

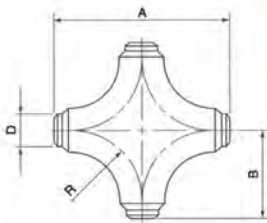


HIGH PRESSURE FITTINGS

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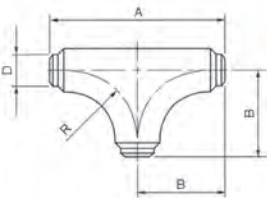


FULL FLOW CROSS



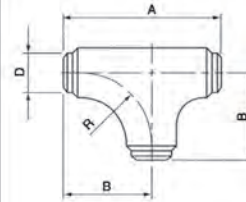
Size	ALL DIMENSIONS IN mm			
	D	A	B	R
2"	60.3	406	203	150
3"	88.9	406	203	150
4"	114.3	560	280	210
5"	141.3	610	305	240
6"	168.3	762	381	305

FULL FLOW TEE



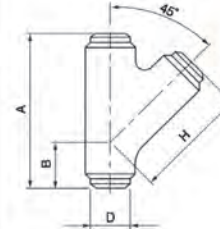
Size	ALL DIMENSIONS IN mm			
	D	A	B	R
2"	60.3	406	203	150
3"	88.9	406	203	150
4"	114.3	560	280	210
5"	141.3	610	305	240
6"	168.3	762	381	305

LONG SWEEP TEE



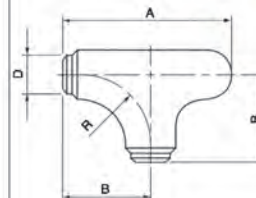
Size	ALL DIMENSIONS IN mm			
	D	A	B	R
2"	60.3	330	203	150
3"	88.9	330	203	150
4"	114.3	406	280	210
5"	141.3	483	305	240
6"	168.3	686	381	305

45° LATERAL TEE



Size	ALL DIMENSIONS IN mm			
	D	A	B	R
2"	60.3	365	115	265
3"	88.9	365	115	265
4"	114.3	510	155	365
5"	141.3	550	165	405
6"	168.3	670	195	505

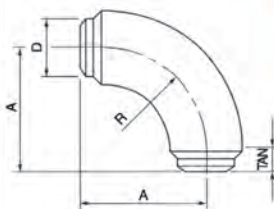
LONG SWEEP TEE WITH INTEGRAL BULL PLUG



Size	ALL DIMENSIONS IN mm				
	D	T	A	B	R
2"	60.3	11.1	385	203	150
3"	88.9	15.2	385	203	150
4"	114.3	17.1	496	280	210
5"	141.3	19.0	582	305	240
6"	168.3	21.9	805	381	304

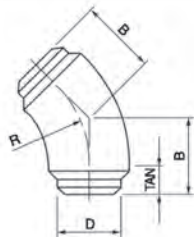


90° LONG SWEEP ELBOW



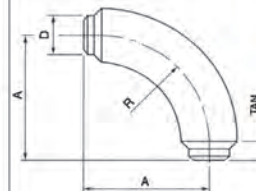
Size	ALL DIMENSIONS IN mm			
	D	A	R	TAN
2"	60.3	203	150	53
3"	88.9	203	150	53
4"	114.3	280	210	70
5"	141.3	305	240	65
6"	168.3	381	305	76

45° LONG SWEEP ELBOW



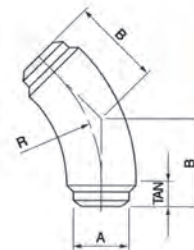
Size	ALL DIMENSIONS IN mm			
	D	B	R	TAN
2"	60.3	119	150	56
3"	88.9	119	150	56
4"	114.3	162	210	75
5"	141.3	172	240	71
6"	168.3	203	305	77

90° 3D DOUBLE BACKED BEND



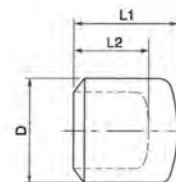
Size	ALL DIMENSIONS IN mm			
	D	A	R	TAN
2"	60.3	178	152	26
3"	88.9	305	229	76
4"	114.3	356	305	51
5"	141.3	432	381	51
6"	168.3	533	457	76

45° 3D DOUBLE BACKED BEND



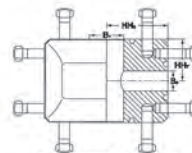
Size	ALL DIMENSIONS IN mm			
	D	B	R	TAN
2"	60.3	121	152	58
3"	88.9	171	229	76
4"	114.3	178	305	51
5"	141.3	209	381	51
6"	168.3	266	457	76

BULL PLUG



Size	ALL DIMENSIONS IN mm		
	D	L1	L2
2"	60.3	70	48
3"	88.9	90	60
4"	114.3	115	81
5"	141.3	140	102
6"	168.3	170	126

Api Flange Studded Crosses & Tees



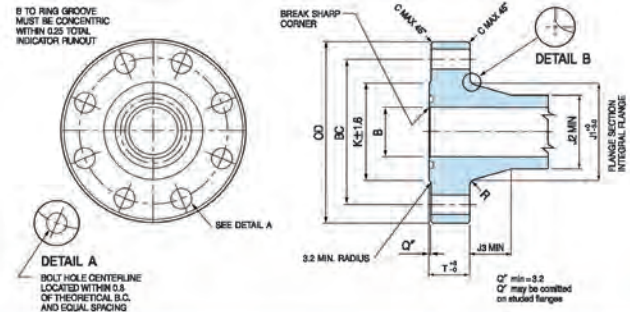
API Flange studded Cross & Tee



Rated Working Pressure (psi)	Vertical Bv +1, -0mm	Outlet Bo +1, -0mm	Center to Face Vertical Run, HHv ±0.8mm	Center to Face Horizontal Run, HH0 ±0.8mm
15000	46	46	127.0	127.0
15000	52	46	127.0	127.0
15000	52	52	127.0	127.0
15000	65	46	139.5	139.5
15000	65	52	139.5	139.5
15000	65	65	139.5	139.5
15000	78	46	160.5	160.5
15000	78	52	160.5	160.5
15000	78	65	160.5	160.5
15000	78	78	160.5	160.5
15000	103	46	194.0	194.0
15000	103	52	194.0	194.0
15000	103	65	194.0	194.0
15000	103	78	194.0	194.0
15000	103	103	194.0	194.0

Rated Working Pressure (psi)	Vertical Bv +1, -0mm	Outlet Bo +1, -0mm	Center to Face Vertical Run, HHv ±0.8mm	Center to Face Horizontal Run, HH0 ±0.8mm
20000	46	46	164.5	164.5
20000	52	46	164.5	164.5
20000	52	52	164.5	164.5
20000	65	46	185.0	185.0
20000	65	52	185.0	185.0
20000	65	65	185.0	185.0
20000	78	46	202.5	202.5
20000	78	52	202.5	202.5
20000	78	65	202.5	202.5
20000	78	78	202.5	202.5
20000	103	46	251.5	251.5
20000	103	52	251.5	251.5
20000	103	65	251.5	251.5
20000	103	78	251.5	251.5
20000	103	103	251.5	251.5

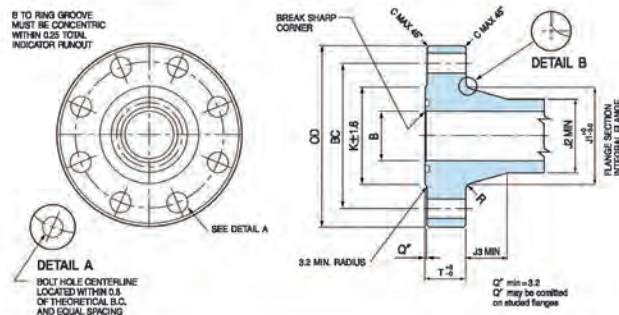
Api Flange - Type 6bx Integral Flanges



Basic Flange Dimensions									
Nominal Size of Flange		Maxi-mum Bore	Outside Diameter of Flange	Tole-rance	Maxi-mum Chamfer	Diameter of Raised Face	Total Thickness of Flange	Large Diameter of Hub	Small Diameter of Hub
in	in	B	OD	OD	C	K	T	J1	J2
10000 psi									
1- ¹³ / ₁₆	46	46.8	190	2	3	105	42.1	88.9	65.1
2- ¹ / ₁₆	52	53.2	200	2	3	111	44.1	100.0	74.6
2- ⁹ / ₁₆	65	65.9	230	2	3	132	51.2	120.7	92.1
3- ¹ / ₁₆	78	78.6	270	2	3	152	58.4	142.1	110.4
4- ¹ / ₁₆	103	104.0	315	2	3	185	70.3	182.6	146.1
5- ¹ / ₈	130	131.0	360	2	3	221	79.4	223.8	182.6
7- ¹ / ₁₆	179	180.2	479	3	6	302	103.2	301.6	254.0
9	228	229.4	555	3	6	359	123.8	374.7	327.1
11	279	280.2	655	3	6	429	141.3	450.9	400.1
13- ⁵ / ₈	346	346.9	770	3	6	518	168.3	552.5	495.3
16- ³ / ₄	425	426.2	870	3	6	576	168.3	655.6	601.7

Basic Flange Dimensions				Bolting Dimensions				
Length of Hub	Radius of Hub	Diameter of Bolt Circle	Number of Bolts	Diameter of Bolt	Diameter of Bolt Holes	Bolt Hole Tolerance	Minimum Length of Stud Bolts	Ring Number
J3	R	BC		in.	mm		Lssb	BX
10000 psi								
48.4	10	146.0	8	³ / ₄	23	+2 / -0.5	130	151
51.6	10	158.8	8	³ / ₄	23	+2 / -0.5	130	152
57.2	10	184.2	8	⁷ / ₈	25	+2 / -0.5	150	153
63.5	10	215.9	8	1	29	+2 / -0.5	170	154
73.1	10	258.8	8	1- ¹ / ₈	32	+2 / -0.5	200	155
81.0	10	300.0	12	1- ¹ / ₈	32	+2 / -0.5	220	169
95.3	16	403.2	12	1- ¹ / ₂	42	+2 / -0.5	285	156
93.7	16	476.2	16	1- ¹ / ₂	42	+2 / -0.5	330	157
103.2	16	565.2	16	1- ³ / ₄	48	+3 / -0.5	380	158
114.3	16	673.1	20	1- ⁷ / ₈	51	+3 / -0.5	440	159
76.2	19	776.3	24	1- ⁷ / ₈	51	+3 / -0.5	440	162

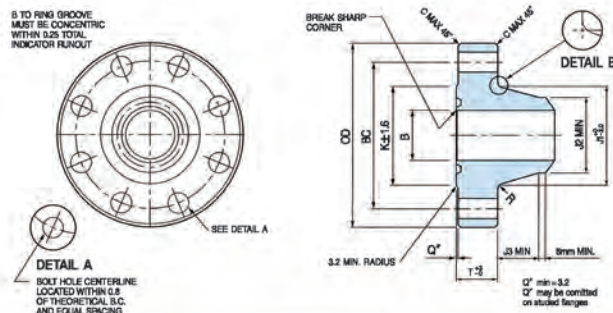
Api Flange - Type 6bx Integral Flanges



Basic Flange Dimensions									
Nominal Size of Flange		Maxi-mum Bore	Outside Diameter of Flange	Tolerance	Maxi-mum Chamfer	Diameter of Raised Face	Total Thickness of Flange	Large Diameter of Hub	Small Diameter of Hub
in	mm	B	OD	OD	C	K	T	J1	J2
15000 psi									
1- ¹³ / ₁₆	46	46.8	210	2	3	106	45.2	97.6	71.4
2- ¹ / ₁₆	52	53.2	220	2	3	114	50.8	111.1	82.6
2- ⁹ / ₁₆	65	65.9	250	2	3	133	57.1	128.6	100.0
3- ¹ / ₁₆	78	78.6	290	2	3	154	64.3	154.0	122.2
4- ¹ / ₁₆	103	104.0	360	2	3	194	78.6	195.3	158.8
7- ¹ / ₁₆	179	180.2	505	3	6	305	119.1	325.4	276.2
20000 psi									
1- ¹³ / ₁₆	46	46.8	255	2	3	117	63.5	133.3	109.5
2- ¹ / ₁₆	52	53.2	285	2	3	132	71.5	154.0	127.0
2- ⁹ / ₁₆	65	65.9	325	2	3	151	79.4	173.0	144.4
3- ¹ / ₁₆	78	78.6	355	2	3	171	85.7	192.1	160.3
4- ¹ / ₁₆	103	104.0	445	2	3	219	106.4	242.9	206.4
7- ¹ / ₁₆	179	180.2	655	3	6	352	165.1	385.7	338.1

Basic Flange Dimensions				Bolting Dimensions				
Length of Hub	Radius of Hub	Diameter of Bolt Circle	Number of Bolts	Diameter of Bolt	Diameter of Bolt Holes	Bolt Hole Tolerance	Minimum Length of Stud Bolts	Ring Number
J3	R	BC		in.	mm		Lssb	BX
15000 psi								
47.6	10	160.3	8	⁷ / ₈	26	+2 / -0.5	140	151
54.0	10	174.6	8	⁷ / ₈	26	+2 / -0.5	150	152
57.1	10	200.0	8	1	30	+2 / -0.5	170	153
63.5	10	230.2	8	1- ¹ / ₈	32	+2 / -0.5	190	154
73.0	10	290.5	8	1- ³ / ₈	40	+2 / -0.5	235	155
66.7	16	428.6	16	1- ¹ / ₂	42	+2 / -0.5	325	156
20000 psi								
49.2	10	203.2	8	1	30	+2 / -0.5	190	151
52.4	10	230.2	8	1- ¹ / ₈	32	+2 / -0.5	210	152
58.7	10	261.9	8	1- ¹ / ₄	36	+2 / -0.5	235	153
63.5	10	287.3	8	1- ³ / ₈	40	+2 / -0.5	255	154
73.0	10	357.2	8	1- ³ / ₄	48	+3 / -0.5	310	155
96.8	16	554.0	16	2	54	+3 / -0.5	445	156

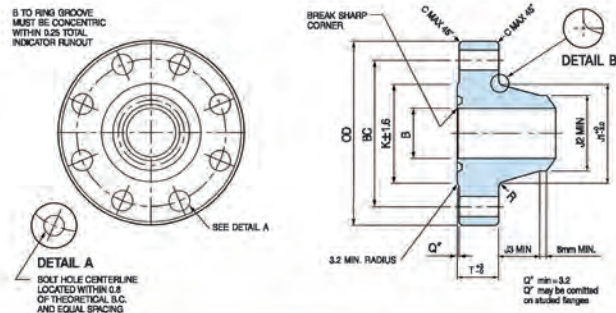
Api Flange - Type 6bx Weld Neck Flanges



Basic Flange Dimensions									
Nominal Size of Flange		Maxi-mum Bore	Outside Diameter of Flange	Tole-rance	Maxi-mum Chamfer	Diameter of Raised Face	Total Thickness of Flange	Large Diameter of Hub	Small Diameter of Hub
in	mm	B	OD	OD	C	K	T	J1	J2
10000 psi									
1- ¹³ / ₁₆	46	46.8	190	2	3	105	42.1	88.9	65.1
2- ¹ / ₁₆	52	53.2	200	2	3	111	44.1	100.0	74.6
2- ⁹ / ₁₆	65	65.9	230	2	3	132	51.2	120.7	92.1
3- ¹ / ₁₆	78	78.6	270	2	3	152	58.4	142.1	110.4
4- ¹ / ₁₆	103	104.0	315	2	3	185	70.3	182.6	146.1
5- ¹ / ₈	130	131.0	360	2	3	221	79.4	223.8	182.6
7- ¹ / ₁₆	179	180.2	479	3	6	302	103.2	301.6	254.0
9	228	229.4	555	3	6	359	123.8	374.7	327.1
11	279	280.2	655	3	6	429	141.3	450.9	400.1
13- ⁵ / ₈	346	346.9	770	3	6	518	168.3	552.5	495.3
16- ³ / ₄	425	426.2	870	3	6	576	168.3	655.6	601.7

Basic Flange Dimensions				Bolting Dimensions				
Length of Hub	Radius of Hub	Diameter of Bolt Circle	Number of Bolts	Diameter of Bolt	Diameter of Bolt Holes	Bolt Hole Tolerance	Minimum Length of Stud Bolts	Ring Number
J3	R	BC		in.	mm		Lssb	BX
10000 psi								
48.4	10	146.0	8	³ / ₄	23	+2 / -0.5	130	151
51.6	10	158.8	8	³ / ₄	23	+2 / -0.5	130	152
57.2	10	184.2	8	⁷ / ₈	25	+2 / -0.5	150	153
63.5	10	215.9	8	1	29	+2 / -0.5	170	154
73.1	10	258.8	8	1- ¹ / ₈	32	+2 / -0.5	200	155
81.0	10	300.0	12	1- ¹ / ₈	32	+2 / -0.5	220	169
95.3	16	403.2	12	1- ¹ / ₂	42	+2 / -0.5	285	156
93.7	16	476.2	16	1- ¹ / ₂	42	+2 / -0.5	330	157
103.2	16	565.2	16	1- ³ / ₄	48	+3 / -0.5	380	158
114.3	16	673.1	20	1- ⁷ / ₈	51	+3 / -0.5	440	159
76.2	19	776.3	24	1- ⁷ / ₈	51	+3 / -0.5	440	162

Api Flange - Type 6bx Weld Neck Flanges

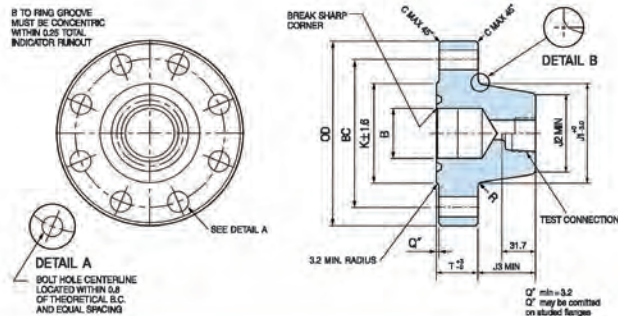


Basic Flange Dimensions									
Nominal Size of Flange		Maxi-mum Bore	Outside Diameter of Flange	Tolerance	Maxi-mum Chamfer	Diameter of Raiser Face	Total Thickness of Flange	Large Diameter of Hub	Small Diameter of Hub
in	mm	B	OD	OD	C	K	T	J1	J2
15000 psi									
1-13/16	46	46.8	210	2	3	106	45.2	97.6	71.4
2-1/16	52	53.2	220	2	3	114	50.8	111.1	82.6
2-9/16	65	65.9	250	2	3	133	57.1	128.6	100.0
3-1/16	78	78.6	290	2	3	154	64.3	154.0	122.2
4-1/16	103	104.0	360	2	3	194	78.6	195.3	158.8
7-1/16	179	180.2	505	3	6	305	119.1	325.4	276.2
20000 psi									
1-13/16	46	46.8	255	2	3	117	63.5	133.3	109.5
2-1/16	52	53.2	285	2	3	132	71.5	154.0	127.0
2-9/16	65	65.9	325	2	3	151	79.4	173.0	144.4
3-1/16	78	78.6	355	2	3	171	85.7	192.1	160.3
4-1/16	103	104.0	445	2	3	219	106.4	242.9	206.4
7-1/16	179	180.2	655	3	6	352	165.1	385.7	338.1

Basic Flange Dimensions				Bolting Dimensions				
Length of Hub	Radius of Hub	Diameter of Bolt Circle	Number of Bolts	Diameter of Bolt	Diameter of Bolt Holes	Bolt Hole Tolerance	Minimum Length of Stud Bolts	Ring Number
J3	R	BC		in.	mm		Lssb	BX
15000 psi								
47.6	10	160.3	8	7/8	26	+2 / -0.5	140	151
54.0	10	174.6	8	7/8	26	+2 / -0.5	150	152
57.1	10	200.0	8	1	30	+2 / -0.5	170	153
63.5	10	230.2	8	1-1/8	32	+2 / -0.5	190	154
73.0	10	290.5	8	1-3/8	40	+2 / -0.5	235	155
66.7	16	428.6	16	1-1/2	42	+2 / -0.5	325	156
20000 psi								
49.2	10	203.2	8	1	30	+2 / -0.5	190	151
52.4	10	230.2	8	1-1/8	32	+2 / -0.5	210	152
58.7	10	261.9	8	1-1/4	36	+2 / -0.5	235	153
63.5	10	287.3	8	1-3/8	40	+2 / -0.5	255	154
73.0	10	357.2	8	1-3/4	48	+3 / -0.5	310	155
96.8	16	554.0	16	2	54	+3 / -0.5	445	156

HIGH PRESSURE FITTINGS

Api Flange - Type 6bx Blind and Test Flanges



Basic Flange Dimensions									
Nominal Size of Flange		Maxi-mum Bore	Outside Diameter of Flange	Tolerance	Maxi-mum Chamfer	Diameter of Raised Face	Total Thickness of Flange	Large Diameter of Hub	Small Diameter of Hub
in	in	B	OD	OD	C	K	T	J1	J2
10000 psi									
1- ¹³ / ₁₆	46	46.8	190	2	3	105	42.1	88.9	65.1
2- ¹ / ₁₆	52	53.2	200	2	3	111	44.1	100.0	74.6
2- ⁹ / ₁₆	65	65.9	230	2	3	132	51.2	120.7	92.1
3- ¹ / ₁₆	78	78.6	270	2	3	152	58.4	142.1	110.4
4- ¹ / ₁₆	103	104.0	315	2	3	185	70.3	182.6	146.1
15000 psi									
1- ¹³ / ₁₆	46	46.8	210	2	3	106	45.2	97.6	71.4
2- ¹ / ₁₆	52	53.2	220	2	3	114	50.8	111.1	82.6
2- ⁹ / ₁₆	65	65.9	250	2	3	133	57.1	128.6	100.0
3- ¹ / ₁₆	78	78.6	290	2	3	154	64.3	154.0	122.2
4- ¹ / ₁₆	103	104.0	360	2	3	194	78.6	195.3	158.8
20000 psi									
1- ¹³ / ₁₆	46	46.8	255	2	3	117	63.5	133.3	109.5
2- ¹ / ₁₆	52	53.2	285	2	3	132	71.5	154.0	127.0
2- ⁹ / ₁₆	65	65.9	325	2	3	151	79.4	173.0	144.4
3- ¹ / ₁₆	78	78.6	355	2	3	171	85.7	192.1	160.3
4- ¹ / ₁₆	103	104.0	445	2	3	219	106.4	242.9	206.4

Basic Flange Dimensions				Bolting Dimensions				
Length of Hub	Radius of Hub	Diameter of Bolt Circle	Number of Bolts	Diameter of Bolt	Diameter of Bolt Holes	Bolt Hole Tolerance	Minimum Length of Stud Bolts	Ring Number
J3	R	BC		in.	mm		Lssb	BX
10000 psi								
48.4	10	146.0	8	³ / ₄	23	+2 / -0.5	130	151
51.6	10	158.8	8	³ / ₄	23	+2 / -0.5	130	152
57.2	10	184.2	8	⁷ / ₈	25	+2 / -0.5	150	153
63.5	10	215.9	8	1	29	+2 / -0.5	170	154
73.0	10	258.8	8	1- ¹ / ₈	32	+2 / -0.5	200	155
15000 psi								
47.6	10	160.3	8	⁷ / ₈	26	+2 / -0.5	140	151
54.0	10	174.6	8	⁷ / ₈	26	+2 / -0.5	150	152
57.1	10	200.0	8	1	30	+2 / -0.5	170	153
63.5	10	230.2	8	1- ¹ / ₈	32	+2 / -0.5	190	154
73.0	10	290.5	8	1- ³ / ₈	40	+2 / -0.5	235	155
20000 psi								
49.2	10	203.2	8	1	30	+2 / -0.5	190	151
52.4	10	230.2	8	1- ¹ / ₈	32	+2 / -0.5	210	152
58.7	10	261.9	8	1- ¹ / ₄	36	+2 / -0.5	235	153
63.5	10	287.3	8	1- ³ / ₈	40	+2 / -0.5	255	154
73.0	10	357.2	8	1- ³ / ₄	48	+3 / -0.5	310	155