

# DIMENSIONS OF RING-JOINT FACINGS

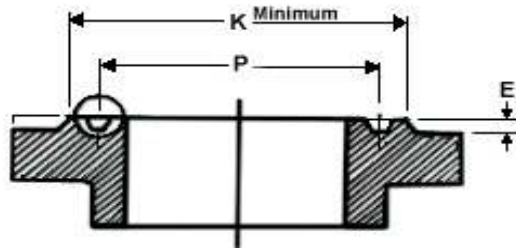
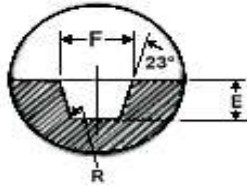


Tolerances	
E <sub>(depth)</sub>	+0.016 -0
F <sub>(width)</sub>	±0.008
P <sub>(pitch diam)</sub>	±0.005
R <sub>(radius at bottom)</sub>	Max
23° <sub>(angle)</sub>	±1/2°

Nominal Pipe Size							Groove Dimensions					Diameter of Raised Portion K					
150 PSI	300 PSI	400 PSI	600 PSI	900 PSI	1500 PSI	2500 PSI	Groove #	Pitch Dia	Depth	Width	Radius at Bottom	150 PSI	300 400 600 PSI	900 PSI	1500 PSI	2500 PSI	Depth
								P	E	F	R						E
.....	1/2	.....	1/2	.....	.....	.....	R11	1-11/32	7/32	9/32	1/32	.....	2	.....	.....	.....	7/32
.....	.....	.....	.....	.....	1/2	.....	12	1-9/16	1/4	11/32	1/32	.....	.....	2-3/8	2-3/8	.....	1/4
.....	3/4	.....	3/4	.....	.....	1/2	13	1-11/16	1/4	11/32	1/32	.....	2-1/2	.....	.....	2-9/16	1/4
.....	.....	.....	.....	.....	3/4	.....	14	1-3/4	1/4	11/32	1/32	.....	.....	2-5/8	2-5/8	.....	1/4
1	.....	.....	.....	.....	.....	.....	15	1-7/8	1/4	11/32	1/32	2-1/2	.....	.....	.....	.....	1/4
.....	1	.....	1	.....	1	3/4	16	2	1/4	11/32	1/32	.....	2-3/4	2-13/16	2-13/16	2-7/8	1/4
1-1/4	.....	.....	.....	.....	.....	.....	17	2-1/4	1/4	11/32	1/32	2-7/8	.....	.....	.....	.....	1/4
.....	1-1/4	.....	1-1/4	.....	1-1/4	1	18	2-3/8	1/4	11/32	1/32	.....	3-1/8	3-3/16	3-3/16	3-1/4	1/4
1-1/2	.....	.....	.....	.....	.....	.....	19	2-9/16	1/4	11/32	1/32	3-1/4	.....	.....	.....	.....	1/4
.....	1-1/2	.....	1-1/2	.....	1-1/2	.....	20	2-11/16	1/4	11/32	1/32	.....	3-9/16	3-5/8	3-5/8	.....	1/4
.....	.....	.....	.....	.....	.....	1-1/4	21	2-27/32	5/16	15/32	1/32	.....	.....	.....	.....	4	5/16
.....	.....	.....	.....	.....	.....	.....	22	3-1/4	1/4	11/32	1/32	4	.....	.....	.....	.....	1/4
.....	2	.....	2	.....	.....	1-1/2	23	3-1/4	5/16	15/32	1/32	.....	4-1/4	.....	.....	4-1/2	5/16
.....	.....	.....	.....	.....	2	.....	24	3-3/4	5/16	15/32	1/32	.....	.....	4-7/8	4-7/8	.....	5/16
2-1/2	.....	.....	.....	.....	.....	.....	25	4	1/4	11/32	1/32	4-3/4	.....	.....	.....	.....	1/4
.....	2-1/2	.....	2-1/2	.....	.....	2	26	4	5/16	15/32	1/32	.....	5	.....	.....	5-1/4	5/16
.....	.....	.....	.....	.....	2-1/2	.....	27	4-1/4	5/16	15/32	1/32	.....	.....	.....	5-3/8	.....	5/16
.....	.....	.....	.....	.....	.....	2-1/2	28	4-3/8	3/8	17/32	1/16	.....	.....	.....	.....	5-7/8	3/8
3	.....	.....	.....	.....	.....	.....	29	4-1/2	1/4	11/32	1/32	5-1/4	.....	.....	.....	.....	1/4
.....	.....	.....	.....	.....	.....	.....	30	4-5/8	5/16	15/32	1/32	.....	.....	.....	.....	.....	5/16
.....	3	.....	3	3	.....	.....	31	4-7/8	5/16	15/32	1/32	.....	5-3/4	6-1/8	.....	.....	5/16
.....	.....	.....	.....	.....	.....	3	32	5	3/8	17/32	1/16	.....	.....	.....	.....	6-5/8	3/8
3-1/2	.....	.....	.....	.....	.....	.....	33	5-3/16	1/4	11/32	1/32	6-1/16	.....	.....	.....	.....	1/4
.....	3-1/2	.....	3-1/2	.....	.....	.....	34	5-3/16	5/16	15/32	1/32	.....	6-1/4	.....	.....	.....	5/16
.....	.....	.....	.....	.....	3	.....	35	5-3/8	5/16	15/32	1/32	.....	.....	.....	6-5/8	.....	5/16
4	.....	.....	.....	.....	.....	.....	36	5-7/8	1/4	11/32	1/32	6-3/4	.....	.....	.....	.....	1/4
.....	4	4	4	4	.....	.....	37	5-7/8	5/16	15/32	1/32	.....	6-7/8	7-1/8	.....	.....	5/16
.....	.....	.....	.....	.....	.....	4	38	6-3/16	7/16	21/32	1/16	.....	.....	.....	.....	8	7/16
.....	.....	.....	.....	.....	4	.....	39	6-3/8	5/16	15/32	1/32	.....	.....	.....	7-5/8	.....	5/16
5	.....	.....	.....	.....	.....	.....	40	6-3/4	1/4	11/32	1/32	7-5/8	.....	.....	.....	.....	1/4
.....	5	5	5	5	.....	.....	41	7-1/8	5/16	15/32	1/32	.....	8-1/4	8-1/2	.....	.....	5/16
.....	.....	.....	.....	.....	.....	5	42	7-1/2	1/2	25/32	1/16	.....	.....	.....	.....	9-1/2	1/2
6	.....	.....	.....	.....	.....	.....	43	7-5/8	1/4	11/32	1/32	8-5/8	.....	.....	.....	.....	1/4
.....	.....	.....	.....	.....	5	.....	44	7-5/8	5/16	15/32	1/32	.....	.....	.....	9	.....	5/16
.....	6	6	6	6	.....	.....	45	8-5/16	5/16	15/32	1/32	.....	9-1/2	9-1/2	.....	.....	5/16

Dimensions in inches. RF height matches depth of groove.

# DIMENSIONS OF RING-JOINT FACINGS



Nominal Pipe Size							Groove Dimensions				Diameter of Raised Portion K							
150 PSI	300 PSI	400 PSI	600 PSI	900 PSI	1500 PSI	2500 PSI	Groove #	Pitch Dia	Depth	Width	Radius at Bottom	150 PSI	300 400 600 PSI	900 PSI	1500 PSI	2500 PSI	Depth	
								P	E	F	R							E
					6		R46	8-5/16	3/8	17/32	1/16				9-3/4			3/8
						6	47	9	1/2	25/32	1/16					11		1/2
8							48	9-3/4	1/4	11/32	1/32	10-3/4						1/4
	8	8	8	8			49	10-5/8	5/16	15/32	1/32		11-7/8	12-1/8				5/16
					8		50	10-5/8	7/16	21/32	1/16				12-1/2			7/16
						8	51	11	9/16	29/32	1/16						13-3/8	9/16
10							52	12	1/4	11/32	1/32	13						1/4
	10	10	10	10			53	12-3/4	5/16	15/32	1/32		14	14-1/4				5/16
					10		54	12-3/4	7/16	21/32	1/16				14-5/8			7/16
						10	55	13-1/2	11/16	1-3/16	3/32						16-3/4	11/16
12							56	15	1/4	11/32	1/32	16						1/4
	12	12	12	12			57	15	5/16	15/32	1/32		16-1/4	16-1/2				5/16
					12		58	15	9/16	29/32	1/16				17-1/4			9/16
14							59	15-5/8	1/4	11/32	1/32	16-3/4						1/4
						12	60	16	11/16	1-5/16	3/32						19-1/2	11/16
		14	14				61	16-1/2	5/16	15/32	1/32		18					5/16
				14			62	16-1/2	7/16	21/32	1/16			18-3/8				7/16
					14		63	16-1/2	5/8	1-1/16	3/32				19-1/4			5/8
16							64	17-7/8	1/4	11/32	1/32	19						1/4
	16	16	16				65	18-1/2	5/16	15/32	1/32		20					5/16
				16			66	18-1/2	7/16	21/32	1/16			20-5/8				7/16
					16		67	18-1/2	11/16	1-3/16	3/32				21-1/2			11/16
18							68	20-3/8	1/4	11/32	1/32	21-1/2						1/4
	18	18	18				69	21	5/16	15/32	1/32		22-5/8					5/16
				18			70	21	1/2	25/32	1/16			23-3/8				1/2
					18		71	21	11/16	1-3/16	3/32				24-1/8			11/16
20		20					72	22	1/4	11/33	1/32	23-1/2						1/4
	20		20				73	23	3/8	17/32	1/16		25					3/8
				20			74	23	1/2	25/32	1/16			25-1/2				1/2
					20		75	23	11/16	1-5/16	3/32			—	26-1/2			11/16
24							76	26-1/2	1/4	11/32	1/32	28						1/4
	24	24	24				77	27-1/4	7/16	21/32	1/16		29-1/2					7/16
				24			78	27-1/4	5/8	1-1/16	3/32			30-3/8				5/8
					24		79	27-1/4	13/16	17/16	3/32				31-1/4			13/16

Dimensions in inches. Raised face height matches depth of groove.

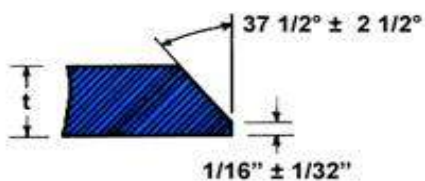
## Dimensional Tolerances B16.5 - 2003

Threaded, Socket-Welding, Slip-On, Lap Joint, and Blind		
Outside Diameter (1)	when the O.D. is 24" or less	$\pm 1/16"$
	when the O.D. is over 24"	$\pm 1/8"$
Inside Diameter	Threaded	within limites on boring gauge
	Socket-Welding, Slip-On and Lap-Joint	$\leq 10" + 1/32", -0"$ $\geq 12" + 1/16", -0"$
Outside Diameter of Hub (1)	$\leq 12"$	$+3/32"$ $-1/16"$
	$\geq 14"$	$\pm 1/8"$
Diameter of Contact Face	1/16" Raised Face	$\pm 1/32"$
	1/4" Raised Face Tongue & Groove Male, Female	$\pm 1/64"$
Diameter of Counterbore	Same as for Inside Diameter	
Drilling	Bolt Circle	$\pm 1/16"$
	Bolt Hole Spacing	$\pm 1/32"$
	Concentricity of Bolt Circle with Respect to Facing	NPS $\leq 2 \frac{1}{2}"$
NPS $\geq 3"$		$1/16"$ max
Thickness	$\leq 18"$	$+1/8", -0"$
	$\geq 20"$	$+3/16", -0"$
Length Through the Hub (1)	$\leq 18"$	$+1/8", -1/32"$
	$\geq 20"$	$+3/16", -1/16"$

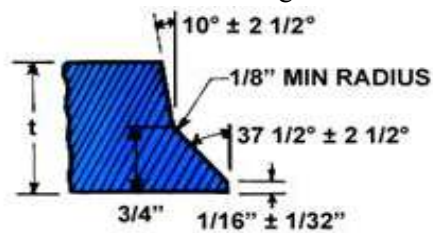
Weld Neck		
Outside Diameter (1)	when the O.D. is 24" or less	$\pm 1/16"$
	when the O.D. is over 24"	$\pm 1/8"$
Inside Diameter	$\leq 10"$	$\pm 1/32"$
	12" through 18"	$\pm 1/16"$
	$\geq 20"$	$+1/8"$ $-1/16"$
Diameter of Contact Face	1/16" Raised Face	$\pm 1/32"$
	1/4" Raised Face Tongue & Groove Male, Female	$\pm 1/64"$
Diameter of Hub at Base (1)	when Hub Base is 24" or less	$+1/16"$
	when Hub Base is over 24"	$\pm 1/8"$
Diameter of Hub at Point of Welding	NPS $\leq 5"$	$+3/32"$ $-1/32"$
	NPS $\geq 6"$	$+5/32"$ $-1/32"$
Drilling	Bolt Circle	$\pm 1/16"$
	Bolt Hole Spacing	$\pm 1/32"$
	Concentricity of Bolt Circle with Respect to Facing	NPS $\leq 2 \frac{1}{2}"$
NPS $\geq 3"$		$1/16"$ max
Thickness	$\leq 18"$	$+1/8", -0"$
	$\geq 20"$	$+3/16", -0"$
Length Through the Hub	NPS $\leq 4"$	$\pm 1/16"$
	$5 \leq \text{NPS} \leq 10"$	$+1/16", -1/8"$
	$\geq 12"$	$+1/8", -3/16"$

### WELDING BEVEL STANDARDS

for Wall Thickness "t" 3/16" to 3/4" incl.



for Wall Thickness "t" greater than 3/4"



(1) Tolerances not listed in B16.5-2003