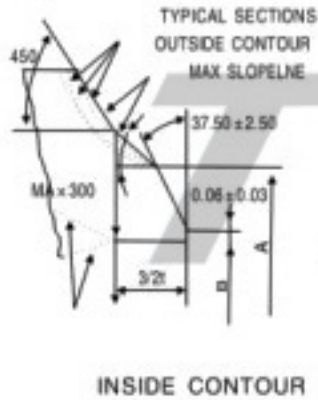
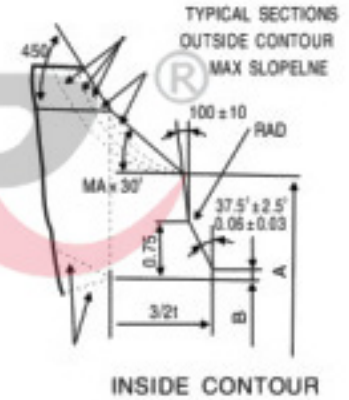


**Welding End Details For Cast Components
For Use Without Backing Ring Or With Split Backing Ring**

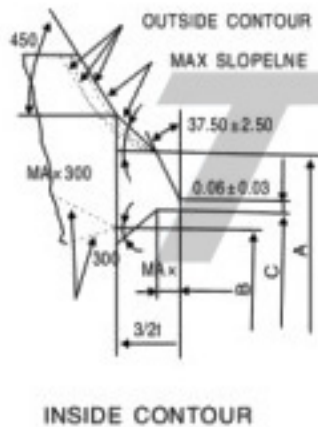


Used when nominal pipe wall thickness is 0.88" or less.

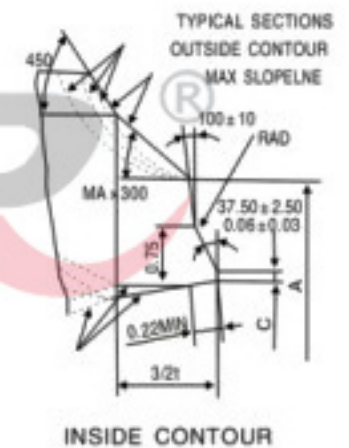


Used when nominal pipe wall thickness is greater than 0.88" .

**Welding End Details For Cast Components
For Use With Continuous Rectangular Or Tapered Backing Ring**



Used when nominal pipe wall thickness is 0.88" or less.



Used when nominal pipe wall thickness is greater than 0.88" .

ANSI B16.25

Nominal Pipe Size	3~	4~	5~	6~	8~	10~	12~	14~	16~
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A-inches	3.59	4.62	5.69	6.78	8.78	10.94	12.97	14.25	16.25
Nominal Pipe Size	18~	20~	24~	26~	28~	30~	32~	34~	36~
A-inches	18.28	20.31	24.38	26.38	28.38	30.38	32.50	34.50	36.50

Class 150 and 300 valves 12-inch and smaller are regularly machined as shown in two upper illustrations. Unless otherwise specified, ends are bored to match schedule 40 pipe in valves 10-inch and smaller and standard wall pipe (0.375 thick) in 12-inch valves.

Orders for Class 150 and 300 butt-welding valves 14-inch and larger. And for Class 400 and higher valves in all sizes, Must specify the inside diameter of the pipe with which the valves will be used, and the type of backing ring required. Other types of weld end preparation can be furnished when specified.

Note:

A=Outside Diameter(Cast Steel Valves) B=Nominal Inside Diameter of pipe

$C = B + 0.25t - 0.041$ ~ t=Nominal Pipe Wall Thickness

$C = B + 0.25t - 0.041$ ~ 0.09=3/32 ~ 0.75=3/4 ~ 0.12=1/8 ~ 0.88=7/8

0.03=1/32 ~ 0.16=5/32 ~ 0.06=1/16 ~ 0.38=3/8

ANSI CLASS 150/300Lb

Note:

1. NPS 24 and smaller by ANSI B16.5, NPS 26 and larger by MSS SP-44.

2. Class 150 and Class 300 flange lowest thickness included 0.06 inch convexity.

Flanged ends dimensions Class 150Lb

NPS	DN	O		B		R		C		Z		Stub Bolt		Bolt Length	
		inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	Num	Diam.	RF	R&G
2	50	6.00	150	4.57	120.5	3.62	92	0.75	19.5	0.75	18	4	5/8	3.25	3.75

2-1/2	65	7.00	180	5.50	139.5	4.12	105	0.88	22.5	0.75	18	4	5/8	3.50	4.00
3	80	7.50	190	6.00	152.5	5.00	127	0.94	24	0.75	18	4	5/8	3.50	4.00
4	100	9.00	230	7.50	190.5	6.19	157.5	0.94	24	0.75	18	8	5/8	3.50	4.00
6	150	11.00	280	9.50	241.5	8.50	216	1.00	25.5	0.88	22	8	3/4	4.00	4.50
8	200	13.50	345	11.75	298.5	10.62	270	1.12	29	0.88	22	8	3/4	4.25	4.75
10	250	16.00	405	14.25	362	12.75	324	1.19	30.5	1.00	26	12	7/8	4.50	5.00
12	300	19.00	485	17.00	432	15.00	381	1.25	32	1.00	26	12	7/8	4.75	5.25
14	350	21.00	535	18.75	476	16.25	413	1.38	35	1.12	29.5	12	1	5.25	5.75
16	400	23.50	600	21.25	540	18.50	470	1.44	37	1.12	29.5	16	1	5.25	5.75
18	450	25.00	635	22.75	578	21.00	533.5	1.56	40	1.25	32.5	16	1-1/8	5.75	6.25
20	500	27.50	700	25.00	635	23.00	584	1.69	43	1.25	32.5	20	1-1/8	6.25	6.75
24	550	32.00	815	29.50	749.5	27.25	692	1.88	48	1.38	35.5	20	1-1/4	6.75	7.25
26	600	34.25	870	31.75	806.5	29.50	749	2.69	68	1.38	35.5	24	1-1/4	-	-
28	650	36.50	927	34.00	864	31.50	800	2.81	72	1.38	35.5	28	1-1/4	-	-
30	700	38.75	985	36.00	915	33.75	857	2.94	75	1.38	35.5	28	1-1/4	-	-
32	750	41.75	1060	38.50	978	36.00	915	3.18	81	1.62	41	28	1-1/2	-	-
34	800	43.75	1112	40.50	1029	38.00	965	3.25	83	1.62	41	32	1-1/2	-	-
36	850	46.00	1168	42.75	1086	40.25	1022	3.44	88	1.62	41	32	1-1/2	-	-

Flanged ends dimensions ~~~~Class 300Lb

NPS	DN	O		B		R		C		Z		Stub Bolt		Bolt Length	
		inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	Num	Diam.	RF	R&G
2	50	6.50	165	5.00	127	3.62	92	0.88	22.5	0.75	18	8	5/8	3.50	4.00
2-1/2	65	7.50	190	5.88	149	4.12	105	1.00	25.5	0.88	22	8	3/4	4.00	4.50
3	80	8.25	210	6.62	168.5	5.00	127	1.12	29	0.88	22	8	3/4	4.25	4.75
4	100	10.00	255	7.88	200	6.19	157.5	1.25	32	0.88	22	8	3/4	4.50	5.00
6	150	12.50	320	10.62	270	8.50	216	1.44	37	0.88	22	12	3/4	4.75	5.50
8	200	15.00	380	13.00	330	10.62	270	1.62	41.5	1.00	26	12	7/8	5.50	6.00
10	250	17.50	445	15.25	387.5	12.75	324	1.88	48	1.12	29.5	16	1	6.25	6.75
12	300	20.50	520	17.75	451	15.00	381	2.00	51	1.25	32.5	16	1-1/8	6.75	7.25
14	350	23.00	585	20.25	514.5	16.25	413	2.12	54	1.25	32.5	20	1-1/8	7.00	7.50
16	400	25.50	650	22.50	571.5	18.50	470	2.25	57.5	1.38	32.5	20	1-1/4	7.50	8.00
18	450	28.00	710	24.75	628.5	21.00	533.5	2.38	60.5	1.38	32.5	24	1-1/4	7.75	8.25
20	500	30.50	775	27.00	686	23.00	584	2.50	63.5	1.38	32.5	24	1-1/4	8.00	8.75
24	550	36.00	915	32.00	813	27.25	692	2.75	70	1.62	42	24	1-1/2	9.00	10.0
26	600	38.25	972	34.50	876	29.50	749	3.12	79.5	1.75	44.5	28	1-5/8	-	-

28	650	40.75	1035	37.00	940	31.50	800	3.38	86	1.75	44.5	28	1-5/8	-	-
30	700	43.00	1092	39.25	997	33.75	857	3.62	92	1.88	48	28	1-3/4	-	-
32	750	45.25	1150	41.50	1054	36.00	915	3.88	98.5	2.00	51	28	1-7/8	-	-
34	800	47.50	1207	43.50	1105	38.00	965	4.00	102	2.00	51	28	1-7/8	-	-
36	850	50.00	1270	46.00	1169	40.25	1022	4.12	105	2.12	54	32	2	-	-

ANSI CLASS 600/900Lb

Note:

1.NPS 24~and smaller by ANSI B16.5,NPS 26 and larger by MSS SP-44.

2.Class 600 and Class 900 flange lowest thickness barring 0.25 inch convexity.

Flanged ends dimensions~~~~Class 600Lb

NPS	DN	O		B		R		C		Z		Stub Bolt		Bolt Length	
inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	Num	Diam.	RF	R&G
2	50	6.50	165	5.00	127	3.62	92	1.00	25.5	0.75	18	8	5/8	4.25	4.25
2-1/2	65	7.50	190	5.88	149	4.12	105	1.12	29	0.88	22	8	3/4	4.75	4.75
3	80	8.25	210	6.62	168.5	5.00	127	1.25	32	0.88	22	8	3/4	5.00	5.00
4	100	10.75	275	8.50	216	6.19	157.5	1.50	38.5	1.00	26	8	7/8	5.75	5.75
6	150	14.00	355	11.50	292	8.50	216	1.88	48	1.12	29.5	12	1	6.75	6.75
8	200	16.50	420	13.75	349	10.62	270	2.19	55.5	1.25	32.5	12	1-1/8	7.50	7.75
10	250	20.00	510	17.00	432	12.75	324	2.50	63.5	1.38	35.5	16	1-1/4	8.50	8.50
12	300	22.00	560	19.25	489	15.00	381	2.62	67	1.38	35.5	20	1-1/4	8.75	8.75
14	350	23.75	605	20.75	527	16.25	413	2.75	70	1.50	39	20	1-3/8	9.25	9.25
16	400	27.00	685	23.75	603	18.50	470	3.00	76.5	1.62	42	20	1-1/2	10.0	10.0
18	450	29.25	745	25.75	654	21.00	533.5	3.25	83	1.75	45	20	1-5/8	11.0	11.0
20	500	32.00	815	28.50	724	23.00	584	3.50	89	1.75	45	24	1-5/8	11.5	11.5
24	550	37.00	940	33.00	838	27.25	692	4.00	102	2.00	51	24	1-7/8	13.0	13.5
26	600	40.00	1016	36.00	915	29.50	749	4.25	108	2.00	51	28	1-7/8	-	-
28	650	42.25	1073	38.00	965	31.50	800	4.38	111	2.12	54	28	2	-	-
30	700	44.50	1130	40.25	1022	33.75	857	4.50	114	2.12	54	28	2	-	-

32	750	47.50	1194	42.50	1080	36.00	915	4.62	117	2.38	61	28	2-1/4	-	-
34	800	49.00	1245	44.50	1130	38.00	965	4.77	121	2.38	61	28	2-1/4	-	-
36	850	51.75	1315	47.00	1194	40.25	1022	4.88	124	2.62	67	28	2-1/2	-	-

Flanged ends dimensions ~~~~Class 900Lb

NPS	DN	O		B		R		C		Z		Stub Bolt		Bolt Length	
		inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	Num	Diam.	RF	R&G
2	50	8.50	215	6.50	165	3.62	92	1.50	38.5	1.00	26	8	7/8	5.75	5.75
2-1/2	65	9.62	245	7.50	190.5	4.12	105	1.62	41.5	1.12	29.5	8	1	6.25	6.25
3	80	9.50	240	7.50	190.5	5.00	127	1.50	38.5	1.00	26	8	7/8	5.75	5.75
4	100	11.50	290	9.25	235	6.19	157.5	1.75	44.5	1.25	32.5	8	1-1/8	6.75	6.75
6	150	15.50	380	12.50	317.5	8.50	216	2.19	56	1.25	32.5	12	1-1/8	7.50	7.50
8	200	18.50	470	15.50	393.5	10.62	270	2.50	63.5	1.50	39	12	1-3/8	8.75	8.75
10	250	21.50	545	18.50	470	12.75	324	2.75	70	1.50	39	16	1-3/8	9.25	9.25
12	300	24.00	610	21.00	533.5	15.00	381	3.12	79.5	1.50	39	20	1-3/8	10.0	10.0
14	350	25.25	640	22.00	559	16.25	413	3.38	86	1.62	42	20	1-1/2	11.0	11.0
16	400	27.75	705	24.25	616	18.50	470	3.50	89	1.75	45	20	1-5/8	11.5	11.5
18	450	31.00	785	27.00	686	21.00	533.5	4.00	102	2.00	51	20	1-7/8	13.0	13.5
20	500	33.75	855	29.50	749.5	23.00	584	4.25	108	2.12	55	20	2	14.0	14.5
24	550	41.00	1040	35.50	901.5	27.25	692	5.50	140	2.62	68	20	1-1/2	17.5	18.0

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Dong-ou Industrial Zone, Wenzhou, Zhejiang, China, 325100

Int'l trade: Tel:(86)577-57999777 67995111 67995115 67995116 Fax:57999888 Local sales: Tel:57989999

Fax:57989988

[HTTP://www.chinateer.com](http://www.chinateer.com) E-mail: trade@chinateer.com