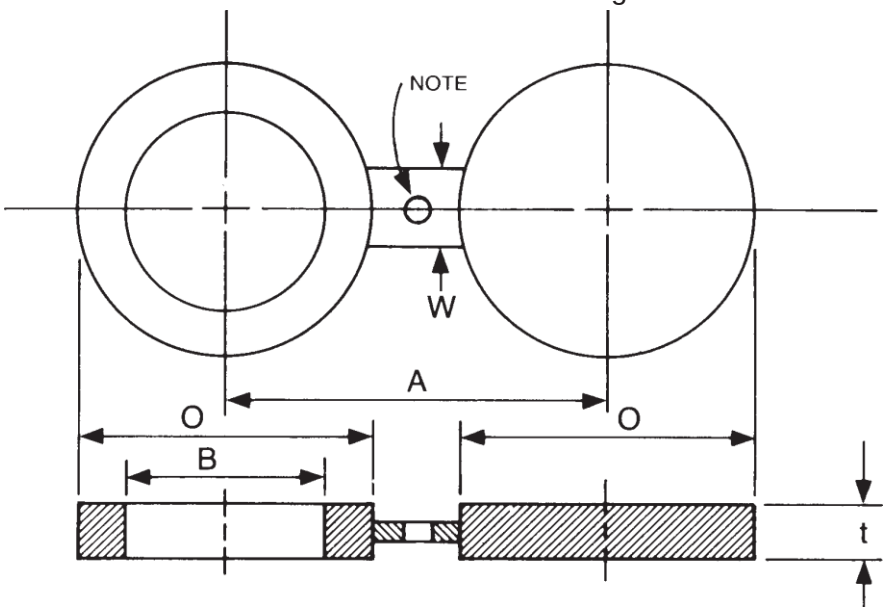
NPS	Inside Diameter *B*		Outside Diameter *O*		Centerline Dimension *A*		Thickness *t*		Web Width *W*			
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	HOLE	WGT
1/2	0.62	16	2.38	60	3.25	83	0.25	6	1.50	38	0.88	0.5
3/4	0.82	21	2.62	67	3.50	89	0.25	6	1.62	41	0.88	0.5
1	1.05	27	3.00	76	4.00	102	0.25	6	2.25	57	1.00	0.9
1 1/4	1.44	37	3.38	86	4.38	111	0.38	10	2.25	57	1.00	1.4
1 1/2	1.68	43	3.75	95	4.88	124	0.38	10	2.62	67	1.12	1.8
2	2.16	55	5.50	140	6.50	165	0.50	13	2.25	57	1.00	4.7
2 1/2	2.64	67	6.38	162	7.50	190	0.50	13	2.62	67	1.12	7.1
3	3.26	83	6.50	165	7.50	190	0.62	16	2.62	67	1.00	9.5
4	4.26	108	8.00	203	9.25	235	0.75	19	3.00	76	1.25	17.0
5	5.30	135	9.62	244	11.00	279	0.88	22	3.38	86	1.38	34.8
6	6.36	162	11.25	286	12.50	318	1.00	25	3.38	86	1.25	52.5
8	8.33	212	14.00	356	15.50	394	1.38	35	3.75	95	1.50	97.0
10	10.42	265	17.00	432	18.50	470	1.62	41	4.12	105	1.50	178.0
12	12.39	315	19.50	495	21.00	533	1.88	48	4.12	105	1.50	280.0
14	13.62	346	20.38	518	22.00	559	2.12	54	4.50	114	1.62	305.0
16	15.62	397	22.50	572	24.25	616	2.38	60	4.88	124	1.75	410.0
18	17.62	448	25.00	635	27.00	686	2.62	67	5.25	133	2.00	570.0
20	19.56	497	27.38	695	29.50	749	2.88	73	5.25	133	2.12	750.0
24	23.50	597	32.88	835	35.50	902	3.50	89	6.00	152	2.62	1250.0

NOTE: Hole size (where required due to bolt spacing) shall be the same as the flange bolt hole.

FIGURE 8 BLINDS

ASME B16.48

Dimensions of Class 1500 Raised Face Figure 8 Blanks



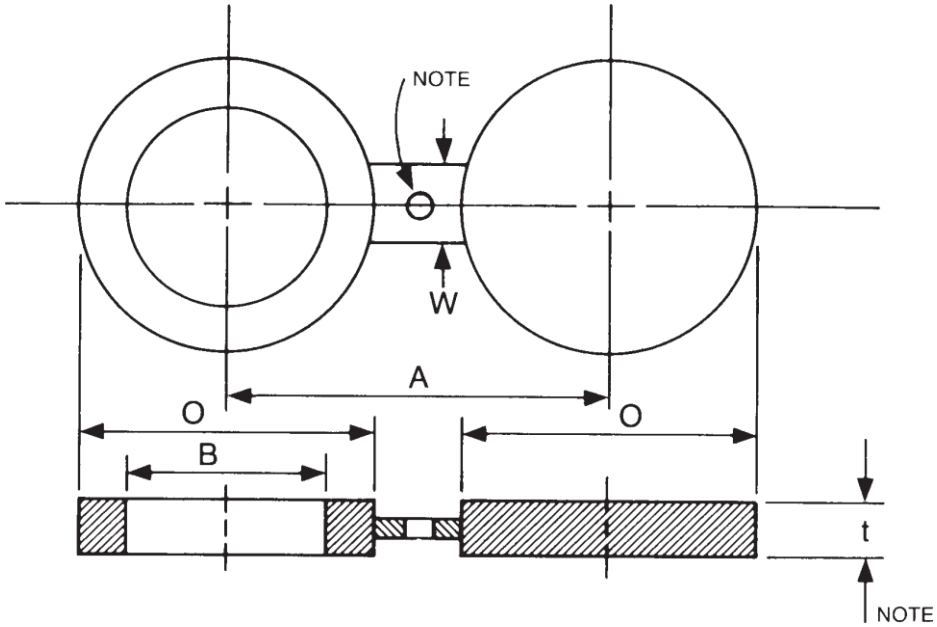
NPS	Inside Diameter *B*		Outside Diameter *O*		Centerline Dimension *A*		Thickness *t*		Web Width *W*			
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	HOLE	WGT
1/2	0.62	16	2.38	60	3.25	83	0.25	6	1.50	38	0.88	0.6
3/4	0.82	21	2.62	67	3.50	89	0.38	10	1.62	41	0.88	1.1
1	1.05	27	3.00	76	4.00	102	0.38	10	2.50	64	1.00	1.4
1 1/4	1.38	35	3.38	86	4.38	111	0.38	10	2.50	64	1.00	1.8
1 1/2	1.61	41	3.75	95	4.88	124	0.50	13	2.75	70	1.12	2.8
2	2.07	53	5.50	140	6.50	165	0.50	13	2.75	70	1.00	6.3
2 1/2	2.47	63	6.38	162	7.50	190	0.62	16	3.00	76	1.12	10.4
3	3.07	78	6.75	171	8.00	203	0.75	19	3.00	76	1.25	14.0
4	4.03	102	8.12	206	9.50	241	0.88	22	3.50	89	1.38	22.0
5	5.05	128	9.88	251	11.50	292	1.12	28	3.50	89	1.62	42.0
6	6.06	154	11.00	279	12.50	318	1.38	35	3.50	89	1.50	63.0
8	7.98	203	13.75	349	15.50	394	1.62	41	4.00	102	1.75	113.0
10	10.02	255	17.00	432	19.00	483	2.00	51	4.50	114	2.00	213.0
12	11.94	303	20.38	518	22.50	572	2.38	60	4.50	114	2.12	365.0
14	13.12	333	22.62	575	25.00	635	2.62	67	5.00	127	2.38	497.0
16	15.00	381	25.12	638	27.75	705	3.00	76	5.25	133	2.62	693.0
18	16.88	429	27.62	702	30.50	775	3.38	86	5.75	146	2.88	934.0
20	18.81	478	29.62	752	32.75	832	3.75	95	6.00	152	3.12	1170.0
24	22.62	575	35.38	899	39.00	991	4.38	111	7.00	178	3.62	1547.0

NOTE: Hole size (where required due to bolt spacing) shall be the same as the flange bolt hole.

FIGURE 8 BLINDS

ASME B16.48

Dimensions of Class 2500 Raised Face Figure 8 Blanks



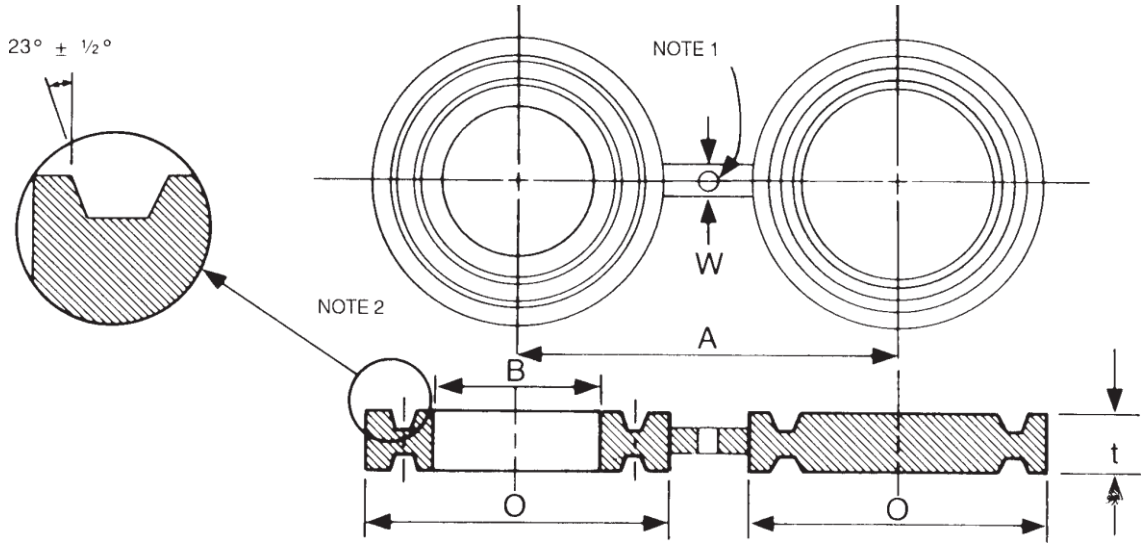
NPS	Inside Diameter *B*		Outside Diameter *O*		Centerline Dimension *A*		Thickness *t*		Web Width *W*		BOLT HOLE	WGT
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.		
1/2	0.62	16	2.62	67	3.50	89	0.38	10	1.50	38	0.88	1.1
3/4	0.82	21	2.88	73	3.75	95	0.38	10	1.62	41	0.88	1.3
1	1.05	27	3.25	83	4.25	108	0.38	10	2.50	64	1.00	1.7
1 1/4	1.38	35	4.00	102	5.12	130	0.50	13	2.50	64	1.12	3.4
1 1/2	1.61	41	4.50	114	5.75	146	0.62	16	2.75	70	1.25	5.2
2	2.07	53	5.62	143	6.75	171	0.62	16	2.75	70	1.12	8.1
2 1/2	2.47	63	6.50	165	7.75	197	0.75	19	3.00	76	1.25	13.1
3	3.07	78	7.62	194	9.00	229	0.88	22	3.00	76	1.38	21.0
4	4.03	102	9.12	232	10.75	273	1.12	28	3.50	89	1.62	37.0
5	5.05	128	10.88	276	12.75	324	1.38	35	3.50	89	1.88	65.0
6	6.06	154	12.38	314	14.50	368	1.62	41	3.50	89	2.12	97.0
8	7.81	198	15.12	384	17.25	438	2.12	54	4.00	102	2.12	187.0
10	9.75	248	18.62	473	21.25	540	2.62	67	4.50	114	2.62	349.0
12	11.37	289	21.50	546	24.38	619	3.12	79	4.50	114	2.88	553.0

NOTE: Hole size (where required due to bolt spacing) shall be the same as the flange bolt hole.

RING TYPE JOINTS

ASME B16.48

Dimensions of Class 150 Female Ring-Joint Facing Figure 8 Blanks



NPS	Inside Diameter *B*		Outside Diameter *O*		Centerline Dimension *A*		Thickness *t*		Web Width *W*		BOLT HOLE	WGT
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.		
1	1.32	34	2.50	64	3.12	79	0.75	19	2.00	51	0.62	3.0
1 1/4	1.66	42	2.88	73	3.50	89	0.75	19	2.00	51	0.62	4.0
1 1/2	1.90	48	3.25	83	3.88	99	0.75	19	2.25	57	0.62	5.0
2	2.38	60	4.00	102	4.75	121	0.75	19	2.25	57	0.75	5.0
2 1/2	2.88	73	4.75	121	5.50	140	0.88	22	2.25	57	0.75	10.0
3	3.50	89	5.25	133	6.00	152	0.88	22	2.25	57	0.75	15.0
3 1/2	4.00	102	6.06	154	7.00	178	0.88	22	2.50	64	0.75	17.5
4	4.50	114	6.75	171	7.50	190	0.88	22	2.50	64	0.75	20.0
5	5.56	141	7.62	194	8.50	216	1.00	25	2.75	70	0.88	30.0
6	6.62	168	8.62	219	9.50	241	1.00	25	3.25	83	0.88	40.0
8	8.62	219	10.75	273	11.75	298	1.12	28	3.75	95	0.88	60.0
10	10.75	273	13.00	330	14.25	362	1.25	32	4.00	102	1.00	80.0
12	12.75	324	16.00	406	17.00	432	1.38	35	4.75	121	1.00	100.0
14	14.00	356	16.75	425	18.75	476	1.38	34	5.00	127	1.12	120.0
16	16.00	406	19.00	483	21.25	540	1.50	38	5.00	127	1.12	150.0
18	18.00	457	21.50	546	22.75	578	1.62	41	5.00	127	1.25	200.0
20	20.00	508	23.50	597	25.00	635	1.62	41	5.00	127	1.25	250.0
24	24.00	610	28.00	711	29.50	749	1.88	48	6.00	152	1.38	400.0

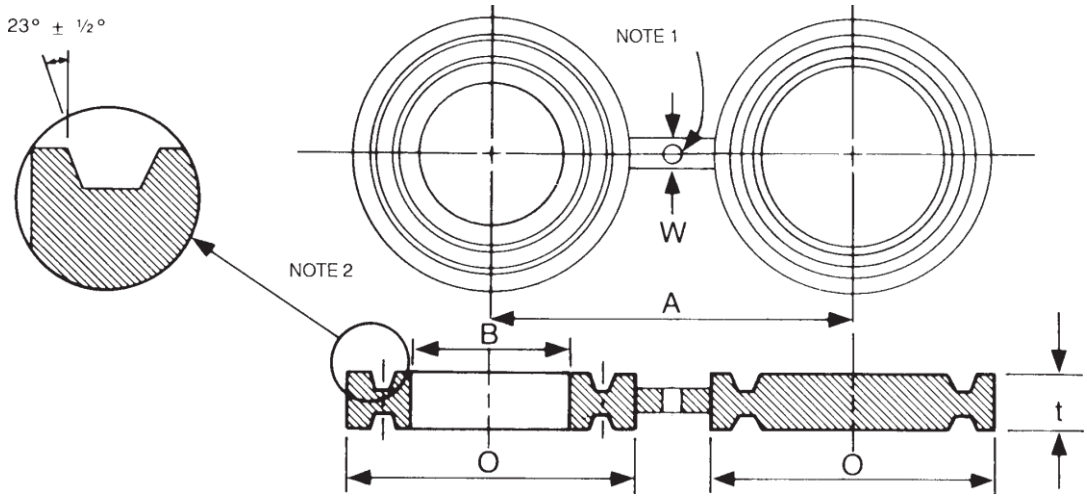
NOTE: 1. Hole size (where required due to bolt spacing) shall be the same as the flange bolt hole.

NOTE: 2. Female ring joint groove dimensions shall be designed for octagonal rings in accordance with ANSI B16.5.

RING TYPE JOINTS

ASME B16.48

Dimensions of Class 300 Female Ring-Joint Facing Figure 8 Blanks



NPS	Inside Diameter B		Outside Diameter O		Centerline Dimension A		Thickness t		Web Width W			
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	HOLE	WGT
1/2	0.84	21	2.00	51	2.62	67	0.62	16	1.50	38	0.62	2.0
3/4	1.05	27	2.50	64	3.25	83	0.75	19	1.75	44	0.75	3.0
1	1.32	34	2.75	70	3.50	89	0.75	19	2.00	51	0.75	3.0
1 1/4	1.66	42	3.12	79	3.88	99	0.88	22	2.00	51	0.75	4.0
1 1/2	1.90	48	3.56	90	4.50	114	0.88	22	2.25	57	0.88	5.0
2	2.38	60	4.25	108	5.00	127	1.00	25	2.25	57	0.75	10.0
2 1/2	2.88	73	5.00	127	5.88	149	1.12	28	2.25	57	0.88	10.0
3	3.50	89	5.75	146	6.62	168	1.12	28	2.25	57	0.88	15.0
3 1/2	4.00	102	6.25	159	7.25	184	1.12	28	2.50	64	0.88	17.5
4	4.50	114	6.88	175	7.88	2	1.25	32	2.50	64	0.88	20.0
5	5.56	141	8.25	210	9.25	235	1.38	35	2.75	70	0.88	30.0
6	6.62	168	9.50	241	10.62	270	1.38	35	3.25	83	0.88	40.0
8	8.62	219	11.88	302	13.00	330	1.62	41	3.75	95	1.00	80.0
10	10.75	273	14.00	356	15.25	387	1.75	44	4.00	102	1.12	100.0
12	12.75	324	16.25	413	17.75	451	2.00	51	4.75	121	1.25	150.0
14	14.00	356	18.00	457	20.25	514	2.12	54	5.00	127	1.25	200.0
16	16.00	406	20.00	508	22.50	572	2.25	57	5.00	127	1.38	250.0
18	18.00	457	22.62	575	24.75	629	2.38	60	5.00	127	1.38	350.0
20	20.00	508	25.00	635	27.00	686	2.75	70	5.00	127	1.38	500.0
24	24.00	610	29.50	749	32.00	813	3.12	79	6.00	152	1.62	800.0

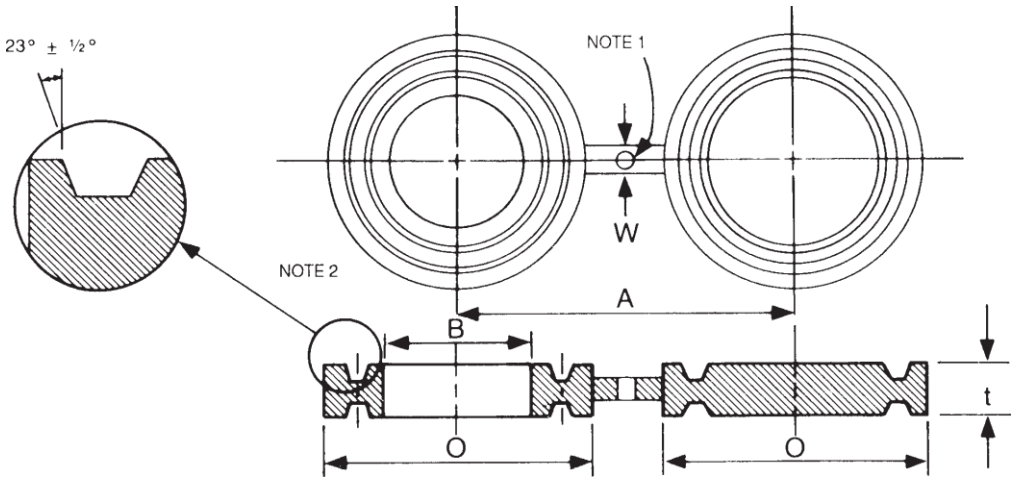
NOTE: 1. Hole size (where required due to bolt spacing) shall be the same as the flange bolt hole.

NOTE: 2. Female ring joint groove dimensions shall be designed for octagonal rings in accordance with ANSI B16.5.

RING TYPE JOINTS

ASME B16.48

Dimensions of Class 600 Female Ring-Joint Facing Figure 8 Blanks



NPS	Inside Diameter *B*		Outside Diameter *O*		Centerline Dimension *A*		Thickness *t*		Web Width *W*		BOLT HOLE	WGT
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.		
1/2	0.84	21	2.00	51	2.62	67	0.75	19	1.50	38	0.62	2.0
3/4	1.05	27	2.50	64	3.25	83	0.88	22	1.75	44	0.75	3.0
1	1.32	34	2.75	70	3.50	89	0.88	22	2.00	51	0.75	3.0
1 1/4	1.66	42	3.12	79	3.88	99	0.88	22	2.00	51	0.75	4.0
1 1/2	1.90	48	3.56	90	4.50	114	0.88	22	2.25	57	0.88	5.0
2	2.38	60	4.25	108	5.00	127	1.12	28	2.25	57	0.75	10.0
2 1/2	2.88	73	5.00	127	5.88	149	1.25	32	2.25	57	0.88	10.0
3	3.50	89	5.75	146	6.62	168	1.25	32	2.25	57	0.88	15.0
3 1/2	4.00	102	6.25	159	7.25	184	1.38	35	2.50	64	1.00	17.5
4	4.50	114	6.88	175	8.50	216	1.38	35	2.50	64	1.00	20.0
5	5.56	141	8.25	210	10.50	267	1.50	38	2.75	70	1.12	30.0
6	6.62	168	9.50	241	11.50	292	1.75	44	3.25	83	1.12	40.0
8	8.62	219	11.88	302	13.75	349	2.00	51	3.75	95	1.25	80.0
10	10.75	273	14.00	356	17.00	432	2.25	57	4.00	102	1.38	130.0
12	12.75	324	16.25	413	19.25	489	2.50	64	4.75	121	1.38	200.0
14	14.00	356	18.00	457	20.75	527	2.62	67	5.00	127	1.50	250.0
16	16.00	406	20.00	508	23.75	603	2.88	73	5.00	127	1.62	350.0
18	18.00	457	22.62	575	25.75	654	3.12	79	5.00	127	1.75	500.0
20	20.00	508	25.00	635	28.50	724	3.50	89	5.00	127	1.75	650.0
24	24.00	610	29.50	749	33.00	838	4.12	105	6.00	152	2.00	1000.0

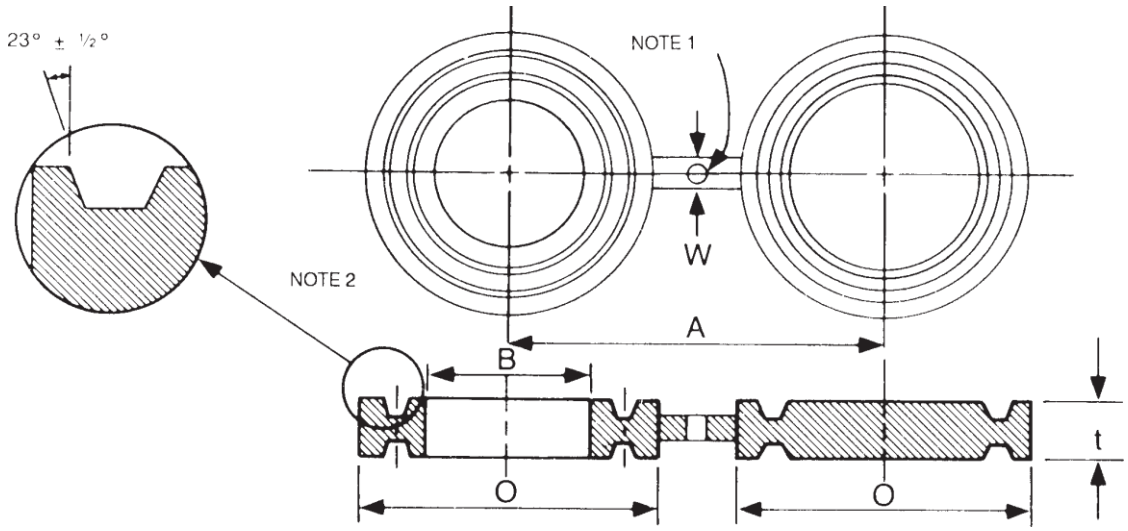
NOTE: 1. Hole size (where required due to bolt spacing) shall be the same as the flange bolt hole.

NOTE: 2. Female ring joint groove dimensions shall be designed for octagonal rings in accordance with ANSI B16.5.

RING TYPE JOINTS

ASME B16.48

Dimensions of Class 900 Female Ring-Joint Facing Figure 8 Blanks



NPS	Inside Diameter *B*		Outside Diameter *O*		Centerline Dimension *A*		Thickness *t*		Web Width *W*		BOLT HOLE SIZE	WGT
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.		
1/2	0.84	21	2.38	60	3.25	83	0.88	22	1.50	38	0.88	3.0
3/4	1.05	27	2.62	67	3.50	89	0.88	22	1.75	44	0.88	4.0
1	1.32	34	2.81	71	4.00	102	0.88	22	2.00	51	1.00	5.0
1 1/4	1.66	42	3.19	81	4.38	111	1.00	25	2.00	51	1.00	5.0
1 1/2	1.90	48	3.62	92	4.88	124	1.00	25	2.50	64	1.12	5.0
2	2.38	60	4.88	124	6.50	165	1.25	32	2.00	51	1.00	10.0
2 1/2	2.88	73	5.38	137	7.50	190	1.38	35	2.62	67	1.12	15.0
3	3.50	89	6.12	156	7.50	190	1.38	35	2.62	67	1.00	20.0
4	4.50	114	7.12	181	9.25	235	1.62	41	2.88	73	1.25	30.0
5	5.56	141	8.50	216	11.00	279	1.75	44	2.88	73	1.38	45.0
6	6.62	168	9.50	241	12.50	318	1.88	48	2.88	73	1.25	60.0
8	8.62	219	12.12	308	15.50	394	2.25	57	3.12	79	1.50	100.0
10	10.75	273	14.25	362	18.50	470	2.50	64	4.75	121	1.50	150.0
12	12.75	324	16.50	419	21.00	533	2.88	73	4.75	121	1.50	250.0
14	14.00	356	18.38	467	22.00	559	3.25	83	4.75	121	1.62	250.0
16	16.00	406	20.62	524	24.25	616	3.62	92	5.00	127	1.75	450.0
18	18.00	457	23.38	594	27.00	686	4.00	102	5.25	133	2.00	700.0
20	20.00	508	25.50	648	29.50	749	4.38	111	5.00	127	2.12	900.0
24	24.00	610	30.38	772	35.50	902	5.25	133	5.50	140	2.62	1100.0

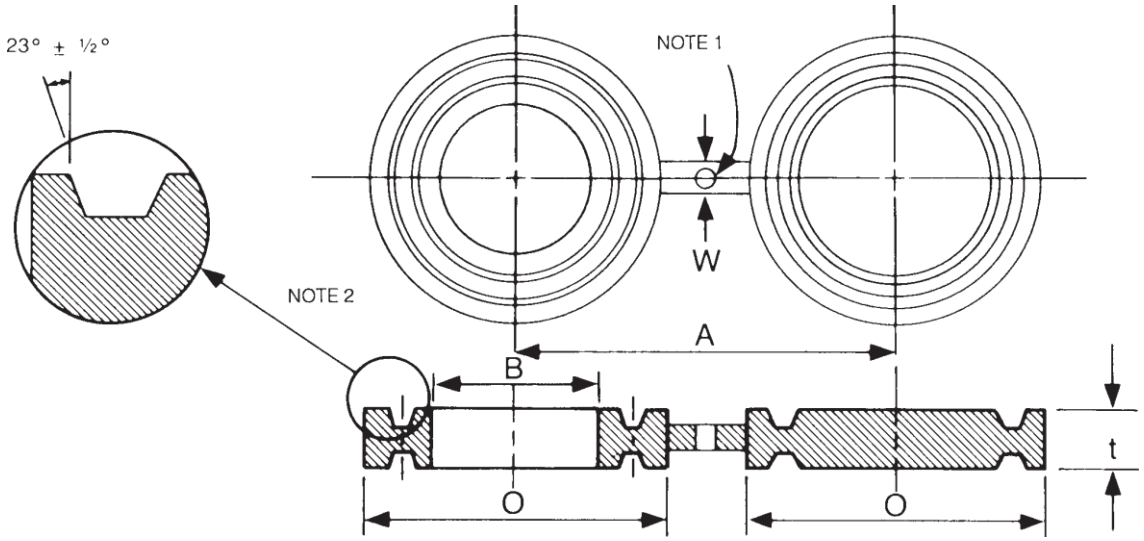
NOTE: 1. Hole size (where required due to bolt spacing) shall be the same as the flange bolt hole.

NOTE: 2. Female ring joint groove dimensions shall be designed for octagonal rings in accordance with ANSI B16.5.

RING TYPE JOINTS

ASME B16.48

Dimensions of Class 1500 Female Ring-Joint Facing Figure 8 Blanks



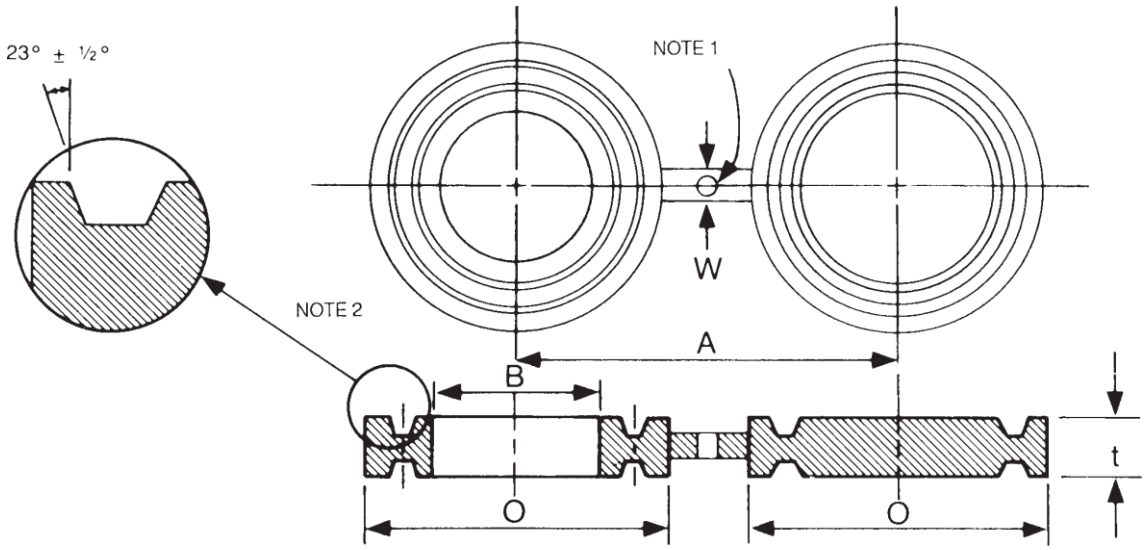
NPS	Inside Diameter *B*		Outside Diameter *O*		Centerline Dimension *A*		Thickness *t*		Web Width *W*		BOLT HOLE	WGT
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.		
1/2	0.84	21	2.38	60	3.25	83	0.88	22	1.50	38	0.88	2.1
3/4	1.05	27	2.62	67	3.50	89	1.00	25	1.75	44	0.88	2.8
1	1.32	34	2.81	71	4.00	102	1.00	25	2.12	54	1.00	3.1
1 1/4	1.66	42	3.19	81	4.38	111	1.00	25	2.12	54	1.00	3.9
1 1/2	1.90	48	3.62	92	4.88	124	1.12	28	2.25	57	1.12	5.6
2	2.38	60	4.88	124	6.50	165	1.38	35	2.12	54	1.00	12.9
2 1/2	2.88	73	5.38	137	7.50	190	1.50	38	2.25	57	1.12	16.6
3	3.50	89	6.62	168	8.00	203	1.75	44	2.88	73	1.25	29.0
4	4.50	114	7.62	194	9.50	241	1.88	48	3.00	76	1.38	40.0
5	5.56	141	9.00	229	11.50	292	2.12	54	3.00	76	1.62	62.0
6	6.62	168	9.75	248	12.50	318	2.38	60	3.12	79	1.50	78.0
8	8.62	219	12.50	318	15.50	394	2.88	73	3.38	86	1.75	153.0
10	10.75	273	14.62	371	19.00	483	3.25	83	5.25	133	2.00	226.0
12	12.75	324	17.25	438	22.50	572	4.00	102	5.25	133	2.12	385.0
14	14.00	356	19.25	489	25.00	635	4.38	111	5.50	140	2.38	532.0
16	16.00	406	21.50	546	27.75	705	4.88	124	5.75	146	2.62	727.0
18	18.00	457	24.12	613	30.50	775	5.25	133	6.00	152	2.88	982.0
20	20.00	508	26.50	673	32.75	832	5.62	143	6.50	165	3.12	1258.0
24	24.00	610	31.25	772	39.00	991	6.62	168	7.00	179	3.62	2031.0

NOTE: 2. Female ring joint groove dimensions shall be designed for octagonal rings in accordance with ANSI B16.5.

RING TYPE JOINTS

ASME B16.48

Dimensions of Class 2500 Female Ring-Joint Facing Figure 8 Blanks



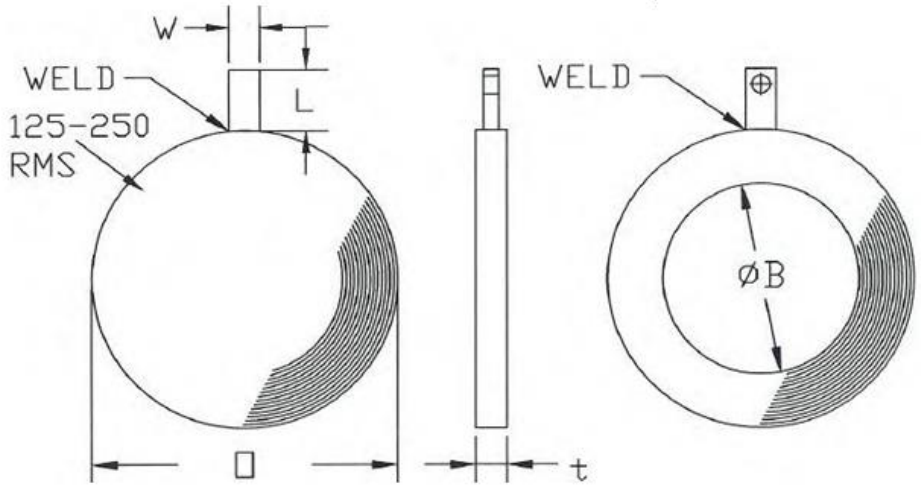
NPS	Inside Diameter *B*		Outside Diameter *O*		Centerline Dimension *A*		Thickness *t*		Web Width *W*		BOLT HOLE	WGT
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.		
1/2	0.84	21	2.56	65	3.50	89	1.00	25	1.50	38	0.88	2.8
3/4	1.05	27	2.88	73	3.75	95	1.12	28	1.75	44	0.88	3.9
1	1.32	34	3.25	83	4.25	108	1.12	28	2.12	54	1.00	4.8
1 1/4	1.66	42	4.00	102	5.12	130	1.38	35	2.12	54	1.12	9.0
1 1/2	1.90	48	4.50	114	5.75	146	1.50	38	2.38	60	1.25	12.3
2	2.38	60	5.25	133	6.75	171	1.62	41	2.25	57	1.12	17.8
2 1/2	2.88	73	5.88	149	7.75	197	1.88	48	2.38	60	1.25	25.5
3	3.50	89	6.62	168	9.00	229	2.00	51	3.00	76	1.38	34.0
4	4.50	114	8.00	203	10.75	273	2.50	64	3.25	83	1.62	60.0
5	5.56	141	9.50	241	12.75	324	2.88	73	3.50	89	1.88	73.0
6	6.62	168	11.00	279	14.50	368	3.25	83	3.75	95	2.12	143.0
8	8.62	219	13.38	340	17.25	438	3.88	99	3.75	95	2.12	245.0
10	10.75	273	16.75	425	21.25	540	4.62	117	3.58	91	2.62	459.0
12	12.75	324	19.50	495	24.38	619	5.25	133	6.00	152	2.88	699.0

NOTE: 1. Hole size (where required due to bolt spacing) shall be the same as the flange bolt hole.

NOTE: 2. Female ring joint groove dimensions shall be designed for octagonal rings in accordance with ANSI B16.5.

BLIND & SPACERS ASME B16.48

Dimensions of Class 150 Bind and Spacer



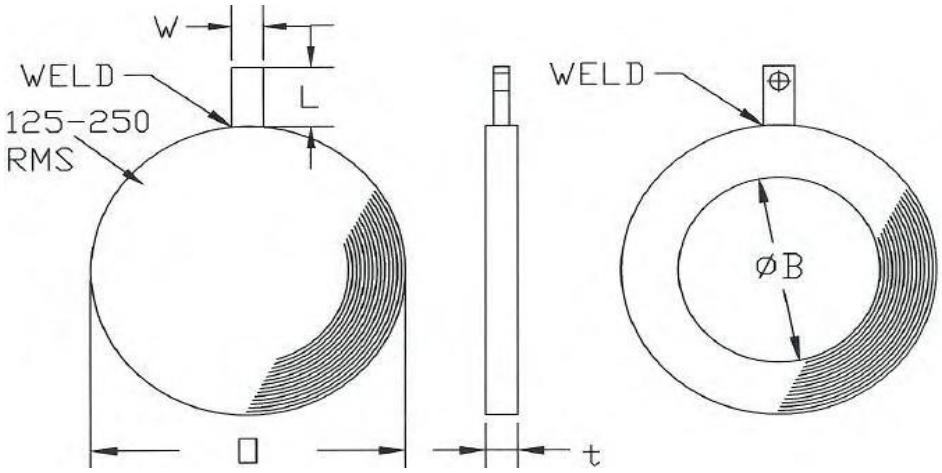
NPS	Inside Diameter B		Outside Diameter O		Thk t		Handle t		W		L		Bld Wgt	Spr Wgt
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.		
1/2	0.62	16	1.75	44	0.12	3	1/8	3	1	25	4	102	0.2	0.1
3/4	0.82	21	2.12	54	0.12	3	1/8	3	1	25	4	102	0.2	0.1
1	1.05	27	2.50	64	0.12	3	1/8	3	1	25	4	102	0.2	0.1
1 1/4	1.66	42	2.88	73	0.25	6	1/8	3	1	25	4	102	0.5	0.2
1 1/2	1.90	48	3.25	83	0.25	6	1/8	3	1	25	4	102	0.6	0.3
2	2.38	60	4.00	102	0.25	6	1/8	3	1	25	4	102	0.6	0.3
2 1/2	2.88	73	4.75	121	0.25	6	1/8	3	1	25	4	102	1.2	0.6
3	3.50	89	5.25	133	0.25	6	1/8	3	1	25	4	102	1.8	0.9
3 1/2	4.00	102	6.25	159	0.38	10	1/4	6	1	25	4	102	2.2	1.1
4	4.50	114	6.75	171	0.38	10	1/4	6	1	25	4	102	2.6	1.3
5	5.56	141	7.62	194	0.38	10	1/4	6	1	25	4	102	4.4	2.2
6	6.62	168	8.62	219	0.50	13	1/4	6	1	25	4	102	6.2	3.1
8	8.62	219	10.88	276	0.50	13	1/4	6	1	25	4	102	12.7	6.4
10	10.75	273	13.25	337	0.62	16	1/2	13	1 1/2	38	6	152	21.1	10.6
12	12.75	324	16.00	406	0.75	19	1/2	13	1 1/2	38	6	152	37.3	18.6
14	14.00	356	17.62	448	0.75	19	1/2	13	1 1/2	38	6	152	52.6	26.3
16	16.00	406	20.12	511	0.88	22	1/2	13	1 1/2	38	6	152	76.6	38.3
18	18.00	457	21.50	546	1.00	25	1/2	13	1 1/2	38	6	152	92	46
20	20.00	508	23.75	603	1.12	28	1/2	13	1 1/2	38	6	152	118	59
24	24.00	610	28.12	714	1.25	32	1/2	13	1 1/2	38	6	152	203	102

NOTE: Blind and Spacer thickness above meet the requirements of ASME B31.3 para 304.5.4 corrosion allowance is not included in the above calculation. Thickness for other material can be calculated.
Blinds, Spacers or spectacle manufactured with thickness less than specified above will be verified or compliance to ASME B31.3, stamped With maximum design parameter allowed and will be limited for that application alone.

Tolerances: **OD** +.000, - 0.125, **ID** + 0.125 - .000, **Thickness** +.062, - .000, or as specified by customer blinds over 100lbs will be supplied with a tee handle

BLIND & SPACERS ASME B16.48

Dimensions of Class 300 Bind and Spacer



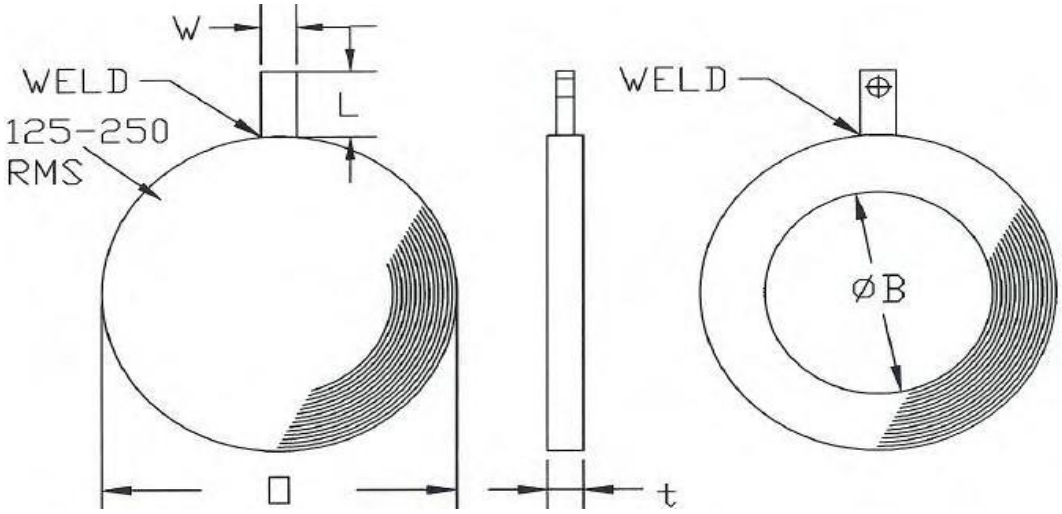
NPS	Inside Diameter B		Outside Diameter O		Thk t		Handle t		W		L		Bld Wgt	Spr Wgt
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.		
	0.62	16	2.00	51	0.25	6	1/8	3	1	25	4	102	0.33	0.17
3/4	0.82	21	2.50	64	0.25	6	1/8	3	1	25	4	102	0.33	0.17
	1.05	27	2.75	70	0.25	6	1/8	3	1	25	4	102	0.33	0.17
1 1/4	1.66	42	3.12	79	0.25	6	1/8	3	1	25	4	102	0.6	0.3
	1.90	48	3.62	92	0.25	6	1/8	3	1	25	4	102	0.87	0.43
2	2.38	60	4.25	108	0.38	10	1/8	3	1	25	4	102	1.2	0.6
	2.88	73	5.00	127	0.38	10	1/8	3	1	25	4	102	1.6	0.8
3	3.50	89	5.75	146	0.38	10	1/8	3	1	25	4	102	1.93	0.97
	4.00	102	6.38	162	0.50	13	1/4	6	1	25	4	102	3.6	1.8
4	4.50	114	7.00	178	0.50	13	1/4	6	1	25	4	102	5.19	2.6
	5.56	141	8.38	213	0.62	16	3/8	10	1	25	4	102	9.32	4.66
6	6.62	168	9.75	248	0.62	16	3/8	10	1	25	4	102	13.39	6.69
	8.62	219	12.00	305	0.88	22	1/2	13	1	25	4	102	26.64	13.32
10	10.75	273	14.12	359	1.00	25	1/2	13	1 1/2	38	6	152	43.29	21.65
	12.75	324	16.50	419	1.12	28	1/2	13	1 1/2	38	6	152	68.6	34.3
14	14.00	356	19.00	483	1.25	32	3/4	19	1 1/2	38	6	152	101.9	50.95
	16.00	406	21.12	537	1.50	38	3/4	19	1 1/2	38	6	152	143.2	71.6
18	18.00	457	23.38	594	1.62	41	3/4	19	1 1/2	38	6	152	196.5	98.24
	20.00	508	25.62	651	1.75	44	3/4	19	1 1/2	38	6	152	249	124.5
24	24.00	610	30.38	772	2.00	51	3/4	19	1 1/2	38	6	152	416.3	208.1

NOTE: Blind and Spacer thickness above meet the requirements of ASME B31.3 para 304.5.4 corrosion allowance is not included in the above calculation. Thickness for other material can be calculated.
Blinds, Spacers or spectacle manufactured with thickness less than specified above will be verified or compliance to ASME B31.3, stamped With maximum design parameter allowed and will be limited for that application alone.

Tolerances: **OD** +.000, - 0.125, **ID** + 0.125 - .000, **Thickness** +.062, - .000, or as specified by customer blinds over 100lbs will be supplied with a tee handle

BLIND & SPACERS ASME B16.48

Dimensions of Class 600 Bind and Spacer



NPS	Inside Diameter B		Outside Diameter O		Thk t		Handle t		W		L		Bld Wgt	Spr Wgt
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.		
1/2	0.62	16	2.00	51	0.25	6	1/8	3	1	25	4	102	0.33	0.165
3/4	0.82	21	2.50	64	0.25	6	1/8	3	1	25	4	102	0.33	0.17
1	1.05	27	2.75	70	0.25	6	1/8	3	1	25	4	102	0.53	0.27
1 1/4	1.44	37	3.12	79	0.38	10	1/8	3	1	25	4	102	0.73	0.37
1 1/2	1.68	43	3.62	92	0.38	10	1/8	3	1	25	4	102	0.87	0.43
2	2.16	55	4.25	108	0.38	10	1/8	3	1	25	4	102	1.47	0.73
2 1/2	2.64	67	5.00	127	0.50	13	1/4	6	1	25	4	102	2.6	1.3
3	3.26	83	5.75	146	0.50	13	1/4	6	1	25	4	102	3.66	1.83
3 1/2	3.76	96	6.25	159	0.62	16	1/4	6	1	25	4	102	5.86	2.93
4	4.26	108	7.50	191	0.62	16	3/8	10	1	25	4	102	7.99	4
5	5.30	135	9.38	238	0.75	19	1/2	13	1	25	4	102	15.65	7.83
6	6.36	162	10.38	264	0.88	22	1/2	13	1	25	4	102	23.31	11.66
8	8.33	212	12.50	318	1.12	28	3/4	19	1	25	4	102	39.96	19.98
10	10.42	265	15.62	397	1.38	35	3/4	19	1 1/2	38	6	152	78.26	39.13
12	12.39	315	17.88	454	1.62	41	3/4	19	1 1/2	38	6	152	123.2	61.61
14	13.62	346	19.25	489	1.75	44	3/4	19	1 1/2	38	6	152	153.2	76.59
16	15.62	397	22.12	562	2.00	51	3/4	19	1 1/2	38	6	152	226.4	113.2
18	17.62	448	24.00	610	2.12	54	3/4	19	1 1/2	38	6	152	299.7	149.9
20	19.56	497	26.75	679	2.50	64	3/4	19	1 1/2	38	6	152	412.9	206.5
24	23.50	597	31.00	787	2.88	73	3/4	19	1 1/2	38	6	152	649.4	324.7

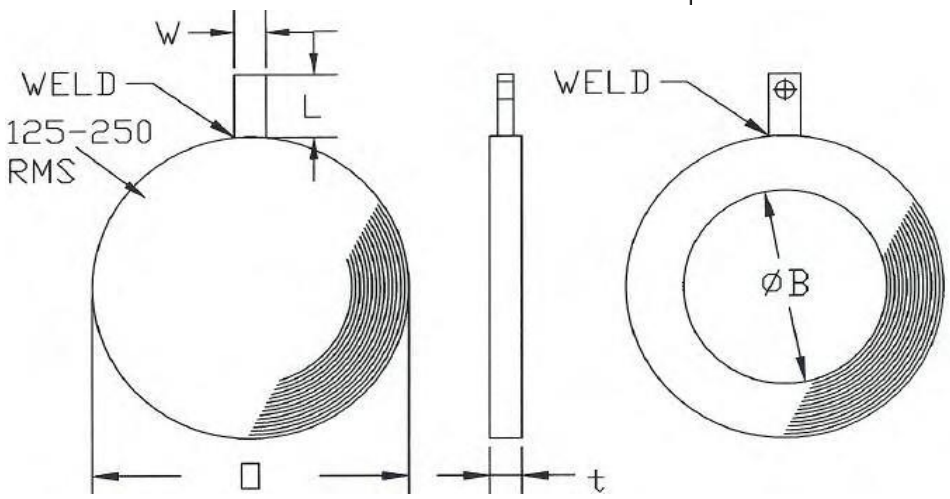
NOTE: Blind and Spacer thickness above meet the requirements of ASME B31.3 para 304.5.4 corrosion allowance is not included in the above calculation. Thickness for other material can be calculated.
Blinds, Spacers or spectacle manufactured with thickness less than specified above will be verified or compliance to ASME B31.3, stamped With maximum design parameter allowed and will be limited for that application alone.

Tolerances: **OD** +.000, - 0.125, **ID** + 0.125 - .000, **Thickness** +.062, - .000, or as specified by customer blinds over 100lbs will be supplied with a tee handle

BLIND & SPACERS

ASME B16.48

Dimensions of Class 900 Bind and Spacer



NPS	Inside Diameter B		Outside Diameter O		Thk t		Handle t		W		L		Bld Wgt	Spr Wgt
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.		
1/2	0.62	16	2.38	60	0.25	6	1/8	3	1	25	4	102	0.33	0.17
3/4	0.82	21	2.62	67	0.25	6	1/8	3	1	25	4	102	0.33	0.17
1	1.05	27	3.00	76	0.25	6	1/8	3	1	25	4	102	0.6	0.3
1 1/4	1.44	37	3.38	86	0.38	10	1/8	3	1	25	4	102	0.93	0.47
1 1/2	1.68	43	3.75	95	0.38	10	1/8	3	1	25	4	102	1.2	0.6
2	2.16	55	5.50	140	0.50	13	1/4	6	1	25	4	102	3.13	1.57
2 1/2	2.64	67	6.38	162	0.50	13	1/4	6	1	25	4	102	4.73	2.36
3	3.26	83	6.50	165	0.62	16	1/4	6	1	25	4	102	6.33	3.16
4	4.26	108	8.00	203	0.75	19	3/8	10	1	25	4	102	11.32	5.66
5	5.30	135	9.62	244	0.88	22	3/8	10	1	25	4	102	23.18	11.59
6	6.36	162	11.25	286	1.00	25	1/2	13	1	25	4	102	34.97	17.48
8	8.33	212	14.00	356	1.38	35	1/2	13	1 1/2	38	4	102	64.6	32.3
10	10.42	265	17.00	432	1.62	41	3/4	19	1 1/2	38	6	152	118.6	59.27
12	12.39	315	19.50	495	1.88	48	3/4	19	1 1/2	38	6	152	186.5	93.24
14	13.62	346	20.38	518	2.12	54	3/4	19	1 1/2	38	6	152	203.1	101.6
16	15.62	397	22.50	572	2.38	60	3/4	19	1 1/2	38	6	152	273.1	136.5
18	17.62	448	25.00	635	2.62	67	3/4	19	1 1/2	38	6	152	379	189.8
20	19.56	497	27.38	695	2.88	73	3/4	19	1 1/2	38	6	152	499.5	249.8
24	23.50	597	32.88	835	3.50	89	3/4	19	1 1/2	38	6	152	832.5	416.3

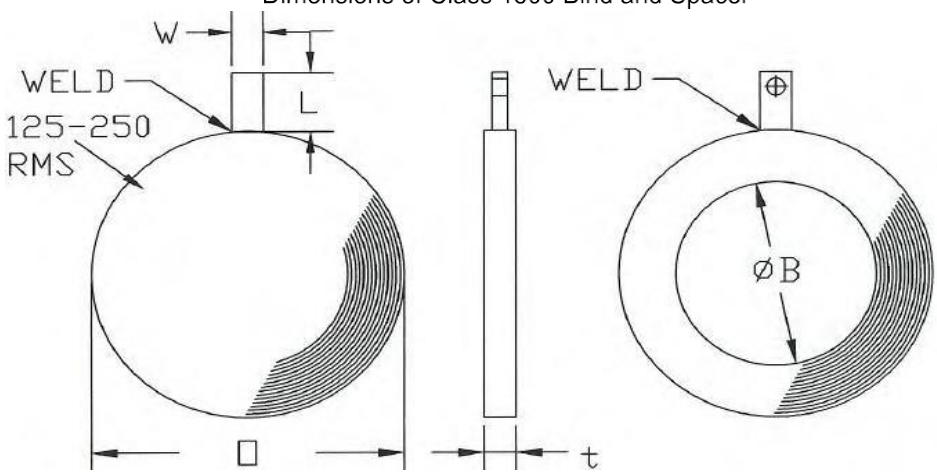
NOTE: Blind and Spacer thickness above meet the requirements of ASME B31.3 para 304.5.4 corrosion allowance is not included in the above calculation. Thickness for other material can be calculated.
Blinds, Spacers or spectacle manufactured with thickness less than specified above will be verified or compliance to ASME B31.3, stamped With maximum design parameter allowed and will be limited for that application alone.

Tolerances: **OD** +.000, - 0.125, **ID** + 0.125 - .000, **Thickness** +.062, - .000, or as specified by customer blinds over 100lbs will be supplied with a tee handle

BLIND & SPACERS

ASME B16.48

Dimensions of Class 1500 Bind and Spacer



NPS	Inside Diameter B		Outside Diameter O		Thk t		Handle t		W		L		Bld Wgt	Spr Wgt
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.		
1/2	0.62	16	2.38	60	0.25	6	1/8	3	1	25	4	102	0.4	0.2
3/4	0.82	21	2.62	67	0.38	10	1/8	3	1	25	4	102	0.73	0.37
1	1.05	27	3.00	76	0.38	10	1/8	3	1	25	4	102	0.93	0.47
1 1/4	1.38	35	3.38	86	0.38	10	1/8	3	1	25	4	102	1.2	0.6
1 1/2	1.61	41	3.75	95	0.50	13	1/4	6	1	25	4	102	1.86	0.93
2	2.07	53	5.50	140	0.50	13	1/4	6	1	25	4	102	4.2	2.1
2 1/2	2.47	63	6.38	162	0.62	16	1/2	13	1	25	4	102	6.93	3.46
3	3.07	78	6.75	171	0.75	19	1/2	13	1	25	4	102	9.32	4.66
4	5.05	102	8.12	206	0.88	22	1/2	13	1	25	4	102	14.65	7.33
5	6.06	128	9.88	251	1.12	28	3/4	19	1	25	4	102	27.97	13.99
6	7.98	154	11.00	279	1.38	35	3/4	19	1	25	4	102	41.96	20.98
8	10.02	203	13.75	349	1.62	41	3/4	19	1	25	4	102	75.26	37.63
10	11.94	255	17.00	432	2.00	51	3/4	19	1 1/2	38	6	152	141.9	70.93
12	13.12	303	20.38	518	2.38	60	3/4	19	1 1/2	38	6	152	176.5	88.25
14	15.00	333	22.62	575	2.62	67	3/4	19	1 1/2	38	6	152	331	165.5
16	16.88	381	25.12	638	3.00	76	3/4	19	1 1/2	38	6	152	461.5	230.8
18	18.81	429	27.62	702	3.38	86	3/4	19	1 1/2	38	6	152	622	311
20	18.81	478	29.62	752	3.75	95	3/4	19	1 1/2	38	6	152	779.2	389.6
24	22.62	575	35.38	899	4.38	111	3/4	19	1 1/2	38	6	152	1030	515.2

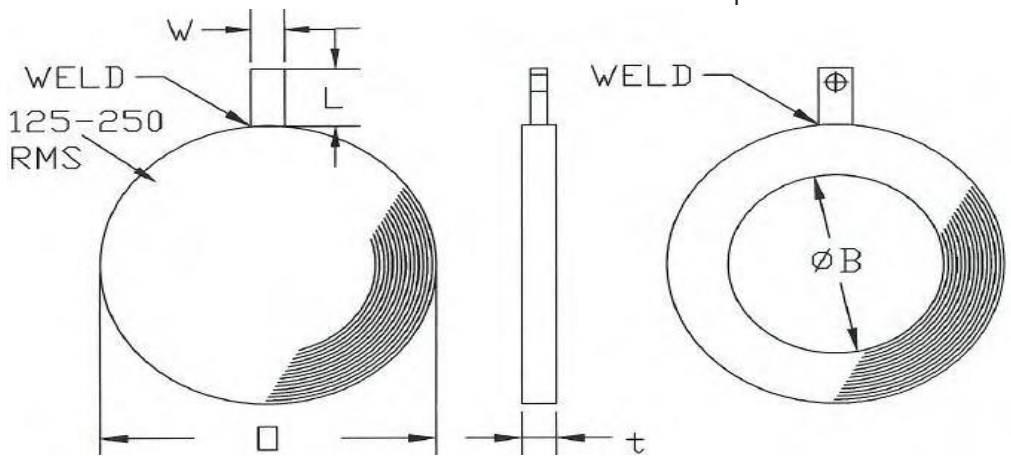
NOTE: Blind and Spacer thickness above meet the requirements of ASME B31.3 para 304.5.4 corrosion allowance is not included in the above calculation. Thickness for other material can be calculated.
Blinds, Spacers or spectacle manufactured with thickness less than specified above will be verified or compliance to ASME B31.3, stamped With maximum design parameter allowed and will be limited for that application alone.

Tolerances: **OD** +.000, - 0.125, **ID** + 0.125 - .000, **Thickness** +.062, - .000, or as specified by customer blinds over 100lbs will be supplied with a tee handle

BLIND & SPACERS

ASME B16.48

Dimensions of Class 2500 Bind and Spacer



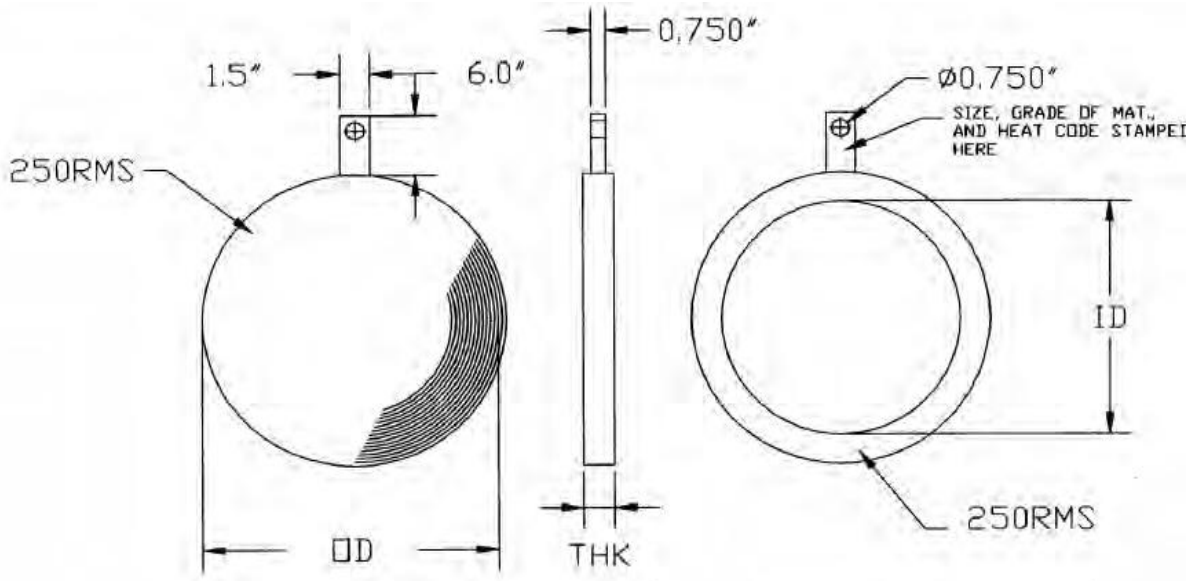
NPS	Inside Diameter B		Outside Diameter O		Thk t		Handle t		W		L		Bld Wgt	Spr Wgt
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.		
1/2	0.62	16	2.62	67	0.38	10	1/8	3	1	25	4	102	0.73	0.37
3/4	0.82	21	2.88	73	0.38	10	1/8	3	1	25	4	102	0.87	0.43
1	1.05	27	3.25	83	0.38	10	1/8	3	1	25	4	102	1.13	0.57
1 1/4	1.38	35	4.00	102	0.50	13	1/4	6	1	25	4	102	2.26	1.13
1 1/2	1.61	41	4.50	114	0.62	16	1/4	6	1	25	4	102	3.46	1.73
2	2.07	53	5.62	143	0.62	16	1/4	6	1	25	4	102	5.39	2.7
2 1/2	2.47	63	6.50	165	0.75	19	1/2	13	1	25	4	102	8.72	4.36
3	3.07	78	7.62	194	0.88	22	1/2	13	1	25	4	102	13.99	6.99
4	4.03	102	9.12	232	1.12	28	1/2	13	1	25	4	102	24.64	12.32
5	5.05	128	10.88	276	1.38	35	3/4	19	1	25	4	102	43.29	21.65
6	6.06	154	12.38	314	1.62	41	3/4	19	1	25	4	102	64.6	32.3
8	7.81	198	15.12	384	2.12	54	3/4	19	1	25	4	102	124.5	62.27
10	9.75	248	18.62	473	2.62	67	3/4	19	1 1/2	38	6	152	232.4	116.2
12	11.37	289	21.50	546	3.12	79	3/4	19	1 1/2	38	6	152	368.3	184.2

NOTE: Blind and Spacer thickness above meet the requirements of ASME B31.3 para 304.5.4 corrosion allowance is not included in the above calculation. Thickness for other material can be calculated.
Blinds, Spacers or spectacle manufactured with thickness less than specified above will be verified or compliance to ASME B31.3, stamped With maximum design parameter allowed and will be limited for that application alone.

Tolerances: **OD** +.000, - 0.125, **ID** + 0.125 - .000, **Thickness** +.062, - .000, or as specified by customer blinds over 100lbs will be supplied with a tee handle

GOVAL
ITALY

SPECTACLE BLINDS
PADDLE BLINDS (SPADES)
RING SPACERS



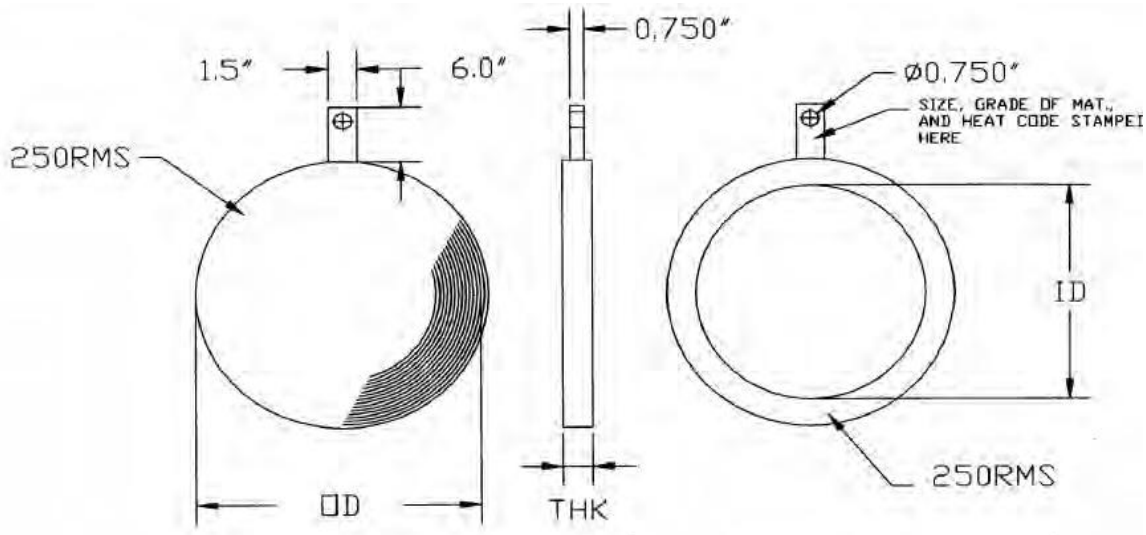
A516 GR70N TO SUIT ASME B16.47 SERIES A FLANGES									
	CLASS 150			CLASS 300			CLASS 600		
PIPE SIZE	THK	OD	ID	THK	OD	ID	THK	OD	ID
26	1.75	30.375	25.25	2.063	32.75	25.25	2.875	34	25.25
28	1.75	32.625	27.25	2.125	35.25	27.25	3	35.875	27.25
30	1.75	34.625	29.25	2.375	37.375	29.25	3.375	38.125	29.25
32	1.75	36.875	31.25	2.5	39.5	31.25	3.5	40.125	31.25
34	2	38.875	33.25	2.625	41.5	33.25	3.75	42.125	33.25
36	2	41.125	35.25	3	43.875	35.25	4	44.375	35.25
38	2	43.625	37.25	3	41.375	37.25	4.125	43.375	37.25
40	2	45.625	39.25	3.125	43.75	39.25	4.375	45.375	39.25
42	2.25	47.875	41	3.25	45.75	41	4.5	47.875	41
44	2.25	50.125	43	3.5	47.875	43	4.75	49.375	43
46	2.5	52.125	45	3.625	50	45	5	52.125	45
48	2.5	54.375	47	3.75	52	47	5.375	54.625	47
50	2.5	56.375	49	4	54.125	49	5.5	56.875	49
52	2.75	58.375	51	4	56.125	51	5.75	58.875	51
54	2.75	60.875	53	4.25	58.625	53	5.875	61.125	53
56	2.875	63.125	55	4.375	60.625	55	6.125	63.375	55
58	2.875	65.375	57	4.5	62.625	57	6.375	65.375	57
60	3.125	67.375	59	4.625	64.625	59	6.5	68.125	59

NOTE: Blind and Spacer thickness above meet the requirements of ASME B31.3 para 304.5.4 corrosion allowance is not included in the above calculation. Thickness for other material can be calculated.
Blinds, Spacers or spectacle manufactured with thickness less than specified above will be verified or compliance to ASME B31.3, stamped With maximum design parameter allowed and will be limited for that application alone.

Tolerances: **OD** +.000, - 0.125, **ID** + 0.125 - .000, **Thickness** +.062, - .000, or as specified by customer blinds over 100lbs will be supplied with a tee handle

GOVAL
ITALY

SPECTACLE BLINDS
PADDLE BLINDS (SPADES)
RING SPACERS



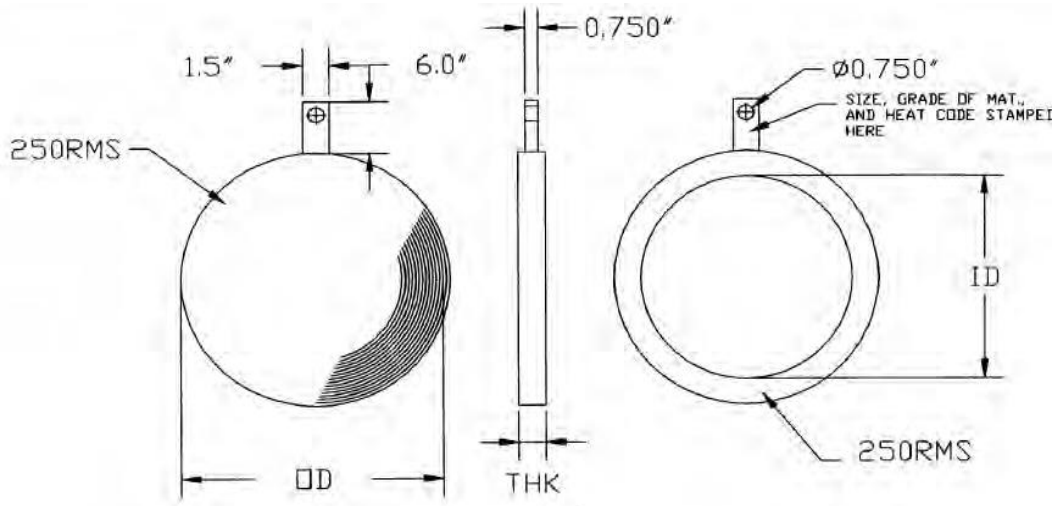
A516 GR70N TO SUIT ASME B16.47 SERIES B FLANGES									
	CLASS 150			CLASS 300			CLASS 600		
PIPE SIZE	THK	OD	ID	THK	OD	ID	THK	OD	ID
26	1.75	28.438	25.25	2.063	30.25	25.25	2.875	30	25.25
28	1.75	30.437	27.25	2.125	32.375	27.25	3	32.125	27.25
30	1.75	32.437	29.25	2.375	34.75	29.25	3.375	34.5	29.25
32	1.75	34.56	31.25	2.5	36.875	31.25	3.5	36.625	31.25
34	2	36.69	33.25	2.625	39	33.25	3.75	39.125	33.25
36	2	38.75	35.25	3	41.125	35.25	4	41.25	35.25
38	2	41	37.25	3	43.125	37.25			
40	2	43	39.25	3.125	45.125	39.25			
42	2.25	45	41	3.25	47.125	41			
44	2.25	47	43	3.5	49.125	43			
46	2.5	49.31	45	3.625	51.75	45			
48	2.5	51.312	47	3.75	53.75	47			
50	2.5	53.312	49	4	55.75	49			
52	2.75	55.312	51	4	57.75	51			
54	2.75	57.5	53	4.25	60.125	53			
56	2.875	59.5	55	4.375	62.625	55			
58	2.875	62.062	57	4.5	65.065	57			
60	3.125	64.062	59	4.625	67.065	59			

NOTE: Blind and Spacer thickness above meet the requirements of ASME B31.3 para 304.5.4 corrosion allowance is not included in the above calculation. Thickness for other material can be calculated.
Blinds, Spacers or spectacle manufactured with thickness less than specified above will be verified or compliance to ASME B31.3, stamped With maximum design parameter allowed and will be limited for that application alone.

Tolerances: **OD** +.000, - 0.125, **ID** + 0.125 - .000, **Thickness** +.062, - .000, or as specified by customer blinds over 100lbs will be supplied with a tee handle

GOVAL
ITALY

SPECTACLE BLINDS
PADDLE BLINDS (SPADES)
RING SPACERS



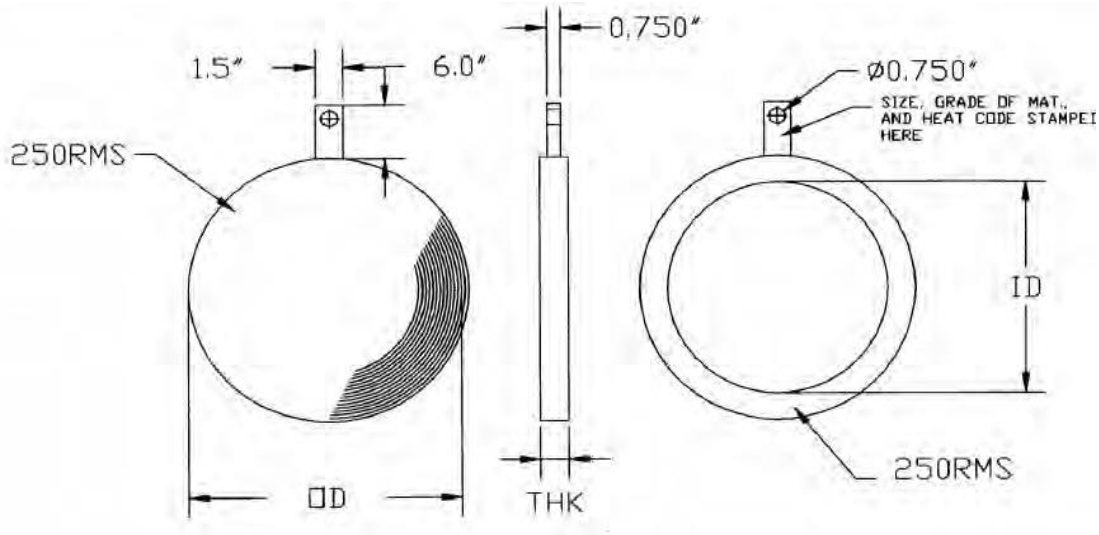
A316SS TO SUIT ASME B16.47 SERIES A FLANGES									
	CLASS 150			CLASS 300			CLASS 600		
PIPE SIZE	THK	OD	ID	THK	OD	ID	THK	OD	ID
26	1.5	30.375	25.25	2.250	32.75	25.25	3	34	25.25
28	1.75	32.625	27.25	2.375	35.25	27.25	3.25	35.875	27.25
30	1.75	34.625	29.25	2.5	37.375	29.25	3.5	38.125	29.25
32	1.75	36.875	31.25	2.75	39.5	31.25	3.75	40.125	31.25
34	2	38.875	33.25	2.875	41.5	33.25	4	42.125	33.25
36	2	41.125	35.25	3	43.875	35.25	4.25	44.375	35.25
38	2	43.625	37.25	3.25	41.375	37.25	4.5	43.375	37.25
40	2.125	45.625	39.25	3.375	43.75	39.25	4.75	45.375	39.25
42	2.25	47.875	41	3.5	45.75	41	5	47.875	41
44	2.25	50.125	43	3.75	47.875	43	5.125	49.375	43
46	2.5	52.125	45	3.875	50	45	5.375	52.125	45
48	2.5	54.375	47	4.125	52	47	5.75	54.625	47
50	2.625	56.375	49	4.125	54.125	49	5.875	56.875	49
52	2.75	58.375	51	4.375	56.125	51	6.125	58.875	51
54	2.875	60.875	53	4.5	58.625	53	6.375	61.125	53
56	2.875	63.125	55	4.75	60.625	55	6.5	63.375	55
58	3	65.375	57	4.875	62.625	57	6.75	65.375	57
60	3.125	67.375	59	5	64.625	59	7	68.125	59

NOTE: Blind and Spacer thickness above meet the requirements of ASME B31.3 para 304.5.4 corrosion allowance is not included in the above calculation. Thickness for other material can be calculated.
Blinds, Spacers or spectacle manufactured with thickness less than specified above will be verified or compliance to ASME B31.3, stamped With maximum design parameter allowed and will be limited for that application alone.

Tolerances: **OD** +.000, - 0.125, **ID** + 0.125 - .000, **Thickness** +.062, - .000, or as specified by customer blinds over 100lbs will be supplied with a tee handle

GOVAL
ITALY

SPECTACLE BLINDS
PADDLE BLINDS (SPADES)
RING SPACERS



A316 TO SUIT ASME B16.47 SERIES B FLANGES									
	CLASS 150			CLASS 300			CLASS 600		
PIPE SIZE	THK	OD	ID	THK	OD	ID	THK	OD	ID
26	1.5	28.438	25.25	2.250	30.25	25.25	3	30	25.25
28	1.75	30.437	27.25	2.375	32.375	27.25	3.25	32.125	27.25
30	1.75	32.437	29.25	2.5	34.75	29.25	3.5	34.5	29.25
32	1.75	34.56	31.25	2.75	36.875	31.25	3.75	36.625	31.25
34	2	36.69	33.25	2.875	39	33.25	4	39.125	33.25
36	2	38.75	35.25	3	41.125	35.25	4.25	41.25	35.25
38	2	41	37.25	3.25	43.125	37.25			
40	2.125	43	39.25	3.375	45.125	39.25			
42	2.25	45	41	3.5	47.125	41			
44	2.25	47	43	3.75	49.125	43			
46	2.5	49.31	45	3.875	51.75	45			
48	2.5	51.312	47	4.125	53.75	47			
50	2.625	53.312	49	4.125	55.75	49			
52	2.75	55.312	51	4.375	57.75	51			
54	2.875	57.5	53	4.5	60.125	53			
56	2.875	59.5	55	4.75	62.625	55			
58	3	62.062	57	4.875	65.065	57			
60	3.125	64.062	59	5	67.065	59			

NOTE: Blind and Spacer thickness above meet the requirements of ASME B31.3 para 304.5.4 corrosion allowance is not included in the above calculation. Thickness for other material can be calculated.
Blinds, Spacers or spectacle manufactured with thickness less than specified above will be verified or compliance to ASME B31.3, stamped With maximum design parameter allowed and will be limited for that application alone.

Tolerances: **OD** +.000, - 0.125, **ID** + 0.125 - .000, **Thickness** +.062, - .000, or as specified by customer blinds over 100lbs will be supplied with a tee handle