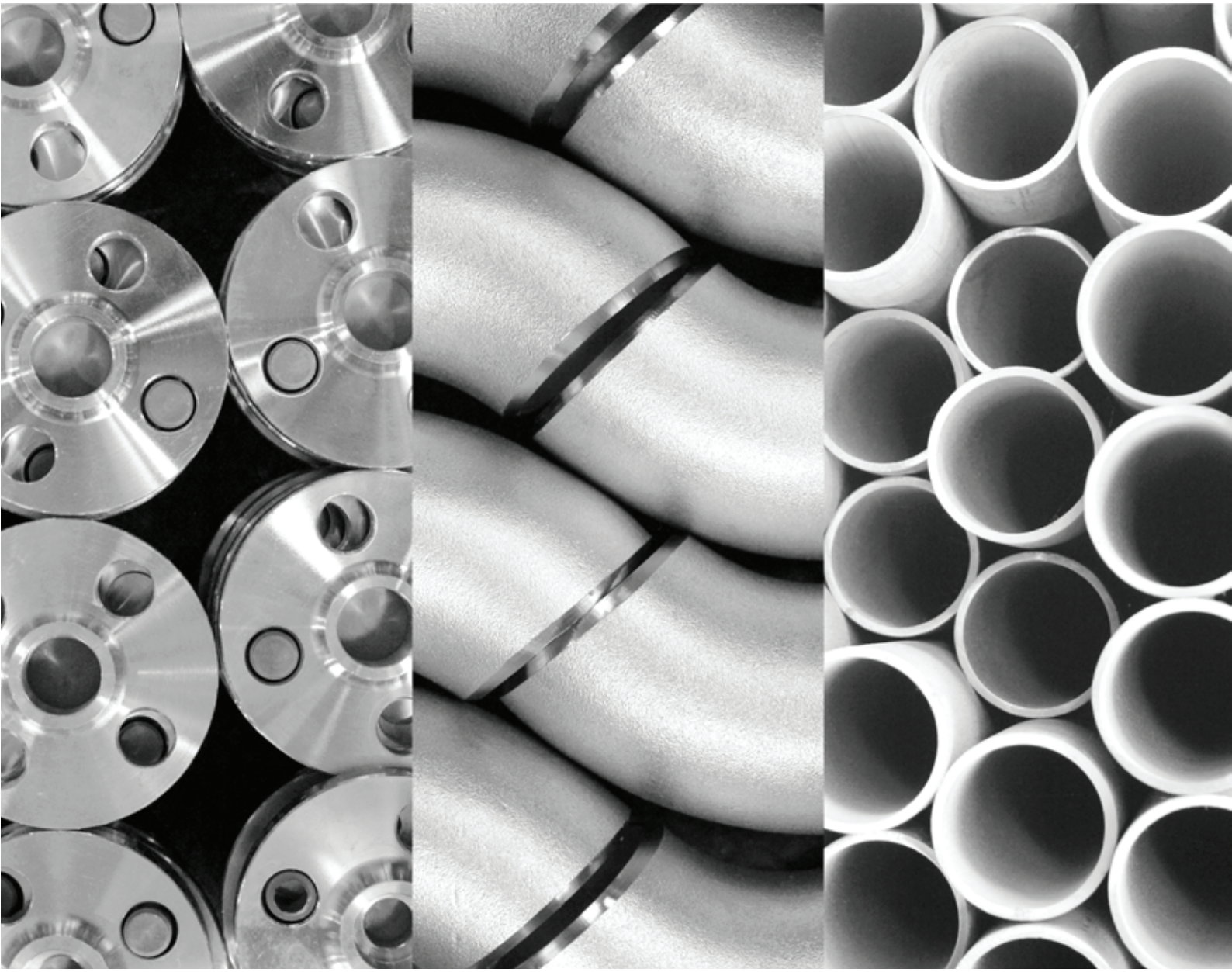
PURA PIPING



Building Connections that Last

PURA PIPING

The Pura Brand

PURA Piping is a manufacturer of pipes, flanges and fittings.

We strive to create value for our customers by delivering reliable products at competitive cost – manufacturing at efficient factories in strategic locations, and performing centralized quality control in Singapore.

By delivering reliably over the years, PURA earned the recognition and trust from regional leading companies in marine, oil & gas and process industries.

Working closely with our clients, we build connections that last.

PURA PIPING

PERIOD	OWNER	PROJECT/SITE
2020 - 2023	UED Residential Pte Ltd	DAIRY FARM RESIDENCES
2018 - 2023	Housing and Development Board	Yishun Neighbourhood 4 Contract 21a & Contract 21b | Melody Spring @ Yishun Avenue 1 / Yishun Avenue 8 / Yishun Street 42 / Yishun Street 44
2021 - 2022	PFIZER	API Expansion
2021 - 2022	MSD	API THERMAL OXIDIZER PROJECT
2018 - 2022	Sembcorp Marine Ltd	Workshops | Warehouse New Shipyard (Phase 3A) @ 8 Tuas South Boulevard
2020 - 2022	Midtown Development Pte Ltd	MIDTOWN DEVELOPMENT: HOTEL AT CLUB STREET
2018 - 2022	Singapore Press Holdings	THE WOODLEIGH RESIDENCES | THE WOODLEIGH MALL
2015 - 2022	MICRON	10X, 10N, 10A, 682
2020 - 2021	-	Project Majulah
2021	-	Symphony
2021	MICRON	MICRON 10A
2019 - 2021	VEOLIA	A153
2018 - 2021	MSD	Plant Expansion
2018 - 2021	City Developments Limited	The Tapestry @ Tampines Avenue 10
2019 2020	Public Utilities Board	Marina East Desalination Plant
2019 - 2020	Land Transport Authority	TR286 VBA Building at KPE
2017 - 2020	Lend Lease Singapore Pte Ltd	Paya Lebar Quarter (Plot A)
2017 - 2020	Housing and Development Board	Bedok Neighbourhood 5 Contract 19 | Bedok North Vale @ Bedok North Ave 1
2017 - 2020	Tong Eng Brothers Pte Ltd	Centrium Square @ 320 Serangoon Road
2017 - 2020	Far East Organization	Ferra @ 1 Leonie Hill
2017 - 2020	Chip Eng Seng Corporation Ltd	Grandeur Park Residences @ New Upper Changi Road
2016 - 2020	Housing and Development Board	Punggol Northshore Contract 1 & 2, Neighbourhood Centre & Common Green | Waterfront | @Northshore | Waterfront II @ Northshore
2017 - 2019	Soilbuild Group Holdings Pte Ltd	Solaris @ Kallang 164-2 Blocks of 9-Storey Multiple User General Industrial Factory Development @ 164 Kallang Way
2016 - 2019	Sustained Land Pte Ltd	Sturdee Residences @ Sturdee Road
2016 - 2019	Housing and Development Board	Sembawang Neighbourhood 1 Contract 6 & 12 | Eastlink I @ Canberra | Eastlink II @ Canberra
2016 - 2019	Housing and Development Board	Punggol North Contract 3 & Common Green | Northshore Straitsview @ Northshore Drive
2017 - 2019	ROCHE	K6 RSTO

The above table is an excerpt of clents' projects from 2014-2021

PURA PIPING

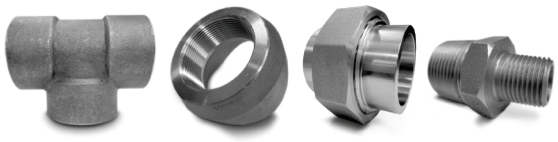
PERIOD	OWNER	PROJECT/SITE
2014 - 2018	Changi Airport Group (SG)	Jewel @ Changi Airport Boulevard
2015 - 2018	Housing and Development Board	Hougang Neighbourhood 9 Contract 16, Contract 17 & Neighbourhood Park, & Contract 19 & Park
2017 - 2018	GIVAUDAN	Pioneer Plant
2017 - 2018	REC	Solar Plant Jurong Island
2018	Public Utilities Board	Ulu Pandan Reservior
2018	Public Utilities Board	Lower Seletar Reservior
2018	Public Utilities Board	Changi Water Reclaimation Plant
2018	Public Utilities Board	Choa Chu Kang Water Work
2016 - 2017	Amara Holdings Ltd	M5 @ 5 Jalan Mutiara
2017	Public Utilities Board	Ulu Pandan Reservior
2017	Land Transport Authority	Jurong Tunnel Project
2017	Housing and Development Board	Bedok NS C19
2017	Land Transport Authority	Ref: JPW-WWTP & RWHS
2017	Public Utilities Board	Murnane Reservior
2017	Public Utilities Board	Fernvale Lane
2017	Public Utilities Board	PUB - Bukit Kallang Service Reservior
2017	Public Utilities Board	PUB - Portable water pipeline Woodleigh Lane & New Upper Aljunied Road to Joo Seng Road
2017	Public Utilities Board	PUB - Portable water pipeline from Punggol Way to Elias Road
2017	Public Utilities Board	PUB - Ulu Pandan Reservior
2015	CCD	H429C / H430C Jurong Island Plant Expansion
2013 - 2015	GLAXOSMITHKLINE (GSK)	Pazo/Pilot/Retigabine Project
2014	Pacific Light Power	CCP Project

The above table is an excerpt of clents' projects from 2014-2021

Our Products

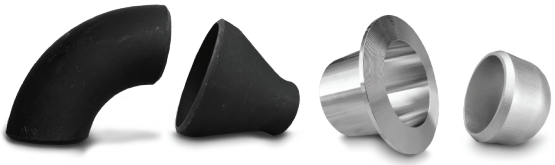
Flanges

TYPE	MATERIAL	PRESSURE
SOFF (PLFF)	SS400	**JIS Standard :**
SORF	ST37.2	5K, 10K, 16K, 20K, 40K
BLFF	A105N	**DIN Standard :**
BLRF	A350 LF2	PN6, PN10, PN16, PN25, PN40
WNRF	A182-F304L	**ANSI Standard :**
WNRTJ	A182-F316L	150#, 300#, 600#, 900#,
THRF		1500#, 2500#
SWRF		
LJFF		



High Pressure Fittings

TYPE	MATERIAL	PRESSURE
Elbow	A105N	3000#
Tee	A350 LF2	6000#
Coupling	A182-F304L	
Union	A182-F316L	
Bushing		
Nipple		
Weldolet		
Threadolet		



Buttweld Fittings

TYPE	MATERIAL	PRESSURE
90Deg L/R Elbow	A234-WPB	STD, XS, XXS, S20
90Deg S/R Elbow	A420-WPL6	S40, S80, S120, S160
45Deg L/R Elbow	A403-WP304L	
45Deg S/R Elbow	A403-WP316L	
Concentric Reducer		
Eccentric Reducer		
Equal Tee		
Reducing Tee		
Cap		

Steel Pipes

TYPE	MATERIAL	PRESSURE
Seamless	A106 Gr.B	STD, XS, XXS, S10,
Welded	API 5L Gr.B	S20, S40, S80, S120,
	A333-6	S160, SGP
	A312-TP304L	
	A312-TP316L	
	BS1387	

Low Pressure Fittings

TYPE	MATERIAL	PRESSURE
Elbow	Cast Iron	150#
Tee	Galv. Cast Iron	
Coupling	CF8 (304)	
Union	CF8M (316)	
Nipple		
Plug		
Bushing		
Cap		

PURA PIPING

Pipes

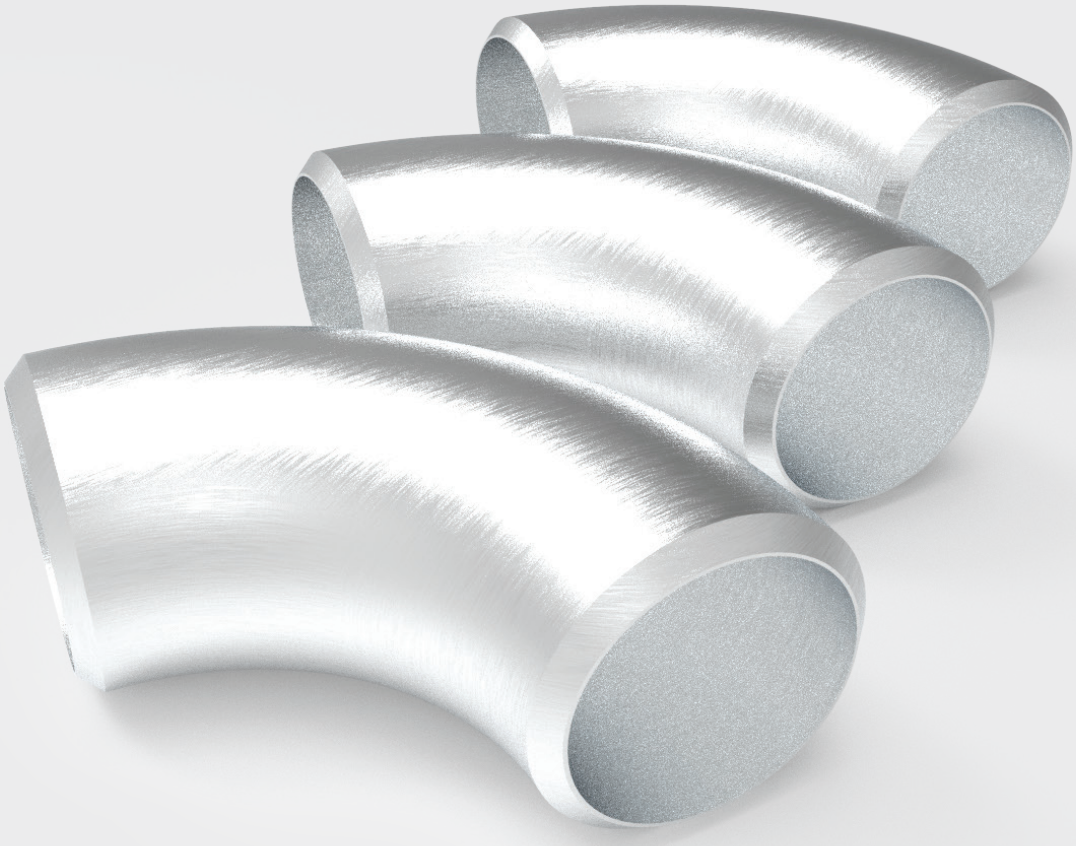
ANSI Pipe Schedule

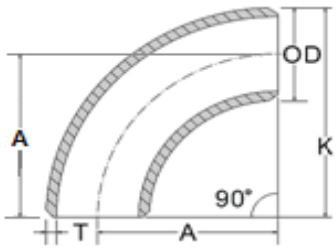
OD's = mm
Wall thickness = mm
Weight = kg/m (plain end mass)

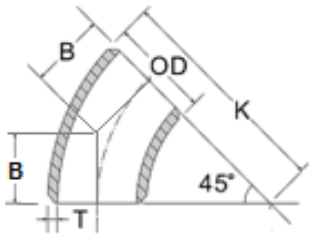
Nominal Pipe Size Inches	OD mm	ASME B36.19				ASME B36.10												
		5s	10s	40s	80s	10	20	30	STD	40	60	XS	80	100	120	140	160	XXS
1/8"	10.3		1.24 0.28	1.73 0.36	2.41 0.48	1.24 0.28		1.45 0.32	1.73 0.37	1.73 0.37		2.41 0.47	2.41 0.47					
1/4"	13.7		1.65 0.51	2.24 0.64	3.02 0.80	1.65 0.49		1.85 0.54	2.24 0.63	2.24 0.63		3.02 0.80	3.02 0.80					
3/8"	17.1		1.65 0.64	2.31 0.86	3.20 1.12	1.65 0.63		1.85 0.70	2.31 0.84	2.31 0.84		3.20 1.10	3.20 1.10					
1/2"	21.3	1.65 0.82	2.11 1.01	2.77 1.30	3.73 1.65	2.11 1.00		2.41 1.12	2.77 1.27	2.77 1.27		3.73 1.62	3.73 1.62				4.78 1.95	7.47 2.55
3/4"	26.7	1.65 1.04	2.11 1.31	2.87 1.71	3.91 2.24	2.11 1.28		2.41 1.44	2.87 1.69	2.87 1.69		3.91 2.20	3.91 2.20				5.56 2.90	7.82 3.64
1"	33.4	1.65 1.33	2.77 2.13	3.38 2.55	4.55 3.29	2.77 2.09		2.90 2.18	3.38 2.50	3.38 2.50		4.55 3.24	4.55 3.24				6.35 4.24	9.09 5.45
1¼"	42.2	1.65 1.68	2.77 2.76	3.56 3.46	4.85 4.56	2.77 2.69		2.97 2.87	3.56 3.39	3.56 3.39		4.85 4.47	4.85 4.47				6.35 5.61	9.70 7.77
1½"	48.3	1.65 1.95	2.77 3.11	3.68 4.13	5.08 5.51	2.77 3.11		3.18 3.53	3.68 4.05	3.68 4.05		5.08 5.41	5.08 5.41				7.14 7.25	10.15 9.56
2"	60.3	1.65 2.44	2.77 4.01	3.91 5.54	5.54 7.63	2.77 3.93		3.18 4.48	3.91 5.44	3.91 5.44		5.54 7.48	5.54 7.48				8.74 11.11	11.07 13.44
2½"	73.0	2.11 3.77	3.05 5.36	5.16 8.81	7.01 11.64	3.05 5.26		4.78 8.04	5.16 8.63	5.16 8.63		7.01 11.41	7.01 11.41				9.53 14.92	14.02 20.39
3"	88.9	2.11 4.60	3.05 6.59	5.49 11.52	7.62 15.59	3.05 6.46		4.78 9.92	5.49 11.29	5.49 11.29		7.62 15.27	7.62 15.27				11.13 21.35	15.24 27.68
3½"	101.6	2.11 5.29	3.05 7.55	5.74 13.57	8.08 19.01	3.05 7.41		4.78 11.41	5.74 13.57	5.74 13.57		8.08 18.63	8.08 18.63				- -	- -
4"	114.3	2.11 5.96	3.05 8.52	6.02 16.40	8.56 22.77	3.05 8.37		4.78 12.91	6.02 16.07	6.02 16.07		8.56 22.32	8.56 22.32		11.13 28.32		13.49 33.54	17.12 41.03
5"	141.3	2.77 9.67	3.40 11.82	6.55 22.20	9.53 31.59	3.40 11.56			6.55 21.77	6.55 21.77		9.53 30.97	9.53 30.97		12.70 40.38		15.88 49.11	19.05 57.43
6"	168.3	2.77 11.55	3.40 14.13	7.11 28.83	10.97 43.42	3.40 13.83			7.11 28.26	7.11 28.26		10.97 42.56	10.97 42.56		14.27 54.20		18.26 67.56	21.95 79.22
8"	219.1	2.77 15.09	3.76 20.37	8.18 43.39	12.70 65.95	3.76 19.97	6.35 33.31	7.04 36.81	8.18 42.55	8.18 42.55	10.31 53.08	12.70 64.64	12.70 64.64	15.09 75.92	18.26 90.44	20.62 100.92	23.01 111.27	22.23 107.92
10"	273.1	3.40 23.08	4.19 28.34	9.27 61.52	12.70 83.19	4.19 27.78	6.35 41.77	7.80 51.03	9.27 60.31	9.27 60.31	12.70 81.55	12.70 81.55	15.09 96.01	18,26 114.75	21.44 133.06	25.40 155.15	28.58 172.33	25.40 155.15
12"	323.9	3.96 31.89	4.57 36.73	9.53 75.32	12.70 99.43	4.57 35.98	6.35 49.73	8.38 65.20	9.53 73.88	10.31 79.73	14.27 108.96	12.70 97.46	17.48 132.08	21.44 159.91	25.40 186.97	28.58 208.14	33.32 238.76	25.40 186.97
14"	355.6	3.96 35.06	4.78 42.14	9.53 81.33	12.70 107.40	6.35 54.69	7.92 67.90	9.53 81.33	9.53 81.33	11.13 94.55	15.09 126.70	12.70 107.39	19.05 158.10	23.83 194.96	27.79 224.65	31.75 253.56	35.71 281.70	
16"	406.4	4.19 42.41	4.78 48.26	9.53 93.27	12.70 123.31	6.35 62.64	7.92 77.83	9.53 93.27	9.53 93.27	12.70 123.30	16.66 160.12	12.70 123.30	21.44 203.53	26.19 245.56	30.96 286.64	36.53 333.19	40.49 365.35	
18"	457.2	4.19 47.77	4.78 54.36	9.53 108.37	12.70 140.62	6.35 70.57	7.92 87.71	11.13 122.38	9.53 105.16	14.27 155.80	19.05 205.74	12.70 139.15	23.83 254.57	29.36 309.62	34.93 363.56	39.67 408.26	45.24 459.37	
20"	508.0	4.78 60.46	5.54 70.00	9.53 117.15	12.70 155.13	6.35 78.55	9.53 117.15	12.70 155.12	9.53 117.15	15.09 183.42	20.62 247.83	12.70 155.12	26.19 311.17	32.54 381.53	38.10 441.49	44.45 508.11	50.01 564.81	
22"	558.8	4.78 66.57	5.54 77.06	- -	- -	6.35 86.54	9.53 129.13	12.70 171.09	9.53 129.13	- -	22.23 294.25	12.70 171.09	28.58 373.83	34.93 451.42	41.28 527.02	47.63 600.63	53.98 672.26	
24"	609.6	5.54 84.16	6.35 96.37	9.53 141.12	12.7 187.07	6.35 94.53	9.53 141.12	14.27 209.64	9.53 141.12	17.48 255.41	24.61 355.26	12.70 187.06	30.96 442.08	38.89 547.71	46.02 640.03	52.37 720.15	59.54 808.22	
26"	660.4					7.92 127.36	12.70 202.72	- -	9.53 152.87	- -		12.70 202.72						
28"	711.2					7.92 137.32	12.70 218.69	15.88 271.21	9.53 164.85	- -		12.70 218.69						
30"	762.0	6.35 120.72	7.92 150.36			7.92 147.28	12.70 234.67	15.88 292.18	9.53 176.84	- -		12.70 234.67						
32"	812.8					7.92 157.24	12.70 250.64	15.88 312.15	9.53 188.82	17.48 342.91		12.70 250.64						
34"	863.6					7.92 167.20	12.70 266.61	15.88 332.12	9.53 200.31	17.48 364.90		12.70 266.61						
36"	914.4					7.92 170.96	12.70 282.27	15.88 351.70	9.53 212.56	19.05 420.42		12.70 282.27						
38"	965.2								9.53 224.54			12.70 298.24						
40"	1016.0								9.53 236.53			12.70 314.22						
42"	1066.8								9.53 248.52			12.70 330.19						
44"	1117.8								9.53 260.50			12.70 346.16						
46"	1168.4								9.53 272.25			12.70 351.82						
48"	1219.2								9.53 284.24			12.70 377.79						

PURA PIPING

Butt Weld Fittings



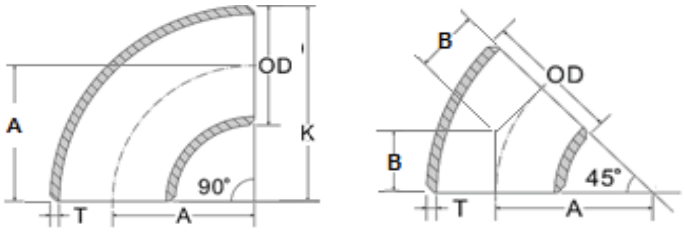




Elbow | Long Radius (R=1.5D) | ANSI B16.9

Nominal Pipe Size		Outside Diameter	Center to End		Center to Center	Back to Face	
						90°	45°
INCH	DN	OD	A	B	O	K	
1/2"	15A	21.3	38.0	16.0	76.0	48.0	49.3
3/4"	20A	26.7	38.0	19.0	76.0	51.0	59.2
1"	25A	33.4	38.0	22.0	76.0	56.0	69.8
1.1/4"	32A	42.2	48.0	25.0	95.0	70.0	81.5
1.1/2"	40A	48.3	57.0	29.0	114.0	83.0	94.2
2"	50A	60.3	76.0	35.0	152.0	106.0	114.7
2.1/2"	65A	73.0	95.0	44.0	190.0	132.0	142.7
3"	80A	88.9	114.0	51.0	229.0	159.0	167.6
3.1/2"	90A	101.6	133.0	57.0	267.0	184.0	188.4
4"	100A	114.3	152.0	64.0	305.0	210.0	211.7
5"	125A	141.3	190.0	79.0	381.0	262.0	261.4
6"	150A	168.3	229.0	95.0	457.0	313.0	313.5
8"	200A	219.1	305.0	127.0	610.0	414.0	416.2
10"	250A	273.0	381.0	159.0	762.0	518.0	520.4
12"	300A	323.8	457.0	190.0	914.0	619.0	620.6
14"	350A	355.6	533.0	222.0	1067.0	711.0	713.8
16"	400A	406.4	610.0	254.0	1219.0	813.0	816.4
18"	450A	457.0	686.0	286.0	1372.0	914.0	919.0
20"	500A	508.0	762.0	318.0	1524.0	1016.0	1021.7
22"	550A	559.0	838.0	343.0	1676.0	1118.0	1107.6
24"	600A	610.0	914.0	381.0	1829.0	1219.0	1224.8
26"	650A	660.0	991.0	406.0	1981.2	1320.8	1310.2
28"	700A	711.0	1067.0	438.0	2133.6	1422.4	1412.9
30"	750A	762.0	1143.0	470.0	2286.0	1524.0	1515.7
32"	800A	813.0	1219.0	502.0	2438.4	1625.6	1618.4
34"	850A	864.0	1295.0	533.0	2590.8	1727.2	1718.8
36"	900A	914.0	1372.0	565.0	2743.2	1828.8	1821.0

Unit : mm

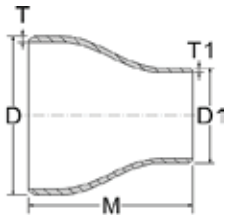


Elbow |Short Radius (R=1D) | ANSI B16.28

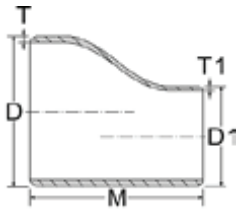
Nominal Pipe Size		Outside Diameter	Center to End		Center to Center	Back to Face
INCH	DN	OD	A	B	O	K
1/2"	15A	21.3	-	-	-	-
3/4"	20A	26.7	-	-	-	-
1"	25A	33.4	25.0	10.0	51.0	41.0
1.1/4"	32A	42.2	32.0	13.0	64.0	52.0
1.1/2"	40A	48.3	38.0	16.0	76.0	62.0
2"	50A	60.3	51.0	21.0	102.0	81.0
2.1/2"	65A	73.0	64.0	27.0	127.0	100.0
3"	80A	88.9	76.0	32.0	152.0	121.0
3.1/2"	90A	101.6	89.0	37.0	178.0	140.0
4"	100A	114.3	102.0	42.0	203.0	159.0
5"	125A	141.3	127.0	53.0	254.0	197.0
6"	150A	168.3	152.0	63.0	305.0	237.0
8"	200A	219.1	203.0	84.0	406.0	313.0
10"	250A	273.0	254.0	105.0	508.0	391.0
12"	300A	323.8	305.0	126.0	610.0	467.0
14"	350A	355.6	356.0	148.0	711.0	533.0
16"	400A	406.4	406.0	168.0	813.0	610.0
18"	450A	457.0	457.0	189.0	914.0	686.0
20"	500A	508.0	508.0	210.0	1016.0	762.0
22"	550A	559.0	559.0	232.0	1118.0	838.0
24"	600A	610.0	610.0	253.0	1219.0	914.0
26"	650A	660.0	660.4	273.0	1320.8	990.6
28"	700A	711.0	711.2	295.0	1422.4	1066.8
30"	750A	762.0	762.0	316.0	1524.0	1143.0
32"	800A	813.0	812.8	337.0	1625.6	1219.2
34"	850A	864.0	863.8	358.0	1673.6	1295.4
36"	900A	914.0	914.4	379.0	1828.8	1371.6

Unit : mm

Concentric



Eccentric



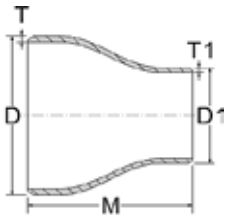
Concentric and Eccentric Reducers | ASME/ANSI B16.9

Nominal Pipe Size		Outside Diameter		Length
INCH	DN	D	D1	M
3/4" X 1/2"	20A X 15A	26.7	21.3	38
1" X 3/4"	25A X 20A	33.4	26.7	51
1" X 1/2"	25A X 15A	33.4	21.3	
1¼" X 1"	32A X 25A	42.2	33.4	51
1¼" X 3/4"	32A X 20A	42.2	26.7	
1¼" X 3/4"	32A X 15A	42.2	21.3	
1½" X 1¼"	40A X 32A	48.3	42.2	64
1½" X 1"	40A X 25A	48.3	33.4	
1½" X 3/4"	40A X 20A	48.3	26.7	
1½" X 1/2"	40A X 15A	48.3	21.3	
2" X 1½"	50A X 40A	60.3	48.3	76
2" X 1¼"	50A X 32A	60.3	42.2	
2" X 1"	50A X 25A	60.3	33.4	
2" X 3/4"	50A X 20A	60.3	26.7	
2" X 1/2"	50A X 15A	60.3	21.3	
2½" X 2"	65A X 50A	73.0	60.3	89
2½" X 1½"	65A X 40A	73.0	48.3	
2½" X 1¼"	65A X 32A	73.0	42.2	
2½" X 1"	65A X 25A	73.0	33.4	
3" X 2½"	80A X 65A	88.9	73.0	89
3" X 2"	80A X 50A	88.9	60.3	
3" X 1½"	80A X 40A	88.9	48.3	
3" X 1¼"	80A X 32A	88.9	42.2	
3" X 1"	80A X 25A	88.9	33.4	
3½" X 3"	90A X 80A	101.6	88.9	102
3½" X 2½"	90A X 65A	101.6	73.0	
3½" X 2"	90A X 50A	101.6	60.3	
3½" X 1½"	90A X 40A	101.6	48.3	
3½" X 1¼"	90A X 32A	101.6	42.2	
4" X 3½"	100A X 90A	114.3	101.6	102
4" X 3"	100A X 80A	114.3	88.9	
4" X 2½"	100A X 65A	114.3	73.0	

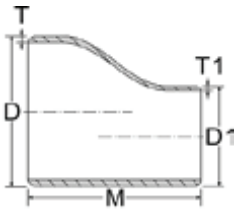
Nominal Pipe Size		Outside Diameter		Length
INCH	DN	D	D1	M
4" X 2"	100A X 50A	114.3	60.3	102
4" X 1½"	100A X 40A	114.3	48.3	
4" X 1¼"	100A X 32A	114.3	42.2	
4" X 1"	100A X 25A	114.3	33.4	
5" X4"	125A X 100A	141.3	114.3	127
5" x 3½"	125A X 90A	141.3	101.6	
5" x 3"	125A X 80A	141.3	88.9	
5" X 2½"	125A X 65A	141.3	73.0	
5" X 2"	125A X 50A	141.3	60.3	
6" X 5"	150A X 125A	168.3	141.3	140
6" X 4"	150A X 100A	168.3	114.3	
6" X 3½"	150A X 90A	168.3	101.6	
6" X 3"	150A X 80A	168.3	88.9	
6" X 2½"	150A X 65A	168.3	73.0	
6" X 2"	150A X 50A	168.3	60.3	
8" X 6"	200A X 150A	219.1	168.3	152
8" X 5"	200A X 125A	219.1	141.3	
8" X 4"	200A X 100A	219.1	114.3	
8" X 3½"	200A X 90A	219.1	101.6	
8" X 3"	200A X 80A	219.1	88.9	
10" X 8"	250A X 200A	273.0	219.1	178
10" X 6"	250A X 150A	273.0	168.3	
10 X 5"	250A X 125A	273.0	141.3	
10" X 4"	250A X 100A	273.0	114.3	
10" X 3"	250A X 80A	273.0	88.9	
12" X 10"	300A X 250A	323.8	273.0	203
12" X 8"	300A X 200A	323.8	219.1	
12" X 6"	300A X 150A	323.8	168.3	
12" X 5"	300A X 125A	323.8	141.3	
12" X 4"	300A X 100A	323.8	114.3	
14" X 12"	350A X 300A	355.6	323.8	330
14" X 10"	350A X 250A	355.6	273.0	

Unit : mm

Concentric



Eccentric

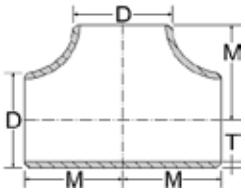


Concentric and Eccentric Reducers | ASME/ANSI B16.9

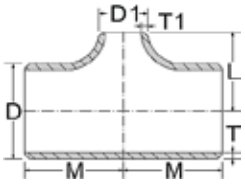
Nominal Pipe Size		Outside Diameter		Length
INCH	DN	D	D1	M
14" X 6"	350A X 150A	355.6	168.3	330
16" X 14"	400A X 350A	406.4	355.6	356
16" X 12"	400A X 300A	406.4	323.8	
16" X 10"	400A X 250A	406.4	273.0	
16" X 8"	400A X 200A	406.4	219.1	
16" X 6"	400A X 150A	406.4	168.3	
18" X 16"	450A X 400A	457.2	406.4	381
18" X 14"	450A X 350A	457.2	355.6	
18" X 12"	450A X 300A	457.2	323.8	
18" X 10"	450A X 250A	457.2	273.0	
18" X 8"	450A X 200A	457.2	219.1	
20" X 18"	500A X 450A	508.0	457.2	508
20" X 16"	500A X 400A	508.0	406.4	
20" X 14"	500A X 350A	508.0	355.6	
20" X 12"	500A X 300A	508.0	323.8	
20" X 10"	500A X 250A	508.0	273.0	
20" X 8"	500A X 200A	508.0	219.1	
22" X 20"	550A X 500A	558.8	508.0	508
22" X 18"	550A X 450A	558.8	457.2	
22" X 16"	550A X 400A	558.8	406.4	
22" X 14"	550A X 350A	558.8	355.6	
24" X 22"	600A X 550A	609.6	558.8	508
24" X 20"	600A X 500A	609.6	508.0	
24" X 18"	600A X 450A	609.6	457.2	
24" X 16"	600A X 400A	609.6	406.4	
24" X 14"	600A X 350A	609.6	355.6	

Unit : mm

Equal Tee



Reducing Tee



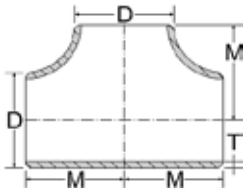
Equal and Reducing Tees | ASME/ANSI B16.9

Unit : mm

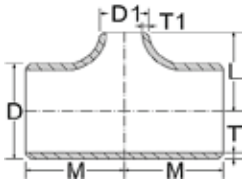
Nominal Pipe Size		Outside Diameter		Length	
INCH	DN	D	D1	M	L
1/2"	15A	21.3	-	25	25
3/4"	20A	26.7	-	29	29
3/4" X 1/2"	20A X 15A	26.7	21.3		
1"	25A	33.4	-	38	38
1" X 3/4"	25A X 20A	33.4	26.7		
1" X 1/2"	25A X 15A	33.4	21.3		
1.1/4"	32A	42.2	-	48	48
1.1/4" X 1"	32A X 25A	42.2	33.4		
1.1/4" X 3/4"	32A X 20A	42.2	26.7		
1.1/4" X 1/2"	32A X 15A	42.2	21.3		
1.1/2"	40A	48.3	-	57	57
1.1/2" X 1.1/4"	40A X 32A	48.3	42.2		
1.1/2" X 1"	40A X 25A	48.3	33.4		
1.1/2" X 3/4"	40A X 20A	48.3	26.7		
1.1/2" X 1/2"	40A X 15A	48.3	21.3		
2"	50A	60.3	-	64	64
2" X 1.1/2"	50A X 40A	60.3	48.3		60
2" X 1.1/4"	50A X 32A	60.3	42.2		54
2" X 1"	50A X 25A	60.3	33.4		51
2" X 3/4"	50A X 20A	60.3	26.7		45
2" X 1/2"	50A X 15A	60.3	21.3		45
2.1/2"	65A	73.0	-	76	76
2.1/2" X 2"	65A X 50A	73.0	60.3		70
2.1/2" X 1.1/2"	65A X 40A	73.0	48.3		67
2.1/2" X 1.1/4"	65A X 32A	73.0	42.2		64
2.1/2" X 1"	65A X 25A	73.0	33.4		54
3"	80A	88.9	-	86	85
3" X 2.1/2"	80A X 65A	88.9	73.0		83
3" X 2"	80A X 50A	88.9	60.3		76
3" X 1.1/2"	80A X 40A	88.9	48.3		79
3" X 1.1/4"	80A X 32A	88.9	42.2		70
3" X 1"	80A X 25A	88.9	33.4		66

Nominal Pipe Size		Outside Diameter		Length	
INCH	DN	D	D1	M	L
3.1/2"	90A	101.6	-	95	95
3.1/2" X 3"	90A X 80A	101.6	88.9		93
3.1/2" X 2.1/2"	90A X 65A	101.6	73.0		89
3.1/2" X 2"	90A X 50A	101.6	60.3		83
3.1/2" X 1.1/2"	90A X 40A	101.6	48.3		79
3.1/2" X 1.1/4"	90A X 32A	101.6	42.2		77
4"	100A	114.3	-	105	105
4" X 3.1/2"	100A X 90A	114.3	101.6		102
4" X 3"	100A X 80A	114.3	88.9		98
4" X 2.1/2"	100A X 65A	114.3	73.0		95
4" X 2"	100A X 50A	114.3	60.3		89
4" X 1.1/2"	100A X 40A	114.3	48.3		86
4" X 1.1/4"	100A X 32A	114.3	42.2		84
4" X 1"	100A X 25A	114.3	33.4		79
5"	125A	141.3	-	124	124
5" X 4"	125A X 100A	141.3	114.3		117
5" X 3.1/2"	125A X 90A	141.3	101.6		114
5" X 3"	125A X 80A	141.3	88.9		111
5" X 2.1/2"	125A X 65A	141.3	73.0		108
5" X 2"	125A X 50A	141.3	60.3		105
6"	150A	168.3	-	143	143
6" X 5"	150A X 125A	168.3	141.3		137
6" X 4"	150A X 100A	168.3	114.3		130
6" X 3.1/2"	150A X 90A	168.3	101.6		127
6" X 3"	150A X 80A	168.3	88.9		124
6" X 2.1/2"	150A X 65A	168.3	73.0		121
6" X 2"	150A X 50A	168.3	60.3		116
8"	200A	219.1	-	178	178
8" X 6"	200A X 150A	219.1	168.3		168
8" X 5"	200A X 125A	219.1	141.3		162
8" X 4"	200A X 100A	219.1	114.3		156
8" X 3.1/2"	200A X 90A	219.1	101.6		152

Equal Tee



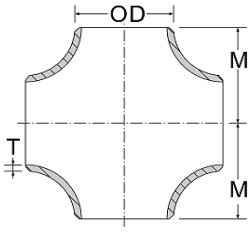
Reducing Tee



Equal and Reducing Tees | ASME/ANSI B16.9

Nominal Pipe Size		Outside Diameter		Length	
INCH	DN	D	D1	M	L
8" X 3"	200A X 80A	219.1	88.9	178	151
10"	250A	273.0	-	216	216
10" X 8"	250A X 200A	273.0	219.1		203
10" X 6"	250A X 150A	273.0	168.3		194
10" X 5"	250A X 125A	273.0	141.3		191
10" X 4"	250A X 100A	273.0	114.3		184
10" X 3"	250A X 80A	273.0	88.9		-
12"	300A	323.8	-	254	254
12" X 10"	300A X 250A	323.8	273.0		241
12" X 8"	300A X 200A	323.8	219.1		229
12" X 6"	300A X 150A	323.8	168.3		219
12" X 5"	300A X 125A	323.8	141.3		216
12" X 4"	300A X 100A	323.8	114.3		214
14"	350A	355.6	-	279	279
14" X 12"	350A X 300A	355.6	323.8		270
14" X 10"	350A X 250A	355.6	273.0		257
14" X 8"	350A X 200A	355.6	219.1		248
14" X 6"	350A X 150A	355.6	168.3		238
16"	400A	406.4	-	305	305
16" X 14"	400A X 350A	406.4	355.6		305
16" X 12"	400A X 300A	406.4	323.8		296
16" X 10"	400A X 250A	406.4	273.0		283
16" X 8"	400A X 200A	406.4	219.1		273
16" X 6"	400A X 150A	406.4	168.3		264
18"	450A	457.2	-	343	343
18" X 16"	450A X 400A	457.2	406.4		330
18" X 14"	450A X 350A	457.2	355.6		330
18" X 12"	450A X 300A	457.2	323.8		321
18" X 10"	450A X 250A	457.2	273.0		308
18" X 8"	450A X 200A	457.2	219.1		299
20"	500A	508.0	-	381	381
20" X 18"	500A X 450A	508.0	457.2		368
20" X 16"	500A X 400A	508.0	406.4		356
20" X 14"	500A X 350A	508.0	355.6		356
20" X 12"	500A X 300A	508.0	323.8	381	346
20" X 10"	500A X 250A	508.0	273.0		333
20" X 8"	500A X 200A	508.0	219.1		322
22"	550A	558.8	-	419	419
22" X 20"	550A X 500A	558.8	508.0		406
22" X 18"	550A X 450A	558.8	457.2		394
22" X 16"	550A X 400A	558.8	406.4		381
22" X 14"	550A X 350A	558.8	355.6		381
22" X 12"	550A X 300A	558.8	323.8		372
24"	600A	609.6	-	432	432
24" X 22"	600A X 550A	609.6	558.8		432
24" X 20"	600A X 500A	609.6	508.0		432
24" X 18"	600A X 450A	609.6	457.2		419
24" X 16"	600A X 400A	609.6	406.4		406
24" X 14"	600A X 350A	609.6	355.6		406
24" X 12"	600A X 300A	609.6	323.8		397
26"	650A	660.4	-	495	495
26" X 24"	650A X 600A	660.4	609.6		483
26" X 22"	650A X 550A	660.4	558.8		470
26" X 20"	650A X 500A	660.4	508.0		457
26" X 18"	650A X 450A	660.4	457.2		445
26" X 16"	650A X 400A	660.4	406.4		432
26" X 14"	650A X 350A	660.4	355.6		432
28"	700A	711.2	-	521	521
28" X 26"	700A X 650A	711.2	660.4		521
28" X 24"	700A X 600A	711.2	609.6		508
28" X 22"	700A X 550A	711.2	558.8		495
28" X 20"	700A X 500A	711.2	508.0		483
28" X 18"	700A X 450A	711.2	457.2		470
28" X 16"	700A X 400A	711.2	406.4		457

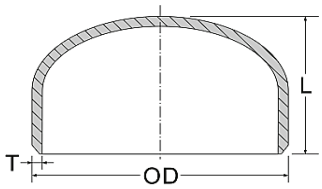
Unit : mm



Equal Crosses | ASME/ANSI B16.9

Nominal Pipe Size		Outside Diameter	Center to End
INCH	DN	OD	M
1/2"	15A	21.3	25
3/4"	20A	26.7	30
1"	25A	33.4	38
1.1/4"	32A	42.2	48
1.1/2"	40A	48.3	57
2"	50A	60.3	64
2.1/2"	65A	73.0	76
3"	80A	88.9	86
3.1/2"	90A	101.6	95
4"	100A	114.3	105
5"	125A	141.3	124
6"	150A	168.3	143
8"	200A	219.1	178
10"	250A	273.0	216
12"	300A	323.8	254
14"	350A	355.6	279
16"	400A	406.4	305
18"	450A	457.2	343
20"	500A	508.0	381
22"	550A	558.8	419
24"	600A	609.6	419

Unit : mm



ANSI Caps | ASME/ANSI B16.9

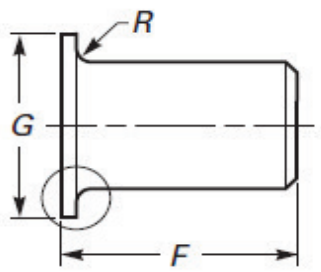
Unit : mm

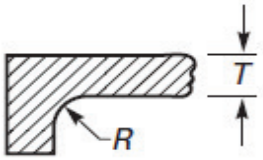
Nominal Pipe Size		Outside Diameter	Length 1	Limiting Wall Thickness for Length	Length 2
INCH	DN	OD	L1		L2
1/2"	15A	21.3	25	4.57	25
3/4"	20A	26.7	25	3.81	25
1"	25A	33.4	38	4.57	38
1.1/4"	32A	42.2	38	4.83	38
1.1/2"	40A	48.3	38	5.08	38
2"	50A	60.3	38	5.59	44
2.1/2"	65A	73.0	38	7.11	51
3"	80A	88.9	51	7.62	64
3.1/2"	90A	101.6	64	8.13	76
4"	100A	114.3	64	8.64	76
5"	125A	141.3	76	9.65	89
6"	150A	168.3	89	10.92	102
8"	200A	219.1	102	12.70	127
10"	250A	273.0	127	12.70	152
12"	300A	323.8	152	12.70	178
14"	350A	355.6	165	12.70	191
16"	400A	406.4	178	12.70	203
18"	450A	457.2	203	12.70	229
20"	500A	508.0	229	12.70	254
22"	550A	558.8	254	12.70	254
24"	600A	609.6	267	12.70	305
26"	650A	660.4	267	-	-
28"	700A	711.2	267	-	-
30"	750A	762.0	267	-	-
32"	800A	812.8	267	-	-
34"	850A	863.6	267	-	-
36"	900A	914.4	267	-	-

Notes:

1. Length 1 (L1) applies for thickness not exceeding that given in column "Limiting Wall Thickness for Length.
2. Length 2 (L2) applies for thickness greater than that given in column "Limitng Wall Thickness" for NPS 24 and smaller.

For NPS 26 and larger, Length (L2) shall be by agreement between the manufacturer and the purchaser.





Enlarged Section of Lap

Lap Joint Stub End | ANSI B16.9/MSS SP-43

Nominal Pipe Size		Outside Diameter	Pattern Length			Fillet Radius		Diameter of Lap	Wall Thickness/ Lap Thickness		
			MSS	ASME		Min (For Lap Joint Flange)	Max (For Slip-on Flange)		Sch 5S	Sch 10S	Sch 40S
				Long	Short						
INCH	DN	OD	F			R		G	T		
1/2"	15A	21.3	50.8	76.2	50.8	3.18	0.76	34.9	1.65	2.11	2.77
3/4"	20A	26.7	50.8	76.2	50.8	3.18	0.76	42.9	1.65	2.11	2.87
1"	25A	33.4	50.8	101.6	50.8	3.18	0.76	50.8	1.65	2.77	3.38
1.1/4"	32A	42.2	50.8	101.6	50.8	4.76	0.76	63.5	1.65	2.77	3.56
1.1/2"	40A	48.3	50.8	101.6	50.8	6.35	0.76	73.0	1.65	2.77	3.68
2"	50A	60.3	63.5	152.4	63.5	7.94	0.76	92.1	1.65	2.77	3.91
2.1/2"	65A	73.0	63.5	152.4	63.5	7.94	0.76	104.8	2.11	3.05	5.16
3"	80A	88.9	63.5	152.4	63.5	9.53	0.76	127.0	2.11	3.05	5.49
3.1/2"	90A	101.6	76.2	152.4	76.2	9.53	0.76	139.7	2.11	3.05	5.74
4"	100A	114.3	76.2	152.4	76.2	11.11	0.76	157.2	2.11	3.05	6.02
5"	125A	141.3	76.2	203.2	76.2	11.11	1.52	185.7	2.77	3.40	6.55
6"	150A	168.3	88.9	203.2	88.9	12.70	1.52	215.9	2.77	3.40	7.11
8"	200A	219.1	101.6	203.4	101.6	12.70	1.52	269.9	2.77	3.76	8.18
10"	250A	273.1	127.0	254.0	127.0	12.70	1.52	323.9	3.40	4.19	9.27
12"	300A	323.9	152.4	254.0	152.4	12.70	1.52	381.0	3.96	4.57	9.53
14"	350A	355.6	152.4	304.8	152.4	12.70	1.52	412.8	3.96	4.78	-
16"	400A	406.4	152.4	304.8	152.4	12.70	1.52	469.9	4.19	4.78	-
18"	450A	457.2	152.4	304.8	152.4	12.70	1.52	533.4	4.19	4.78	-
20"	500A	508.0	152.4	304.8	152.4	12.70	1.52	584.2	4.78	5.54	-
22"	550A	558.8	152.4	304.8	152.4	12.70	1.52	641.4	4.78	5.54	-
24"	600A	609.6	152.4	304.8	152.4	12.70	1.52	692.2	5.54	6.35	-

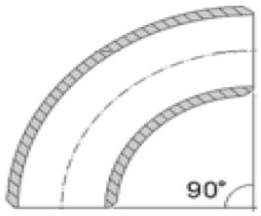
Tolerance: MSS-SP43

Nominal Pipe Size	Outside Diameter at Welding End (OD)	Overall Length (L)	Outside Diameter of Lap (G)	Fillet Radius of Lap (R)	Lap Thickness	Wall Thickness (T)
1/2" - 2.1/2"	± 0.8	± 1.6	+ 0 -0.76	+ 0 -0.76	+1.52 - 0	Not less than 87.5% of Nominal Wall Thickness
3" - 3.1/2"	± 0.8	± 1.6	+ 0 -0.76	+ 0 -0.76	+1.52 - 0	
4"	± 0.8	± 1.6	+ 0 -0.76	+ 0 -1.6	+1.52 - 0	
5" - 8"	+ 1.6 -0.8	± 1.6	+ 0 -0.76	+ 0 -1.6	+1.52 - 0	
10" - 18"	+ 2.29 -0.76	± 2.0	+ 0 -1.6	+0 -1.6	+1.52 - 0	
20" - 24"	+ 3.05 -0.76	± 2.0	+ 0 -1.6	+0 -1.6	+1.52 - 0	

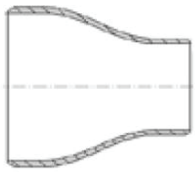
Tolerance: ASME B16.9

Nominal Pipe Size	Outside Diameter at Welding End (OD)	Overall Length (L)	Outside Diameter of Lap (G)	Fillet Radius of Lap (R)	Lap Thickness	Wall Thickness (T)
1/2" - 2.1/2"	+ 1.6 - 0.8	± 1.6	+ 0 -0.76	+ 0 -0.76	+1.52 - 0	Not less than 87.5% of Nominal Wall Thickness
3" - 3.1/2"	± 1.6	± 1.6	+ 0 -0.76	+ 0 -0.76	+1.52 - 0	
4"	± 1.6	± 1.6	+ 0 -0.76	+ 0 -1.6	+1.52 - 0	
5" - 8"	+ 2.29 - 1.6	± 1.6	+ 0 -0.76	+ 0 -1.6	+1.52 - 0	
10" - 18"	+ 4.06 - 3.05	± 2.0	+ 0 -1.6	+0 -1.6	+1.52 - 0	
20" - 24"	+ 6.35 - 4.83	± 2.0	+ 0 -1.6	+0 -1.6	+1.52 - 0	

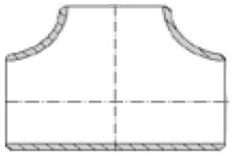
90° Elbow



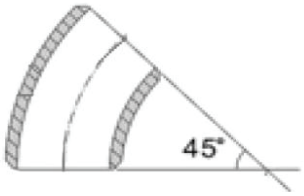
Conc Red



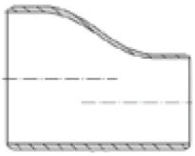
Eq Tee



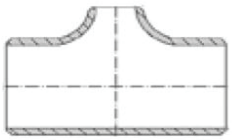
45° Elbow



Ecc Red



Red Tee



Unit : mm

Nominal Pipe Size		Outside Diameter (mm)		Nominal Wall Thickness (mm)													
INCH	DN	JIS	ANSI	SGP	S10	S10s	S20	S40	S40s	STD	S60	XS	S80	S80s	S120	S160	XXS
1/2"	15A	21.7	21.3	2.80	-	2.11	-	2.77	2.77	2.77	-	3.73	3.73	3.73	-	4.78	7.47
3/4"	20A	27.2	26.7	2.80	-	2.11	-	2.87	2.87	2.87	-	3.91	3.91	3.91	-	5.56	7.82
1"	25A	34.0	33.4	3.20	-	2.77	-	3.38	3.38	3.38	-	4.55	4.55	4.55	-	6.35	9.09
1.1/4"	32A	42.7	42.2	3.50	-	2.77	-	3.56	3.56	3.56	-	4.85	4.85	4.85	-	6.35	9.70
1.1/2"	40A	48.6	48.3	3.50	-	2.77	-	3.68	3.68	3.68	-	5.08	5.08	5.08	-	7.14	10.15
2"	50A	60.5	60.3	3.80	-	2.77	-	3.91	3.91	3.91	-	5.54	5.54	5.54	-	8.74	11.07
2.1/2"	65A	76.3	73.0	4.20	-	3.05	-	5.16	5.16	5.16	-	7.01	7.01	7.01	-	9.53	14.02
3"	80A	89.1	88.9	4.20	-	3.05	-	5.49	5.49	5.49	-	7.62	7.62	7.62	-	11.13	15.24
4"	100A	114.3	114.3	4.50	-	3.05	-	6.02	6.02	6.02	-	8.56	8.56	8.56	11.13	13.49	17.12
5"	125A	139.8	141.3	4.50	-	3.40	-	6.55	6.55	6.55	-	9.53	9.53	9.53	12.70	15.88	19.05
6"	150A	165.2	168.3	5.00	-	3.40	-	7.11	7.11	7.11	-	10.97	10.97	10.97	14.27	18.26	21.95
8"	200A	216.3	219.1	5.80	-	3.76	6.35	8.18	8.18	8.18	10.31	12.70	12.70	12.70	18.26	23.01	22.23
10"	250A	267.4	273.0	6.60	-	4.19	6.35	9.27	9.27	9.27	12.70	12.70	15.09	12.70	21.44	28.58	25.40
12"	300A	318.5	323.8	6.90	-	4.57	6.35	10.31	9.52	9.53	14.27	12.70	17.48	12.70	25.40	33.32	25.40
14"	350A	355.6	355.6	7.90	6.35	4.78	7.92	11.13	-	9.53	15.09	12.70	19.05	-	27.79	35.71	-
16"	400A	406.4	406.4	7.90	6.35	4.78	7.92	12.70	-	9.53	16.66	12.70	21.44	-	30.96	40.49	-
18"	450A	457.2	457.0	7.90	6.35	4.78	7.92	14.27	-	9.53	19.05	12.70	23.83	-	34.93	45.24	-
20"	500A	508.0	508.0	7.90	6.35	5.54	9.53	15.09	-	9.53	20.62	12.70	26.19	-	38.10	50.01	-
24"	600A	609.6	610.0	7.90	6.35	6.35	9.53	17.48	-	9.53	24.61	12.70	30.96	-	46.02	59.54	-

Elbow | Long Radius (R=1.5D) | ANSI B16.9

Nominal Pipe Size		Pressure												
		S/10	S/20	S/30	S/STD	S/40	S/60	S/XS	S/80	S/100	S/120	S/140	S/160	S/XXS
INCH	DN	KG												
1/2"	15A	-	-	-	0.08	0.08	-	0.10	0.10	-	-	-	0.12	0.15
3/4"	20A	-	-	-	0.08	0.08	-	0.10	0.10	-	-	-	0.13	0.17
1"	25A	-	-	-	0.15	0.15	-	0.19	0.19	-	-	-	0.25	0.33
1.1/4"	32A	-	-	-	0.16	0.16	-	0.34	0.34	-	-	-	0.42	0.60
1.1/2"	40A	-	-	-	0.36	0.36	-	0.49	0.49	-	-	-	0.65	0.86
2"	50A	-	-	-	0.65	0.65	-	0.90	0.90	-	-	-	1.35	1.62
2.1/2"	65A	-	-	-	1.30	1.30	-	1.71	1.71	-	-	-	2.25	3.00
3"	80A	-	-	-	2.00	2.00	-	2.75	2.75	-	-	-	4.00	5.00
3.1/2"	90A	-	-	-	3.00	3.00	-	4.00	4.00	-	-	-	-	-
4"	100A	-	-	-	4.00	4.00	-	5.00	5.00	-	7.00	-	8.00	10.00
5"	125A	-	-	-	7.00	7.00	-	9.00	9.00	-	12.00	-	15.00	18.00
6"	150A	-	-	-	10.00	10.00	-	15.00	15.00	-	20.00	-	25.00	29.00
8"	200A	-	16.00	18.00	21.00	21.00	26.00	31.00	31.00	37.00	44.00	49.00	55.00	52.00
10"	250A	-	25.00	31.00	37.00	37.00	50.00	49.00	58.00	70.00	80.00	95.00	105.00	94.00
12"	300A	-	36.00	47.00	54.00	58.00	80.00	71.00	95.00	115.00	135.00	150.00	175.00	135.00
14"	350A	46.00	57.00	69.00	69.00	80.00	108.00	91.00	133.00	195.00	180.00	215.00	240.00	-
16"	400A	61.00	75.00	90.00	90.00	120.00	155.00	119.00	196.00	240.00	276.00	320.00	360.00	-
18"	450A	77.00	95.00	133.00	114.00	170.00	223.00	151.00	275.00	335.00	395.00	440.00	500.00	-
20"	500A	95.00	141.00	186.00	141.00	220.00	300.00	186.00	375.00	460.00	530.00	610.00	680.00	-
22"	550A	115.00	171.00	226.00	171.00	-	390.00	226.00	495.00	595.00	695.00	795.00	890.00	-
24"	600A	136.00	203.00	302.00	203.00	370.00	512.00	270.00	640.00	790.00	920.00	1035.00	1165.00	-
26"	650A	200.00	322.00	405.00	249.00	-	-	322.00	-	-	-	-	-	-
28"	700A	232.00	375.00	458.00	289.00	-	-	375.00	-	-	-	-	-	-
30"	750A	265.00	431.00	526.00	333.00	-	-	431.00	-	-	-	-	-	-
32"	800A	302.00	491.00	600.00	379.00	-	-	491.00	-	-	-	-	-	-
34"	850A	342.00	555.00	680.00	428.00	-	-	555.00	-	-	-	-	-	-
36"	900A	382.00	621.00	760.00	480.00	-	-	621.00	-	-	-	-	-	-

Elbow | Short Radius (R=1D) | ANSI B16.9

Nominal Pipe Size		Pressure												
		S/10	S/20	S/30	S/STD	S/40	S/60	S/XS	S/80	S/100	S/120	S/140	S/160	S/XXS
INCH	DN	KG												
1/2"	15A	-	-	-	-	-	-	-	-	-	-	-	-	-
3/4"	20A	-	-	-	-	-	-	-	-	-	-	-	-	-
1"	25A	-	-	-	0.10	0.10	-	0.13	0.13	-	-	-	0.17	0.21
1.1/4"	32A	-	-	-	0.17	0.17	-	0.22	0.22	-	-	-	0.28	0.39
1.1/2"	40A	-	-	-	0.24	0.24	-	0.32	0.32	-	-	-	0.43	0.57
2"	50A	-	-	-	0.44	0.44	-	0.60	0.60	-	-	-	0.90	1.10
2.1/2"	65A	-	-	-	0.87	0.87	-	1.15	1.15	-	-	-	1.50	2.05
3"	80A	-	-	-	1.35	1.35	-	1.83	1.83	-	-	-	2.60	3.10
3.1/2"	90A	-	-	-	1.90	1.90	-	2.65	2.65	-	-	-	-	-
4"	100A	-	-	-	2.60	2.60	-	3.60	3.60	-	4.60	-	5.41	6.60
5"	125A	-	-	-	4.40	4.40	-	6.20	6.20	-	8.00	-	9.90	15.00
6"	150A	-	-	-	7.00	7.00	-	10.00	10.00	-	13.00	-	16.00	19.00
8"	200A	-	11.00	12.00	14.00	14.00	17.00	21.00	21.00	25.00	29.00	33.00	36.00	35.00
10"	250A	-	17.00	21.00	24.00	24.00	33.00	33.00	39.00	46.00	54.00	62.00	70.00	62.00
12"	300A	-	24.00	32.00	36.00	39.00	53.00	47.00	64.00	77.00	90.00	100.00	115.00	90.00
14"	350A	31.00	39.00	46.00	46.00	53.00	71.00	61.00	90.00	110.00	126.00	142.00	160.00	-
16"	400A	40.00	50.00	60.00	60.00	79.00	103.00	79.00	130.00	157.00	184.00	213.00	235.00	-
18"	450A	51.00	64.00	88.00	76.00	113.00	148.00	100.00	185.00	223.00	262.00	300.00	332.00	-
20"	500A	63.00	94.00	124.00	94.00	147.00	200.00	124.00	250.00	305.00	353.00	408.00	452.00	-
22"	550A	77.00	114.00	151.00	114.00	-	260.00	151.00	330.00	400.00	464.00	530.00	591.00	-
24"	600A	91.00	136.00	202.00	136.00	245.00	341.00	180.00	424.00	526.00	614.00	691.00	775.00	-
26"	650A	-	-	-	-	-	-	-	-	-	-	-	-	-
28"	700A	-	-	-	-	-	-	-	-	-	-	-	-	-
30"	750A	-	-	-	-	-	-	-	-	-	-	-	-	-
32"	800A	-	-	-	-	-	-	-	-	-	-	-	-	-
34"	850A	-	-	-	-	-	-	-	-	-	-	-	-	-
36"	900A	-	-	-	-	-	-	-	-	-	-	-	-	-

Dimensional Tolerance According to ANSI B16.9 Standards

Unit : mm

For All Fittings				45/90° Elbows and Tees	Reducers	180° Elbows			Caps
Nominal Pipe Size	Outside Diameter at the Bevel	Inside Diameter at End	Thickness	Center to End	Length	Center to Center	Height	Alignment of Ends	Height
1/2" - 2.1/2"	+1.6 -0.8	±0.8	Not Less Than 87.5% of the Nominal Thickness	±2.0	±2.0	±6.0	±6.0	±1.0	±3.0
3" - 3.1/2"	±1.6	±1.6		±2.0	±2.0	±6.0	±6.0	±1.0	±3.0
4"	±1.6	±1.6		±2.0	±2.0	±6.0	±6.0	±1.0	±3.0
5" - 8"	+2.4 -1.6	±1.6		±2.0	±2.0	±6.0	±6.0	±1.0	±6.0
10" - 18"	+4.0 -3.2	±3.2		±2.0	±2.0	±10.0	±6.0	±2.0	±6.0
20" - 24"	+6.4 -4.8	±4.8		±2.0	±2.0	±10.0	±6.0	±2.0	±6.0
26" - 30"	+6.4 -4.8	±4.8		±3.0	±5.0	±10.0	±6.0	±2.0	±10.0
32" - 36"	+6.4 -4.8	±4.8		±5.0	±5.0	±10.0	±6.0	±2.0	±10.0

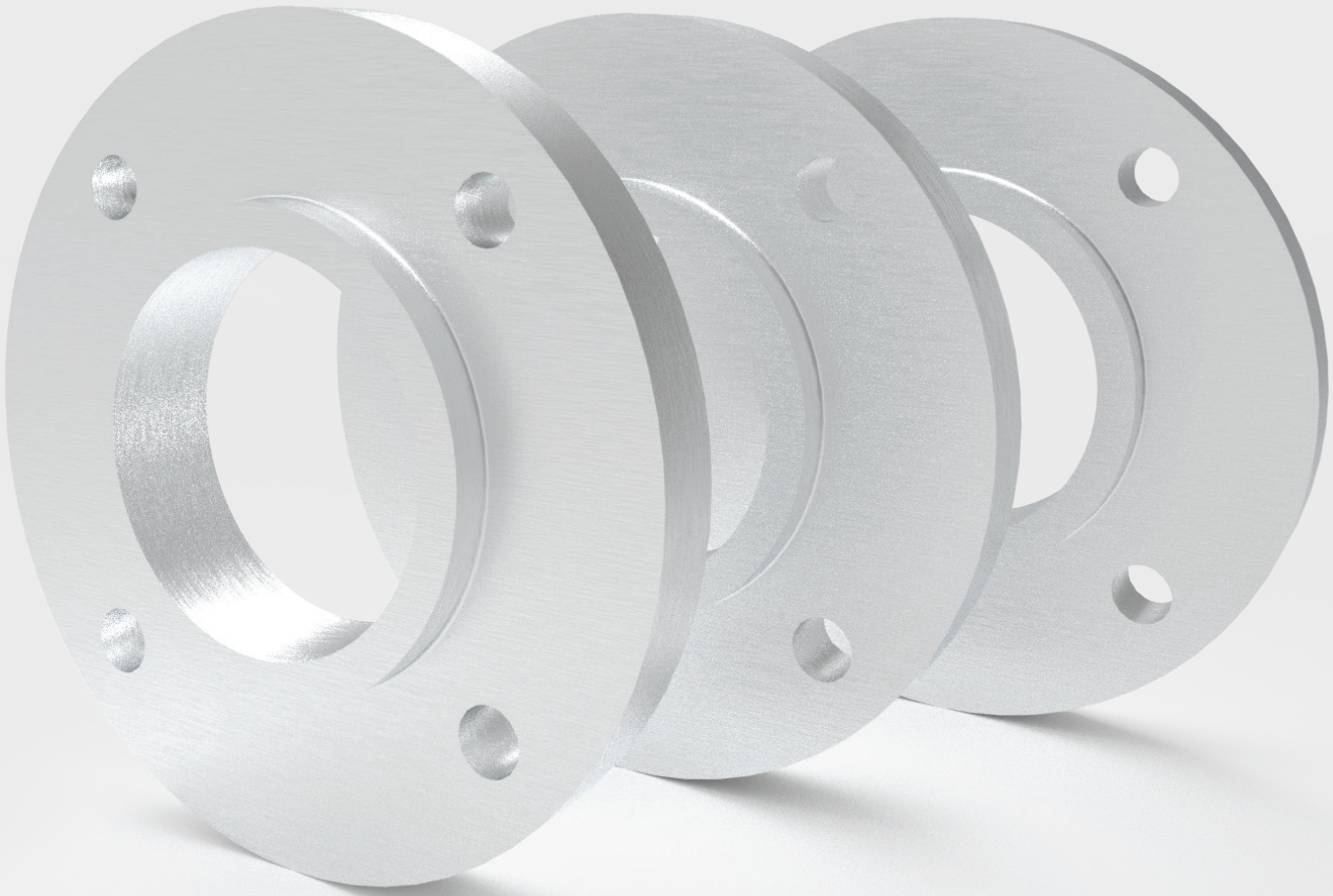
Angularity Tolerance According to ANSI B16.9 standards

Unit : mm

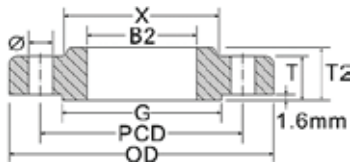
Nominal Pipe Size	Off Angle Q	Off Plane P
1/2" - 4"	±1	±2
5" - 8"	±2	±4
10" - 12"	±3	±5
14" - 16"	±3	±6
18" - 24"	±4	±10
26" - 30"	±5	±10
32" - 36"	±5	±13

PURA PIPING

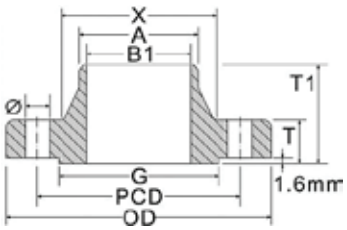
Flanges



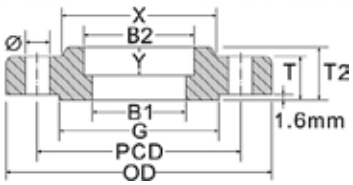
Slip-on



Welding Neck



Socket Welding



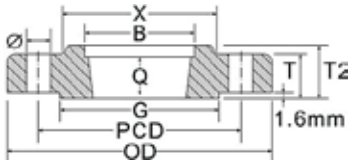
Flanges | Class 150 | ANSI B16.5

Unit: mm

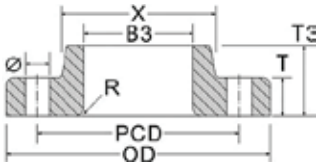
Nominal Pipe Size		Outside Dia.	Outside Dia. Raised Face	Dia. at Base of Hub	Thickness	Bore			Length Thru Hub			Dia. of Hub at Bevel	Radius of Fillet	Threaded Length
						Welding Neck Socket Welding	Slip-on Socket Welding	Lap Joint	Welding Neck	Slip-on Threaded Socket Welding	Lap Joint			
INCH	DN	OD	G	X	T	B1	B2	B3	T1	T2	T3	A	R	Q
1/2"	15A	89	35.1	30.2	11.2	15.7	22.4	22.9	47.8	15.7	15.7	21.3	3.0	15.7
3/4"	20A	99	42.9	38.1	12.7	20.8	27.7	28.2	52.3	15.7	15.7	26.7	3.0	15.7
1"	25A	108	50.8	49.3	14.2	26.7	34.5	35.1	55.6	17.5	17.5	33.5	3.0	17.5
1.1/4"	32A	117	63.5	58.7	15.7	35.1	43.2	43.7	57.2	20.6	20.6	42.2	4.8	20.6
1.1/2"	40A	127	73.2	65.0	17.5	40.9	49.5	50.0	62.0	22.4	22.4	48.3	6.4	22.4
2"	50A	152	91.9	77.7	19.1	52.6	62.0	62.5	63.5	25.4	25.4	60.5	7.9	25.4
2.1/2"	65A	178	104.6	90.4	22.4	62.7	74.7	75.4	69.9	28.4	28.4	73.2	7.9	28.4
3"	80A	191	127.0	108.0	23.9	78.0	90.7	91.4	69.9	30.2	30.2	88.9	9.7	30.2
3.1/2"	90A	216	139.7	122.2	23.9	90.2	103.4	104.1	71.4	31.8	31.8	101.6	9.7	31.8
4"	100A	229	157.2	134.9	23.9	102.4	116.1	116.8	76.2	33.3	33.3	114.3	11.2	33.3
5"	125A	254	185.7	163.6	23.9	128.3	143.8	144.5	88.9	36.6	36.6	141.2	11.2	36.6
6"	150A	279	215.9	192.0	25.4	154.2	170.7	171.5	88.9	39.6	39.6	168.4	12.7	39.6
8"	200A	343	269.7	246.1	28.4	202.7	221.5	222.3	101.6	44.5	44.5	219.2	12.7	44.5
10"	250A	406	323.9	304.8	30.2	254.5	276.4	277.4	101.6	49.3	49.3	273.1	12.7	49.3
12"	300A	483	381.0	365.3	31.8	304.8	327.2	328.2	114.3	55.6	55.6	323.9	12.7	55.6
14"	350A	533	412.8	400.1	35.1	336.6	359.2	360.2	127.0	57.2	79.2	355.6	12.7	57.2
16"	400A	597	469.9	457.2	36.6	387.4	410.5	411.2	127.0	63.5	87.4	406.4	12.7	63.5
18"	450A	635	533.4	505.0	39.6	438.2	461.8	462.3	139.7	68.3	96.8	457.2	12.7	68.3
20"	500A	699	584.2	558.8	42.9	489.0	513.1	514.4	144.5	73.2	103.1	508.0	12.7	73.2
24"	600A	813	692.2	663.4	47.8	590.6	616.0	616.0	152.4	82.6	111.3	609.6	12.7	82.6

Note:
1. Class 150 flanges except Lap Joint will be furnished with 0.06" (1.6mm) raised face, which is included in "Thickness" (T) and "Length through Hub" (T1)(T2).
2. For Slip-on, Threaded, Socket Welding and Lap Joint Flanges, the hubs can be shapes either vertical from base to top or tapered within the limits of 7 degrees.

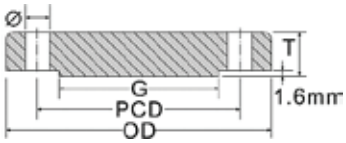
Threaded



Lap Joint



Blind



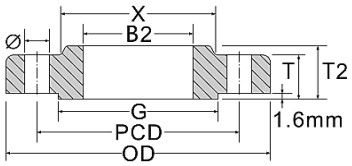
Flanges | Class 150 | ANSI B16.5

Unit: mm

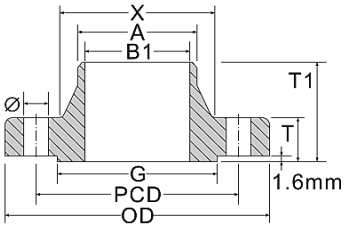
Depth of Socket	Drilling			Bolting				Approx Weight					Nominal Pipe Size	
	Bolt Circle Dia.	Number of Holes	Dia. of Holes	Dia. of Bolt	Machine Bolt Length Raised Face	Stud Bolt Length		Welding Neck	Slip-on and Threaded	Lap Joint	Blind	Socket Welding		
						Raised Face	Raised Joint							
Y	PCD		Ø					KG					DN	INCH
9.7	60.5	4	15.7	1/2"	50.8	57.2	-	0.51	0.47	0.51	0.47	0.47	15A	1/2"
11.2	69.9	4	15.7	1/2"	50.8	63.5	-	0.73	0.58	0.64	0.63	0.59	20A	3/4"
12.7	79.2	4	15.7	1/2"	57.2	63.5	76.2	1.07	0.86	0.93	0.94	0.87	25A	1"
14.2	88.9	4	15.7	1/2"	57.2	69.9	82.6	1.40	1.08	1.16	1.23	1.11	32A	1.1/4"
15.7	98.6	4	15.7	1/2"	63.5	69.9	82.6	1.81	1.41	1.51	1.62	1.45	40A	1.1/2"
17.5	120.7	4	19.1	5/8"	69.9	82.6	95.3	2.59	2.26	2.38	2.64	2.33	50A	2"
19.1	139.7	4	19.1	5/8"	76.2	88.9	101.6	4.28	3.43	3.60	4.06	3.55	65A	2.1/2"
20.6	152.4	4	19.1	5/8"	76.2	88.9	101.6	5.18	3.87	4.04	4.90	4.02	80A	3"
22.4	177.8	8	19.1	5/8"	76.2	88.9	101.6	5.45	4.99	4.99	5.90	4.99	90A	3.1/2"
23.9	190.5	8	19.1	5/8"	76.2	88.9	101.6	7.32	5.75	5.96	7.41	5.99	100A	4"
23.9	215.9	8	22.4	3/4"	82.6	95.3	108.0	8.91	6.22	6.44	8.76	6.68	125A	5"
26.9	241.3	8	22.4	3/4"	82.6	101.6	114.3	11.26	7.38	7.59	11.31	7.99	150A	6"
31.8	298.5	8	22.4	3/4"	88.9	108.0	120.7	17.68	12.36	12.66	19.92	13.29	200A	8"
33.3	362.0	12	25.4	7/8"	101.6	114.3	127.0	24.79	17.10	16.78	29.39	19.50	250A	10"
39.6	431.8	12	25.4	7/8"	101.6	120.7	133.4	38.98	27.68	28.30	43.70	29.03	300A	12"
41.4	476.3	12	28.4	1"	114.3	133.4	146.1	51.71	35.20	41.50	59.42	38.56	350A	14"
44.5	539.8	16	28.4	1"	114.3	133.4	146.1	64.41	42.18	52.98	77.11	44.49	400A	16"
49.3	577.9	16	31.8	1.1/8"	127.0	146.1	158.8	74.84	49.71	59.00	94.80	54.43	450A	18"
54.1	635.0	20	31.8	1.1/8"	139.7	158.8	171.5	89.36	65.50	72.12	123.38	70.31	500A	20"
63.5	749.3	20	35.1	1.1/4"	152.4	171.5	184.2	119.66	90.50	99.02	188.24	95.25	600A	24"

Note:
3. Blind Flanges may be made wth the same hub as that used for Slip-on Flanges or without hub.
4. The gasket surface and backside (bearing surface for bolting) are made parallel within 1 degree. To accomplish prallelism, spot facing is carried out according to MSS SP-9, without reducing thickness(T).
5. Depth of Socket (Y) is covered by ANSI B16.5 only in sizes through 3 inch, over 3 inch is at the manufacturer's option.

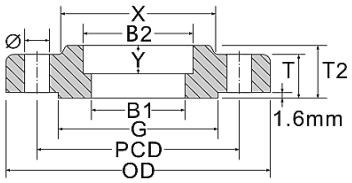
Slip-on



Welding Neck



Socket Welding



Flanges | Class 300 | ANSI B16.5

Unit : mm

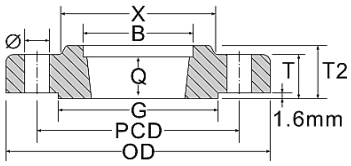
Nominal Pipe Size		Out-side Dia.	Out-side Dia. of Raised Face	Dia. at Base of Hub	Bore				Thick-ness	Length Thru Hub			Dia. of Hub at Bevel	Radius of Fillet	Threaded Length
					Counter Bore Min.	Welding Neck Socket Welding	Slip-on Socket Welding	Lap Joint		Welding Neck	Slip-on Threaded Socket Welding	Lap Joint			
INCH	DN	OD	G	X	B	B1	B2	B3	T	T1	T2	T3	A	R	Q
1/2"	15A	95	35.1	38.1	23.6	15.7	22.4	22.9	14.2	52.3	22.4	22.4	21.3	3.0	15.7
3/4"	20A	117	42.9	47.8	29.0	20.8	27.7	28.2	15.7	57.2	25.4	25.4	26.7	3.0	15.7
1"	25A	124	50.8	53.8	35.8	26.7	34.5	35.1	17.5	62.0	26.9	26.9	33.5	3.0	17.5
1.1/4"	32A	133	63.5	63.5	44.5	35.1	43.2	43.7	19.1	65.0	26.9	26.9	42.2	4.8	20.6
1.1/2"	40A	155	73.2	69.9	50.5	40.9	49.5	50.0	20.6	68.3	30.2	30.2	48.3	6.4	22.4
2"	50A	165	91.9	84.1	63.5	52.6	62.0	62.5	22.4	69.9	33.3	33.3	60.5	7.9	28.4
2.1/2"	65A	191	104.6	100.1	76.2	62.7	74.7	75.4	25.4	76.2	38.1	38.1	73.2	7.9	31.8
3"	80A	210	127.0	117.3	92.2	78.0	90.7	91.4	28.4	79.2	42.9	42.9	88.9	9.7	31.8
3.1/2"	90A	229	139.7	133.4	104.9	90.2	103.4	104.1	30.2	81.0	44.5	44.5	101.6	9.7	36.6
4"	100A	254	157.2	146.1	117.6	102.4	116.1	116.8	31.8	85.9	47.8	47.8	114.3	11.2	36.6
5"	125A	279	185.7	177.8	144.5	128.3	143.8	144.5	35.1	98.6	50.8	50.8	141.2	11.2	42.9
6"	150A	318	215.9	206.2	171.5	154.2	170.7	171.5	36.6	98.6	52.3	52.3	168.4	12.7	46.0
8"	200A	381	269.7	260.4	222.3	202.7	221.5	222.3	41.1	111.3	62.0	62.0	219.2	12.7	50.8
10"	250A	445	323.9	320.5	276.4	254.5	276.4	277.4	47.8	117.3	66.5	95.3	273.1	12.7	55.6
12"	300A	521	381.0	374.7	328.7	304.8	327.2	328.2	50.8	130.0	73.2	101.6	323.9	12.7	60.5
14"	350A	584	412.8	425.5	360.4	336.6	359.2	360.2	53.8	142.7	76.2	111.3	355.6	12.7	63.5
16"	400A	648	469.9	482.6	411.2	387.4	410.5	411.2	57.2	146.1	82.6	120.7	406.4	12.7	68.3
18"	450A	711	533.4	533.4	462.0	438.2	461.8	462.3	60.5	158.8	88.9	130.0	457.2	12.7	69.9
20"	500A	775	584.2	587.2	512.8	489.0	513.1	514.4	63.5	162.1	95.3	139.7	508.0	12.7	73.2
24"	600A	914	692.2	701.5	614.4	590.6	616.0	616.0	69.9	168.1	106.4	152.4	609.6	12.7	82.6

Note:

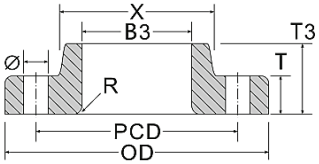
1.Class 300 flanges except Lap Joint will be furnished with 0.06"(1.6mm) raised face,which is included in "Thickness"(T) and "Length through Hub"(T1)(T2).

2.For Slip-on,Threaded,Socket Welding and Lap Joint Flanges,the hubs can be shaped either vertical from base to top or tapered within the limits of 7 degrees.

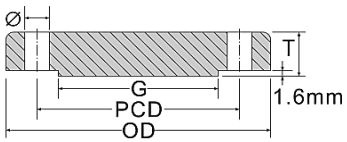
Threaded



Lap Joint



Blind



Flanges | Class 300 | ANSI B16.5

Unit : mm

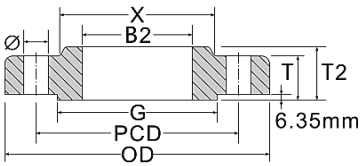
Depth of Socket	Drilling			Bolting				Approx Weight					Nominal Pipe Size	
	Bolt Circle Dia.	Number of Holes	Dia. of Holes	Dia. of Bolt	Machine Bolt Length Raised Face	Stud Bolt Length		Welding Neck	Slip-on and Threaded	Lap Joint	Blind	Socket Welding		
						Raised Face	Ring Joint							
Y	PCD		Ø					KG					DN	INCH
9.7	66.5	4	15.7	1/2"	57.2	63.5	76.2	0.78	0.62	0.61	0.62	0.62	15A	1/2"
11.2	82.6	4	19.1	5/8"	63.5	76.2	88.9	1.34	1.15	1.15	1.16	1.19	20A	3/4"
12.7	88.9	4	19.1	5/8"	63.5	76.2	88.9	1.64	1.39	1.38	1.42	1.44	25A	1"
14.2	98.6	4	19.1	5/8"	69.9	82.6	95.3	2.06	1.67	1.66	1.79	1.73	32A	1.1/4"
15.7	114.3	4	22.4	3/4"	76.2	88.9	101.6	3.06	2.53	2.52	2.68	2.62	40A	1.1/2"
17.5	127.0	8	19.1	5/8"	76.2	88.9	101.6	3.40	2.80	2.79	3.09	2.94	50A	2"
19.1	149.4	8	22.4	3/4"	82.6	101.6	114.3	5.31	4.25	4.22	4.75	4.49	65A	2.1/2"
20.6	168.1	8	22.4	3/4"	88.9	108.0	120.7	7.32	5.81	5.78	6.79	6.20	80A	3"
22.4	184.2	8	22.4	3/4"	95.3	108.0	127.0	8.17	7.72	7.72	9.53	-	90A	3.1/2"
23.9	200.2	8	22.4	3/4"	95.3	114.3	127.0	11.30	10.13	10.07	12.00	-	100A	4"
23.9	235.0	8	22.4	3/4"	108.0	120.7	133.4	15.12	12.58	12.52	15.96	-	125A	5"
26.9	269.7	12	22.4	3/4"	108.0	120.7	139.7	19.68	16.04	15.95	21.20	-	150A	6"
31.8	330.2	12	25.4	7/8"	120.7	139.7	152.4	30.48	24.50	24.37	34.60	-	200A	8"
33.3	387.4	16	28.4	1"	139.7	158.8	171.5	43.74	34.16	39.92	55.34	-	250A	10"
39.6	450.9	16	31.8	1.1/8"	146.1	171.5	184.2	64.41	51.26	58.70	78.90	-	300A	12"
41.4	514.4	20	31.8	1.1/8"	158.8	177.8	190.5	88.30	72.12	83.46	107.05	-	350A	14"
44.5	571.5	20	35.1	1.1/4"	165.1	190.5	203.2	112.94	90.40	106.14	139.25	-	400A	16"
49.3	628.7	24	35.1	1.1/4"	171.5	196.9	209.6	138.34	109.00	133.95	176.90	-	450A	18"
54.1	685.8	24	35.1	1.1/4"	184.2	203.2	222.3	167.37	136.00	157.65	223.17	-	500A	20"
63.5	812.8	24	41.1	1.1/2"	203.2	228.6	254.0	235.41	204.00	240.40	342.00	-	600A	24"

3.Blind Flanges may be made with the same hub as that used for Slip-on Flanges or without hub.

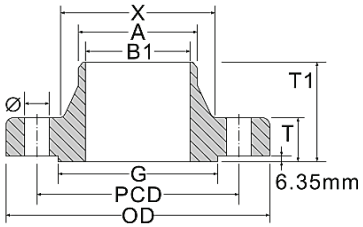
4.The gasket surface amd backside(bearing surface for bolting)are made parallel within 1 degree.To accomplish parallelism,spot facing is carried out according to MSS SP-9,without reducing thickness(T).

5.Depth of Socket(Y) is covered by ANSI B16.5 only in sizes through 3 inch,over 3 inch is at the manufacturer's option.

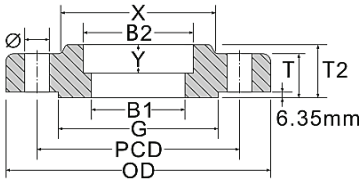
Slip-on



Welding Neck



Socket Welding



Flanges | Class 600 | ANSI B16.5

Unit : mm

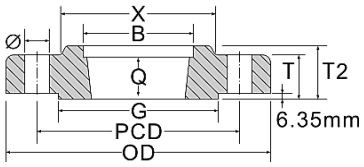
Nominal Pipe Size		Out-side Dia.	Out-side Dia. of Raised Face	Dia. at Base of Hub	Bore				Thick-ness	Length Thru Hub			Dia. of Hub at Bevel	Radius of Fillet	Threaded Length
					Counter Bore Min.	Welding Neck Socket Welding	Slip-on Socket Welding	Lap Joint		Welding Neck	Slip-on Threaded Socket Welding	Lap Joint			
INCH	DN	OD	G	X	B	B1	B2	B3	T	T1	T2	T3	A	R	Q
1/2"	15A	95	35.1	38.1	23.6		22.4	22.9	14.2	52.3	22.4	22.4	21.3	3.0	15.7
3/4"	20A	117	42.9	47.8	29.0		27.7	28.2	15.7	57.2	25.4	25.4	26.7	3.0	15.7
1"	25A	124	50.8	53.8	35.8		34.5	35.1	17.5	62.0	26.9	26.9	33.5	3.0	17.5
1.1/4"	32A	133	63.5	63.5	44.5		43.2	43.7	20.6	66.5	28.4	28.4	42.2	4.8	20.6
1.1/2"	40A	155	73.2	69.9	50.5		49.5	50.0	22.4	69.9	31.8	31.8	48.3	6.4	22.4
2"	50A	165	91.9	84.1	63.5	See	62.0	62.5	25.4	73.2	36.6	36.6	60.5	7.9	28.4
2.1/2"	65A	191	104.6	100.1	76.2	Note	74.7	75.4	28.4	79.2	41.1	41.1	73.2	7.9	31.8
3"	80A	210	127.0	117.3	92.2	(1)	90.7	91.4	31.8	82.6	46.0	46.0	88.9	9.7	35.1
3.1/2"	90A	229	139.7	133.4	104.9	to	103.4	104.1	35.1	85.9	49.3	49.3	101.6	9.7	39.6
4"	100A	273	157.2	152.4	117.6	be	116.1	116.8	38.1	101.6	53.8	53.8	114.3	11.2	41.1
5"	125A	330	185.7	189.0	144.5	Speci-	143.8	144.5	44.5	114.3	60.5	60.5	141.2	11.2	47.8
6"	150A	356	215.9	222.3	171.5	fied	170.7	171.5	47.8	117.3	66.5	66.5	168.4	12.7	50.8
8"	200A	419	269.7	273.1	222.3	by	221.5	222.3	55.6	133.4	76.2	76.2	219.2	12.7	57.2
10"	250A	508	323.9	342.9	276.4	Purcha-	276.4	277.4	63.5	152.4	85.9	111.3	273.1	12.7	65.0
12"	300A	559	381.0	400.1	328.7	ser	327.2	328.2	66.5	155.4	91.9	117.3	323.9	12.7	69.9
14"	350A	603	412.8	431.8	360.4		359.2	360.2	69.9	165.1	93.7	127.0	355.6	12.7	73.2
16"	400A	686	469.9	495.3	411.2		410.5	411.2	76.2	177.8	106.4	139.7	406.4	12.7	77.7
18"	450A	743	533.4	546.1	462.0		461.8	462.3	82.6	184.2	117.3	152.4	457.2	12.7	79.2
20"	500A	813	584.2	609.6	512.8		513.1	514.4	88.9	190.5	127.0	165.1	508.0	12.7	82.6
24"	600A	940	692.2	717.6	614.4		616.0	616.0	101.6	203.2	139.7	184.2	609.6	12.7	91.9

Note:

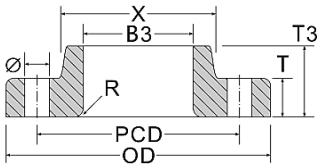
1.Class 600 flanges except Lap Joint will be furnished with 0.25"(6.35mm) raised face,which is included in "Thickness"(T) and "Length through Hub"(T1)(T2).

2.For Slip-on,Threaded,and Lap Joint Flanges,the hubs can be shaped either vertical from base to top or tapered within the limits of 7 degrees.

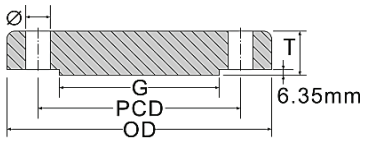
Threaded



Lap Joint



Blind



Flanges | Class 600 | ANSI B16.5

Unit : mm

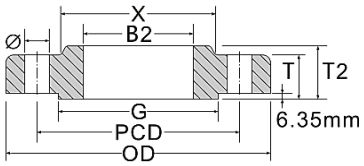
Depth of Socket	Drilling			Bolting				Approx Weight					Nominal Pipe Size	
	Bolt Circle Dia.	Number of Holes	Dia. of Holes	Dia. of Bolt	Stud Bolt Length			Welding Neck	Slip-on and Threaded	Lap Joint	Blind	Socket Welding		
					0.25" Raised Face	Male/Female Tongue Groove	Ring Joint							
Y	PCD		Ø					KG					DN	INCH
9.7	66.5	4	15.7	1/2"	76.2	69.9	76.2	0.90	0.91	0.80	0.91	0.91	15A	1/2"
11.2	82.6	4	19.1	5/8"	88.9	82.6	88.9	1.59	1.40	1.36	1.40	1.36	20A	3/4"
12.7	88.9	4	19.1	5/8"	88.9	82.6	88.9	1.90	1.70	1.59	1.81	1.81	25A	1"
14.2	98.6	4	19.1	5/8"	95.3	88.9	95.3	2.49	2.27	2.04	2.40	2.60	32A	1.1/4"
15.7	114.3	4	22.4	3/4"	108.0	101.6	108.0	3.63	3.10	2.95	3.40	3.18	40A	1.1/2"
17.5	127.0	8	19.1	5/8"	108.0	101.6	108.0	4.54	3.63	3.63	4.40	3.90	50A	2"
19.1	149.4	8	22.4	3/4"	120.7	114.3	120.7	6.35	5.44	4.99	6.80	5.90	65A	2.1/2"
20.6	168.1	8	22.4	3/4"	127.0	120.7	127.0	8.16	7.26	6.35	8.90	7.40	80A	3"
22.4	184.2	8	25.4	7/8"	139.7	133.4	139.7	11.80	9.53	9.08	13.17	-	90A	3.1/2"
23.9	215.9	8	25.4	7/8"	146.1	139.7	146.1	16.78	14.97	14.06	18.60	-	100A	4"
23.9	266.7	8	28.4	1"	165.1	158.8	165.1	30.87	28.50	27.50	30.84	-	125A	5"
26.9	292.1	12	28.4	1"	171.5	165.1	171.5	36.77	36.32	35.38	38.00	-	150A	6"
31.8	349.3	12	31.8	1.1/8"	190.5	184.2	196.9	50.80	44.00	50.80	62.20	-	200A	8"
33.3	431.8	16	35.1	1.1/4"	215.9	209.6	215.9	86.26	76.20	74.00	102.00	-	250A	10"
39.6	489.0	20	35.1	1.1/4"	222.3	215.9	222.3	102.51	97.52	108.86	132.00	-	300A	12"
41.4	527.1	20	38.1	1.3/8"	235.0	228.6	235.0	121.56	102.00	111.00	158.00	-	350A	14"
44.5	603.3	20	41.1	1.1/2"	254.0	247.7	254.0	177.06	149.82	165.71	224.73	-	400A	16"
49.3	654.1	20	44.5	1.5/8"	273.1	266.7	273.1	215.65	180.10	194.00	285.00	-	450A	18"
54.1	723.9	24	44.5	1.5/8"	285.3	279.4	292.1	267.86	231.54	258.78	365.00	-	500A	20"
63.5	838.2	24	50.8	1.7/8"	330.2	323.9	336.6	372.00	330.00	362.00	533.45	-	600A	24"

3.Blind Flanges may be made with the same hub as that used for Slip-on Flanges or without hub.

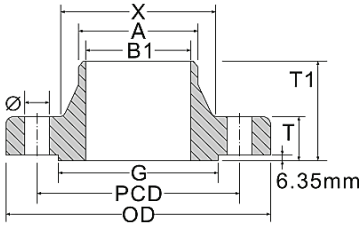
4.The gasket surface amd backside(bearing surface for bolting)are made parallel within 1 degree.To accomplish parallelism,spot facing is carried out according to MSS SP-9,without reducing thickness(T).

5.Depth of Socket(Y) is covered by ANSI B16.5 only in sizes through 3 inch,over 3 inch is at the manufacturer's option.

Slip-on



Welding Neck



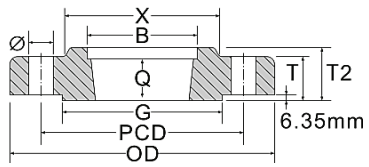
Flanges | Class 900 | ANSI B16.5

Unit : mm

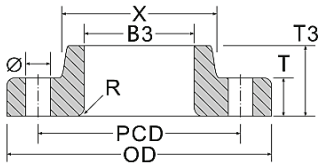
Nominal Pipe Size		Outside Dia.	Outside Dia. of Raised Face	Dia. at Base of Hub	Bore				Thick-ness	Length Thru Hub			Dia. of Hub at Bevel
					Counter Bore Min.	Welding Neck Socket Welding	Slip-on Socket Welding	Lap Joint		Welding Neck	Slip-on Threaded Socket Welding	Lap Joint	
INCH	DN	OD	G	X	B	B1	B2	B3	T	T1	T2	T3	A
1/2"	15A	121	35.1	38.1	23.6		22.4	22.9	22.4	60.5	31.8	31.8	21.3
3/4"	20A	130	42.9	44.5	29.0		27.7	28.2	25.4	69.9	35.1	35.1	26.7
1"	25A	149	50.8	52.3	35.8		34.5	35.1	28.4	73.2	41.1	41.1	33.5
1.1/4"	32A	159	63.5	63.5	44.5		43.2	43.7	28.4	73.2	41.1	41.1	42.2
1.1/2"	40A	178	73.2	69.9	50.5		49.5	50.0	31.8	82.6	44.5	44.5	48.3
2"	50A	216	91.9	104.6	63.5	See	62.0	62.5	38.1	101.6	57.2	57.2	60.5
2.1/2"	65A	244	104.6	124.0	76.2	Note	74.7	75.4	41.1	104.6	63.5	63.5	73.2
3"	80A	241	127.0	127.0	92.2	(1)	90.7	91.4	38.1	101.6	53.8	53.8	88.9
4"	100A	292	157.2	158.8	117.6	to	116.1	116.8	44.5	114.3	69.9	69.9	114.3
5"	125A	349	185.7	190.5	144.5	be	143.8	144.5	50.8	127.0	79.2	79.2	141.2
6"	150A	381	215.9	235.0	171.5	Specified	170.7	171.5	55.6	139.7	85.9	85.9	168.4
8"	200A	470	269.7	298.5	222.3	by	221.5	222.3	63.5	162.1	101.6	114.3	219.2
10"	250A	546	323.9	368.3	276.4	purcha-	276.4	277.4	69.9	184.2	108.0	127.0	273.1
12"	300A	610	381.0	419.1	328.7	ser	327.2	328.2	79.2	200.2	117.3	142.7	323.9
14"	350A	641	412.8	450.9	360.4		359.2	360.2	85.9	212.9	130.0	155.4	355.6
16"	400A	705	469.9	508.0	411.2		410.5	411.2	88.9	215.9	133.4	165.1	406.4
18"	450A	787	533.4	565.2	462.0		461.8	462.3	101.6	228.6	152.4	190.5	457.2
20"	500A	857	584.2	622.3	512.8		513.1	514.4	108.0	247.7	158.8	209.6	508.0
24"	600A	1041	692.2	749.3	614.4		616.0	616.0	139.7	292.1	203.2	266.7	609.6

1. Class 900 flanges except Lap Joint will be furnished with 0.25"(6.35mm) raised face,which is included in "Thickness"(T) and "Length through Hub"(T1)(T2).
2. For Slip-on,Threaded,and Lap Joint Flanges,the hubs can be shaped either vertical from base to top or tapered within the limits of 7 degrees.

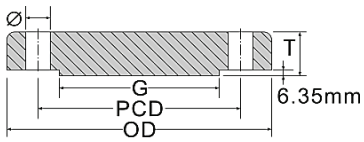
Threaded



Lap Joint



Blind



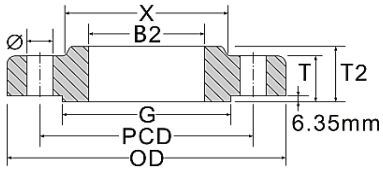
Flanges | Class 900 | ANSI B16.5

Unit : mm

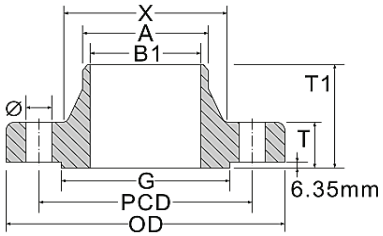
Radius of Fillet	Threaded Length	Drilling			Bolting				Approx Weight				Nominal Pipe Size	
		Bolt Circle Dia.	Number of Holes	Dia. of Holes	Dia. of Bolt	Stud Bolt Length			Welding Neck	Slip-on and Threaded	Lap Joint	Blind		
						0.25" Raised Face	Male/Female Tongue Groove	Ring Joint						
R	Q	PCD		Ø					KG				DN	INCH
3.0	22.4	82.6	4	22.4	3/4"	108.0	101.6	108.0	2.10	1.81	1.81	1.90	15A	1/2"
3.0	25.4	88.9	4	22.4	3/4"	114.3	108.0	114.3	2.72	2.40	2.30	2.70	20A	3/4"
3.0	28.4	101.6	4	25.4	7/8"	127.0	120.7	127.0	3.86	3.41	3.40	4.09	25A	1"
4.8	30.2	111.3	4	25.4	7/8"	127.0	120.7	127.0	4.54	4.10	4.09	4.54	32A	1.1/4"
6.4	31.8	124.0	4	28.4	1"	139.7	133.4	139.7	5.90	5.45	5.40	5.90	40A	1.1/2"
7.9	38.1	165.1	8	25.4	7/8"	146.1	139.7	146.1	10.89	9.98	9.53	11.34	50A	2"
7.9	47.8	190.5	8	28.4	1"	158.8	152.4	158.8	16.33	15.80	13.15	16.00	65A	2.1/2"
9.7	41.1	190.5	8	25.4	7/8"	146.1	139.7	146.1	15.00	11.80	11.34	13.17	80A	3"
11.2	47.8	235.0	8	31.8	1.1/8"	171.5	165.1	171.5	23.13	23.20	22.60	24.50	100A	4"
11.2	53.8	279.4	8	35.1	1.1/4"	190.5	184.2	190.5	38.50	37.65	36.74	39.46	125A	5"
12.7	57.2	317.5	12	31.8	1.1/8"	190.5	184.2	196.9	49.89	48.30	47.50	51.50	150A	6"
12.7	63.5	393.7	12	38.1	1.3/8"	222.3	215.9	222.3	79.45	75.00	86.00	89.00	200A	8"
12.7	71.4	469.9	16	38.1	1.3/8"	235.0	228.6	235.0	118.04	111.13	125.64	131.54	250A	10"
12.7	76.2	533.4	20	38.1	1.3/8"	254.0	247.7	254.0	157.00	146.00	167.00	187.00	300A	12"
12.7	82.6	558.8	20	41.1	1.1/2"	273.1	266.7	292.1	181.60	172.36	180.07	224.07	350A	14"
12.7	85.9	616.0	20	44.5	1.5/8"	285.8	279.4	298.5	224.73	192.95	211.11	272.40	400A	16"
12.7	88.9	685.8	20	50.8	1.7/8"	323.9	317.5	333.6	308.72	272.40	295.10	385.90	450A	18"
12.7	91.9	749.3	20	53.8	2"	349.3	342.9	362.0	376.82	331.42	367.74	488.00	500A	20"
12.7	101.6	901.7	20	66.5	2.1/2"	438.2	431.8	457.2	685.00	632.00	700.00	905.00	600A	24"

3. Blind Flanges may be made with the same hub as that used for Slip-on Flanges or without hub.
4. The gasket surface amd backside(bearing surface for bolting)are made parallel within 1 degree.To accomplish parallelism,spot facing is carried out according to MSS SP-9,without reducing thickness(T).
5. Dimensions of size 1/2" through 2.1/2" are the same as for Class 1500 Flanges.
6. *M/F (Male/Female).

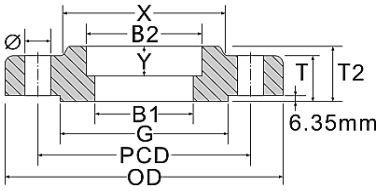
Slip-on



Welding Neck



Socket Welding



Flanges | Class 1500 | ANSI B16.5

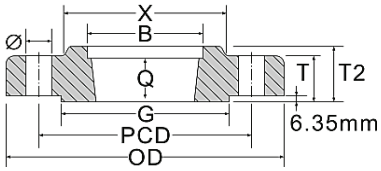
Unit: mm

Nominal Pipe Size		Out-side Dia.	Out-side Dia. of Raised Face	Dia. at Base of Hub	Bore				Thick-ness	Length Thru Hub			Dia. of Hub at Bevel	Radius of Fillet	Threaded Length
					Counter Bore Min.	Welding Neck Socket Welding	Slip-on Socket Welding	Lap Joint		Welding Neck	Slip-on Threaded Socket Welding	Lap Joint			
INCH	DN	OD	G	X	B	B1	B2	B3	T	T1	T2	T3	A	R	Q
1/2"	15A	121	35.1	38.1	23.6	See Note (1) to be Specified by Purchaser	22.4	22.9	22.4	60.5	31.8	31.8	21.3	3.0	22.4
3/4"	20A	130	42.9	44.5	29.0		27.7	28.2	25.4	69.9	35.1	35.1	26.7	3.0	25.4
1"	25A	149	50.8	52.3	35.8		34.5	35.1	28.4	73.2	41.1	41.1	33.5	3.0	28.4
1.1/4"	32A	159	63.5	63.5	44.5		43.2	43.7	28.4	73.2	41.1	41.1	42.2	4.8	30.2
1.1/2"	40A	178	73.2	69.9	50.5		49.5	50.0	31.8	82.6	44.5	44.5	48.3	6.4	31.8
2"	50A	216	91.9	104.6	63.5		62.0	62.5	38.1	101.6	57.2	57.2	60.5	7.9	38.1
2.1/2"	65A	244	104.6	124.0	76.2		74.7	75.4	41.1	104.6	63.5	63.5	73.2	7.9	47.8
3"	80A	267	127.0	133.4	92.2		90.7	91.4	47.8	117.3	73.2	73.2	88.9	9.7	50.8
4"	100A	311	157.2	162.1	117.6		116.1	116.8	53.8	124.0	90.4	90.4	114.3	11.2	57.2
5"	125A	375	185.7	196.9	144.5		143.8	144.5	73.2	155.4	104.6	104.6	141.2	11.2	63.5
6"	150A	394	215.9	228.6	171.5		170.7	171.5	82.6	171.5	119.1	119.1	168.4	12.7	69.9
8"	200A	483	269.7	292.1	222.3		221.5	222.3	91.9	212.9	142.7	142.7	219.2	12.7	76.2
10"	250A	584	323.9	368.3	276.4		276.4	277.4	108.0	254.0	158.8	177.8	273.1	12.7	84.1
12"	300A	673	381.0	450.9	328.7		327.2	328.2	124.0	282.4	180.8	218.9	323.9	12.7	91.9
14"	350A	749	412.8	495.3	360.4		359.2	360.2	133.4	298.5	-	241.3	355.6	12.7	-
16"	400A	826	469.9	552.5	411.2		410.5	411.2	146.1	311.2	-	260.4	406.4	12.7	-
18"	450A	914	533.4	596.9	462.0		461.8	462.3	162.1	327.2	-	276.4	457.2	12.7	-
20"	500A	984	584.2	641.4	512.8		513.1	514.4	177.8	355.6	-	292.1	508.0	12.7	-
24"	600A	1168	692.2	762.0	614.4		616.0	616.0	203.2	406.4	-	330.2	609.6	12.7	-

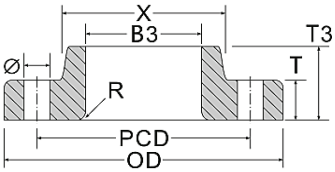
Note:

1. Class 1500 flanges except Lap Joint will be furnished with 0.25" (6.35mm) raised face,which is included in "Thickness" (T) and "Length through Hub" (T1)(T2).
2. For Slip-on, Threaded,Socket Welding and Lap Joint Flanges, the hubs can be shaped either vertical from base to top or tapered within the limits of 7 degrees.

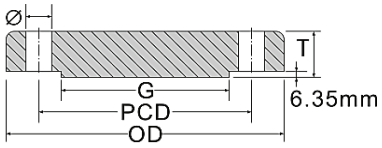
Threaded



Lap Joint



Blind



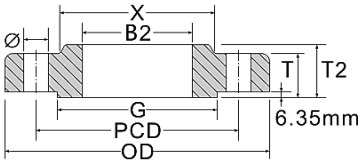
Flanges | Class 1500 | ANSI B16.5

Unit: mm

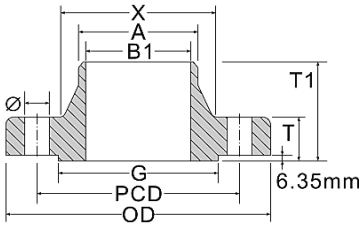
Depth of Socket	Drilling			Bolting				Approx Weight					Nominal Pipe Size	
	Bolt Circle Dia.	Number of Holes	Dia. of Holes	Dia. of Bolt	Stud Bolt Length			Welding Neck	Slip-on and Threaded	Lap Joint	Blind	Socket Welding		
					0.25" Raised Face	Male/Female Tongue Groove	Ring Joint							
Y	PCD		Ø					KG					DN	INCH
9.7	82.6	4	22.4	3/4"	108.0	101.6	108.0	2.10	1.80	1.80	1.90	1.81	15A	1/2"
11.2	88.9	4	22.4	3/4"	114.3	108.0	114.3	2.72	2.27	2.27	2.72	2.81	20A	3/4"
12.7	101.6	4	25.4	7/8"	127.0	120.7	127.0	3.86	3.40	3.40	4.08	3.61	25A	1"
14.2	111.3	4	25.4	7/8"	127.0	120.7	127.0	4.54	4.10	4.09	4.30	4.99	32A	1.1/4"
15.7	124.0	4	28.4	1"	139.7	133.4	139.7	5.90	5.45	5.40	5.90	6.76	40A	1.1/2"
17.5	165.1	8	25.4	7/8"	146.1	139.7	146.1	10.89	10.50	9.53	11.30	10.89	50A	2"
19.1	190.5	8	28.4	1"	158.8	152.4	158.8	16.34	15.80	13.15	16.00	16.34	65A	2.1/2"
20.6	203.2	8	31.8	1.1/8"	177.8	171.5	177.8	21.79	21.77	17.24	21.79	-	80A	3"
23.9	241.3	8	35.1	1.1/4"	196.9	190.5	196.9	31.30	31.00	29.00	33.11	-	100A	4"
23.9	292.1	8	41.1	1.1/2"	247.7	241.3	247.7	59.02	58.80	54.00	60.00	-	125A	5"
26.9	317.5	12	38.1	1.3/8"	260.4	254.0	266.7	74.91	74.00	62.00	75.00	-	150A	6"
31.8	393.7	12	44.5	1.5/8"	292.1	285.8	323.9	123.83	117.73	129.73	136.98	-	200A	8"
33.3	482.6	12	50.8	1.7/8"	336.6	330.2	342.9	205.93	197.49	220.19	229.97	-	250A	10"
39.6	571.5	16	53.8	2"	374.7	368.3	387.4	306.00	264.00	286.02	316.00	-	300A	12"
41.4	635.0	16	60.5	2.1/4"	406.4	400.1	425.5	416.00	-	404.06	421.00	-	350A	14"
44.5	704.9	16	66.5	2.1/2"	444.5	438.2	569.9	567.50	-	522.10	559.00	-	400A	16"
49.3	774.7	16	73.2	2.3/4"	495.3	489.0	527.1	736.00	-	669.65	761.00	-	450A	18"
54.1	831.9	16	79.2	3"	539.8	533.4	565.2	929.00	-	805.85	967.00	-	500A	20"
63.5	990.6	16	91.9	3.1/2"	616.0	609.6	647.7	1504.00	-	1285.55	1568.00	-	600A	24"

3. Blind Flanges may be made with the same hub as that used for Slip-on Flanges or without hub.
4. The gasket surface amd backside (bearing surface for bolting) are made parallel within 1 degree. To accomplish parallelism, spot facing is carried out according to MSS SP-9,without reducing thickness (T).
5. Dimensions of size 1/2" through 2.1/2" are the same as for Class 900 Flanges.
6. Depth of Socket(Y) is covered by ANSI B16.5 only in sizes through 2.1/2 inch,over 2.1/2 inch is at the manufacturer's option.

Slip-on



Welding Neck



Flanges | Class 2500 | ANSI B16.5

Unit : mm

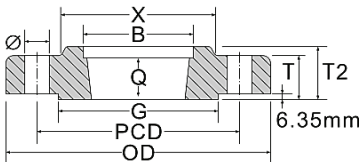
Nominal Pipe Size		Outside Dia.	Outside Dia. of Raised Face	Dia. at Base of Hub	Bore				Thick-ness	Length Thru Hub			Dia. of Hub at Bevel
					Counter Bore Min.	Welding Neck Socket Welding	Slip-on Socket Welding	Lap Joint		Welding Neck	Slip-on Threaded Socket Welding	Lap Joint	
INCH	DN	OD	G	X	B	B1	B2	B3	T	T1	T2	T3	A
1/2"	15A	133	35.1	42.9	23.6		22.4	22.9	30.2	73.2	39.6	39.6	21.3
3/4"	20A	140	42.9	50.8	29.0		27.7	28.2	31.8	79.2	42.9	42.9	26.7
1"	25A	159	50.8	57.2	35.8		34.5	35.1	35.1	88.9	47.8	47.8	33.5
1.1/4"	32A	184	63.5	73.2	44.5		43.2	43.7	38.1	95.3	52.3	52.3	42.2
1.1/2"	40A	203	73.2	79.2	50.5	To	49.5	50.0	44.5	111.3	60.5	60.5	48.3
2"	50A	235	91.9	95.3	63.5	be	62.0	62.5	50.8	127.0	69.9	69.9	60.5
2.1/2"	65A	267	104.6	114.3	76.2	Specified	74.7	75.4	57.2	142.7	79.2	79.2	73.2
3"	80A	305	127.0	133.4	92.2	by	90.7	91.4	66.5	168.1	91.9	91.9	88.9
4"	100A	356	157.2	165.1	117.6	Purcha-	116.1	116.8	76.2	190.5	108.0	108.0	114.3
5"	125A	419	185.7	203.2	144.5	ser	143.8	144.5	91.9	228.6	130.0	130.0	141.2
6"	150A	483	215.9	235.0	171.5		170.7	171.5	108.0	273.1	152.4	152.4	168.4
8"	200A	552	269.7	304.8	222.3		221.5	222.3	127.0	317.5	177.8	177.8	219.2
10"	250A	673	323.9	374.7	276.4		276.4	277.4	165.1	419.1	228.6	228.6	273.1
12"	300A	762	381.0	441.5	328.7		327.2	328.2	184.2	463.6	254.0	254.0	323.9

Note:

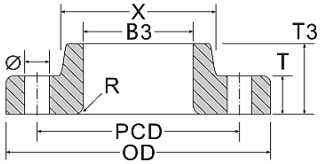
1.Class 2500 flanges except Lap Joint will be furnished with 0.25"(6.35mm) raised face,which is included in "Thickness"(T) and "Length through Hub"(T1)(T2).

2.For Slip-on,Threaded,and Lap Joint Flanges,the hubs can be shaped either vertical from base to top or tapered within the limits of 7 degrees.

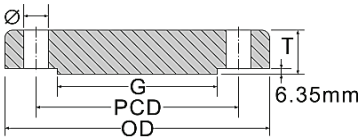
Threaded



Lap Joint



Blind



Flanges | Class 2500 | ANSI B16.5

Unit : mm

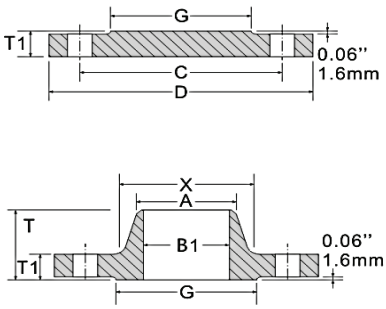
Radius of Fillet	Threaded Length	Drilling			Bolting				Approx Weight				Nominal Pipe Size	
		Bolt Circle Dia.	Number of Holes	Dia. of Holes	Dia. of Bolt	Stud Bolt Length			Welding Neck	Slip-on and Threaded	Lap Joint	Blind		
						0.25" Raised Face	Male/Female Tongue Groove	Ring Joint						
R	Q	PCD		Ø					KG				DN	INCH
3.0	28.4	88.9	4	22.4	3/4"	120.7	114.3	120.7	3.18	3.18	3.00	3.18	15A	1/2"
3.0	31.8	95.3	4	22.4	3/4"	127.0	120.7	127.0	4.08	4.08	3.63	4.54	20A	3/4"
3.0	35.1	108.0	4	25.4	7/8"	139.7	133.4	139.7	5.45	5.44	4.99	5.44	25A	1"
4.8	38.1	130.0	4	28.4	1"	152.4	146.1	152.4	9.07	8.16	7.26	8.16	32A	1.1/4"
6.4	44.5	146.1	4	31.8	1.1/8"	171.5	165.1	171.5	11.35	11.00	9.99	10.44	40A	1.1/2"
7.9	50.8	171.5	8	28.4	1"	177.8	171.5	177.8	19.07	17.25	16.80	17.71	50A	2"
7.9	57.2	196.9	8	31.8	1.1/8"	196.9	190.5	203.2	23.61	24.97	24.06	25.42	65A	2.1/2"
9.7	63.5	228.6	8	35.1	1.1/4"	222.3	215.9	228.6	42.68	37.68	36.32	39.04	80A	3"
11.2	69.9	273.1	8	41.1	1.1/2"	254.0	247.7	260.4	64.00	58.00	54.48	60.38	100A	4"
11.2	76.2	323.9	8	47.8	1.3/4"	298.5	292.1	311.2	110.68	95.25	92.53	101.15	125A	5"
12.7	82.6	368.3	8	53.8	2"	342.9	336.6	355.6	176.46	146.51	143.01	156.63	150A	6"
12.7	95.3	438.2	12	53.8	2"	381.0	374.7	393.7	261.27	219.99	213.38	240.62	200A	8"
12.7	108.0	539.8	12	66.5	2.1/2"	489.0	482.6	508.0	484.43	419.57	408.60	465.36	250A	10"
12.7	120.7	619.3	12	73.2	2.3/4"	539.8	533.4	558.8	692.35	590.20	572.95	664.06	300A	12"

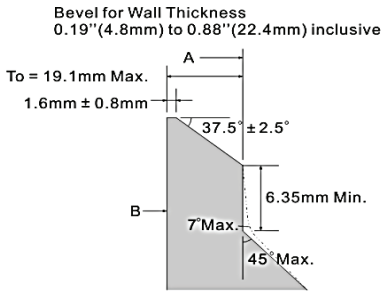
3.Blind Flanges may be made with the same hub as that used for Slip-on Flanges or without hub.

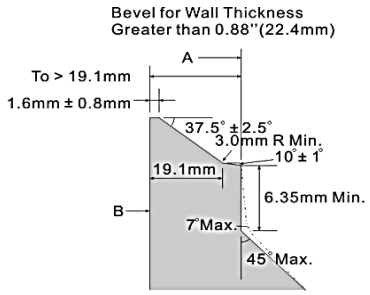
4.The gasket surface amd backside(bearing surface for bolting)are made parallel within 1 degree.To accomplish parallelism,spot facing is carried out according to MSS SP-9,without reducing thickness(T).

5.Class 2500 Slip-on Flanges are not covered by ANSI B16.5,Slip-on Flanges are the manufacturer's option.

6.*M/F (Male/Female).







Note:
*Or I inch at manufacturer's option.
**Flanges sizes 24"(609.6mm) and smaller may be furnished with 37-1/2° bevel at manufacturer'soption.

Flanges | Class 150 | ANSI/ASME B16.47 Series A

Unit : mm

Nominal Pipe Size		Outside Dia.	OD of Raised Face	Dia. at Base of Hub	Thick-ness	Bore Wall Thickness		Length Thru Hub	Dia. of Hub at Bevel	Radius of Fillet	Drilling Bolt Circle Dia.	Number of Holes	Dia. of Holes
						9.5mm	12.7mm						
INCH	DN	D	G	X	T1	B1		T	A	R	C		
26"	650A	870	749.3	676.1	68.3	641.4	635.0	120.7	660.4	9.7	806.5	24	34.9
28"	700A	927	800.1	726.9	71.4	692.2	685.8	125.5	711.2	11.2	863.6	28	34.9
30"	750A	984	857.3	781.1	74.7	743.0	736.6	136.7	762.0	11.2	914.4	28	34.9
32"	800A	1060	914.4	831.9	81.0	793.8	787.4	144.5	812.8	11.2	977.9	28	41.3
34"	850A	1111	965.2	882.7	82.6	844.6	838.2	149.4	863.6	12.7	1028.7	32	41.3
36"	900A	1168	1022.4	933.5	90.4	895.4	889.0	157.2	914.4	12.7	1085.9	32	41.3
38"	950A	1238	1073.2	990.6	87.4	946.2	939.8	157.2	965.2	12.7	1149.4	32	41.3
40"	1000A	1289	1124.0	1041.4	90.4	997.0	990.6	163.6	1016.0	12.7	1200.2	36	41.3
42"	1050A	1346	1193.8	1092.2	96.8	1047.8	1041.4	171.5	1066.8	12.7	1257.3	36	41.3
44"	1100A	1403	1244.6	1143.0	101.6	1098.6	1092.2	177.8	1117.6	12.7	1314.5	40	41.3
46"	1150A	1454	1295.4	1196.8	103.1	1149.4	1143.0	185.7	1168.4	12.7	1365.3	40	41.3
48"	1200A	1511	1358.9	1247.6	108.0	1200.2	1193.8	192.0	1219.2	12.7	1422.4	44	41.3
50"	1250A	1568	1409.7	1301.8	111.3	1251.0	1244.6	203.2	1270.0	12.7	1479.6	44	47.6
52"	1300A	1626	1460.5	1352.6	115.8	1301.8	1295.4	209.6	1320.8	12.7	1536.7	44	47.6
54"	1350A	1683	1511.3	1403.4	120.7	1352.6	1346.2	215.9	1371.6	12.7	1593.9	44	47.6
56"	1400A	1746	1574.8	1457.5	124.0	1403.4	1397.0	228.6	1422.4	12.7	1651.0	48	47.6
58"	1450A	1803	1625.6	1508.3	128.5	1454.2	1447.8	235.0	1473.2	12.7	1708.2	48	47.6
60"	1500A	1854	1676.4	1559.1	131.8	1505.0	1498.6	239.8	1524.0	12.7	1759.0	52	47.6

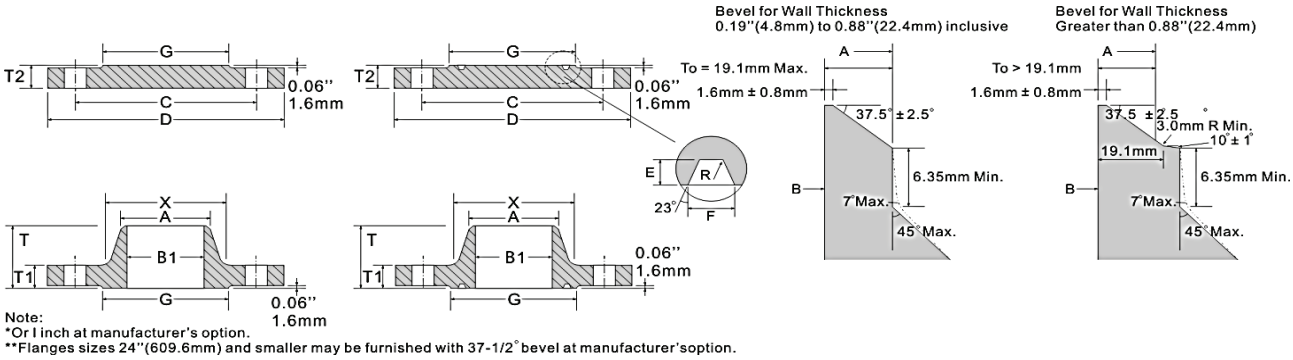
Note:

1.Class 150 flanges will be furnished with 0.06"(1.6mm) raised face,which is included in "Thickness"(T1) and "Length through Hub"(T).

2.Dimensional tolerances are accordance with ANSI B16.5.

3.Maximum Pressure Rating for raised face flanges is 285 psi(19.5 BARS) at atmospheric temperature.

4.Flange dimensions of size 12"(304.8mm) through 24"(609.6mm) flanges (except 22"(558.8mm)) are in accordance with ANSI B16.5.



Note:
*Or I inch at manufacturer's option.
**Flanges sizes 24"(609.6mm) and smaller may be furnished with 37-1/2° bevel at manufacturer'soption.

Flanges | Class 300 | ANSI/ASME B16.47 Series A

Unit : mm

Nominal Pipe Size		Out-side Dia.	OD of Raised Face	Dia. at Base of Hub	Thickness		Bore		Length Thru Hub	Dia. of Hub at Bevel	Radius of Fillet	Drilling			Pitch Dia.	Groove Dimensions			Dia. of Raised Face	Ring and Groove No.
					Welding Neck	Blind	Wall Thickness					Bolt Circle Dia.	No. of Holes	Dia. of Holes		Width	Depth	Radius		
							9.5mm	12.7mm												
INCH	DN	D	G	X	T1	T2	B1		T	A	R	C			P	F	E	R1	K	
26"	650A	972	749.3	720.9	79.5	84.1	641.4	635.0	184.2	660.4	9.7	876.3	28	44.5	749.3	19.8	12.7	1.5	809.8	R93
28"	700A	1035	800.1	774.7	85.9	90.4	692.2	685.8	196.9	711.2	11.2	939.8	28	44.5	800.1	19.8	12.7	1.5	860.6	R94
30"	750A	1092	857.3	827.0	92.2	95.3	743.0	736.6	209.6	762.0	11.2	997.0	28	47.6	857.3	19.8	12.7	1.5	917.4	R95
32"	800A	1149	914.4	881.1	98.6	100.1	793.8	787.4	222.3	812.8	11.2	1054.1	28	50.8	914.4	23.0	14.3	1.5	984.3	R96
34"	850A	1207	965.2	936.8	101.6	104.9	844.6	838.2	231.9	863.6	12.7	1104.9	28	50.8	965.2	23.0	14.3	1.5	1035.1	R97
36"	900A	1270	1022.4	990.6	104.9	111.3	895.4	889.0	241.3	914.4	12.7	1168.4	32	54.0	1022.4	23.0	14.3	1.5	1092.2	R98
38"	950A	1168	1028.7	993.6	108.0	108.0	946.2	939.8	180.8	965.2	12.7	1092.2	32	41.1						
40"	1000A	1238	1085.9	1047.8	114.3	114.3	997.0	990.6	193.5	1016.0	12.7	1155.7	32	44.5						
42"	1050A	1289	1136.7	1098.6	119.1	119.1	1047.8	1041.4	200.2	1066.8	12.7	1206.5	32	44.5						
44"	1100A	1353	1193.8	1149.4	124.0	124.0	1098.6	1092.2	206.2	1117.6	12.7	1263.7	32	47.8						
46"	1150A	1416	1244.6	1203.5	128.5	128.5	1149.4	1143.0	215.9	1168.4	12.7	1320.8	28	50.8						
48"	1200A	1467	1301.8	1254.3	133.4	133.4	1200.2	1193.8	223.8	1219.2	12.7	1371.6	32	50.8						
50"	1250A	1530	1358.9	1305.1	139.7	139.7	1251.0	1244.6	231.9	1270.0	12.7	1428.8	32	54.0						
52"	1300A	1581	1409.7	1355.9	144.5	144.5	1301.8	1295.4	238.3	1320.8	12.7	1479.6	32	54.0						
54"	1350A	1657	1466.9	1409.7	152.4	152.4	1352.6	1346.2	252.5	1371.6	12.7	1549.4	28	60.3						
56"	1400A	1708	1517.7	1463.5	153.9	153.9	1403.4	1397.0	260.4	1422.4	12.7	1600.2	28	60.3						
58"	1450A	1759	1574.8	1514.3	158.8	158.8	1454.2	1447.8	266.7	1473.2	12.7	1651.0	32	60.3						
60"	1500A	1810	1625.6	1565.1	163.6	163.6	1505.0	1498.6	273.1	1524.0	12.7	1701.8	32	60.3						

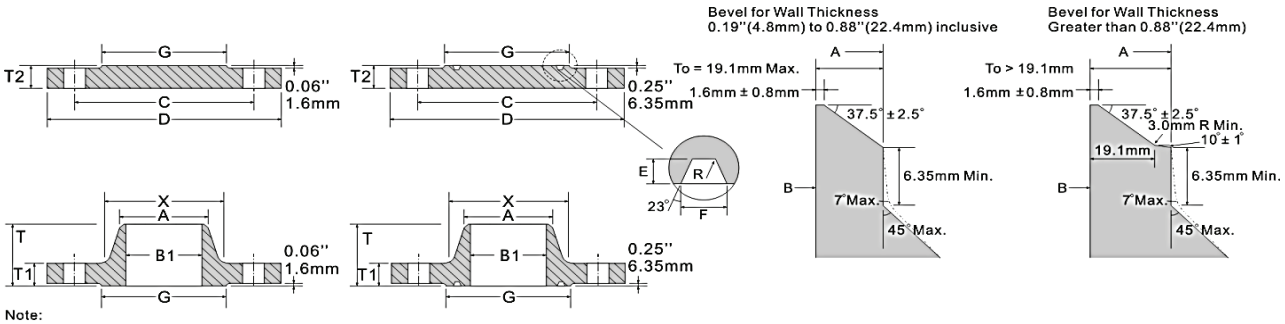
Note:

1.Class 300 flanges will be furnished with 0.06"(1.6mm) raised face,which is included in "Thickness"(T1) and "Length through Hub"(T).

2.Dimensional tolerances are accordance with ANSI B16.5.

3.Maximum Pressure Rating for raised face flanges is 740 psi(51 BARS) at atmospheric temperature.

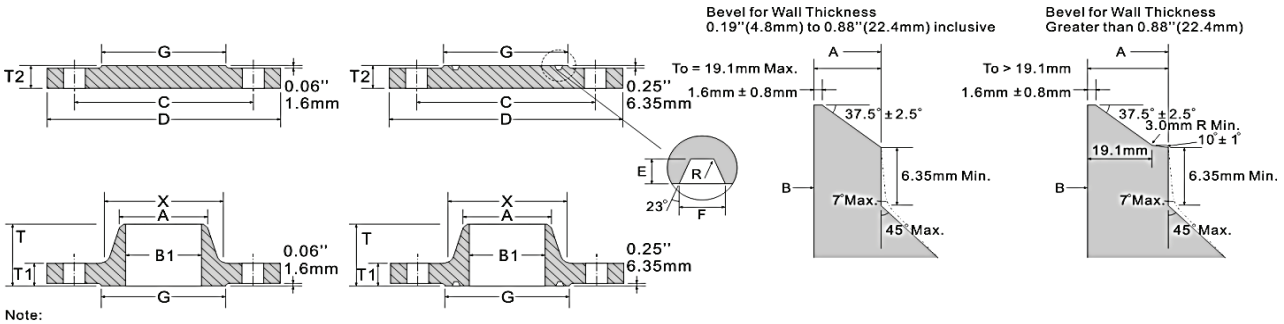
4.Flange dimensions of size 12"(304.8mm) through 24"(609.6mm) flanges (except 22"(558.8mm)) are in accordance with ANSI B16.5.



Note:
*Or I inch at manufacturer's option.
**Flanges sizes 24"(609.6mm) and smaller may be furnished with 37-1/2° bevel at manufacturer'soption.

Flanges | Class 600 | ANSI/ASME B16.47 Series A

Nominal Pipe Size		Out-side Dia.	OD of Raised Face	Dia. at Base of Hub	Thickness		Bore		Length Thru Hub	Dia. of Hub at Bevel	Radius of Fillet	Drilling			Pitch Dia.	Groove Dimensions			Dia. of Raised Face	Ring and Groove No.
					Weld-ing Neck	Blind	Wall Thickness					Bolt Circle Dia.	No. of Holes	Dia. of Holes		Width	Depth	Radius		
							9.5mm	12.7mm												
INCH	DN	D	G	X	T1	T2	B1		T	A	R	C			P	F	E	R1	K	
26"	650A	1016	747.8	749.3	108.0	125.5	641.4	635.0	222.3	660.4	12.7	914.4	28	50.8	749.3	19.8	12.7	1.5	809.8	R93
28"	700A	1073	803.1	800.1	111.3	131.8	692.2	685.8	235.0	711.2	12.7	965.2	28	54.0	800.1	19.8	12.7	1.5	860.6	R94
30"	750A	1130	862.1	857.3	114.3	139.7	743.0	736.6	247.7	762.0	12.7	1022.4	28	54.0	857.3	19.8	12.7	1.5	917.4	R95
32"	800A	1194	917.4	914.4	117.3	147.6	793.8	787.4	260.4	812.8	12.7	1079.5	28	60.3	914.4	23.0	14.3	1.5	984.3	R96
34"	850A	1245	973.1	965.2	120.7	153.9	844.6	838.2	269.7	863.6	14.2	1130.3	28	60.3	965.2	23.0	14.3	1.5	1035.1	R97
36"	900A	1314	1031.7	1022.4	124.0	162.1	895.4	889.0	282.4	914.4	14.2	1193.8	28	66.7	1022.4	23.0	14.3	1.5	1092.2	R98
38"	950A	1270	1022.4	1054.1	152.4	155.4	946.2	939.8	254.0	965.2	14.2	1162.1	28	60.3						
40"	1000A	1321	1073.2	1111.3	158.8	162.1	997.0	990.6	263.7	1016.0	14.2	1212.9	32	60.3						
42"	1050A	1403	1127.3	1168.4	168.1	171.5	1047.8	1041.4	279.4	1066.8	14.2	1282.7	28	66.7						
44"	1100A	1454	1181.1	1225.6	173.0	177.8	1098.6	1092.2	289.1	1117.6	14.2	1333.5	32	66.7						
46"	1150A	1511	1234.9	1276.4	179.3	185.7	1149.4	1143.0	300.0	1168.4	14.2	1390.7	32	66.7						
48"	1200A	1594	1289.1	1333.5	189.0	195.3	1200.2	1193.8	316.0	1219.2	14.2	1460.5	32	73.0						
50"	1250A	1679	1343.2	1384.3	196.9	203.2	1251.0	1244.6	328.7	1270.0	14.2	1524.0	28	79.4						
52"	1300A	1721	1394.0	1435.1	203.2	209.6	1301.8	1295.4	336.6	1320.8	14.2	1574.8	32	79.4						
54"	1350A	1778	1447.8	1492.3	209.6	217.4	1352.6	1346.2	349.3	1371.6	14.2	1632.0	32	79.4						
56"	1400A	1854	1501.6	1543.1	217.4	225.6	1403.4	1397.0	362.0	1422.4	15.7	1695.5	32	85.7						
58"	1450A	1905	1552.4	1600.2	222.3	231.6	1454.2	1447.8	369.8	1473.2	15.7	1746.3	32	85.7						
60"	1500A	1994	1609.9	1657.4	233.4	242.8	1505.0	1498.6	388.9	1524.0	17.5	1822.5	28	92.1						



Note:
*Or I inch at manufacturer's option.
**Flanges sizes 24"(609.6mm) and smaller may be furnished with 37-1/2° bevel at manufacturer'soption.

Flanges | Class 900 | ANSI/ASME B16.47 Series A

Unit : mm

Nominal Pipe Size		Out-side Dia.	OD of Raised Face	Dia. at Base of Hub	Thickness		Bore		Length Thru Hub	Dia. of Hub at Bevel	Radius of Fillet	Drilling			Pitch Dia.	Groove Dimensions			Dia. of Raised Face	Ring and Groove No.
					Welding Neck	Blind	Wall Thickness					Bolt Circle Dia.	No. of Holes	Dia. of Holes		Width	Depth	Radius		
							9.5mm	12.7mm												
INCH	DN	D	G	X	T1	T2	B1		T	A	R	C			P	F	E	R1	K	
26"	650A	1086	774.7	749.3	139.7	160.3	641.4	635.0	285.8	660.4	11.2	952.5	20	73.0	749.3	30.2	17.5	2.3	831.9	R100
28"	700A	1168	831.9	800.1	142.7	171.5	692.2	685.8	298.5	711.2	12.7	1022.4	20	79.4	800.1	33.3	17.5	2.3	889.0	R101
30"	750A	1232	889.0	857.3	149.4	182.4	743.0	736.6	311.2	762.0	12.7	1085.9	20	79.4	857.3	33.3	17.5	2.3	946.2	R102
32"	800A	1314	946.2	914.4	158.8	193.5	793.8	787.4	330.2	812.8	12.7	1155.7	20	85.7	914.4	33.3	17.5	2.3	1003.3	R103
34"	850A	1397	1006.3	965.2	165.1	204.7	844.6	838.2	349.3	863.6	14.2	1225.6	20	92.1	965.2	36.5	20.6	2.3	1066.8	R104
36"	900A	1461	1063.8	1022.4	171.5	214.4	895.4	889.0	362.0	914.4	14.2	1289.1	20	92.1	1022.4	36.5	20.6	2.3	1124.0	R105
38"	950A	1461	1073.2	1098.6	190.5	215.9	946.2	939.8	352.6	965.2	19.1	1289.1	20	92.1						
40"	1000A	1511	1127.3	1162.1	196.9	223.8	997.0	990.6	363.5	1016.0	20.6	1339.9	24	92.1						
42"	1050A	1562	1176.3	1212.9	206.2	231.6	1047.8	1041.4	371.3	1066.8	20.6	1390.7	24	92.1						
44"	1100A	1648	1234.9	1270.0	214.4	242.8	1098.6	1092.2	390.7	1117.6	22.4	1463.5	24	98.4						
46"	1150A	1734	1292.4	1333.5	225.6	275.5	1149.4	1143.0	411.0	1168.4	22.4	1536.7	24	104.8						
48"	1200A	1784	1343.2	1384.3	233.4	263.7	1200.2	1193.8	419.1	1219.2	23.9	1587.5	24	104.8						

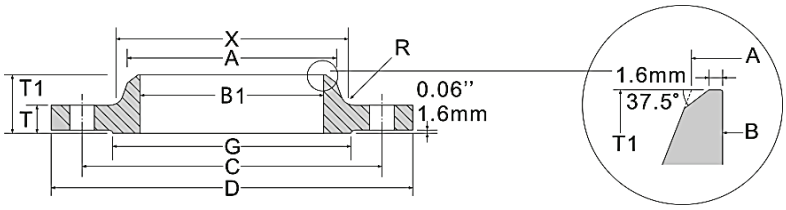
Note:

1.Class 900 flanges will be furnished with 0.25"(6.35mm) raised face,which is included in "Thickness"(T1) and "Length through Hub"(T).

2.Dimensional tolerances are accordance with ANSI B16.5.

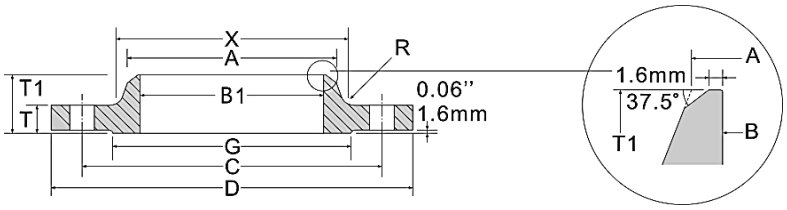
3.Maximum Pressure Rating for raised face flanges is 2220 psi(153.1 BARS) at atmospheric temperature.

4.Flange dimensions of size 12"(304.8mm) through 24"(609.6mm) flanges (except 22"(558.8mm)) are in accordance with ANSI B16.5.



Flanges | Class 75 | ANSI/ASME B16.47 Series B (API 605)

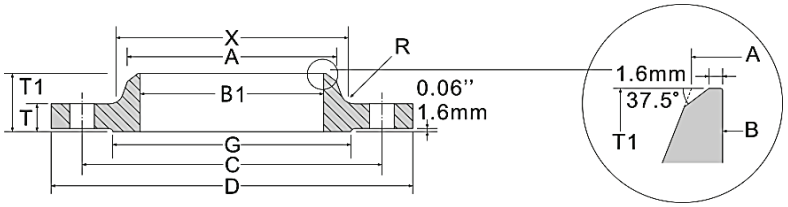
Nominal Pipe Size		Out-side Dia.	OD of Raised Face	Dia. at Base of Hub	Thickness		Bore			Length Thru Hub	Dia. of Hub at Bevel	Radius at Base of Hub	Drilling			Approx Weight
					WN RF	BL	Wall Thickness (mm)						Bolt Circle Dia.	No. of Holes	Dia. of Holes	
							6.35	9.50	12.70							
INCH	DN	D	G	X	T		B1			T1	A	R	C			KG
26"	650A	762	704.9	676.1	33.3	33.3	647.7	641.4	635.0	58.7	661.9	7.9	723.9	36	19.1	29.0
28"	700A	813	755.7	726.9	33.3	33.3	698.5	692.2	685.8	62.0	712.7	7.9	774.7	40	19.1	31.0
30"	750A	864	806.5	777.7	33.3	33.3	749.3	743.0	736.6	65.0	763.5	7.9	825.5	44	19.1	35.1
32"	800A	914	857.3	828.5	35.1	30.6	800.1	793.8	787.4	69.9	814.3	7.9	876.3	48	19.1	48.0
34"	850A	965	908.1	879.3	35.1	38.1	850.9	844.6	838.2	73.2	865.1	7.9	927.1	52	19.1	50.0
36"	900A	1034	965.2	935.0	36.6	42.4	901.7	895.4	889.0	85.9	915.9	9.7	992.1	40	22.2	62.1
38"	950A	1084	1016.0	985.8	38.1	44.5	952.5	946.2	939.8	88.9	966.7	9.7	1042.9	40	22.2	70.1
40"	1000A	1135	1066.8	1036.6	38.1	44.5	1003.3	997.0	990.6	92.2	1017.5	9.7	1093.7	44	22.2	74.1
42"	1050A	1186	1117.6	1087.4	39.6	47.8	1054.1	1047.8	1041.4	95.3	1068.3	9.7	1144.5	48	22.2	77.1
44"	1100A	1251	1174.8	1140.0	42.9	49.3	1104.9	1098.6	1092.2	104.9	1119.1	9.7	1203.5	36	25.4	82.1
46"	1150A	1302	1225.6	1190.8	44.5	50.8	1155.7	1149.4	1143.0	108.0	1169.9	9.7	1254.3	40	25.4	105.0
48"	1200A	1353	1276.4	1241.6	46.0	45.1	1206.5	1200.2	1193.8	111.3	1220.7	9.7	1305.1	44	25.4	120.0
50"	1250A	1403	1327.2	1293.9	47.8	55.6	1257.3	1251.0	1244.6	115.8	1271.5	9.7	1355.9	44	25.4	134.3
52"	1300A	1457	1378.0	1344.7	47.8	57.2	1308.1	1301.8	1295.4	120.7	1322.3	9.7	1409.7	48	25.4	142.2
54"	1350A	1508	1428.8	1397.0	49.3	60.5	1358.9	1352.6	1346.2	125.5	1373.1	9.7	1460.5	48	25.4	180.2
56"	1400A	1575	1485.9	1450.8	50.8	62.0	1409.7	1403.4	1397.0	134.9	1423.9	11.2	1521.0	40	28.6	184.6
58"	1450A	1626	1536.7	1501.6	52.3	63.5	1460.5	1454.2	1447.8	138.2	1474.7	11.2	1571.8	44	28.6	195.6
60"	1500A	1676	1587.5	1552.4	55.6	66.8	1511.3	1505.0	1498.6	144.5	1525.5	11.2	1622.6	44	28.6	210.2



Flanges | Class 150 | ANSI/ASME B16.47 Series B (API 605)

Unit : mm

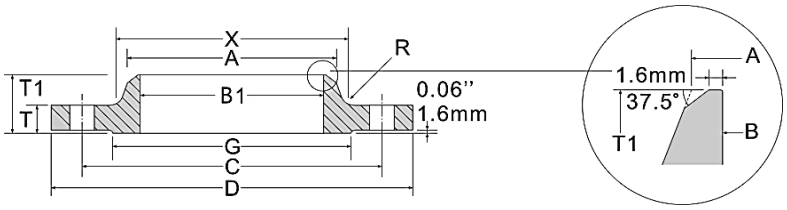
Nominal Pipe Size		Out-side Dia.	OD of Raised Face	Dia. at Base of Hub	Thickness		Bore			Length Thru Hub	Dia. of Hub at Bevel	Radius at Base of Hub	Drilling			Approx Weight
					WN RF	BL	Wall Thickness (mm)						Bolt Circle Dia.	No. of Holes	Dia. of Holes	
							6.35	9.50	12.70							
INCH	DN	D	G	X	T		B1			T1	A	R	C			KG
26"	650A	786	711.2	684.3	41.4	44.5	647.7	641.4	635.0	88.9	661.9	9.7	744.5	36	22.2	52.0
28"	700A	837	762.0	735.1	44.5	47.8	698.5	692.2	685.8	95.3	712.7	9.7	795.3	40	22.2	58.1
30"	750A	887	812.8	787.4	44.5	50.8	749.3	743.0	736.6	100.1	763.5	9.7	846.1	44	22.2	65.1
32"	800A	941	863.6	839.7	46.0	54.1	800.1	793.8	787.4	108.0	814.3	9.7	900.2	48	22.2	85.1
34"	850A	1005	920.8	892.0	49.3	57.2	850.9	844.6	838.2	110.2	865.1	9.7	957.3	40	25.4	100.1
36"	900A	1057	971.6	944.6	52.3	58.7	901.7	895.4	889.0	117.6	915.9	9.7	1009.7	44	25.4	115.1
38"	950A	1124	1022.4	997.0	54.1	63.5	952.5	946.2	939.8	124.0	968.2	9.7	1069.8	40	28.6	135.1
40"	1000A	1175	1079.5	1049.3	55.6	66.8	1003.3	997.0	990.6	128.5	1019.0	9.7	1120.6	44	28.6	150.1
42"	1050A	1226	1130.3	1101.9	58.7	68.3	1054.1	1047.8	1041.4	133.4	1069.8	11.2	1171.4	48	28.6	165.2
44"	1100A	1276	1181.1	1152.7	60.5	71.4	1104.9	1098.6	1092.2	136.7	1120.6	11.2	1222.2	52	28.6	200.2
46"	1150A	1341	1234.9	1205.0	62.0	74.7	1155.7	1149.4	1143.0	144.5	1171.4	11.2	1284.2	40	31.8	210.2
48"	1200A	1392	1289.1	1231.9	65.0	77.7	1206.5	1200.2	1193.8	149.4	1222.2	11.2	1335.0	44	31.8	240.2
50"	1250A	1443	1339.9	1308.1	68.3	81.0	1257.3	1251.0	1244.6	153.9	1273.0	11.2	1385.8	48	31.8	250.3
52"	1300A	1494	1390.7	1360.4	69.9	84.1	1308.1	1301.8	1295.4	157.2	1323.8	11.2	1436.6	52	31.8	265.8
54"	1350A	1549	1441.5	1412.7	71.4	87.4	1358.9	1352.6	1346.2	162.1	1374.6	11.2	1492.3	56	31.8	310.3
56"	1400A	1600	1492.3	1465.3	73.2	90.4	1409.7	1403.4	1397.0	166.6	1425.4	14.2	1543.1	60	31.8	306.1
58"	1450A	1675	1543.1	1516.1	74.7	93.5	1460.5	1454.2	1447.8	174.8	1476.2	14.2	1611.4	48	34.9	367.8
60"	1500A	1726	1600.2	1570.0	76.2	96.8	1511.3	1505.0	1498.6	179.3	1527.0	14.2	1662.2	52	34.9	410.4



Flanges | Class 300 | ANSI/ASME B16.47 Series B (API 605)

Unit : mm

Nominal Pipe Size		Out-side Dia.	OD of Raised Face	Dia. at Base of Hub	Thickness		Bore			Length Thru Hub	Dia. of Hub at Bevel	Radius at Base of Hub	Drilling			Approx Weight
					WN RF	BL	Wall Thickness (mm)						Bolt Circle Dia.	No. of Holes	Dia. of Holes	
							6.35	9.50	12.70							
INCH	DN	D	G	X	T		B1			T1	A	R	C			KG
26"	650A	867	736.6	701.5	88.9	88.9	647.7	641.4	635.0	144.5	665.2	14.2	803.1	32	34.9	200.2
28"	700A	921	787.4	755.7	88.9	88.9	698.5	692.2	685.8	149.4	716.0	14.2	857.3	36	35.1	210.2
30"	750A	991	844.6	812.8	93.7	93.7	749.3	743.0	736.6	158.0	768.4	14.2	920.8	36	38.1	270.2
32"	800A	1054	901.7	863.6	103.1	103.1	800.1	793.8	787.4	168.1	819.2	15.7	977.9	32	41.3	330.3
34"	850A	1108	952.5	917.4	103.1	103.1	850.9	844.6	838.2	173.0	870.0	15.7	1031.7	36	41.3	360.3
36"	900A	1171	1009.7	965.2	103.1	103.1	901.7	895.4	889.0	180.8	920.8	15.7	1089.2	32	44.5	410.4
38"	950A	1222	1060.5	1016.0	111.0	111.0	952.5	946.2	939.8	192.0	971.6	15.7	1140.0	36	44.5	570.5
40"	1000A	1273	1114.6	1066.8	115.8	115.8	1003.3	997.0	990.6	198.4	1022.4	15.7	1190.8	40	44.5	660.6
42"	1050A	1334	1168.4	1117.6	119.1	119.1	1054.1	1047.8	1041.4	204.7	1074.7	15.7	1244.5	36	47.6	720.6
44"	1100A	1384	1219.2	1173.2	127.0	127.0	1104.9	1098.6	1092.2	214.4	1125.5	15.7	1295.4	40	47.6	800.7
46"	1150A	1461	1270.0	1228.9	128.5	130.0	1155.7	1149.4	1143.0	222.3	1176.3	15.7	1365.3	36	50.8	970.9
48"	1200A	1511	1327.2	1277.9	128.5	134.9	1206.5	1200.2	1193.8	223.8	1227.1	15.7	1416.1	40	50.8	990.9
50"	1250A	1562	1378.0	1330.5	138.2	139.7	1257.3	1251.0	1244.6	235.0	1277.9	15.7	1466.9	44	50.8	1047.9
52"	1300A	1613	1428.8	1382.8	142.7	144.0	1308.1	1301.8	1295.4	242.8	1328.7	15.7	1517.7	48	50.8	1113.8
54"	1350A	1673	1479.6	1435.1	136.7	149.1	1358.9	1352.6	1346.2	239.8	1379.5	15.7	1577.8	48	50.8	1161.0
56"	1400A	1765	1536.7	1493.8	153.9	157.0	1409.7	1403.4	1397.0	268.2	1430.3	17.5	1651.0	36	60.3	1336.1
58"	1450A	1827	1593.9	1547.9	153.9	161.8	1460.5	1454.2	1447.8	274.6	1481.1	17.5	1712.0	40	60.3	1427.6
60"	1500A	1878	1651.0	1598.7	150.9	166.6	1511.3	1505.0	1498.6	271.5	1531.9	17.5	1763.8	40	60.3	1451.3



Flanges | Class 400 | ANSI/ASME B16.47 Series B (API 605)

Unit : mm

Nominal Pipe Size		Out-side Dia.	OD of Raised Face	Dia. at Base of Hub	Thickness		Bore			Length Thru Hub	Dia. of Hub at Bevel	Radius at Base of Hub	Drilling			Approx Weight
					WN RF	BL	Wall Thickness (mm)						Bolt Circle Dia.	No. of Holes	Dia. of Holes	
							6.35	9.50	12.70							
INCH	DN	D	G	X	T		B1			T1	A	R	C			KG
26"	650A	851	711.2	688.8	88.9	88.9	647.7	641.4	635.0	149.4	660.4	11.2	781.1	28	38.1	-
28"	700A	914	762.0	739.6	95.3	95.3	698.5	692.2	685.8	158.8	711.2	12.7	838.2	24	41.3	-
30"	750A	972	819.2	793.8	101.6	101.6	749.3	743.0	736.6	169.9	762.0	12.7	895.4	28	41.3	-
32"	800A	1035	873.3	844.6	107.0	108.0	800.1	793.8	787.4	179.3	812.8	12.7	952.5	28	44.5	-
34"	850A	1086	927.1	898.7	111.3	111.3	850.9	844.6	838.2	187.5	863.6	14.2	1003.3	32	44.5	-
36"	900A	1156	980.9	952.5	119.1	119.1	901.7	895.4	889.0	200.2	914.4	14.2	1066.8	28	47.6	-

Flanges | Class 600 | ANSI/ASME B16.47 Series B (API 605)

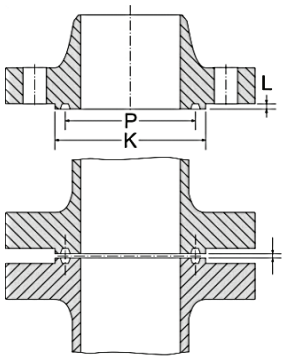
Unit : mm

Nominal Pipe Size		Out-side Dia.	OD of Raised Face	Dia. at Base of Hub	Thickness		Bore			Length Thru Hub	Dia. of Hub at Bevel	Radius at Base of Hub	Drilling			Approx Weight
					WN RF	BL	Wall Thickness (mm)						Bolt Circle Dia.	No. of Holes	Dia. of Holes	
							6.35	9.50	12.70							
INCH	DN	D	G	X	T		B1			T1	A	R	C			KG
26"	650A	889	726.9	698.5	111.3	111.3	647.7	641.4	635.0	180.8	660.4	12.7	806.5	28	44.5	-
28"	700A	953	784.4	752.3	115.8	115.8	698.5	692.2	685.8	190.5	711.2	12.7	863.6	28	47.6	-
30"	750A	1022	841.2	806.5	125.5	127.0	749.3	743.0	736.6	204.7	762.0	12.7	927.1	28	50.8	-
32"	800A	1086	895.4	860.6	130.0	134.9	800.1	793.8	787.4	215.9	812.8	12.7	984.3	28	54.0	-
34"	850A	1162	952.5	914.4	141.2	144.3	850.9	844.6	838.2	233.4	863.6	14.2	1054.1	24	60.3	-
36"	900A	1213	1009.7	968.2	146.1	150.9	901.7	895.4	889.0	242.8	914.4	14.2	1104.9	28	60.3	-

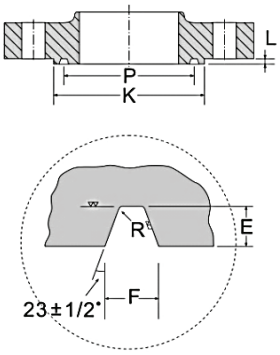
Flanges | Class 900 | ANSI/ASME B16.47 Series B (API 605)

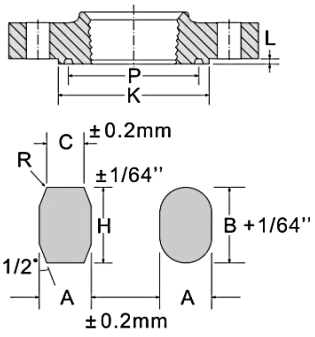
Unit : mm

Nominal Pipe Size		Out-side Dia.	OD of Raised Face	Dia. at Base of Hub	Thickness		Bore			Length Thru Hub	Dia. of Hub at Bevel	Radius at Base of Hub	Drilling			Approx Weight
					WN RF	BL	Wall Thickness (mm)						Bolt Circle Dia.	No. of Holes	Dia. of Holes	
							6.35	9.50	12.70							
INCH	DN	D	G	X	T		B1			T1	A	R	C			KG
26"	650A	1022	762.0	743.0	134.9	153.9	647.7	641.4	635.0	180.8	660.4	11.2	901.7	20	66.7	-
28"	700A	1105	819.2	797.1	147.6	166.6	698.5	692.2	685.8	190.5	711.2	12.7	971.6	20	73.0	-
30"	750A	1181	876.3	850.9	155.4	176.0	749.3	743.0	736.6	204.7	762.0	12.7	1035.1	20	79.4	-
32"	800A	1238	927.1	908.1	160.3	185.7	800.1	793.8	787.4	215.9	812.8	12.7	1092.2	20	79.4	-
34"	850A	1315	990.6	962.2	171.5	195.1	850.9	844.6	838.2	233.4	863.6	14.2	1155.7	20	85.7	-
36"	900A	1346	1028.7	1016.0	173.0	201.7	901.7	895.4	889.0	242.8	914.4	14.2	1200.2	24	79.4	-



Approximate Distance between Flanges





Octagonal Ring Oval Ring

Ring Joint Flanges Facing Dimensions | Class 150 | ANSI B16.5

Unit : mm

Nominal Pipe Size		Pitch Dia. of Ring and Groove	Width of Ring	Height of Ring		Width of Flat on Octagonal Rings	Width of Groove	Depth of Groove L	Diameter of Raised Face for Ring Joint or Lapped Min.	Ring Number	Approx Distance Between Flanges of Ring Joints When Ring is Compressed
				Oval	Octagonal						
INCH	DN	P	A	B	H	C	F	E	K		
1"	25A	48	8.0	14.3	12.7	5.2	8.7	6.4	63.5	R15	4.1
1.1/4"	32A	57	8.0	14.3	12.7	5.2	8.7	6.4	73.2	R17	4.1
1.1/2"	40A	65	8.0	14.3	12.7	5.2	8.7	6.4	82.6	R19	4.1
2"	50A	83	8.0	14.3	12.7	5.2	8.7	6.4	101.6	R22	4.1
2.1/2"	65A	102	8.0	14.3	12.7	5.2	8.7	6.4	120.7	R25	4.1
3"	80A	114	8.0	14.3	12.7	5.2	8.7	6.4	133.4	R29	4.1
3.1/2"	90A	132	8.0	14.3	12.7	5.2	8.7	6.4	153.9	R33	4.1
4"	100A	149	8.0	14.3	12.7	5.2	8.7	6.4	171.5	R36	4.1
5"	125A	172	8.0	14.3	12.7	5.2	8.7	6.4	193.5	R40	4.1
6"	150A	194	8.0	14.3	12.7	5.2	8.7	6.4	218.9	R43	4.1
8"	200A	248	8.0	14.3	12.7	5.2	8.7	6.4	273.1	R48	4.1
10"	250A	305	8.0	14.3	12.7	5.2	8.7	6.4	330.2	R52	4.1
12"	300A	381	8.0	14.3	12.7	5.2	8.7	6.4	406.4	R56	4.1
14"	350A	397	8.0	14.3	12.7	5.2	8.7	6.4	425.5	R59	3.0
16"	400A	454	8.0	14.3	12.7	5.2	8.7	6.4	482.6	R64	3.0
18"	450A	518	8.0	14.3	12.7	5.2	8.7	6.4	546.1	R68	3.0
20"	500A	559	8.0	14.3	12.7	5.2	8.7	6.4	596.9	R72	3.0
24"	600A	673	8.0	14.3	12.7	5.2	8.7	6.4	711.2	R76	3.0

Notes:

1.Unless other wise specified by the customer,Ring Type Joint Flanges will be furnished in accordance with these details.

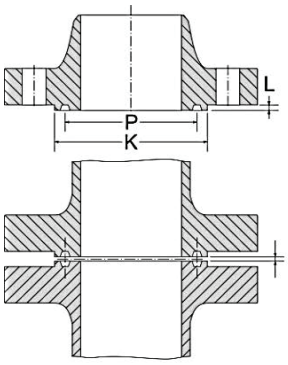
2.The depth of groove is added to the minimum flange thickness.

3.Raised face "L" is equal to groove dimension "E" but is not subject to tolerances for "E".

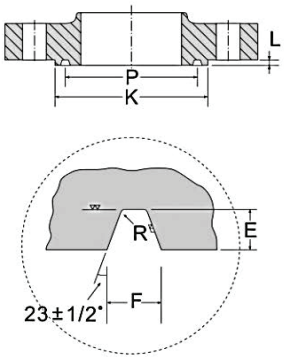
4.A plus tolerance of 3/64" in,for heights B and H is permitted providing the variation in the height of any given ring does not exceed 1/64" throughout its entire circumference.

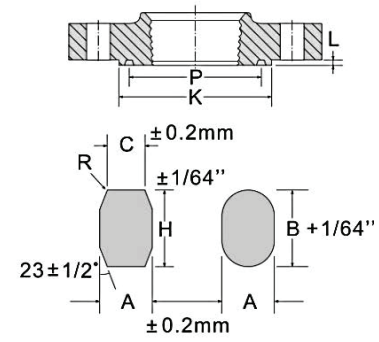
5.Dimension "R" is max.

6.Radius "R" is 1/16" for ring widths 7/8" and less and 3/32" for ring widths 1"(25.4mm) and over.



Approximate Distance between Flanges





Octagonal Ring Oval Ring

Ring Joint Flanges Facing Dimensions | Class 300/400/600 | ANSI B16.5

Unit : mm

Nominal Pipe Size		Pitch Dia. of Ring and Groove	Width of Ring	Height of Ring		Width of Flat on Octagonal Rings	Width of Groove	Depth of Groove	Diameter of Raised Face for Ring Joint or Lapped Min.	Ring Number	Approx Distance Between Flanges of Ring Joints When Ring is Compressed		
				Oval	Octagonal								
INCH	DN	P	A	B	H	C	F	E	K		300#	400#	600#
1/2"	15A	34	6.4	11.1	9.5	4.3	7.1	5.6	50.8	R11	3.0	-	3.0
3/4"	20A	43	8.0	14.3	12.7	5.2	8.7	6.4	63.5	R13	4.1	-	4.1
1"	25A	51	8.0	14.3	12.7	5.2	8.7	6.4	69.9	R16	4.1	-	4.1
1.1/4"	32A	60	8.0	14.3	12.7	5.2	8.7	6.4	79.5	R18	4.1	-	4.1
1.1/2"	40A	68	8.0	14.3	12.7	5.2	8.7	6.4	90.4	R20	4.1	-	4.1
2"	50A	83	11.1	17.5	15.9	7.7	11.9	7.9	108.0	R23	5.6	-	4.8
2.1/2"	65A	102	11.1	17.5	15.9	7.7	11.9	7.9	127.0	R26	5.6	-	4.8
3"	80A	124	11.1	17.5	15.9	7.7	11.9	7.9	146.1	R31	5.6	-	4.8
3.1/2"	90A	132	11.1	17.5	15.9	7.7	11.9	7.9	158.8	R34	5.6	-	4.8
4"	100A	149	11.1	17.5	15.9	7.7	11.9	7.9	174.8	R37	5.6	5.6	4.8
5"	125A	181	11.1	17.5	15.9	7.7	11.9	7.9	209.6	R41	5.6	5.6	4.8
6"	150A	211	11.1	17.5	15.9	7.7	11.9	7.9	241.3	R45	5.6	5.6	4.8
8"	200A	270	11.1	17.5	15.9	7.7	11.9	7.9	301.8	R49	5.6	5.6	4.8
10"	250A	324	11.1	17.5	15.9	7.7	11.9	7.9	355.6	R53	5.6	5.6	4.8
12"	300A	381	11.1	17.5	15.9	7.7	11.9	7.9	412.8	R57	5.6	5.6	4.8
14"	350A	419	11.1	17.5	15.9	7.7	11.9	7.9	457.2	R61	5.6	5.6	4.8
16"	400A	470	11.1	17.5	15.9	7.7	11.9	7.9	508.0	R65	5.6	5.6	4.8
18"	450A	533	11.1	17.5	15.9	7.7	11.9	7.9	574.8	R69	5.6	5.6	4.8
20"	500A	584	12.7	19.1	17.5	8.7	13.5	9.5	635.0	R73	5.6	5.6	4.8
24"	600A	692	15.9	22.2	20.7	10.5	16.7	11.1	749.3	R77	6.4	6.4	5.6

Notes:

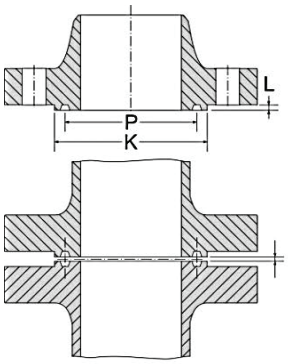
1.Unless other wise specified by the customer,Ring Type Joint Flanges will be furnished in accordance with these details.

2.The depth of groove is added to the minimum flange thickness.

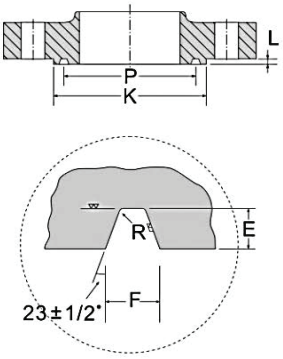
3.Raised face "L" is equal to groove dimension "E" but is not subject to tolerances for "E".

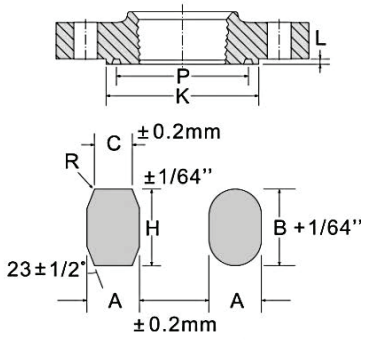
4.A plus tolerance of 3/64" in,for heights B and H is permitted providing the variation in the height of any given ring does not exceed 1/64" throughout its entire circumference.

5.Dimension "R" is max.



Approximate Distance between Flanges





Octagonal Ring Oval Ring

Ring Joint Flanges Facing Dimensions | Class 900 | ANSI B16.5

Unit : mm

Nominal Pipe Size		Pitch Dia. of Ring and Groove	Width of Ring	Height of Ring		Width of Flat on Octagonal Rings	Width of Groove	Depth of Groove	Diameter of Raised Face for Ring Joint or Lapped Min.	Ring Number	Approx Distance Between Flanges of Ring Joints When Ring is Compressed
				Oval	Octagonal						
INCH	DN	P	A	B	H	C	F	E	K		
1/2"	15A	For Size 2.1/2" and Smaller , Use Class 1500 Ring Joint Flanges.									
3/4"	20A										
1"	25A										
1.1/4"	32A										
1.1/2"	40A										
2"	50A										
2.1/2"	65A										
3"	80A	124	11.1	17.5	15.9	7.7	11.9	7.9	155.4	R31	4.1
4"	100A	149	11.1	17.5	15.9	7.7	11.9	7.9	180.8	R37	4.1
5"	125A	181	11.1	17.5	15.9	7.7	11.9	7.9	215.9	R41	4.1
6"	150A	211	11.1	17.5	15.9	7.7	11.9	7.9	241.3	R45	4.1
8"	200A	270	11.1	17.5	15.9	7.7	11.9	7.9	307.8	R49	4.1
10"	250A	324	11.1	17.5	15.9	7.7	11.9	7.9	362.0	R53	4.1
12"	300A	381	11.1	17.5	15.9	7.7	11.9	7.9	419.1	R57	4.1
14"	350A	419	15.9	22.2	20.7	10.5	16.7	11.1	466.9	R62	4.1
16"	400A	470	15.9	22.2	20.7	10.5	16.7	11.1	523.7	R66	4.1
18"	450A	533	19.1	25.4	23.8	11.1	19.8	12.7	593.9	R70	4.8
20"	500A	584	19.1	25.4	23.8	12.3	19.8	12.7	647.7	R74	4.8
24"	600A	692	25.4	33.4	31.8	17.3	27.0	15.9	771.7	R78	5.6

Notes:

1.Unless other wise specified by the customer,Ring Type Joint Flanges will be furnished in accordance with these details.

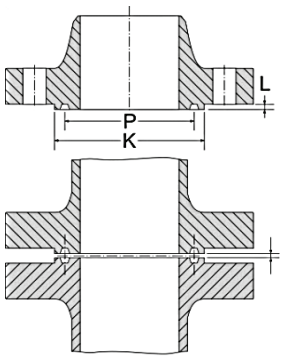
2.The depth of groove is added to the minimum flange thickness.

3.Raised face "L" is equal to groove dimension "E" but is not subject to tolerances for "E".

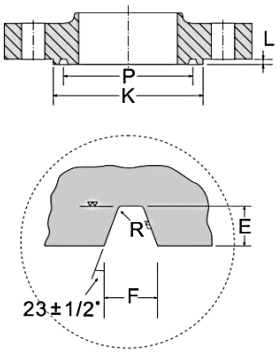
4.A plus tolerance of 3/64" in,for heights B and H is permitted providing the variation in the height of any given ring does not exceed 1/64" throughout its entire circumference.

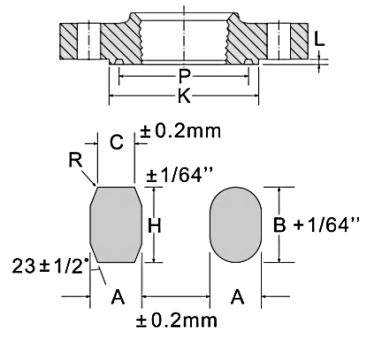
5.Dimension "R" is max.

6.Radius "R" is 1/16" for ring widths 7/8" and less and 3/32" for ring widths 1"(25.4mm) and over.



Approximate Distance between Flanges





Octagonal Ring Oval Ring

Ring Joint Flanges Facing Dimensions | Class 1500 | ANSI B16.5

Unit : mm

Nominal Pipe Size		Pitch Dia. of Ring and Groove	Width of Ring	Height of Ring		Width of Flat on Octagonal Rings	Width of Groove	Depth of Groove	Diameter of Raised Face for Ring Joint or Lapped Min.	Ring Number	Approx Distance Between Flanges of Ring Joints When Ring is Compressed
				Oval	Octagonal						
INCH	DN	P	A	B	H	C	F	E	K		
1/2"	15A	39.7	8	14.3	12.7	5.2	8.7	6.40	60.50	R12	4.10
3/4"	20A	44.5	8	14.3	12.7	5.2	8.7	6.40	66.80	R14	4.10
1"	25A	50.8	8	14.3	12.7	5.2	8.7	6.40	71.40	R16	4.10
1.1/4"	32A	60.3	8	14.3	12.7	5.2	8.7	6.40	81.00	R18	4.10
1.1/2"	40A	68.3	8	14.3	12.7	5.2	8.7	6.40	92.20	R20	4.10
2"	50A	95.3	11	17.5	15.9	7.7	11.9	7.90	124.00	R24	3.00
2.1/2"	65A	108.0	11	17.5	15.9	7.7	11.9	7.90	136.70	R27	3.00
3"	80A	136.5	11	17.5	15.9	7.7	11.9	7.90	168.40	R35	3.00
4"	100A	161.9	11	17.5	15.9	7.7	11.9	7.90	193.80	R39	3.00
5"	125A	193.7	11	17.5	15.9	7.7	11.9	7.90	228.60	R44	3.00
6"	150A	211.2	13	19.1	17.5	8.7	13.5	9.50	247.70	R46	3.00
8"	200A	269.9	16	22.2	20.7	10.5	16.7	11.10	317.50	R50	4.10
10"	250A	323.9	16	22.2	20.7	10.5	16.7	11.10	371.60	R54	4.10
12"	300A	381.0	22	28.6	27.0	14.8	23.0	14.30	438.20	R58	4.80
14"	350A	419.1	25	33.4	31.8	17.3	27.0	15.90	489.00	R63	5.60
16"	400A	469.9	29	36.5	34.9	19.8	30.2	17.50	546.10	R67	7.90
18"	450A	533.4	29	36.5	34.9	19.8	30.2	17.50	612.90	R71	7.90
20"	500A	584.2	32	39.7	38.1	22.3	33.4	17.50	673.10	R75	9.70
24"	600A	692.2	35	44.5	41.3	24.8	36.5	20.60	793.80	R79	11.20

Notes:

1.Unless other wise specified by the customer,Ring Type Joint Flanges will be furnished in accordance with these details.

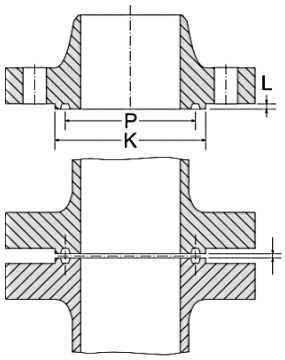
2.The depth of groove is added to the minimum flange thickness.

3.Raised face "L" is equal to groove dimension "E" but is not subject to tolerances for "E".

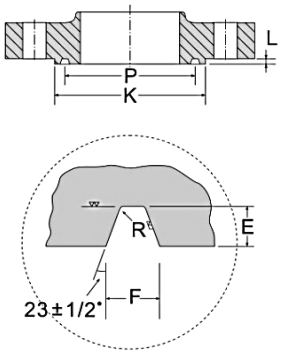
4.A plus tolerance of 3/64" in,for heights B and H is permitted providing the variation in the height of any given ring does not exceed 1/64" throughout its entire circumference.

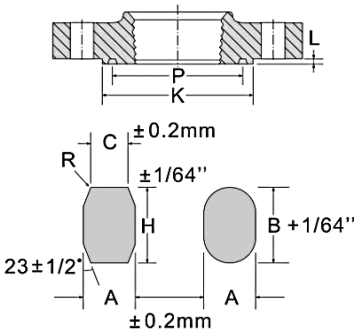
5.Dimension "R" is max.

6.Radius "R" is 1/16" for ring widths 7/8" and less and 3/32" for ring widths 1"(25.4mm) and over.



Approximate Distance between Flanges





Octagonal Ring Oval Ring

Ring Joint Flanges Facing Dimensions | Class 2500 | ANSI B16.5

Unit : mm

Nominal Pipe Size		Pitch Dia. of Ring and Groove	Width of Ring	Height of Ring		Width of Flat on Octagonal Rings	Width of Groove	Depth of Groove L	Diameter of Raised Face for Ring Joint or Lapped Min.	Ring Number	Approx Distance Between Flanges of Ring Joints When Ring is Compressed
				Oval	Octagonal						
INCH	DN	P	A	B	H	C	F	E	K		
1/2"	15A	42.9	8	14.3	12.7	5.2	8.7	6.40	65.00	R13	4.10
3/4"	20A	50.8	8	14.3	12.7	5.2	8.7	6.40	73.20	R16	4.10
1"	25A	60.3	8	14.3	12.7	5.2	8.7	6.40	82.60	R18	4.10
1.1/4"	32A	72.2	11	17.5	15.9	7.7	11.9	7.90	101.60	R21	3.00
1.1/2"	40A	82.6	11	17.5	15.9	7.7	11.9	7.90	114.30	R23	3.00
2"	50A	101.6	11	17.5	15.9	7.7	11.9	7.90	133.40	R26	3.00
2.1/2"	65A	111.1	13	19.1	17.5	8.7	13.5	9.50	149.40	R28	3.00
3"	80A	127.0	13	19.1	17.5	8.7	13.5	9.50	168.40	R32	3.00
4"	100A	157.2	16	22.2	20.7	10.5	16.7	11.10	203.20	R38	4.10
5"	125A	190.5	19	25.4	23.8	12.3	19.8	12.70	241.30	R42	4.10
6"	150A	228.6	19	25.4	23.8	12.3	19.8	12.70	279.40	R47	4.10
8"	200A	279.4	22	28.6	27.0	14.8	23.0	14.30	339.90	R51	4.80
10"	250A	342.9	29	36.5	34.9	19.8	30.2	17.50	425.50	R55	6.40
12"	300A	406.4	32	39.7	38.1	22.3	33.4	17.50	495.30	R60	7.90
4"	100A	157.2	16	22.2	20.7	10.5	16.7	11.10	203.20	R38	4.10
5"	125A	190.5	19	25.4	23.8	12.3	19.8	12.70	241.30	R42	4.10
6"	150A	228.6	19	25.4	23.8	12.3	19.8	12.70	279.40	R47	4.10
8"	200A	279.4	22	28.6	27.0	14.8	23.0	14.30	339.90	R51	4.80
10"	250A	342.9	29	36.5	34.9	19.8	30.2	17.50	425.50	R55	6.40
12"	300A	406.4	32	39.7	38.1	22.3	33.4	17.50	495.30	R60	7.90

Notes:

1.Unless other wise specified by the customer,Ring Type Joint Flanges will be furnished in accordance with these details.

2.The depth of groove is added to the minimum flange thickness.

3.Raised face "L" is equal to groove dimension "E" but is not subject to tolerances for "E".

4.A plus tolerance of 3/64" in,for heights B and H is permitted providing the variation in the height of any given ring does not exceed 1/64" throughout its entire circumference.

5.Dimension "R" is max.

6.Radius "R" is 1/16" for ring widths 7/8" and less and 3/32" for ring widths 1"(25.4mm) and over.

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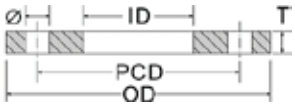

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Flanges | 5K | Common Standard* (Modified from KS B1503/JIS 2220)

Unit: mm

Nominal Pipe Size		Outside Diameter	Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Holes	Diameter of Bore	Thickness	Approx Weight	
								SOFF	BLFF
INCH	DN	OD	PCD	Ø		ID	T	KG	
3/8"	10A	75	55	12	4	17.8	9	0.26	0.28
1/2"	15A	80	60	12	4	22.4	9	0.30	0.32
3/4"	20A	85	65	12	4	27.7	10	0.36	0.41
1"	25A	95	75	12	4	34.5	10	0.45	0.52
1.1/4"	32A	115	90	15	4	43.2	12	0.77	0.91
1.1/2"	40A	120	95	15	4	49.5	12	0.82	1.00
2"	50A	130	105	15	4	62.0	14	1.05	1.38
2.1/2"	65A	155	130	15	4	74.7	14	1.51	2.00
3"	80A	180	145	19	4	90.7	14	1.96	2.67
3.1/2"	90A	190	155	19	4	103.4	14	2.07	2.99
4"	100A	200	165	19	8	116.1	16	2.33	3.66
5"	125A	235	200	19	8	143.8	16	3.12	5.16
6"	150A	265	230	19	8	170.7	18	4.24	7.47
8"	200A	320	280	23	8	221.5	20	6.05	12.10
10"	250A	385	345	23	12	276.4	22	8.88	19.24
12"	300A	430	390	23	12	327.2	22	9.70	24.22
14"	350A	480	435	25	12	359.2	24	13.89	32.98
16"	400A	540	495	25	16	410.5	24	16.73	41.67
18"	450A	605	555	25	16	461.8	24	21.12	52.68
20"	500A	655	605	25	20	513.1	24	22.68	61.63
22"	550A	720	665	27	20	564.6	26	29.66	80.76
24"	600A	770	715	27	20	616.0	26	31.88	92.70
26"	650A	825	770	27	24	666.7	26	35.05	106.29
28"	700A	875	820	27	24	717.6	26	37.38	119.92
30"	750A	945	880	33	24	768.3	28	47.75	149.64
32"	800A	995	930	33	24	819.1	28	50.57	166.39
34"	850A	1045	980	33	24	869.9	28	53.37	183.99
36"	900A	1095	1030	33	24	920.7	30	60.15	216.93
40"	1000A	1195	1130	33	28	1022.3	32	69.53	275.71
44"	1100A	1305	1240	33	28	1123.9	32	80.76	329.96
48"	1200A	1420	1350	33	32	1225.5	34	100.55	415.35

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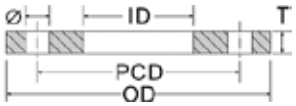

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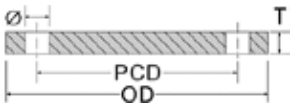

Flanges | 10K | Common Standard* (Modified from KS B1503/JIS 2220)

Unit: mm

Nominal Pipe Size		Outside Diameter	Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Holes	Diameter of Bore	Thickness	Approx Weight	
								SOFF	BLFF
INCH	DN	OD	PCD	Ø		ID	T	KG	
3/8"	10A	90	65	15	4	17.8	12	0.51	0.53
1/2"	15A	95	70	15	4	22.4	12	0.56	0.60
3/4"	20A	100	75	15	4	27.7	14	0.72	0.79
1"	25A	125	90	19	4	34.5	14	1.12	1.22
1.1/4"	32A	135	100	19	4	43.2	16	1.47	1.66
1.1/2"	40A	140	105	19	4	49.5	16	1.55	1.79
2"	50A	155	120	19	4	62.0	16	1.85	2.23
2.1/2"	65A	175	140	19	4	74.7	18	2.62	3.24
3"	80A	185	150	19	8	90.7	18	2.56	3.48
3.1/2"	90A	195	160	19	8	103.4	18	2.71	3.90
4"	100A	210	175	19	8	116.1	18	3.08	4.57
5"	125A	250	210	23	8	143.8	20	4.63	7.18
6"	150A	280	240	23	8	170.7	22	6.11	10.06
8"	200A	330	290	23	12	221.5	22	7.25	13.91
10"	250A	400	355	25	12	276.4	24	11.26	22.56
12"	300A	445	400	25	16	327.2	24	11.98	27.82
14"	350A	490	445	25	16	359.2	26	16.20	36.88
16"	400A	560	510	27	16	410.5	28	23.03	52.12
18"	450A	620	565	27	20	461.8	30	28.96	68.40
20"	500A	675	620	27	20	513.1	30	32.88	81.57
22"	550A	745	680	33	20	564.6	32	42.31	105.20
24"	600A	795	730	33	24	616.0	32	44.67	119.53
26"	650A	845	780	33	24	666.7	34	51.02	144.19
28"	700A	905	840	33	24	717.6	34	58.26	166.20
30"	750A	970	900	33	24	768.3	36	72.01	203.02
32"	800A	1020	950	33	28	819.1	36	75.23	224.14
34"	850A	1070	1000	33	28	869.9	36	79.38	247.33
36"	900A	1120	1050	33	28	920.7	38	88.14	286.72
40"	1000A	1235	1160	39	28	1022.3	40	107.90	365.62
44"	1100A	1345	1270	39	28	1123.9	42	130.32	457.38
48"	1200A	1465	1380	39	32	1225.5	44	161.59	568.98

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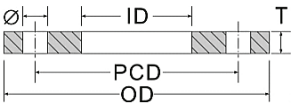

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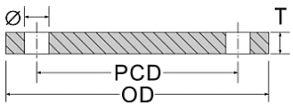

Flange | 16K | Common Standard* (Modified from KS B1503/JIS 2220)

Unit : mm

Nominal Pipe Size		Outside Diameter	Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Holes	Diameter of Bore	Thickness	Approx Weight	
								SOFF	BLFF
INCH	DN	OD	PCD	Ø		ID	T	KG	
3/8"	10A	90	65	15	4	17.8	12	0.51	0.53
1/2"	15A	95	70	15	4	22.4	12	0.56	0.60
3/4"	20A	100	75	15	4	27.7	14	0.72	0.79
1"	25A	125	90	19	4	34.5	14	1.12	1.22
1.1/4"	32A	135	100	19	4	43.2	16	1.47	1.66
1.1/2"	40A	140	105	19	4	49.5	16	1.55	1.79
2"	50A	155	120	19	8	62.0	16	1.71	2.08
2.1/2"	65A	175	140	19	8	74.7	18	2.46	3.08
3"	80A	200	160	23	8	90.7	20	3.40	4.41
3.1/2"	90A	210	170	23	8	103.4	20	3.60	4.92
4"	100A	225	185	23	8	116.1	22	4.46	6.29
5"	125A	270	225	25	8	143.8	22	6.40	9.21
6"	150A	305	260	25	12	170.7	24	8.34	12.65
8"	200A	350	305	25	12	221.5	26	10.57	18.43
10"	250A	430	380	27	12	276.4	28	17.22	30.41
12"	300A	480	430	27	16	327.2	30	20.65	40.46
14"	350A	540	480	33	16	359.2	34	30.43	57.47
16"	400A	605	540	33	16	410.5	38	42.19	81.67
18"	450A	675	605	33	20	461.8	40	54.40	106.99
20"	500A	730	660	33	20	513.1	42	64.18	132.34
22"	550A	795	720	39	20	564.6	44	76.72	163.19
24"	600A	845	770	39	24	616.0	46	84.53	192.14
26"	650A	895	820	39	24	666.7	48	94.70	226.24
28"	700A	960	875	42	24	717.6	50	112.30	271.03
30"	750A	1020	935	42	24	768.3	52	130.73	319.96
32"	800A	1085	990	48	24	819.1	54	150.14	373.50
34"	850A	1135	1040	48	24	869.9	56	164.40	425.66
36"	900A	1185	1090	48	28	920.7	58	175.93	479.04
40"	1000A	1320	1210	56	28	1022.3	62	232.97	632.43
44"	1100A	1420	1310	56	32	1123.9	66	265.66	779.62
48"	1200A	1530	1420	56	32	1225.5	70	318.79	966.91

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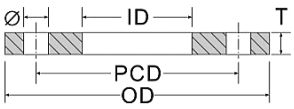

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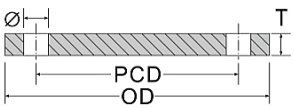

Flange | 20K | Common Standard* (Modified from KS B1503/JIS 2220)

Unit : mm

Nominal Pipe Size		Outside Diameter	Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Holes	Diameter of Bore	Thickness	Approx Weight	
								SOFF	BLFF
INCH	DN	OD	PCD	Ø		ID	T	KG	
3/8"	10A	90	65	15	4	17.8	14	0.59	0.62
1/2"	15A	95	70	15	4	22.4	14	0.66	0.70
3/4"	20A	100	75	15	4	27.7	16	0.82	0.90
1"	25A	125	90	19	4	34.5	16	1.28	1.40
1.1/4"	32A	135	100	19	4	43.2	18	1.66	1.86
1.1/2"	40A	140	105	19	4	49.5	18	1.74	2.01
2"	50A	155	120	19	8	62.0	18	1.92	2.35
2.1/2"	65A	175	140	19	8	74.7	20	2.73	3.42
3"	80A	200	160	23	8	90.7	22	3.74	4.85
3.1/2"	90A	210	170	23	8	103.4	24	4.32	5.90
4"	100A	225	185	23	8	116.1	24	4.87	6.86
5"	125A	270	225	25	8	143.8	26	7.57	10.88
6"	150A	305	260	25	12	170.7	28	9.73	14.76
8"	200A	350	305	25	12	221.5	30	12.20	21.27
10"	250A	430	380	27	12	276.4	34	20.91	36.92
12"	300A	480	430	27	16	327.2	36	24.79	48.55
14"	350A	540	480	33	16	359.2	40	35.79	67.61
16"	400A	605	540	33	16	410.5	46	51.07	98.86
18"	450A	675	605	33	20	461.8	48	65.28	128.38
20"	500A	730	660	33	20	513.1	50	76.40	157.55
22"	550A	795	720	39	20	564.6	52	90.67	192.86
24"	600A	845	770	39	24	616.0	54	99.23	225.55
26"	650A	945	850	48	24	666.7	60	145.46	309.88
28"	700A	995	900	48	24	717.6	64	165.63	368.81
30"	750A	1080	970	56	24	768.3	68	209.97	457.43
32"	800A	1140	1030	56	24	819.1	72	245.65	543.46
34"	850A	1200	1090	56	24	869.9	74	277.38	622.61
36"	900A	1250	1140	56	28	920.7	76	293.78	690.95

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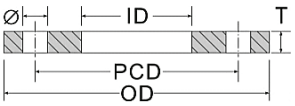

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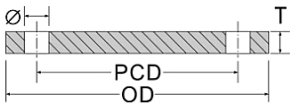

Flange | 30K | Common Standard* (Modified from KS B1503/JIS 2220)

Unit : mm

Nominal Pipe Size		Outside Diameter	Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Holes	Diameter of Bore	Thickness	Approx Weight	
								SOFF	BLFF
INCH	DN	OD	PCD	Ø		ID	T	KG	
3/8"	10A	110	75	19	4	17.8	16	1.02	1.05
1/2"	15A	115	80	19	4	22.4	18	1.25	1.31
3/4"	20A	120	85	19	4	27.7	18	1.35	1.44
1"	25A	130	95	19	4	34.5	20	1.76	1.91
1.1/4"	32A	140	105	19	4	43.2	22	2.21	2.46
1.1/2"	40A	160	120	23	4	49.5	22	2.85	3.19
2"	50A	165	130	19	8	62.0	22	2.78	3.30
2.1/2"	65A	200	160	23	8	74.7	26	4.84	5.73
3"	80A	210	170	23	8	90.7	28	5.46	6.88
3.1/2"	90A	230	185	25	8	103.4	30	6.88	8.86
4"	100A	240	195	25	8	116.1	32	7.72	10.38
5"	125A	275	230	25	8	143.8	36	11.09	15.67
6"	150A	325	275	27	12	170.7	38	15.87	22.70
8"	200A	370	320	27	12	221.5	42	20.48	33.18
10"	250A	450	390	22	12	276.4	48	35.60	58.21
12"	300A	515	450	33	16	327.2	52	45.12	79.44
14"	350A	560	495	33	16	359.2	54	55.65	98.60
16"	400A	630	560	39	16	410.5	60	75.48	137.81

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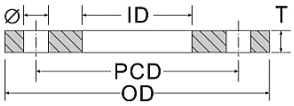

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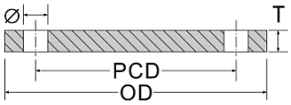
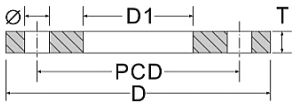


Flange | 40K | Common Standard* (Modified from KS B1503/JIS 2220)

Unit : mm

Nominal Pipe Size		Outside Diameter	Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Holes	Diameter of Bore	Thickness	Approx Weight	
								SOFF	BLFF
INCH	DN	OD	PCD	Ø		ID	T	KG	
3/8"	10A	110	75	19	4	17.8	18	1.15	1.18
1/2"	15A	115	80	19	4	22.4	20	1.39	1.45
3/4"	20A	120	85	19	4	27.7	20	1.50	1.60
1"	25A	130	95	19	4	34.5	22	1.93	2.10
1.1/4"	32A	140	105	19	4	43.2	24	2.41	2.69
1.1/2"	40A	160	120	23	4	49.5	24	3.11	3.47
2"	50A	165	130	19	8	62.0	26	3.28	3.90
2.1/2"	65A	200	160	23	8	74.7	30	5.58	6.62
3"	80A	210	170	23	8	90.7	32	6.24	7.87
4"	100A	250	205	25	8	116.1	36	9.77	12.76
5"	125A	300	250	27	8	143.8	40	15.66	20.76
6"	150A	355	295	33	12	170.7	44	22.74	30.64
8"	200A	405	345	33	12	221.5	50	31.41	46.53
10"	250A	475	410	33	12	276.4	56	47.01	73.38

Slip-on



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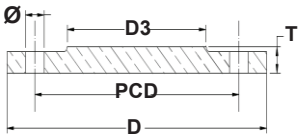
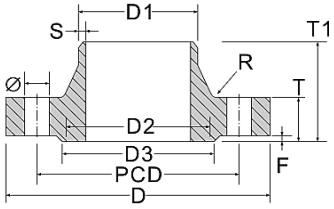


Welding Neck



Flange | PN6 |DIN 2573/DIN2527/DIN2631

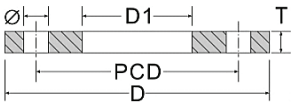
Unit : mm

Bore			Common Dimension						Dia. of Hub				Raised Face		Drilling				Approx Weight	
Nominal Pipe Size		Dia. of Bore	Out-side Dia.	Wel-ding Neck	Slip-on	Blind	Dia. of Bolt Circle	Length Thru Hub							No. of Bolt Holes	Dia. of Bolt Holes	Nominal Bolt Size		DIN 2573	DIN 2631
INCH	DN	D1	D	T			PCD	T1	D2	S	R	A	D3	F		Ø			KG	
3/8"	10A	14 17.2*	75	12	12	12	50	28	22 26	1.8	4	6	35	2	4	12	M10	-	0.04	0.34
1/2"	15A	20 21.3*	80	12	12	12	55	30	28 30	2.0	4	6	40	2	4	12	M10	-	0.41	0.39
3/4"	20A	25 26.9*	90	14	14	14	65	32	35 38	2.3	4	6	50	2	4	12	M10	-	0.60	0.59
1"	25A	30 33.7*	100	14	14	14	75	35	40 42	2.6	4	6	60	2	4	12	M10	-	0.74	0.75
1.1/4"	32A	38 42.4*	120	14	16	14	90	35	50 55	2.6	6	6	70	2	4	14	M12	1/2"	1.19	1.05
1.1/2"	40A	44.5 48.3*	130	14	16	14	100	38	58 62	2.6	6	7	80	3	4	14	M12	1/2"	1.39	1.18
2"	50A	57 60.3*	140	14	16	14	110	38	70 74	2.9	6	8	90	3	4	14	M12	1/2"	1.53	1.34
2.1/2"	65A	76.1*	160	14	16	14	130	38	88	2.9	6	9	110	3	4	14	M12	1/2"	1.89	1.67
3"	80A	88.9*	190	16	18	16	150	42	102	3.2	8	10	128	3	4	18	M16	5/8"	2.98	2.71
4"	100A	108 114.3*	210	16	18	16	170	45	122 130	3.6	8	10	148	3	4	18	M16	5/8"	3.46	3.24
5"	125A	133 139.7*	240	18	20	18	200	48	148 155	4.0	8	10	178	3	8	18	M16	5/8"	4.60	4.49
6"	150A	159 168.3*	265	18	20	18	225	48	172 184	4.5	10	12	202	3	8	18	M16	5/8"	5.22	5.15
8"	200A	216 219.1*	320	20	22	20	280	55	230 236	5.9	10	15	258	3	8	18	M16	5/8"	7.15	7.78
10"	250A	267 273*	375	22	24	22	335	60	282 290	6.2	12	15	312	3	12	18	M16	5/8"	9.61	10.80
12"	300A	318 323.9*	440	22	24	22	395	62	335 342	7.1	12	15	365	4	12	23	M20	3/4"	12.60	14.00
14"	350A	368 355.6*	490	22	26	22	445	62	385	7.1	12	15	415	4	12	23	M20	3/4"	15.60	16.10
16"	400A	419 406.4*	540	22	28	22	495	65	438	7.1	12	15	455	4	16	23	M20	3/4"	18.40	18.30
20"	500A	521 508*	645	24	30	24	600	68	538	7.1	12	15	570	4	20	23	M20	3/4"	24.50	24.60
24"	600A	622 609.6*	755	24	-	-	705	70	640	7.1	12	16	670	5	20	27	M24	7/8"	-	-
28"	700A	720 711.2*	860	24	-	-	810	70	740	7.1	12	16	775	5	24	27	M24	7/8"	-	-
32"	800A	820 812.8*	975	24	-	-	920	70	842	7.1	12	16	880	5	24	30	M27	1"	-	-
36"	900A	920 914.4*	1075	26	-	-	1020	70	942	7.1	12	16	980	5	24	30	M27	1"	-	-
40"	1000A	1020 1016*	1175	26	-	-	1120	70	1045	7.1	16	16	1080	5	28	30	M27	1"	-	-

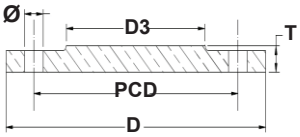
Note:

1. * Outside diameter of pipe complies with ISO recommendation R64.
2. DIN 2573 - Slip on Flanges,DIN 2527 - Blind Flanges,DIN 2631 - Welding Neck Flanges.

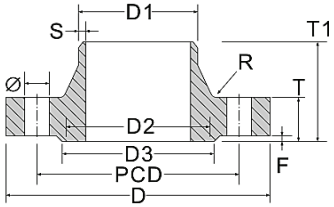
Slip-on



Blind



Welding Neck



Flange | PN10 |DIN 2576/DIN2527/DIN2632

Unit : mm

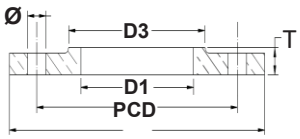
Bore			Common Dimension						Dia. of Hub				Raised Face		Drilling				Approx Weight	
Nominal Pipe Size		Dia. of Bore	Out-side Dia.	Wel-ding Neck	Slip-on	Blind	Dia. of Bolt Circle	Length Thru Hub							No. of Bolt Holes	Dia. of Bolt Holes	Nominal Bolt Size		DIN 2573	DIN 2631
INCH	DN	D1	D	T			PCD	T1	D2	S	R	A	D3	F		Ø			KG	
3/8"	10A	14 17.2*	90	14	14	14	60	35	25 28	1.8	4	6	40	2	4	14	M12	1/2"	0.16	0.58
1/2"	15A	20 21.3*	95	14	14	14	65	35	30 32	2.0	4	6	45	2	4	14	M12	1/2"	0.68	0.65
3/4"	20A	25 26.9*	105	16	16	16	75	38	38 40	2.3	4	6	58	2	4	14	M12	1/2"	0.95	0.95
1"	25A	30 33.7*	115	16	16	16	85	38	42 45	2.6	4	6	68	2	4	14	M12	1/2"	1.14	1.14
1.1/4"	32A	38 42.4*	140	16	16	16	100	40	52 56	2.6	6	6	78	2	4	18	M16	5/8"	1.66	1.69
1.1/2"	40A	44.5 48.3*	150	16	16	18	110	42	60 64	2.6	6	7	88	3	4	18	M16	5/8"	1.89	1.86
2"	50A	57 60.3*	165	18	18	18	125	45	72 75	2.9	6	8	102	3	4	18	M16	5/8"	2.51	2.53
2.1/2"	65A	76.1*	185	18	18	18	145	45	90	2.9	6	10	122	3	4	18	M16	5/8"	3.00	3.06
3"	80A	88.9*	200	20	20	20	160	50	105	3.2	8	10	138	3	4	18	M16	5/8"	3.79	3.70
4"	100A	108 114.3*	220	20	20	20	180	52	125 131	3.6	8	12	158	3	8	18	M16	5/8"	4.20	4.62
5"	125A	133 139.7*	250	22	22	22	210	55	150 156	4.0	8	12	188	3	8	18	M16	5/8"	5.71	6.30
6"	150A	159 168.3*	285	22	22	22	240	55	175 184	4.5	10	12	212	3	8	23	M20	3/4"	6.72	7.75
8"	200A	216 219.1*	340	24	24	24	295	62	232 235	5.9	10	16	268	3	8	23	M20	3/4"	9.50	11.30
10"	250A	267 273*	395	26	26	26	350	68	285 292	6.3	12	16	320	3	12	23	M20	3/4"	12.50	14.70
12"	300A	318 323.9*	445	26	26	28	400	68	335 344	7.1	12	16	370	4	12	23	M20	3/4"	14.40	17.60
14"	350A	368 355.6*	505	26	28	30	460	68	385	7.1	12	16	430	4	16	23	M20	3/4"	20.60	21.40
16"	400A	419 406.4*	565	26	32	32	515	72	440	7.1	12	16	482	4	16	27	M24	7/8"	27.90	26.10
20"	500A	521 508*	670	28	38	34	620	75	542	7.1	12	16	585	4	20	27	M24	7/8"	41.10	34.70
24"	600A	622 609.6*	780	28	-	-	725	80	642	7.1	12	18	685	5	20	30	M27	1"	-	-
28"	700A	720 711.2*	895	30	-	-	840	80	754	8.0	12	18	800	5	24	30	M27	1"	-	-
32"	800A	820 812.8*	1015	32	-	-	950	90	850	8.0	12	18	905	5	24	33	M30	1.1/8'	-	-
36"	900A	920 914.4*	1115	34	-	-	1050	95	950	10.0	12	20	1005	5	28	33	M30	1.1/8'	-	-
40"	1000A	1020 1016*	1230	34	-	-	1160	95	1052	10.0	16	20	1110	5	28	36	M33	1.1/4'	-	-

Note:

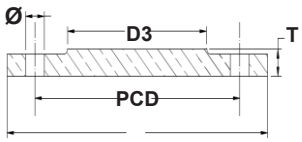
1.* Outside diameter of pipe complies with ISO recommendation R64.

2.DIN 2576 - Slip on Flanges,DIN 2527 - Blind Flanges,DIN 2632 - Welding Neck Flanges.

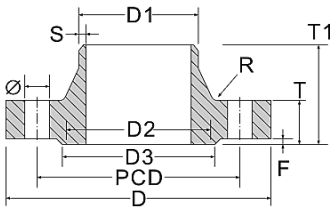
Slip-on



Blind



Welding Neck



Flange | PN16 |DIN 2543/DIN2527/DIN2633

Unit : mm

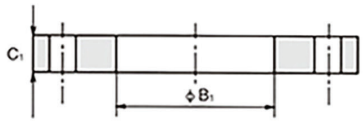
Bore			Common Dimension						Dia. of Hub				Raised Face		Drilling				Approx Weight	
Nominal Pipe Size		Dia. of Bore	Out-side Dia.	Wel-ding Neck	Slip-on	Blind	Dia. of Bolt Circle	Length Thru Hub							No. of Bolt Holes	Dia. of Bolt Holes	Nominal Bolt Size		DIN 2573	DIN 2631
INCH	DN	D1	D	T			PCD	T1	D2	S	R	A	D3	F		Ø			KG	
3/8"	10A	14 17.2*	90	14	14	14	60	35	25 28	1.8	4	6	40	2	4	14	M12	1/2"	0.63	0.58
1/2"	15A	20 21.3*	95	14	14	14	65	35	30 32	2.0	4	6	45	2	4	14	M12	1/2"	0.72	0.65
3/4"	20A	25 26.9*	105	16	16	16	75	38	38 40	2.3	4	6	58	2	4	14	M12	1/2"	1.01	0.95
1"	25A	30 33.7*	115	16	16	16	85	38	42 45	2.6	4	6	68	2	4	14	M12	1/2"	1.23	1.14
1.1/4"	32A	38 42.4*	140	16	16	16	100	40	52 56	2.6	6	6	78	2	4	18	M16	5/8"	1.80	1.69
1.1/2"	40A	44.5 48.3*	150	16	16	16	110	42	60 64	2.6	6	7	88	3	4	18	M16	5/8"	2.09	1.86
2"	50A	57 60.3*	165	18	18	18	125	45	72 75	2.9	6	8	102	3	4	18	M16	5/8"	2.88	2.53
2.1/2"	65A	76.1*	185	18	18	18	145	45	90	2.9	6	10	122	3	4	18	M16	5/8"	3.66	3.06
3"	80A	88.9*	200	20	20	20	160	50	105	3.2	8	10	138	3	8	18	M16	5/8"	4.77	3.70
4"	100A	108 114.3*	220	20	20	20	180	52	125 131	3.6	8	12	158	3	8	18	M16	5/8"	5.65	4.62
5"	125A	133 139.7*	250	22	22	22	210	55	150 156	4.0	8	12	188	3	8	18	M16	5/8"	8.42	6.30
6"	150A	159 168.3*	285	22	22	22	240	55	175 184	4.5	10	12	212	3	8	23	M20	3/4"	10.40	7.75
8"	200A	216 219.1*	340	24	24	24	295	62	232 235	5.9	10	16	268	3	12	23	M20	3/4"	16.10	11.00
10"	250A	267 273*	405	26	26	26	355	70	285 292	6.3	12	16	320	3	12	27	M24	7/8"	24.90	15.60
12"	300A	318 323.9*	460	28	28	28	410	78	338 344	7.1	12	16	378	4	12	27	M24	7/8"	35.10	22.00
14"	350A	368 355.6*	520	30	30	30	470	82	390	8.0	12	16	438	4	16	27	M24	7/8"	47.80	28.70
16"	400A	419 406.4*	580	32	32	32	525	85	445	8.8	12	16	490	4	16	30	M27	1"	63.50	36.30
20"	500A	521 508*	715	34	36	34	650	90	548	8.0	12	16	610	4	20	33	M30	1.1/8'	102.00	59.30
24"	600A	622 609.6*	840	36	40	-	770	95	652	8.8	12	18	725	5	20	36	M33	1.1/4'	-	-
28"	700A	720 711.2*	910	36	-	-	840	100	755	8.8	12	18	795	5	24	36	M33	1.1/4'	-	-
32"	800A	820 812.8*	1025	38	-	-	950	105	855	10.0	12	20	900	5	24	39	M36	1.3/8'	-	-
36"	900A	920 914.4*	1125	40	-	-	1050	110	955	10.0	12	20	1000	5	28	39	M36	1.3/8'	-	-
40"	1000A	1020 1016*	1255	42	-	-	1170	120	1058	10.0	16	20	1115	5	28	42	M39	1.1/2'	-	-

Note:

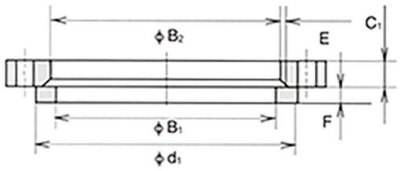
1.* Outside diameter of pipe complies with ISO recommendation R64.

2.DIN 2543 - Slip on Flanges,DIN 2527 - Blind Flanges,DIN 2633 - Welding Neck Flanges.

TYPE 01



TYPE 02



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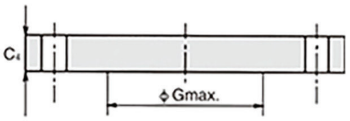
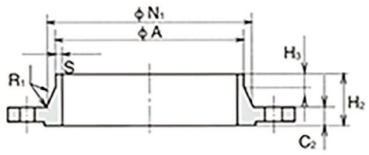


Flange | PN16 | EN 1092-1:2007

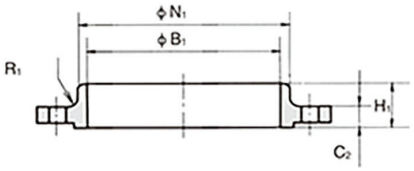
Unit : mm

DN	Outside Dia.	Dia. of bolt circle	Dia. of bolt hole	Bolt number	Outside dia. of neck A	Bore diameters		Flange thickness			Chamfer	Wall thickness	Collar thickness	Dia. of shoulder Gmax
						B_1	B_2	C_1	C_2	C_4	E	S	F	
	Flange type													
	01, 02, 05, 11, 12, 13				11	01 12	02	01 02	11 12.13	05	02	11	32	05
10	90	60	14	4	17.2	18.0	21	14	16	16	3	2	12	–
15	95	65	14	4	21.3	22.0	25	14	16	16	3	2	12	–
20	105	75	14	4	26.9	27.5	31	16	18	18	4	2.3	14	–
25	115	85	14	4	33.7	34.5	38	16	18	18	4	2.6	14	–
32	140	100	18	4	42.4	43.5	47	18	18	18	5	2.6	14	–
40	150	110	18	4	48.3	49.5	53	18	18	18	5	2.6	14	–
50	165	125	18	4	60.3	61.5	65	20	18	18	5	2.9	16	–
65	185	145	18	8	76.1	77.5	81	20	18	18	6	2.9	16	55
80	200	160	18	8	88.9	90.5	94	20	20	20	6	3.2	16	70
100	220	180	18	8	114.3	116.0	120	22	20	20	6	3.6	18	90
125	250	210	18	8	139.7	141.5	145	22	22	22	6	4.0	18	115
150	285	240	22	8	168.3	170.5	174	24	22	22	6	4.5	20	140
200	340	295	22	12	219.1	221.5	226	26	24	24	6	6.3	20	190
250	405	355	26	12	273.0	276.5	281	29	26	26	8	6.3	22	235
300	460	410	26	12	323.9	327.5	333	32	28	28	8	7.1	24	285
350	520	470	26	16	355.6	359.5	365	35	30	30	8	8.0	26	330
400	580	525	30	16	406.4	411.0	416	38	32	32	8	8.0	28	380
450	640	585	30	20	457.0	462.0	467	42	34	40	8	8.8	30	425
500	715	650	33	20	508.0	513.5	519	46	36	44	8	8.8	32	475
600	840	770	36	20	610.0	616.5	622	55	40	54	8	10.0	32	575
700	910	840	36	24	711.0	To be specified by the purch aser	721	63	40	58	8	10.0	–	670
800	1025	950	39	24	813.0		824	74	41	62	8	12.5	–	770
900	1125	1050	39	28	914.0		926	82	48	64	8	12.5	–	860
1000	1255	1170	42	28	1016.0		1030	90	59	68	8	12.5	–	960

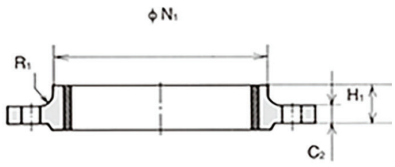
TYPE 11



TYPE 12



TYPE 13

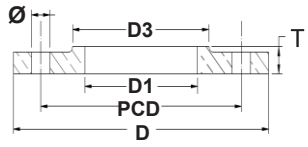


Flange | PN16 |EN 1092-1:2007

Unit : mm

DN	Raised face		Length			Neck diameters		Corner radi	APPROXIMATE WEIGHT				
	d_1	f_1	H_1	H_2	H_3	N_2	N_2	R_1					
	Flange type												
	01, 05, 11, 12, 13		12 13	11	11	11	12 13	11 12.13	Type 01	Type 02	Type 05	Type 11	Type 12
10	40	2	22	35	6	28	30	4	0.604	0.591	0.722	0.678	0.646
15	45	2	22	38	6	32	35	4	0.670	0.654	0.813	0.768	0.722
20	58	2	26	40	6	40	45	4	0.936	0.909	1.14	1.09	1.04
25	68	2	28	40	6	46	52	4	1.11	1.08	1.38	1.3	1.25
32	78	2	30	42	6	56	60	6	1.82	1.77	2.03	1.91	1.81
40	88	3	32	45	7	64	70	6	2.08	2.02	2.35	2.15	2.06
50	102	3	28	45	8	74	84	6	2.73	2.52	2.88	2.53	2.39
65	122	3	32	45	10	92	104	6	3.16	3.05	3.51	3.03	2.97
80	138	3	34	50	10	105	118	6	3.79	3.48	4.61	3.92	3.78
100	158	3	40	52	12	131	140	8	4.39	4.20	5.65	4.62	4.38
125	188	3	44	55	12	156	168	8	5.41	5.21	8.13	6.30	6.07
150	212	3	44	55	12	184	195	10	7.14	6.89	10.5	7.81	7.24
200	268	3	44	62	16	235	246	10	9.73	9.31	16.2	11.5	9.8
250	320	3	46	70	16	292	298	12	14.2	13.5	25.0	16.70	13.6
300	378	4	46	78	16	344	350	12	19	18.0	35.1	22.1	17.2
350	438	4	57	82	16	390	400	12	28.2	27.0	48.0	32.8	27.9
400	490	4	63	85	16	445	456	12	35.9	34.6	63.5	41.1	35.7
450	550	4	68	83	16	490	502	12	46.1	44.6	96.6	50.6	45.0
500	610	4	73	84	16	548	559	12	64.0	62.0	133	66.2	60.4
600	725	5	83	88	18	670	658	12	102	98.8	226	104	94
700	795	5	83	104	18	755	760	12	–	107	285	96.5	–
800	900	5	90	108	20	855	864	12	–	152	388	122	–
900	1000	5	94	118	20	955	968	12	–	184	483	155	–
1000	1115	5	100	137	22	1058	1072	16	–	257	640	233	–

Slip-on



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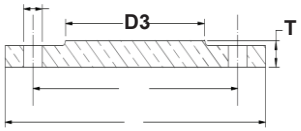
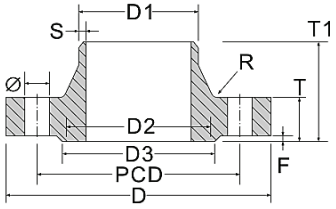


Welding Neck



Flange | PN25 |DIN 2544/DIN2527/DIN2634

Unit : mm

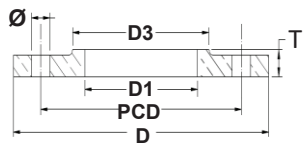
Bore			Common Dimension						Dia. of Hub				Raised Face		Drilling				Approx Weight	
Nominal Pipe Size		Dia. of Bore	Out-side Dia.	Wel-ding Neck	Slip-on	Blind	Dia. of Bolt Circle	Length Thru Hub							No. of Bolt Holes	Dia. of Bolt Holes	Nominal Bolt Size		DIN 2573	DIN 2631
INCH	DN	D1	D	T			PCD	T1	D2	S	R	A	D3	F		Ø			KG	
3/8"	10A	14 17.2*	90	16	16	16	60	35	25 28	1.8	4	6	40	2	4	14	M12	1/2"	0.72	0.66
1/2"	15A	20 21.3*	95	16	16	16	65	38	30 32	2.0	4	6	45	2	4	14	M12	1/2"	0.81	0.75
3/4"	20A	25 26.9*	105	18	18	18	75	40	38 40	2.3	4	6	58	2	4	14	M12	1/2"	1.24	1.06
1"	25A	30 33.7*	115	18	18	18	85	40	42 46	2.6	4	6	68	2	4	14	M12	1/2"	1.38	1.29
1.1/4"	32A	38 42.4*	140	18	18	18	100	42	52 56	2.6	6	6	78	2	4	18	M16	5/8"	2.03	1.88
1.1/2"	40A	44.5 48.3*	150	18	18	18	110	45	60 64	2.6	6	7	88	3	4	18	M16	5/8"	2.35	2.34
2"	50A	57 60.3*	165	20	20	20	125	48	72 75	2.9	6	8	102	3	4	18	M16	5/8"	3.20	2.82
2.1/2"	65A	76.1*	185	22	22	22	145	52	90	2.9	6	10	122	3	8	18	M16	5/8"	4.29	3.74
3"	80A	88.9*	200	24	24	24	160	58	105	3.2	8	12	138	3	8	18	M16	5/8"	5.88	4.75
4"	100A	108 114.3*	235	24	24	24	190	65	128 134	3.6	8	12	162	3	8	23	M20	3/4"	7.54	6.52
5"	125A	133 139.7*	270	26	26	26	220	68	155 162	4.0	8	12	188	3	8	27	M24	7/8"	10.80	9.07
6"	150A	159 168.3*	300	28	28	28	250	75	182 192	4.5	10	12	218	3	8	27	M24	7/8"	14.50	11.80
8"	200A	216 219.1*	360	30	30	30	310	80	240 244	6.3	10	16	278	3	12	27	M24	7/8"	22.30	17.00
10"	250A	267 273*	425	32	32	32	370	88	292 298	7.1	12	18	335	3	12	30	M27	1"	33.50	24.40
12"	300A	318 323.9*	485	34	34	34	430	92	345 352	8.0	12	18	395	4	16	30	M27	1"	46.30	31.20
14"	350A	368 355.6*	555	38	38	38	490	100	398	8.0	12	20	450	4	16	33	M30	1.1/8'	68.00	45.00
16"	400A	419 406.4*	620	40	40	40	550	110	452	8.8	12	20	505	4	16	36	M33	1.1/4'	89.70	58.70
20"	500A	521 508*	730	44	44	44	660	125	558	10.0	12	20	615	4	20	36	M33	1.1/4'	138.00	86.10
24"	600A	622 609.6*	845	46	-	-	770	125	660	11.0	12	20	720	5	20	39	M36	1.3/8'	-	101.00
28"	700A	720 711.2*	960	46	-	-	875	125	760	12.5	12	20	820	5	24	42	M39	1.1/2'	-	134.00
32"	800A	820 812.8*	1085	50	-	-	990	135	865	14.2	12	22	930	5	24	48	M45	1.3/4'	-	183.00
36"	900A	920 914.4*	1185	54	-	-	1090	145	968	16.0	12	24	1030	5	28	48	M45	1.3/4'	-	232.00
40"	1000A	1020 1016*	1320	58	-	-	1210	155	1070	17.5	16	24	1140	5	28	56	M52	2"	-	302.00

Note:

1.* Outside diameter of pipe complies with ISO recommendation R64.

2.DIN 2544 - Slip on Flanges,DIN 2527 - Blind Flanges,DIN 2634 - Welding Neck Flanges.

Slip-on



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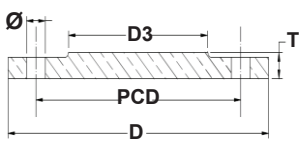
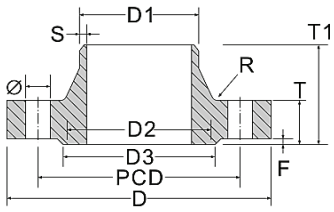


Welding Neck



Flange | PN40 |DIN 2545/DIN2527/DIN2635

Unit : mm

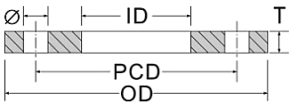
Bore			Common Dimension						Dia. of Hub				Raised Face		Drilling				Approx Weight	
Nominal Pipe Size		Dia. of Bore	Out-side Dia.	Wel-ding Neck	Slip-on	Blind	Dia. of Bolt Circle	Length Thru Hub							No. of Bolt Holes	Dia. of Bolt Holes	Nominal Bolt Size		DIN 2573	DIN 2631
INCH	DN	D1	D	T			PCD	T1	D2	S	R	A	D3	F		Ø			KG	
3/8"	10A	14 17.2*	90	16	16	16	60	35	25 28	1.8	4	6	40	2	4	14	M12	1/2"	0.72	0.66
1/2"	15A	20 21.3*	95	16	16	16	65	38	30 32	2.0	4	6	45	2	4	14	M12	1/2'	0.81	0.75
3/4"	20A	25 26.9*	105	18	18	18	75	40	38 40	2.3	4	6	58	2	4	14	M12	1/2"	1.24	1.06
1"	25A	30 33.7*	115	18	18	18	85	40	42 46	2.6	4	6	68	2	4	14	M12	1/2"	1.38	1.29
1.1/4"	32A	38 42.4*	140	18	18	18	100	42	52 56	2.6	6	6	78	2	4	18	M16	5/8"	2.03	1.88
1.1/2"	40A	44.5 48.3*	150	18	18	18	110	45	60 64	2.6	6	7	88	3	4	18	M16	5/8"	2.35	2.33
2"	50A	57 60.3*	165	20	20	20	125	48	72 75	2.9	6	8	102	3	4	18	M16	5/8"	3.20	2.82
2.1/2"	65A	76.1*	185	22	22	22	145	52	90	2.9	6	10	122	3	8	18	M16	5/8"	4.29	3.74
3"	80A	88.9*	200	24	24	24	160	58	105	3.2	8	12	138	3	8	18	M16	5/8"	5.88	4.75
4"	100A	108 114.3*	235	24	24	24	190	65	128 134	3.6	8	12	162	3	8	23	M20	3/4"	7.54	6.52
5"	125A	133 139.7*	270	26	26	26	220	68	155 162	4.0	8	12	188	3	8	27	M24	7/8"	10.80	9.07
6"	150A	159 168.3*	300	28	28	28	250	75	182 192	4.5	10	12	218	3	8	27	M24	7/8"	14.50	11.80
8"	200A	216 219.1*	375	34	34	34	320	88	240 244	6.3	10	16	285	3	12	30	M27	1"	27.20	21.50
10"	250A	267 273*	450	38	38	38	385	105	298 306	7.1	12	18	345	3	12	33	M30	1.1/8'	43.80	34.90
12"	300A	318 323.9*	515	42	42	42	450	115	352 362	8.0	12	18	410	4	16	33	M30	1.1/8'	63.30	49.70
14"	350A	368 355.6*	580	46	46	46	510	125	408	8.8	12	20	465	4	16	36	M33	1.1/4'	89.50	68.10
16"	400A	419 406.4*	660	50	50	50	585	135	462	11.0	12	20	535	4	16	39	M36	1.1/8'	127.00	96.50
20"	500A	521 508*	755	52	52	52	670	140	562	14.2	12	20	615	4	20	42	M39	1.1/8'	172.00	117.00

Note:

1.* Outside diameter of pipe complies with ISO recommendation R64.

2.DIN 2545 - Slip on Flanges,DIN 2527 - Blind Flanges,DIN 2635 - Welding Neck Flanges.

SOFF



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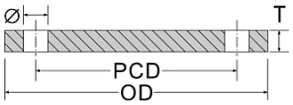
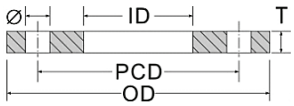


Flange | PN6 | Common Standard * (Modified from DIN 2573/2527)

Unit : mm

Nominal Pipe Size		Outside Dia.	Dia. of Bolt Circle	Dia. of Bolt Holes	No. of Bolt Holes	Dia. of Bore	Thickness		Approx Weight	
							Slip-on	Blind	SOFF	BLFF
INCH	DN	OD	PCD	Ø		ID	T		KG	
3/8"	10A	75	50	12	4	17.8	12	12	0.35	0.37
1/2"	15A	80	55	12	4	22.4	12	12	0.39	0.43
3/4"	20A	90	65	12	4	27.7	14	14	0.58	0.65
1"	25A	100	75	12	4	34.5	14	14	0.71	0.81
1.1/4"	32A	120	90	14	4	43.2	16	14	1.16	1.18
1.1/2"	40A	130	100	14	4	49.5	16	14	1.35	1.39
2"	50A	140	110	14	4	62.0	16	14	1.48	1.62
2.1/2"	65A	160	130	14	4	74.7	16	14	1.90	2.14
3"	80A	190	150	18	4	90.7	18	16	2.95	3.43
4"	100A	210	170	18	4	116.1	18	16	3.25	4.22
5"	125A	240	200	18	8	143.8	20	18	4.23	6.10
6"	150A	265	225	18	8	170.7	20	18	4.75	7.51
8"	200A	320	280	18	8	221.5	22	20	6.88	12.31
10"	250A	375	335	18	12	276.4	24	22	8.93	18.55
12"	300A	440	395	23	12	327.2	24	22	11.87	25.40
14"	350A	490	445	23	12	359.2	26	22	16.79	31.70
16"	400A	540	495	23	16	410.5	28	22	19.79	38.40
18"	450A	595	550	23	16	461.8	30	22	24.47	46.87
20"	500A	645	600	23	20	513.1	30	24	26.29	59.99
24"	600A	755	705	27	20	616.0	30	24	32.55	82.18
28"	700A	860	810	27	24	717.6	-	-	-	-
32"	800A	975	920	30	24	819.1	-	-	-	-
36"	900A	1075	1020	30	24	920.7	-	-	-	-
40"	1000A	1175	1120	30	28	1022.3	-	-	-	-

SOFF



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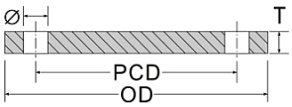

Flange | PN10 | Common Standard * (Modified from DIN 2576/2527)

Unit : mm

Nominal Pipe Size		Outside Dia.	Dia. of Bolt Circle	Dia. of Bolt Holes	No. of Bolt Holes	Dia. of Bore	Thickness		Approx Weight	
							Slip-on	Blind	SOFF	BLFF
INCH	DN	OD	PCD	Ø		ID	T		KG	
3/8"	10A	90	50	14	4	17.8	14	14	0.60	0.63
1/2"	15A	95	65	14	4	22.4	14	14	0.67	0.71
3/4"	20A	105	75	14	4	27.7	16	16	0.93	1.01
1"	25A	115	85	14	4	34.5	16	16	1.11	1.23
1.1/4"	32A	140	100	18	4	43.2	16	16	1.62	1.81
1.1/2"	40A	150	110	18	4	49.5	16	18	1.85	2.35
2"	50A	165	125	18	4	62.0	18	18	2.45	2.88
2.1/2"	65A	185	145	18	4	74.7	18	18	3.03	3.65
3"	80A	200	160	18	4	90.7	20	20	3.76	4.77
4"	100A	220	180	18	8	116.1	20	20	3.99	5.65
5"	125A	250	210	18	8	143.8	22	22	5.32	8.13
6"	150A	285	240	23	8	170.7	22	22	6.49	10.44
8"	200A	340	295	23	8	221.5	24	24	9.22	16.48
10"	250A	395	350	23	12	276.4	26	26	11.75	23.99
12"	300A	445	400	23	12	327.2	26	28	13.56	33.09
14"	350A	505	460	23	16	359.2	28	30	20.29	45.60
16"	400A	565	515	26	16	410.5	32	32	27.60	60.84
18"	450A	615	565	26	20	461.8	34	34	31.74	76.45
20"	500A	670	620	26	20	513.1	38	34	40.32	91.26
24"	600A	780	725	30	20	616.0	40	38	52.02	138.31

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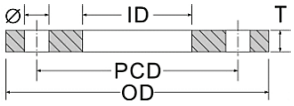

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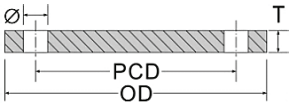

Flanges | PN16 | Common Standard* (Modified from DIN 2543/2527)

Unit: mm

Nominal Pipe Size		Outside Dia.	Dia. of Bolt Circle	Dia. of Bolt Holes	No. of Bolt Holes	Dia. of Bore	Thickness		Approx Weight	
							Slip-on	Blind	SOFF	BLFF
INCH	DN	OD	PCD	Ø		ID	T		KG	
3/8"	10A	90	60	14	4	17.8	14	14	0.60	0.63
1/2"	15A	95	65	14	4	22.4	14	14	0.67	0.71
3/4"	20A	105	75	14	4	27.7	16	16	0.93	1.01
1"	25A	115	85	14	4	34.5	16	16	1.11	1.23
1.1/4"	32A	140	100	18	4	43.2	16	16	1.62	1.81
1.1/2"	40A	150	110	18	4	49.5	16	16	1.85	2.09
2"	50A	165	125	18	4	62.0	18	18	2.45	2.88
2.1/2"	65A	185	145	18	4	74.7	18	18	3.03	3.65
3"	80A	200	160	18	8	90.7	20	20	3.60	4.61
4"	100A	220	180	18	8	116.1	20	20	3.99	5.65
5"	125A	250	210	18	8	143.8	22	22	5.32	8.13
6"	150A	285	240	23	8	170.7	22	22	6.49	10.44
8"	200A	340	295	23	12	221.5	24	24	8.91	16.16
10"	250A	405	355	23	12	276.4	26	26	13.03	25.27
12"	300A	460	410	27	12	327.2	28	28	16.54	35.02
14"	350A	520	470	27	16	359.2	30	30	23.99	47.85
16"	400A	580	525	30	16	410.5	32	32	30.28	63.52
18"	450A	640	585	30	20	461.8	36	34	39.58	82.08
20"	500A	715	650	33	20	513.1	36	34	50.20	102.59
24"	600A	840	770	36	20	616.0	40	36	74.04	150.85

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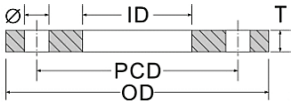

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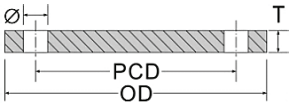
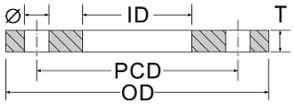


Flange | PN25 | Common Standard* (Modified from DIN 2544/2527)

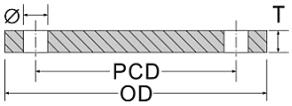
Unit : mm

Nominal Pipe Size		Outside Dia.	Dia. of Bolt Circle	Dia. of Bolt Circle	No. of Bolt Circle	Dia. of Bore	Thickness		Approx Weight	
							Slip-on	Blind	SOFF	BLFF
INCH	DN	OD	PCD	Ø		ID	T		KG	
3/8"	10A	90	60	14	4	17.8	16	16	0.69	0.72
1/2"	15A	95	65	14	4	22.4	16	16	0.76	0.81
3/4"	20A	105	75	14	4	27.7	18	18	1.05	1.14
1"	25A	115	85	14	4	34.5	18	18	1.25	1.38
1.1/4"	32A	140	100	18	4	43.2	18	18	1.82	2.03
1.1/2"	40A	150	110	18	4	49.5	18	18	2.08	2.35
2"	50A	165	125	18	4	62.0	20	20	2.72	3.20
2.1/2"	65A	185	145	18	8	74.7	22	22	3.53	4.29
3"	80A	200	160	18	8	90.7	24	24	4.32	5.53
4"	100A	235	190	23	8	116.1	24	24	5.55	7.54
5"	125A	270	220	27	8	143.8	26	26	7.44	10.75
6"	150A	300	250	27	8	170.7	28	28	9.50	14.53
8"	200A	360	310	27	12	221.5	30	30	13.28	22.35
10"	250A	425	370	30	12	276.4	32	32	18.43	33.50
12"	300A	485	430	30	16	327.2	34	34	23.85	46.29
14"	350A	555	490	33	16	359.2	38	38	37.85	68.08
16"	400A	620	550	36	16	410.5	40	40	48.12	89.68
20"	500A	730	660	36	20	513.1	44	44	66.11	137.52

SOFF



BLFF



Flange | PN40 | Common Standard * (Modified from DIN 2545/2527)

Unit : mm

Nominal Pipe Size		Outside Dia.	Dia. of Bolt Circle	Dia. of Bolt Circle	No. of Bolt Circle	Dia. of Bore	Thickness		Approx Weight	
							Slip-on	Blind	SOFF	BLFF
INCH	DN	OD	PCD	Ø		ID	T		KG	
3/8"	10A	90	60	14	4	17.8	16	16	0.69	0.72
1/2"	15A	95	65	14	4	22.4	16	16	0.76	0.81
3/4"	20A	105	75	14	4	27.7	18	18	1.05	1.14
1"	25A	115	85	14	4	34.5	18	18	1.25	1.38
1.1/4"	32A	140	100	18	4	43.2	18	18	1.82	2.03
1.1/2"	40A	150	110	18	4	49.5	18	18	2.08	2.35
2"	50A	165	125	18	4	62.0	20	20	2.72	3.20
2.1/2"	65A	185	145	18	8	74.7	22	22	3.53	4.29
3"	80A	200	160	18	8	90.7	24	24	4.32	5.53
4"	100A	235	190	23	8	116.1	24	24	5.55	7.54
5"	125A	270	220	27	8	143.8	26	26	7.44	10.75
6"	150A	300	250	27	8	170.7	28	28	9.50	14.53
8"	200A	375	320	30	12	221.5	34	34	16.93	27.21
10"	250A	450	385	33	12	276.4	38	38	26.48	44.38
12"	300A	515	450	33	16	327.2	42	42	36.44	64.16
14"	350A	580	510	36	16	359.2	46	46	52.93	89.52
16"	400A	660	585	39	16	410.5	50	50	74.83	126.77
20"	500A	755	670	42	20	513.1	52	52	87.03	171.43

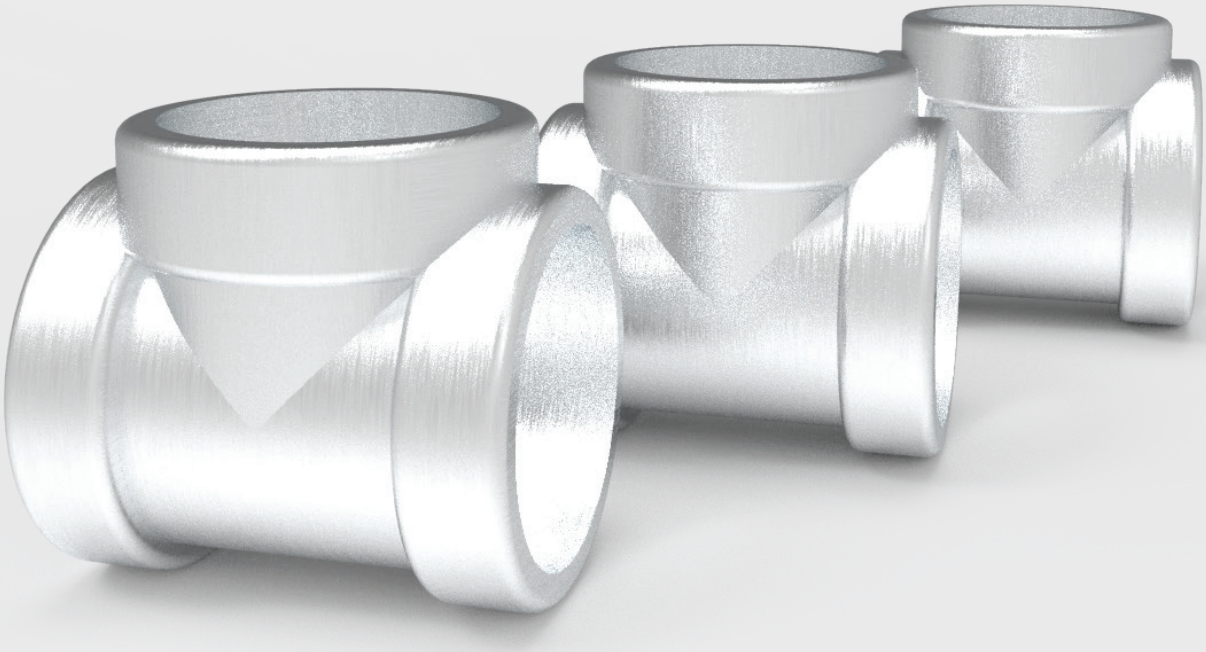
Tolerance | Flanges | ANSI B16.5

Threaded, Socket-Welding, Slip-on, Lap Joint and Blind		
Outside Diameter	24" or Less	±1.6mm
	Over 24"	±3.2mm
Inside Diameter	Threaded	Within Limites on Boring Gauge
	Socket-Welding Slip-on and Lap Joint	10" ans Smaller +0.8mm
		12" and Larger +1.6mm
Outside Diameter of Hub	12" and Smaller	+2.4mm -1.6mm
	14" and Larger	±3.2mm
Diameter of Contact Face	1/16" Raised Face	±0.8mm
	1/4" Raised Face Tongue and Groove Male,Female	±0.5mm
Diameter of Counterbore	Same as for Inside Diameter	
Drilling	Bolt Circle	±1.6mm
	Bolt Hole Spacing	±0.8mm
	Eccentricity of Bolt Circle with Respect of Facing	2.1/2" and Smaller 0.8mm Max.
		3" and Larger 1.6mm Max.
	Eccentricity of Facing with Respect to Bore	0.8mm Max.
	Eccentricity of Bolt Circle with Respect of Bore	0.8mm Max.
Thickness	18" and Smaller	+3.2mm -0mm
	20" and Larger	+4.8mm -0mm
Length Thru Hub	18" and Smaller	+3.2mm -0.8mm
	20" and Larger	+4.8mm -1.6mm

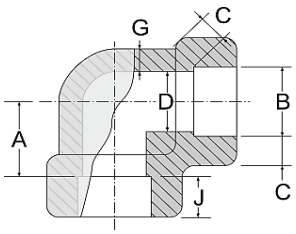
Welding Neck		
Outside Diameter	24" and Less	±1.6mm
	Over 24"	±3.2mm
Inside Diameter	10" and Smaller	+0.8mm
	12" to 18"	+1.6mm
	20" and Larger	+3.2mm -1.6mm
Diameter of Contact Face	1/16" Raised Face	±0.8mm
	1/4" Raised Face Tongue and Groove, Male & Female	±0.5mm
	When Hub Base is 24" or Less	±1.6mm
	When Hub Base is Over 24"	±3.2mm
Diameter of Hub at Poing of Welding	5" and Smaller	+2.4mm -0.8mm
	6" and Larger	+4.0mm -0.8mm
Drilling	Bolt Circle	±1.6mm
	Bolt Hole Spacing	±0.8mm
	Eccentricity of Bolt Circle with Respect of Facing	2.1/2" and Smaller 0.8mm Max.
		3" and Larger 1.6mm Max.
	Eccentricity of Facing with Respect to Bore	0.8mm Max.
	Eccentricity of Bolt Circle with Respect of Bore	0.8mm Max.
Thickness	18" and Smaller	±3.2mm
	20" and Larger	±4.8mm
Length Thru Hub	10" and Smaller	±1.6mm
	12" and Larger	±3.2mm

PURA PIPING

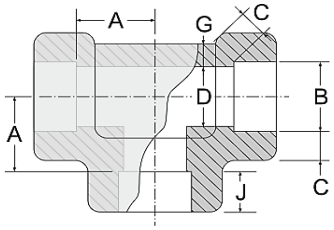
Forged Fittings



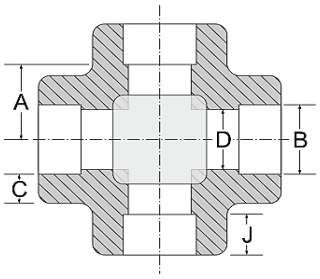
90° Elbow



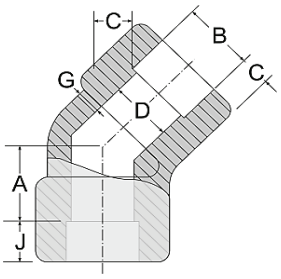
Tee



Cross



45° Elbow



90° ELBOW / 45° ELBOW / TEE / CROSS | Socket Weld | ASME B16.11

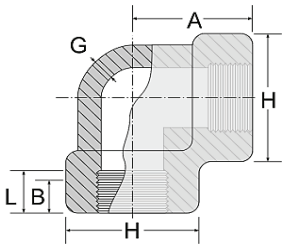
Unit : mm

Nominal Pipe Size		Socket Bore Dia.	Bore Diameter of Fittings		Socket Wall Thickness				Body Wall Thickness		Center to Bottom of Socket				Depth of Socket
					Ave.	Min.	Ave.	Min.	Min.	Min.	90° Elbows Tees , Crosses		45° Elbows		
			Class Designation												
			3000	6000	3000		6000		3000	6000	3000	6000	3000	6000	
INCH	DN	B	D		C				G		A				J
1/8"	6A	~ 10.8 11.2	~ 6.1 7.6	~ 3.2 4.8	3.18	3.18	3.96	3.43	2.41	3.15	11.0	11.0	8.0	8.0	9.5
1/4"	8A	~ 14.2 14.6	~ 8.5 10.0	~ 5.6 7.1	3.78	3.30	4.60	4.01	3.02	3.68	11.0	13.5	8.0	8.0	9.5
3/8"	10A	~ 17.6 18.0	~ 11.8 13.3	~ 8.4 9.9	4.01	3.50	5.03	4.37	3.20	4.01	13.5	15.5	8.0	11.0	9.5
1/2"	15A	~ 21.8 22.2	~ 15.0 16.6	~ 11.0 12.5	4.67	4.09	5.97	5.18	3.73	4.78	15.5	19.0	11.0	12.5	9.5
3/4"	20A	~ 27.2 27.6	~ 20.2 21.7	~ 14.8 16.3	4.90	4.27	6.96	6.04	3.91	5.56	19.0	22.5	13.0	14.0	12.5
1"	25A	~ 33.9 34.3	~ 25.9 27.4	~ 19.9 21.5	5.69	4.98	7.92	6.93	4.55	6.35	22.5	27.0	14.0	17.5	12.5
1.1/4"	32A	~ 42.7 43.1	~ 34.3 35.8	~ 28.7 30.2	6.07	5.28	7.92	6.93	4.85	6.35	27.0	32.0	17.5	20.5	12.5
1.1/2"	40A	~ 48.8 49.2	~ 40.1 41.6	~ 33.2 34.7	6.35	5.54	8.92	7.80	5.08	7.14	32.0	38.0	20.5	25.5	12.5
2"	50A	~ 61.2 61.7	~ 51.7 53.3	~ 42.1 43.6	6.93	6.04	10.92	9.50	5.54	8.74	38.0	41.0	25.5	28.5	16.0
2.1/2"	65A	~ 73.9 74.4	~ 61.2 64.2	-	8.76	7.67	-	-	7.01	-	41.0	-	28.5	-	16.0
3"	80A	~ 89.8 90.3	~ 76.4 79.4	-	9.52	8.30	-	-	7.62	-	57.0	-	32.0	-	16.0
4"	100A	~ 115.2 115.7	~ 100.7 103.8	-	10.69	9.35	-	-	8.56	-	66.5	-	41.0	-	16.0

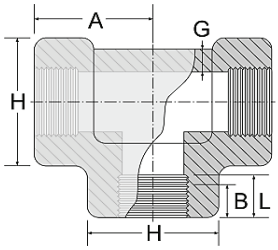
Note:

1. Average of Socket Wall Thickness around periphery shall be no less than listed values.The minimum values are permitted in localized areas.
2. Upper and Lower values for each size are the respective maximum and minimum dimensions.

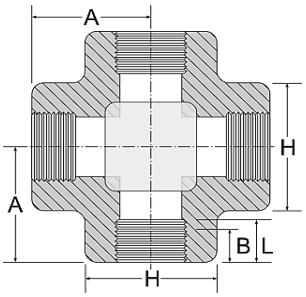
90° Elbow



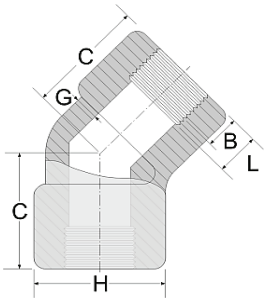
Tee



Cross



45° Elbow



90° ELBOW / 45° ELBOW / TEE / CROSS | Threaded | ASME B16.11

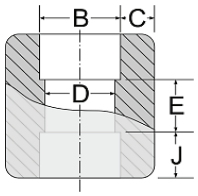
Unit : mm

Nominal Pipe Size		Center to End				Outside Diameter of Band		Minimum Wall Thickness		Length of Threaded	
		90° Elbows Tees, Crosses		45° Elbows							
		Class Designation									
		3000	6000	3000	6000	3000	6000	3000	6000	Min.	
INCH	DN	A				H		G		B	L
1/8"	6A	21	25	17	19	22	25	3.18	6.35	6.4	6.7
1/4"	8A	25	28	19	22	25	33	3.30	6.60	8.1	10.2
3/8"	10A	28	33	22	25	33	38	3.51	6.98	9.1	10.4
1/2"	15A	33	38	25	28	38	46	4.09	8.15	10.9	13.6
3/4"	20A	38	44	28	33	46	56	4.32	8.53	12.7	13.9
1"	25A	44	51	33	35	56	62	4.98	9.93	14.7	17.3
1.1/4"	32A	51	60	35	43	62	75	5.28	10.59	17.0	18.0
1.1/2"	40A	60	64	43	44	75	84	5.56	11.07	17.8	18.4
2"	50A	64	83	44	52	84	102	7.14	12.09	19.0	19.2
2.1/2"	65A	83	95	52	64	102	121	7.65	15.29	23.6	28.9
3"	80A	95	106	64	79	121	146	8.84	16.64	25.9	30.5
4"	100A	114	114	79	79	152	152	11.18	18.67	27.7	33.0

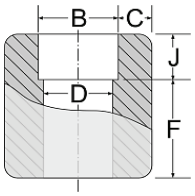
Note:

1.Dimension B is minimum length of perdect thread.The length of useful thread (B plus threads fully formed roots and flat crests) shall not be less than L (effective length of external thread) required by American National Standard for Pipe Threads (ANSI/ASME B1.20.1).

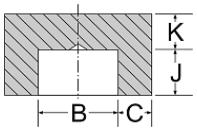
Coupling



Half Coupling



Cap



Coupling / Half Coupling / Cap | Socket Weld | ASME B16.11

Unit : mm

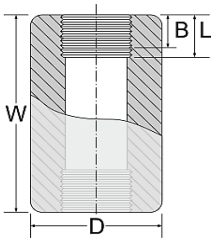
Nominal Pipe Size		Socket Bore Diameter	Socket Wall Thickness				Bore Diameter of Fittings		Laying Length		Tolerances			Depth of Socket	End Wall Thickness	
			Ave.	Min.	Ave.	Min.									Class Designation	
			Class Designation						Couplings	Half Couplings						
			3000		6000		3000	6000						Min.	3000	6000
INCH	DN	B	C				D		E	F	A	E	F	J	K	
1/8"	6A	~ 10.8 11.2	3.18	3.18	3.96	3.43	~ 6.1 7.6	~ 3.2 4.8	6.5	16.0	1.0	1.5	1.0	9.5	4.8	6.4
1/4"	8A	~ 14.2 14.6	3.78	3.30	4.60	4.01	~ 8.5 10.0	~ 5.6 7.1	6.5	16.0	1.0	1.5	1.0	9.5	4.8	6.4
3/8"	10A	~ 17.6 18.0	4.01	3.50	5.03	4.37	~ 11.8 13.3	~ 8.4 9.9	6.5	17.5	1.5	3.0	1.5	9.5	4.8	6.4
1/2"	15A	~ 21.8 22.2	4.67	4.09	5.97	5.18	~ 15.0 16.6	~ 11.0 12.5	9.5	22.5	1.5	3.0	1.5	9.5	6.4	7.9
3/4"	20A	~ 27.2 27.6	4.90	4.27	6.96	6.04	~ 20.2 21.7	~ 14.8 16.3	9.5	24.0	1.5	3.0	1.5	12.5	6.4	7.9
1"	25A	~ 33.9 34.3	5.69	4.98	7.92	6.93	~ 25.9 27.4	~ 19.9 21.5	12.5	28.5	2.0	4.0	2.0	12.5	9.6	11.2
1.1/4"	32A	~ 42.7 43.1	6.07	5.28	7.92	6.93	~ 34.3 35.8	~ 28.7 30.2	12.5	30.0	2.0	4.0	2.0	12.5	9.6	11.2
1.1/2"	40A	~ 48.8 49.2	6.35	5.54	8.92	7.80	~ 40.1 41.6	~ 33.2 34.7	12.5	32.0	2.0	4.0	2.0	12.5	11.2	12.7
2"	50A	~ 61.20 61.70	6.93	6.04	10.92	9.50	~ 51.7 53.3	~ 42.1 43.6	19.0	41.0	2.0	4.0	2.0	16.0	12.7	15.7
2.1/2"	65A	~ 73.9 74.4	8.76	7.67	-	-	~ 61.2 64.2	~	19.0	43.0	2.5	5.0	2.5	16.0	15.7	19.0
3"	80A	~ 89.8 90.3	9.52	8.30	-	-	~ 76.4 79.4	~	19.0	44.5	2.5	5.0	2.5	16.0	19.0	22.4
4"	100A	~ 115.2 115.7	10.69	9.35	-	-	~ 100.7 103.8	~	19.0	48.0	2.5	5.0	2.5	19.0	22.4	28.4

Note:

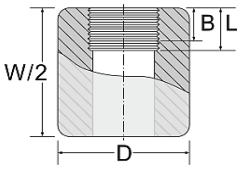
1.Average of Socket Wall Thickness around periphery shall be no less than listed values.The minimum values are permitted in localized areas.

2.Upper and lower values for each size are the respective maximum and minimum dimensions.

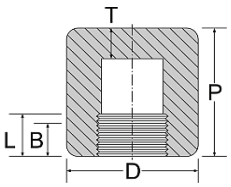
Coupling



Half Coupling



Cap



Coupling / Half Coupling / Cap | Threaded | ASME B16.11

Unit : mm

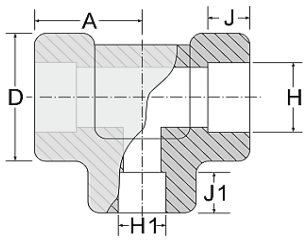
Nominal Pipe Size		End to End				Outside Diameter		End Wall Thickness		Length of Threaded	
		Class Designation									
		3000	6000	3000	6000	3000	6000	3000	6000		
		Couplings		Caps				Min.			
INCH	DN	W		P		D		T		B	L
1/8"	6A	32	32	19	-	16	22	4.8	-	6.4	6.7
1/4"	8A	35	35	25	27	19	25	4.8	6.4	8.1	10.2
3/8"	10A	38	38	25	27	22	32	4.8	6.4	9.1	10.4
1/2"	15A	48	48	32	33	28	38	6.4	7.9	10.9	13.6
3/4"	20A	51	51	37	38	35	44	6.4	7.9	12.7	13.9
1"	25A	60	60	41	43	44	57	9.7	11.2	14.7	17.3
1.1/4"	32A	67	67	44	46	57	64	9.7	11.2	17.0	18.0
1.1/2"	40A	79	79	44	48	64	76	11.2	12.7	17.8	18.4
2"	50A	86	86	48	51	76	92	12.7	15.7	19.0	19.2
2.1/2"	65A	92	92	60	64	92	108	15.7	19.0	23.6	28.9
3"	80A	108	108	65	68	108	127	19.0	22.4	25.9	30.5
4"	100A	121	121	68	75	140	159	22.4	28.4	27.7	33.0

Note:

1.Dimension B is minimum length of perdect thread.The length of useful thread (B plus threads fully formed roots and flat crests) shall not be less than L (effective length of external thread) required by American National Standard for Pipe Threads (ANSI/ASME B1.20.1).

2.Class 2000 and NPS 1/8 class 6000 coulpings,half couplings and caps are not included in this standard.

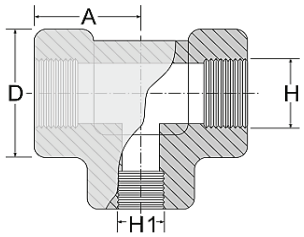
Reducing Tee



Reducing Tee | Socket Weld | ASME B16.11

Nominal Pipe Size		Internal Diameter				Depth of Socket		Center to End		Outside Dia. of Band	
								Class Designation			
		Max.	Min.	Max.	Min.			3000	6000	3000	6000
INCH	DN	H		H1		J	J1	A		D	
3/8" x 1/4"	10A x 8A	18.0	17.6	14.6	14.2	9.5	9.5	28	33	33	38
1/2" x 1/8"	15A x 6A	22.2	21.8	11.2	10.8	9.5	9.5	33	38	38	46
1/2" x 1/4"	15A x 8A	22.2	21.8	14.6	14.2	9.5	9.5	33	38	38	46
1/2" x 3/8"	15A x 10A	22.2	21.8	18.0	17.6	9.5	9.5	33	38	38	46
3/4" x 1/4"	20A x 8A	27.6	27.2	14.6	14.2	12.5	9.5	38	44	46	56
3/4" x 3/8"	20A x 10A	27.6	27.2	18.0	17.6	12.5	9.5	38	44	46	56
3/4" x 1/2"	20A x 15A	27.6	27.2	22.2	21.8	12.5	9.5	38	44	46	56
1" x 3/8"	25A x 10A	34.3	33.9	18.0	17.6	12.5	9.5	44	51	56	62
1" x 1/2"	25A x 15A	34.3	33.9	22.2	21.8	12.5	9.5	44	51	56	62
1" x 3/4"	25A x 20A	34.3	33.9	27.6	27.2	12.5	12.5	44	51	56	62
1.1/4" x 1/2"	32A x 15A	43.1	42.7	22.2	21.8	12.5	9.5	51	60	62	75
1.1/4" x 3/4"	32A x 20A	43.1	42.7	27.6	27.2	12.5	12.5	51	60	62	75
1.1/4" x 1"	32A x 25A	43.1	42.7	34.3	33.9	12.5	12.5	51	60	62	75
1.1/2" x 1/2"	40A x 15A	49.2	48.8	22.2	21.8	12.5	9.5	60	64	75	84
1.1/2" x 3/4"	40A x 20A	49.2	48.8	27.6	27.2	12.5	12.5	60	64	75	84
1.1/2" x 1"	40A x 25A	49.2	48.8	34.3	33.9	12.5	12.5	60	64	75	84
1.1/2" x 1.1/4"	40A x 32A	49.2	48.8	43.1	42.7	12.5	12.5	60	64	75	84
2" x 1/2"	50A x 15A	61.7	61.2	22.2	21.8	16.0	9.5	64	83	84	102
2" x 3/4"	50A x 20A	61.7	61.2	27.6	27.2	16.0	12.5	64	83	8	102
2" x 1"	50A x 25A	61.7	61.2	34.3	33.9	16.0	12.5	64	83	84	102
2" x 1.1/4"	50A x 32A	61.7	61.2	43.1	42.7	16.0	12.5	64	83	84	102
2" x 1.1/2"	50A x 40A	61.7	61.2	49.2	48.8	16.0	12.5	64	83	84	102
3" x 1.1/2"	80A x 40A	90.3	89.8	49.2	48.8	16.0	12.5	95	106	121	146
3" x 2"	80A x 50A	90.3	89.8	61.7	61.2	16.0	16.0	95	106	121	146
3" x 2.1/2"	80A x 65A	90.3	89.8	74.4	73.9	16.0	16.0	95	106	121	146

Reducing Tee

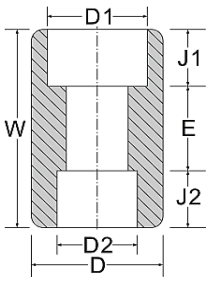


Reducing Tee | Threaded | ASME B16.11

Unit : mm

Nominal Pipe Size		Internal Diameter		Center to End		Outside Diameter of Band	
				Class Designation			
				3000	6000	3000	6000
INCH	DN	H	H1	A		D	
3/8" x 1/4"	10A x 8A	15	11	28	33	33	38
1/2" x 1/8"	15A x 6A	18	8	33	38	38	46
1/2" x 1/4"	15A x 8A	18	11	33	38	38	46
1/2" x 3/8"	15A x 10A	18	15	33	38	38	46
3/4" x 1/4"	20A x 8A	23	11	38	44	46	56
3/4" x 3/8"	20A x 10A	23	15	38	44	46	56
3/4" x 1/2"	20A x 15A	23	18	38	44	46	56
1" x 3/8"	25A x 10A	29	15	44	51	56	62
1" x 1/2"	25A x 15A	29	18	44	51	56	62
1" x 3/4"	25A x 20A	29	23	44	51	56	62
1.1/4" x 1/2"	32A x 15A	38	18	51	60	62	75
1.1/4" x 3/4"	32A x 20A	38	23	51	60	62	75
1.1/4" x 1"	32A x 25A	38	29	51	60	62	75
1.1/2" x 1/2"	40A x 15A	44	18	60	64	75	84
1.1/2" x 3/4"	40A x 20A	44	23	60	64	75	84
1.1/2" x 1"	40A x 25A	44	29	60	64	75	84
1.1/2" x 1.1/4"	40A x 32A	44	38	60	64	75	84
2" x 1/2"	50A x 15A	55	18	64	83	84	102
2" x 3/4"	50A x 20A	55	23	64	83	84	102
2" x 1"	50A x 25A	55	29	64	83	84	102
2" x 1.1/4"	50A x 32A	55	38	64	83	84	102
2" x 1.1/2"	50A x 40A	55	44	64	83	84	102
3" x 1.1/2"	80A x 40A	83	44	95	106	121	146
3" x 2"	80A x 50A	83	55	95	106	121	146
3" x 2.1/2"	80A x 65A	83	67	95	106	121	146

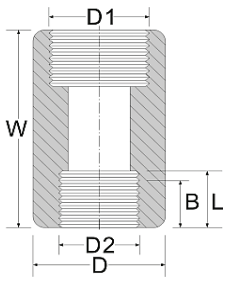
Reducing Coupling



Reducing Coupling | Socket Weld | ASME B16.11

Nominal Pipe Size		Internal Diameter				Depth of Socket		Laying Length	End to End Class Designation		Outside Diameter Class Designation	
		Max.	Min.	Max.	Min.				3000	6000	3000	6000
INCH	DN	D1		D2		J1	J2	E	W		D	
1/4" x 1/8"	8A x 6A	14.6	14.2	11.2	10.8	9.5	9.5	6.5	25.5	25.5	19	25
3/8" x 1/8"	10A x 6A	18.0	17.6	11.2	10.8	9.5	9.5	6.5	25.5	25.5	22	32
3/8" x 1/4"	10A x 8A	18.0	17.6	14.6	14.2	9.5	9.5	6.5	25.5	25.5	22	32
1/2" x 1/8"	15A x 6A	22.2	21.8	11.2	10.8	9.5	9.5	9.5	28.5	28.5	28	38
1/2" x 1/4"	15A x 8A	22.2	21.8	14.6	14.2	9.5	9.5	9.5	28.5	28.5	28	38
1/2" x 3/8"	15A x 10A	22.2	21.8	18.0	17.6	9.5	9.5	9.5	28.5	28.5	28	38
3/4" x 1/4"	20A x 8A	27.6	27.2	14.6	14.2	12.5	9.5	9.5	31.5	31.5	35	44
3/4" x 3/8"	20A x 10A	27.6	27.2	18.0	17.6	12.5	9.5	9.5	31.5	31.5	35	44
3/4" x 1/2"	20A x 15A	27.6	27.2	22.2	21.8	12.5	9.5	9.5	31.5	31.5	35	44
1" x 1/4"	25A x 8A	34.3	33.9	14.6	14.2	12.5	9.5	12.5	34.5	34.5	44	57
1" x 3/8"	25A x 10A	34.3	33.9	18.0	17.6	12.5	9.5	12.5	34.5	34.5	44	57
1" x 1/2"	25A x 15A	34.3	33.9	22.2	21.8	12.5	9.5	12.5	34.5	34.5	44	57
1" x 3/4"	25A x 20A	34.3	33.9	27.6	27.2	12.5	12.5	12.5	37.5	37.5	44	57
1.1/4" x 3/8"	32A x 10A	43.1	42.7	18.0	17.6	12.5	9.5	12.5	34.5	34.5	57	64
1.1/4" x 1/2"	32A x 15A	43.1	42.7	22.2	21.8	12.5	9.5	12.5	34.5	34.5	57	64
1.1/4" x 3/4"	32A x 20A	43.1	42.7	27.6	27.2	12.5	12.5	12.5	37.5	37.5	57	64
1.1/4" x 1"	32A x 25A	43.1	42.7	34.3	33.9	12.5	12.5	12.5	37.5	37.5	57	64
1.1/2" x 1/2"	40A x 15A	49.2	48.8	22.2	21.8	12.5	9.5	12.5	34.5	34.5	64	76
1.1/2" x 3/4"	40A x 20A	49.2	48.8	27.6	27.2	12.5	12.5	12.5	37.5	37.5	64	76
1.1/2" x 1"	40A x 25A	49.2	48.8	34.3	33.9	12.5	12.5	12.5	37.5	37.5	64	76
1.1/2" x 1.1/4"	40A x 32A	49.2	48.8	43.1	42.7	12.5	12.5	12.5	37.5	37.5	64	76
2" x 1/2"	50A x 15A	61.7	61.2	22.2	21.8	16.0	9.5	19.0	44.5	44.5	76	92
2" x 3/4"	50A x 20A	61.7	61.2	27.6	27.2	16.0	12.5	19.0	47.5	47.5	76	92
2" x 1"	50A x 25A	61.7	61.2	34.3	33.9	16.0	12.5	19.0	47.5	47.5	76	92
2" x 1.1/4"	50A x 32A	61.7	61.2	43.1	42.7	16.0	12.5	19.0	47.5	47.5	76	92
2" x 1.1/2"	50A x 40A	61.7	61.2	49.2	48.8	16.0	12.5	19.0	47.5	47.5	76	92
3" x 1"	80A x 25A	90.3	89.8	34.3	33.9	16.0	12.5	19.0	47.5	47.5	108	127
3" x 1.1/2"	80A x 40A	90.3	89.8	49.2	48.8	16.0	12.5	19.0	47.5	47.5	108	127
3" x 2"	80A x 50A	90.3	89.8	61.7	61.2	16.0	16.0	19.0	51.0	51.0	108	127
4" x 1.1/2"	100A x 40A	115.7	115.2	49.2	48.8	19.0	12.5	19.0	50.5	50.5	140	159

Reducing Coupling

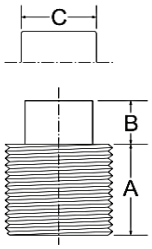


Reducing Coupling | Threaded | ASME B16.11

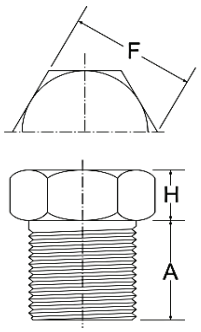
Unit : mm

Nominal Pipe Size		Internal Diameter		End to End		Outside Diameter		Length of Threaded	
				Class Designation					
		Min.		3000	6000	3000	6000		
INCH	DN	D1	D2	W		D		B	L
1/4" x 1/8"	8A x 6A	11	8	35	35	19	25	6.4	6.7
3/8" x 1/8"	10A x 6A	15	8	38	38	22	32	6.4	6.7
3/8" x 1/4"	10A x 8A	15	11	38	38	22	32	8.1	10.2
1/2" x 1/8"	15A x 6A	18	8	48	48	28	38	6.4	6.7
1/2" x 1/4"	15A x 8A	18	11	48	48	28	38	8.1	10.2
1/2" x 3/8"	15A x 10A	18	15	48	48	28	38	9.1	10.4
3/4" x 1/4"	20A x 8A	23	11	51	51	35	44	8.1	10.2
3/4" x 3/8"	20A x 10A	23	15	51	51	35	44	9.1	10.4
3/4" x 1/2"	20A x 15A	23	18	51	51	35	44	10.9	13.6
1" x 1/4"	25A x 8A	29	11	60	60	44	57	8.1	10.2
1" x 3/8"	25A x 10A	29	15	60	60	44	57	9.1	10.4
1" x 1/2"	25A x 15A	29	18	60	60	44	57	10.9	13.6
1" x 3/4"	25A x 20A	29	23	60	60	44	57	12.7	13.9
1.1/4" x 3/8"	32A x 10A	38	15	67	67	57	64	9.1	10.4
1.1/4" x 1/2"	32A x 15A	38	18	67	67	57	64	10.9	13.6
1.1/4" x 3/4"	32A x 20A	38	23	67	67	57	64	12.7	13.9
1.1/4" x 1"	32A x 25A	38	29	67	67	57	64	14.7	17.3
1.1/2" x 1/2"	40A x 15A	44	18	79	79	64	76	10.9	13.6
1.1/2" x 3/4"	40A x 20A	44	23	79	79	64	76	12.7	13.9
1.1/2" x 1"	40A x 25A	44	29	79	79	64	76	14.7	17.3
1.1/2" x 1.1/4"	40A x 32A	44	38	79	79	64	76	17.0	18.0
2" x 1/2"	50A x 15A	55	18	86	86	76	92	10.9	13.6
2" x 3/4"	50A x 20A	55	23	86	86	76	92	12.7	13.9
2" x 1"	50A x 25A	55	29	86	86	76	92	14.7	17.3
2" x 1.1/4"	50A x 32A	55	38	86	86	76	92	17.0	18.0
2" x 1.1/2"	50A x 40A	55	44	86	86	76	92	17.8	18.4
3" x 1"	80A x 25A	83	29	108	108	108	127	14.7	17.3
3" x 1.1/2"	80A x 40A	83	44	108	108	108	127	17.8	18.4
3" x 2"	80A x 50A	83	55	108	108	108	127	19.0	19.2
4" x 1.1/2"	100A x 40A	108	44	121	121	140	159	17.8	18.4

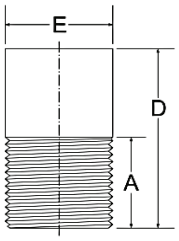
Square Head Plug



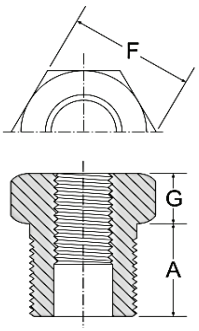
Hex Head Plug



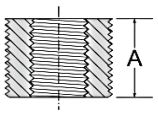
Round Head Plug



Hex Head Bushing



Flush Bushing



Plug / Bushing | ASME B16.11

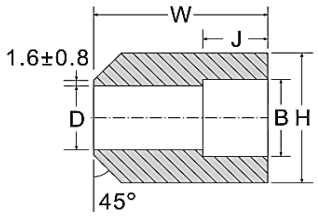
Unit : mm

Nominal Pipe Size		Length	Plug Square Head		Plugs Round Head		Hex Plugs and Bushings		
			Height of Square	Width Flats	Nominal Dia. of Head	Length	Nominal Width Flats	Hex Height	
								Bushing	Plug
		Min.				Min.		Min.	
INCH	DN	A	B	C	E	D	Flats	G	H
1/8"	6A	10	6	7	10	35	11	-	6.0
1/4"	8A	11	6	10	14	41	16	3.0	6.0
3/8"	10A	13	8	11	18	41	18	4.0	8.0
1/2"	15A	14	10	14	21	44	22	5.0	8.0
3/4"	20A	16	11	16	27	44	27	6.0	10.0
1"	25A	19	13	21	33	51	36	6.0	10.0
1.1/4"	32A	21	14	24	43	51	46	7.0	14.0
1.1/2"	40A	21	16	28	48	51	50	8.0	16.0
2"	50A	22	18	32	60	64	65	9.0	18.0
2.1/2"	65A	27	19	36	73	70	75	10.0	19.0
3"	80A	28	21	41	89	70	90	10.0	21.0
4"	100A	32	25	65	114	76	115	13.0	25.0

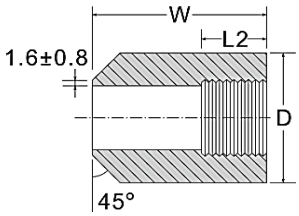
Note:

1. Hex head bushings of one soze reduction should not be used in services where they might be subjected to harmful loads and forces other than internal pressures.

Boss (Socket Weld)



Boss (Threaded)



Boss | Socket Weld | ASME B16.11

Unit : mm

Nominal Pipe Size		Diameter of Socket		Diameter of Bore		Depth of Socket		End to End		Outside Diameter		Weight
		Class Designation										
		3000	6000	3000	6000	3000	6000	3000	6000	3000	6000	
INCH	DN	B		D		J		W		H		KG
1/4"	8A	14.3	-	9.3	-	9.9	-	39.9	-	22.3	-	0.09
3/8"	10A	17.7	-	12.6	-	10.9	-	50.0	-	26.5	-	0.14
1/2"	15A	21.9	21.9	15.8	11.8	13.0	14.0	50.0	50.0	34.2	43.3	0.24
3/4"	20A	27.3	27.3	21.0	15.6	14.0	16.0	50.0	50.0	39.5	49.1	0.28
1"	25A	34.0	34.0	26.7	20.7	16.0	18.0	50.0	50.0	46.3	56.0	0.41
1.1/4"	32A	42.8	42.8	35.1	29.5	18.0	19.1	50.0	50.0	55.2	65.2	0.44
1.1/2"	40A	48.9	48.9	40.9	34.0	19.1	22.0	50.0	50.0	65.1	80.1	0.63
2"	50A	61.4	61.4	52.5	42.9	22.1	25.9	59.9	59.9	80.2	95.1	1.09

Note:

1.Socket dimensions in accordance with ASME B16.11.

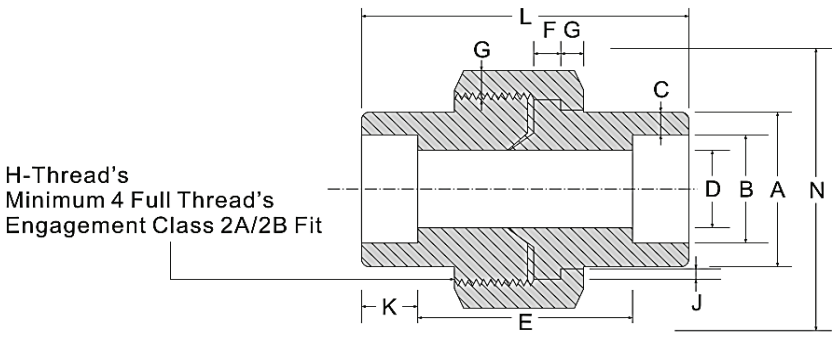
Boss | Threaded | ASME B16.11

Unit : mm

Nominal Pipe Size		Bore Diameter		End to End		Length of Threaded		Weight
		Class Designation						
		3000	6000	3000	6000	3000	6000	
INCH	DN	D		W		L2		KG
1/4"	8A	22.1	25.9	39.9	39.9	10.0	10.0	0.09
3/8"	10A	25.9	36.0	50.0	50.0	10.5	10.5	0.14
1/2"	15A	34.0	43.9	50.0	50.0	13.5	13.5	0.24
3/4"	20A	39.1	50.0	50.0	50.0	14.0	14.0	0.28
1"	25A	48.0	59.9	50.0	50.0	17.5	17.5	0.41
1.1/4"	32A	59.9	65.0	50.0	50.0	18.0	18.0	0.44
1.1/2"	40A	65.0	80.0	50.0	50.0	18.5	18.5	0.63
2"	50A	80.0	95.0	59.9	59.9	19.0	19.0	1.09

Note:

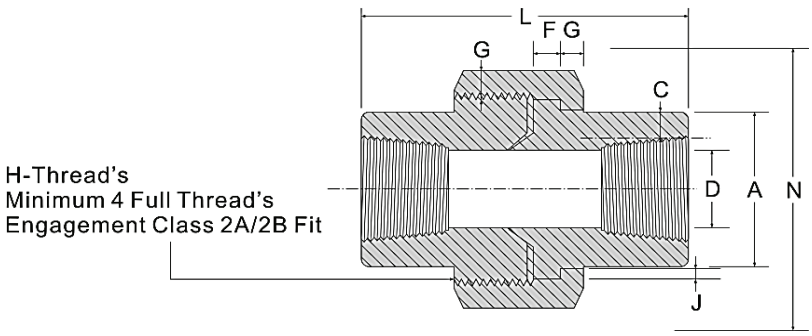
1. Thread in accordance with GB/T12716, GB7306, ASME B1.20.1.



Union | Socket | 3000# | MSS SP 83

Unit : mm

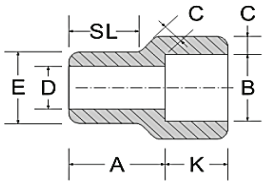
Nominal Pipe Size		Pipe End	Socket Bore	Socket Wall	Water Way Bore	Laying Length	Male Flange	Nut	Thrds Per Inch	Bearing	Depth of Socket	Length Assem.	Clear Assem. Nut	Weight
		Min.	Dia.	Min.			Min.		Max.	Min.		Nom.		
INCH	DN	A	B	C	D	E	F	G	H	J	K	L	N	KG
1/8"	6A	21.8	~ 10.67 11.18	3.18	~ 6.07 7.59	~ 19.1 22.4	3.18	3.18	16	1.24	9.7	41.4	50.8	0.28
1/4"	8A	21.8	~ 14.10 14.61	3.3	~ 10.01 8.48	~ 22.4 19.1	3.18	3.18	16	1.24	9.7	41.4	50.8	0.28
3/8"	10A	25.9	~ 17.53 18.03	3.51	~ 11.76 13.28	~ 20.6 26.9	3.43	3.43	14	1.37	9.7	46.0	55.9	0.28
1/2"	15A	31.2	~ 21.73 22.23	4.09	~ 15.04 16.56	~ 20.6 26.9	3.68	3.68	14	1.50	9.7	49.0	58.4	0.31
3/4"	20A	37.1	~ 27.05 27.56	4.27	~ 20.17 21.69	~ 25.4 31.8	4.06	4.06	11	1.68	12.7	56.9	66.0	0.46
1"	25A	45.5	~ 33.78 34.29	4.98	~ 25.88 27.41	~ 26.2 34.3	4.57	4.45	11	1.85	12.7	62.0	78.7	0.67
1.1/4"	32A	54.9	~ 42.55 43.05	5.28	~ 34.29 35.81	~ 32.5 40.6	5.33	5.21	11	2.13	12.7	71.1	94.0	1.03
1.1/2"	40A	61.5	~ 48.64 49.15	5.54	~ 40.13 41.66	~ 34.0 42.2	5.84	5.59	10	2.31	12.7	76.5	111.8	1.51
2"	50A	75.2	~ 61.11 61.62	6.05	~ 51.74 53.26	~ 37.3 45.5	6.60	6.35	10	2.69	15.7	86.1	132.1	2.43
2.1/2"	65A	91.7	~ 73.81 74.45	7.67	~ 61.19 64.24	~ 52.1 61.7	7.49	7.11	8	3.07	15.7	102.4	149.9	3.48
3"	80A	109.2	~ 89.79 90.42	8.31	~ 76.40 79.49	~ 53.6 63.8	8.26	8.00	8	3.53	15.7	109.0	175.3	5.25



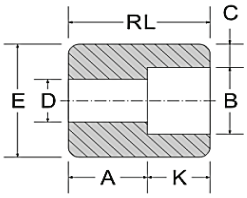
Union | Threaded | 3000# | MSS SP 83

Unit : mm

Nominal Pipe Size		Pipe End	Wall	Water Way Bore	Male Flange	Nut	Thrds. per Inch	Bearing	Length Assem.	Clear Assem. Nut	Weight
		Min.			Min.		Max.	Min.	Nom.		
INCH	DN	A	C	D	F	G	H	J	L	N	KG
1/8"	6A	14.7	2.41	~ 6.43 8.43	3.18	3.18	16	1.24	41.4	50.8	0.28
1/4"	8A	19.0	3.02	~ 9.45 11.13	3.18	3.18	16	1.24	41.4	50.8	0.28
3/8"	10A	22.9	3.20	~ 13.51 14.27	3.43	3.43	14	1.37	46.0	55.9	0.28
1/2"	15A	27.7	3.73	~ 17.07 17.86	3.68	3.68	14	1.50	49.0	58.4	0.31
3/4"	20A	33.5	3.91	~ 21.39 23.01	4.06	4.06	11	1.68	56.9	66.0	0.46
1"	25A	41.4	4.55	~ 27.74 28.98	4.57	4.45	11	1.85	62.0	78.7	0.67
1.1/4"	32A	50.5	4.85	~ 35.36 37.69	5.33	5.21	11	2.13	71.1	94.0	1.03
1.1/2"	40A	57.2	5.08	~ 41.20 43.54	5.84	5.59	10	2.31	76.5	111.8	1.51
2"	50A	70.1	5.54	~ 52.12 55.58	6.60	6.35	10	2.69	86.1	132.1	2.43
2.1/2"	65A	85.3	7.01	~ 64.31 66.27	7.49	7.11	8	3.07	102.4	149.9	3.48
3"	80A	102.4	7.62	~ 77.27 88.25	8.26	8.00	8	3.53	109.0	175.3	5.25



Design 1



Design 2

Reducing Insert | Socket Weld | MSS SP 79

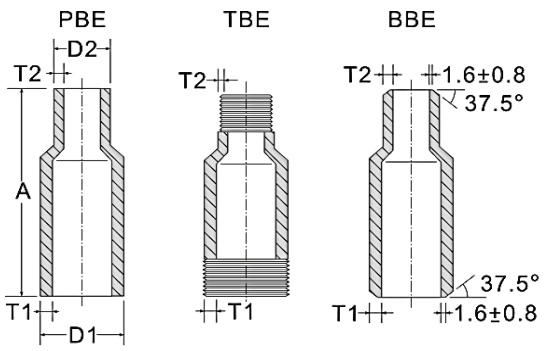
Nominal Pipe Size		Design Class Designation		Socket Dia.	Socket Depth	Shank Dia.	Laying Length		Bore		Wall Min.		Length		Length Min.	
		3000	6000		Min.		3000	6000	3000	6000	3000	6000	3000	6000	3000	6000
INCH	DN			B	K	D	A		D		C		SL		RL	
3/8" x 1/4"	10A x 8A	1	1	14.35	10	17.15	19	21	9.0	6.5	3.78	4.60	14	16	-	-
1/2" x 3/8"	15A x 10A	1	1	17.78	10	21.34	21	23	12.5	9.0	4.01	5.03	16	16	-	-
1/2" x 1/4"	15A x 8A	1	1	14.35	10	21.34	21	21	9.0	6.5	3.78	4.60	16	16	-	-
3/4" x 1/2"	20A x 15A	1	1	21.97	10	26.67	22	25	16.0	11.5	4.67	5.97	17	19	-	-
3/4" x 3/8"	20A x 10A	2	1	17.78	10	26.67	16	22	12.5	9.0	4.01	5.03	-	19	27.00	-
3/4" x 1/4"	20A x 8A	2	2	14.35	10	26.67	18	22	9.0	6.5	3.78	4.60	-	-	27.00	32
1" x 3/4"	25A x 20A	1	1	27.31	13	33.4	24	28	21.0	15.5	4.90	6.96	19	21	-	-
1" x 1/2"	25A x 15A	2	1	21.97	10	33.4	16	28	16.0	11.5	4.67	5.97	-	21	28.00	-
1" x 3/8"	25A x 10A	2	2	17.78	10	33.4	18	22	12.5	9.0	4.01	5.03	-	-	28.00	33
1" x 1/4"	25A x 8A	2	2	14.35	10	33.4	19	24	9.0	6.5	3.78	4.60	-	-	28.00	33
1.1/4" x 1"	32A x 25A	1	1	34.04	13	42.16	25	30	26.5	20.5	5.69	7.92	21	22	-	-
1.1/4" x 3/4"	32A x 20A	2	2	27.31	13	42.16	18	21	21.0	15.5	4.90	6.96	-	-	32.00	35
1.1/4" x 1/2"	32A x 15A	2	2	21.97	10	42.16	19	22	16.0	11.5	4.67	5.97	-	-	32.00	35
1.1/4" x 3/8"	32A x 10A	2	2	17.78	10	42.16	21	24	12.5	9.0	4.01	5.03	-	-	32.00	35
1.1/4" x 1/4"	32A x 8A	2	2	14.35	10	42.16	22	25	9.0	6.5	3.78	4.60	-	-	32.00	35
1.1/2" x 1.1/4'	40A x 32A	1	1	42.80	13	48.26	28	35	35.0	29.5	6.07	7.92	22	25	-	-
1.1/2" x 1"	40A x 25A	2	1	34.04	13	48.26	18	29	26.5	20.5	5.69	7.92	-	25	33.00	-
1.1/2" x 3/4"	40A x 20A	2	2	27.31	13	48.26	19	25	21.0	15.5	4.90	6.96	-	-	33.00	40
1.1/2" x 1/2"	40A x 15A	2	2	21.97	10	48.26	21	27	16.0	11.5	4.67	5.97	-	-	33.00	40
1.1/2" x 3/8"	40A x 10A	2	2	17.78	10	48.26	22	28	12.5	9.0	4.01	5.03	-	-	33.00	40
2" x 1.1/2"	50A x 40A	1	1	48.90	13	60.32	32	39	41.0	34.0	6.35	8.90	25	28	-	-
2" x 1.1/4"	50A x 32A	2	2	42.80	13	60.32	21	24	35.0	29.5	6.07	7.92	-	-	38.00	41
2" x 1"	50A x 25A	2	2	34.04	13	60.32	22	25	26.5	21.0	5.69	7.92	-	-	38.00	41
2" x 3/4"	50A x 20A	2	2	27.31	13	60.32	24	27	21.0	15.5	4.90	6.96	-	-	38.00	41
2" x 1/2"	50A x 15A	2	2	21.97	10	60.32	25	28	16.0	11.5	4.67	5.97	-	-	38.00	41
2.1/2" x 2"	65A x 50A	1	1	61.37	16	73.02	46	43	52.5	43.0	6.93	10.92	38	32	-	-
2.1/2" x 1.1/2'	65A x 40A	2	2	48.90	13	73.02	35	-	41.0	-	6.35	-	-	-	54.00	-
2.1/2" x 1.1/4'	65A x 32A	2	2	42.80	13	73.02	37	-	35.0	-	6.07	-	-	-	54.00	-
2.1/2" x 1"	65A x 25A	2	2	34.04	13	73.02	38	-	26.5	-	5.69	-	-	-	54.00	-
2.1/2" x 3/4"	65A x 20A	2	2	27.31	13	73.02	40	-	21.0	-	4.90	-	-	-	54.00	-
3" x 2.1/2"	80A x 65A	1	-	74.07	16	88.9	38	-	62.5	-	8.76	-	32	-	-	-
3" x 2"	80A x 50A	2	-	61.37	16	88.9	25	-	52.5	-	6.93	-	-	-	48.00	-
3" x 1.1/2"	80A x 40A	2	-	48.90	13	88.9	29	-	41.0	-	6.35	-	-	-	48.00	-
3" x 1.1/4"	80A x 32A	2	-	42.80	13	88.9	30	-	35.0	-	6.07	-	-	-	48.00	-
3" x 1"	80A x 25A	2	-	34.04	13	88.9	32	-	26.5	-	5.69	-	-	-	48.00	-
4" x 3"	100A x 80A	2	-	90.04	16	114.3	33	-	78.0	-	9.50	-	-	-	60.00	-
4" x 2.1/2"	100A x 65A	2	-	74.07	16	114.3	38	-	62.5	-	8.76	-	-	-	60.00	-
4" x 2"	100A x 50A	2	-	61.37	16	114.3	38	-	52.5	-	6.93	-	-	-	60.00	-
4" x 1.1/2"	100A x 40A	2	-	48.90	13	114.3	42	-	41.0	-	6.35	-	-	-	60.00	-
4" x 1.1/4"	100A x 32A	2	-	42.80	13	114.3	43	-	35.0	-	6.07	-	-	-	60.00	-

Note: At the option of the manufacturer Design 2 Reducer may be furnished in Design 1 configuration.

Tolerance

Laying Length	A	3/8"	- 3/4"	+1.5mm/-0.0mm
		1"	- 2"	+2.0mm/-0.0mm
		2.1/2"	- 4"	+2.5mm/-0.0mm
Socket Diam.	B	1/4"	- 2"	±0.25mm
		2.1/2"	- 3"	+0.4mm/-0.25mm
Bore	D	1/4"	- 2"	±0.8mm
		2.1/2"	- 3"	±1.5mm
Shank Diam.	SD	3/8"	- 1.1/2"	±0.25mm
		2"	- 3"	±0.5mm
		4"	-	±0.75mm
Shank Length	SL	3/8"	- 3/4"	+0.0mm/-1.5mm
		1"	- 2"	+0.0mm/-2.0mm
		2.1/2"	- 4"	+0.0mm/-2.5mm

Concentric



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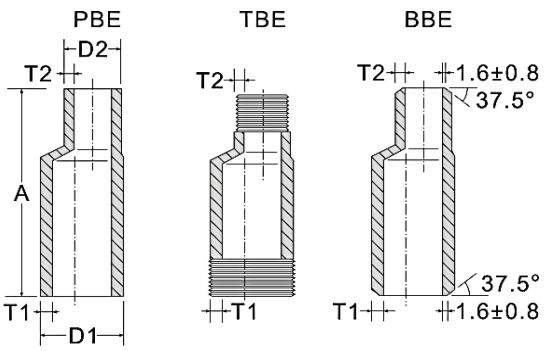
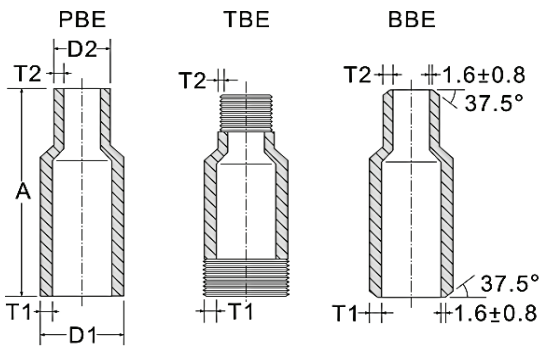


Swaged Nipple | Plain | MSS SP 95

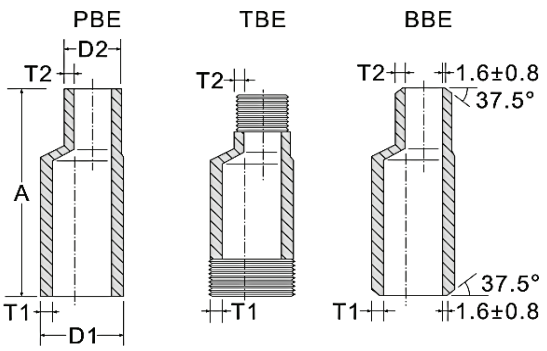
Unit : mm

Nominal Pipe Size		Outside Diameter		End to End	Wall Thickness							
		Large End	Small End		T1				T2			
INCH	DN	D1	D2	A	S40/STD	S80/XS	S160	XXS	S40/STD	S80/XS	S160	XXS
1/4" x 1/8"	8A x 6A	13.7	10.3	57	2.2	3.0	3.7	6.1	1.7	2.4	3.2	4.8
3/8" x 1/8"	10A x 6A	17.1	10.3	64	2.3	3.2	4.0	6.4	1.7	2.4	3.2	4.8
3/8" x 1/4"	10A x 8A	17.1	13.7	64	2.3	3.2	4.0	6.4	2.2	3.0	3.7	6.1
1/2" x 1/8"	15A x 6A	21.3	10.3	70	2.8	3.7	4.7	7.5	1.7	2.4	3.2	4.8
1/2" x 1/4"	15A x 8A	21.3	13.7	70	2.8	3.7	4.7	7.5	2.2	3.0	3.7	6.1
1/2" x 3/8"	15A x 10A	21.3	17.1	70	2.8	3.7	4.7	7.5	2.3	3.2	4.0	6.4
3/4" x 1/8"	20A x 6A	26.7	10.3	76	2.9	3.9	5.5	7.8	1.7	2.4	3.2	4.8
3/4" x 1/4"	20A x 8A	26.7	13.7	76	2.9	3.9	5.5	7.8	2.2	3.0	3.7	6.1
3/4" x 3/8"	20A x 10A	26.7	17.1	76	2.9	3.9	5.5	7.8	2.3	3.2	4.0	6.4
3/4" x 1/2"	20A x 15A	26.7	21.3	76	2.9	3.9	5.5	7.8	2.8	3.7	4.7	7.5
1" x 1/8"	25A x 6A	33.4	10.3	89	3.4	4.5	6.4	9.1	1.7	2.4	3.2	4.8
1" x 1/4"	25A x 8A	33.4	13.7	89	3.4	4.5	6.4	9.1	2.2	3.0	3.7	6.1
1" x 3/8"	25A x 10A	33.4	17.1	89	3.4	4.5	6.4	9.1	2.3	3.2	4.0	6.4
1" x 1/2"	25A x 15A	33.4	21.3	89	3.4	4.5	6.4	9.1	2.8	3.7	4.7	7.5
1" x 3/4"	25A x 20A	33.4	26.7	89	3.4	4.5	6.4	9.1	2.9	3.9	5.5	7.8
1.1/4" x 1/8"	32A x 6A	42.2	10.3	102	3.6	4.9	6.4	9.7	1.7	2.4	3.2	4.8
1.1/4" x 1/4"	32A x 8A	42.2	13.7	102	3.6	4.9	6.4	9.7	2.2	3.0	3.7	6.1
1.1/4" x 3/8"	32A x 10A	42.2	17.1	102	3.6	4.9	6.4	9.7	2.3	3.2	4.0	6.4
1.1/4" x 1/2"	32A x 15A	42.2	21.3	102	3.6	4.9	6.4	9.7	2.8	3.7	4.7	7.5
1.1/4" x 3/4"	32A x 20A	42.2	26.7	102	3.6	4.9	6.4	9.7	2.9	3.9	5.5	7.8
1.1/4" x 1"	32A x 25A	42.2	33.4	102	3.6	4.9	6.4	9.7	3.4	4.5	6.4	9.1
1.1/2" x 1/8"	40A x 6A	48.3	10.3	114	3.7	5.1	7.1	10.2	1.7	2.4	3.2	4.8
1.1/2" x 1/4"	40A x 8A	48.3	13.7	114	3.7	5.1	7.1	10.2	2.2	3.0	3.7	6.1
1.1/2" x 3/8"	40A x 10A	48.3	17.1	114	3.7	5.1	7.1	10.2	2.3	3.2	4.0	6.4
1.1/2" x 1/2"	40A x 15A	48.3	21.3	114	3.7	5.1	7.1	10.2	2.8	3.7	4.7	7.5
1.1/2" x 3/4"	40A x 20A	48.3	26.7	114	3.7	5.1	7.1	10.2	2.9	3.9	5.5	7.8
1.1/2" x 1"	40A x 25A	48.3	33.4	114	3.7	5.1	7.1	10.2	3.4	4.5	6.4	9.1
1.1/2" x 1.1/4"	40A x 32A	48.3	42.2	114	3.7	5.1	7.1	10.2	3.6	4.9	6.4	9.7
2" x 1/8"	50A x 6A	60.3	10.3	165	3.9	5.5	8.7	11.1	1.7	2.4	3.2	4.8
2" x 1/4"	50A x 8A	60.3	13.7	165	3.9	5.5	8.7	11.1	2.2	3.0	3.7	6.1
2" x 3/8"	50A x 10A	60.3	17.1	165	3.9	5.5	8.7	11.1	2.3	3.2	4.0	6.4
2" x 1/2"	50A x 15A	60.3	21.3	165	3.9	5.5	8.7	11.1	2.8	3.7	4.7	7.5
2" x 3/4"	50A x 20A	60.3	26.7	165	3.9	5.5	8.7	11.1	2.9	3.9	5.5	7.8
2" x 1"	50A x 25A	60.3	33.4	165	3.9	5.5	8.7	11.1	3.4	4.5	6.4	9.1
2" x 1.1/4"	50A x 32A	60.3	42.2	165	3.9	5.5	8.7	11.1	3.6	4.9	6.4	9.7
2" x 1.1/2"	50A x 40A	60.3	48.3	165	3.9	5.5	8.7	11.1	3.7	5.1	7.1	10.2
2.1/2" x 1/8"	65A x 6A	73.0	10.3	178	5.2	7.0	9.5	14.0	1.7	2.4	3.2	4.8
2.1/2" x 1/4"	65A x 8A	73.0	13.7	178	5.2	7.0	9.5	14.0	2.2	3.0	3.7	6.1
2.1/2" x 3/8"	65A x 10A	73.0	17.1	178	5.2	7.0	9.5	14.0	2.3	3.2	4.0	6.4

Concentric



Eccentric

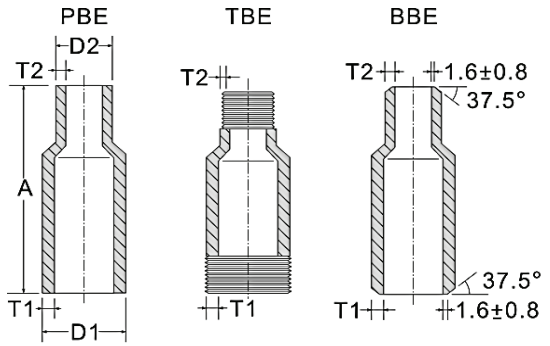


Swaged Nipple | Plain | MSS SP 95

Unit : mm

Nominal Pipe Size		Outside Diameter		End to End	Wall Thickness							
		Large End	Small End		T1				T2			
INCH	DN	D1	D2	A	S40/STD	S80/XS	S160	XXS	S40/STD	S80/XS	S160	XXS
2.1/2" x 1/2"	65A x 15A	73.0	21.3	178	5.2	7.0	9.5	14.0	2.8	3.7	4.7	7.5
2.1/2" x 3/4"	65A x 20A	73.0	26.7	178	5.2	7.0	9.5	14.0	2.9	3.9	5.5	7.8
2.1/2" x 1"	65A x 25A	73.0	33.4	178	5.2	7.0	9.5	14.0	3.4	4.5	6.4	9.1
2.1/2" x 1.1/4"	65A x 32A	73.0	42.2	178	5.2	7.0	9.5	14.0	3.6	4.9	6.4	9.7
2.1/2" x 1.1/2"	65A x 40A	73.0	48.3	178	5.2	7.0	9.5	14.0	3.7	5.1	7.1	10.2
2.1/2" x 2"	65A x 50A	73.0	60.3	178	5.2	7.0	9.5	14.0	3.9	5.5	8.7	11.1
3" x 1/8"	80A x 6A	88.9	10.3	203	5.5	7.6	11.5	15.2	1.7	2.4	3.2	4.8
3" x 1/4"	80A x 8A	88.9	13.7	203	5.5	7.6	11.5	15.2	2.2	3.0	3.7	6.1
3" x 3/8"	80A x 10A	88.9	17.1	203	5.5	7.6	11.5	15.2	2.3	3.2	4.0	6.4
3" x 1/2"	80A x 15A	88.9	21.3	203	5.5	7.6	11.5	15.2	2.8	3.7	4.7	7.5
3" x 3/4"	80A x 20A	88.9	26.7	203	5.5	7.6	11.5	15.2	2.9	3.9	5.5	7.8
3" x 1"	80A x 25A	88.9	33.4	203	5.5	7.6	11.5	15.2	3.4	4.5	6.4	9.1
3" x 1.1/4"	80A x 32A	88.9	42.2	203	5.5	7.6	11.5	15.2	3.6	4.9	6.4	9.7
3" x 1.1/2"	80A x 40A	88.9	48.3	203	5.5	7.6	11.5	15.2	3.7	5.1	7.1	10.2
3" x 2"	80A x 50A	88.9	60.3	203	5.5	7.6	11.5	15.2	3.9	5.5	8.7	11.1
3" x 2.1/2"	80A x 65A	88.9	73.0	203	5.5	7.6	11.5	15.2	5.2	7.0	9.5	14.0
3.1/2" x 1/8"	90A x 6A	101.6	10.3	203	5.7	8.1	-	-	1.7	2.4	3.2	4.8
3.1/2" x 1/4"	90A x 8A	101.6	13.7	203	5.7	8.1	-	-	2.2	3.0	3.7	6.1
3.1/2" x 3/8"	90A x 10A	101.6	17.1	203	5.7	8.1	-	-	2.3	3.2	4.0	6.4
3.1/2" x 1/2"	90A x 15A	101.6	21.3	203	5.7	8.1	-	-	2.8	3.7	4.7	7.5
3.1/2" x 3/4"	90A x 20A	101.6	26.7	203	5.7	8.1	-	-	2.9	3.9	5.5	7.8
3.1/2" x 1"	90A x 25A	101.6	33.4	203	5.7	8.1	-	-	3.4	4.5	6.4	9.1
3.1/2" x 1.1/4"	90A x 32A	101.6	42.2	203	5.7	8.1	-	-	3.6	4.9	6.4	9.7
3.1/2" x 1.1/2"	90A x 40A	101.6	48.3	203	5.7	8.1	-	-	3.7	5.1	7.1	10.2
3.1/2" x 2"	90A x 50A	101.6	60.3	203	5.7	8.1	-	-	3.9	5.5	8.7	11.1
3.1/2" x 2.1/2"	90A x 65A	101.6	73.0	203	5.7	8.1	-	-	5.2	7.0	9.5	14.0
3.1/2" x 3"	90A x 80A	101.6	88.9	203	5.7	8.1	-	-	5.5	7.6	11.5	15.2
4" x 1/4"	100A x 8A	114.3	13.7	229	6.0	8.6	13.5	17.1	2.2	3.0	3.7	6.1
4" x 3/8"	100A x 10A	114.3	17.1	229	6.0	8.6	13.5	17.1	2.3	3.2	4.0	6.4
4" x 1/2"	100A x 15A	114.3	21.3	229	6.0	8.6	13.5	17.1	2.8	3.7	4.7	7.5
4" x 3/4"	100A x 20A	114.3	26.7	229	6.0	8.6	13.5	17.1	2.9	3.9	5.5	7.8
4" x 1"	100A x 25A	114.3	33.4	229	6.0	8.6	13.5	17.1	3.4	4.5	6.4	9.1
4" x 1.1/4"	100A x 32A	114.3	42.2	229	6.0	8.6	13.5	17.1	3.6	4.9	6.4	9.7
4" x 1.1/2"	100A x 40A	114.3	48.3	229	6.0	8.6	13.5	17.1	3.7	5.1	7.1	10.2
4" x 2"	100A x 50A	114.3	60.3	229	6.0	8.6	13.5	17.1	3.9	5.5	8.7	11.1
4" x 2.1/2"	100A x 65A	114.3	73.0	229	6.0	8.6	13.5	17.1	5.2	7.0	9.5	14.0
4" x 3"	100A x 80A	114.3	88.9	229	6.0	8.6	13.5	17.1	5.5	7.6	11.5	15.2
4" x 3.1/2"	100A x 90A	114.3	101.6	229	6.0	8.6	13.5	17.1	5.7	8.1	-	-

Concentric



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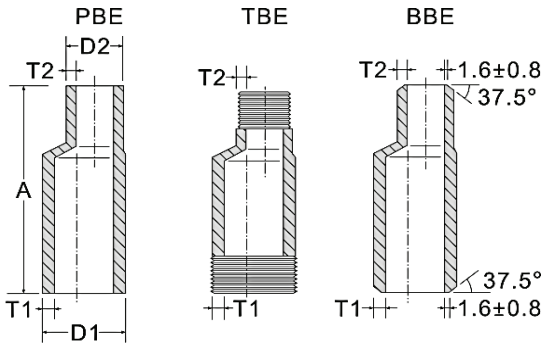


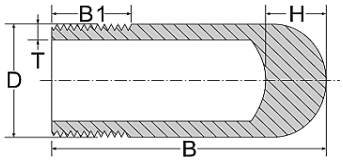
Tolerance

Unit : mm

Nominal Pipe Size		Overall Length	Outside Diameter at End		Wall Thickness
INCH	DN		Square Cut Ends	Other End Connections	See Note 1
1/8" - 3/8"	6A - 10A	± 2	+0.4 -0.8	-0.8	Not less than 87.5% of nominal wall thickness
1/2" - 1.1/2"	15A - 40A	± 2	+0.4 -0.8	+1.5-0.8	
2" - 2.1/2"	50A - 65A	± 3	±0.8	+1.5-0.8	
3" - 4"	80A - 100A	± 3	±0.8	±1.5	

Note:
1.Prior to threading or grooving.

PBE : Plain Both Ends
PSE : Plain Small Ends
PLE : Plain Large Ends
BBE : Bevel Both Ends
BSE : Bevel Small Ends
BLE : Bevel Large Ends
TBE : Thread Both Ends
TSE : Thread Small Ends
TLE : Thread Large Ends



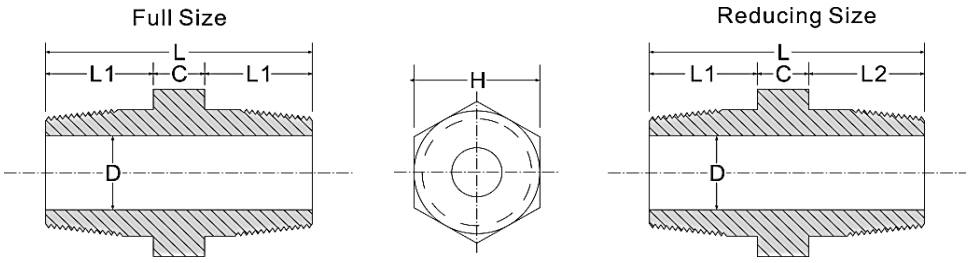
Bull Plug | Threaded | MSS SP 95

Nominal Pipe Size		Diameter	Length	Length of Threaded	Thickness			
					S40/STD	S80/XS	S160	XXS
INCH	DN	D	B	B1	T			H
1/8"	6A	10.3	34	9.5	1.7	2.4	3.2	4.8
1/4"	8A	13.7	34	11.0	2.2	3.0	3.7	14 6.1
3/8"	10A	17.1	57	12.5	2.3	3.2	4.0	6.4
1/2"	15A	21.3	64	14.5	2.8	3.7	4.7	14 7.5
3/4"	20A	26.7	70	16.0	2.9	3.9	5.5	7.8
1"	25A	33.4	76	19.0	3.4	4.5	6.4	18 9.1
1.1/4"	32A	42.2	83	20.5	3.6	4.9	6.4	9.7
1.1/2"	40A	48.3	89	20.5	3.7	5.1	7.1	18 10.2
2"	50A	60.3	102	22.0	3.9	5.5	8.7	11.1
2.1/2"	65A	73.0	127	27.0	5.2	7.0	9.5	20 14.0
3"	80A	88.9	152	28.5	5.5	7.6	11.5	15.2
4"	100A	114.3	178	32.0	6.0	8.6	13.5	20 17.1

Note:

1.Thread in accordance with ASME B1.20.1.

2.Wall thickness (T Min.) in accordance with ASME B36.10M.



Hex Nipple | Threaded | ANSI/ASME B1.20.1

Unit : mm

Nominal Pipe Size		Length of Hex Nut	Length of Threaded End	End to End	Interal Dia.	Dia. of Nex Nut	Weight
INCH	DN	C	L1	L	D	H	KG
1/8"	6A	6.0	10.0	26.0	4.0	12.0	0.03
1/4"	8A	8.0	14.0	36.0	6.7	17.0	0.04
3/8"	10A	8.0	14.0	36.0	8.9	19.0	0.05
1/2"	15A	9.0	19.0	47.0	11.9	24.0	0.09
3/4"	20A	10.0	19.0	48.0	16.0	30.0	0.15
1"	25A	11.0	24.0	59.0	20.1	35.0	0.27
1.1/4"	32A	12.0	24.0	60.0	27.9	46.0	0.45
1.1/2"	40A	14.0	24.0	62.0	32.0	50.0	0.62
2"	50A	16.0	26.0	68.0	39.9	65.0	1.03
2.1/2"	65A	18.0	38.0	94.0	55.1	80.0	1.51
3"	80A	20.0	40.0	100.0	65.0	95.0	2.22
4"	100A	24.5	40.0	105.0	85.0	125.5	4.00

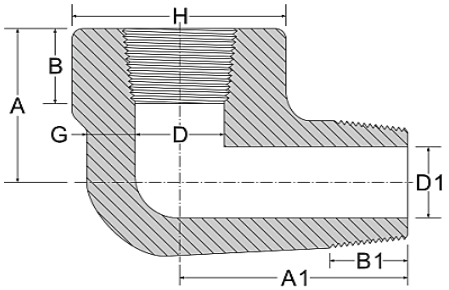
Reducing Hex Nipple | Threaded | ANSI/ASME B1.20.1

Unit : mm

Nominal Pipe Size		Length of Nex Nut	Length of Threaded End	Length of Large Threaded End	End to End	Internal Diameter	Diameter of Nex Nut	Weight
INCH	DN	C	L1	L2	L	Diameter	H	KG
3/8" x 1/4"	10A x 8A	8	14	14	36	6.7	19	0.05
1/2" x 1/4"	15A x 8A	9	19	14	42	6.7	24	0.09
1/2" x 3/8"	15A x 10A	9	19	14	42	8.9	24	0.09
3/4" x 1/4"	20A x 8A	10	19	14	43	6.7	30	0.15
3/4" x 3/8"	20A x 10A	10	19	14	43	8.9	30	0.15
3/4" x 1/2"	20A x 15A	10	19	19	48	11.9	30	0.15
1" x 3/8"	25A x 10A	11	24	14	49	8.9	34	0.27
1" x 1/2"	25A x 15A	11	24	19	54	11.9	34	0.27
1" x 3/4"	25A x 20A	11	24	19	54	16.0	34	0.27
1.1/4" x 1/2"	32A x 15A	12	24	19	55	11.9	46	0.45
1.1/4" x 3/4"	32A x 20A	12	24	19	55	16.0	46	0.45
1.1/4" x 1"	32A x 25A	12	24	24	60	20.1	46	0.45
1.1/2" x 3/4"	40A x 20A	14	24	19	57	16.0	50	0.62
1.1/2" x 1"	40A x 25A	14	24	24	62	20.1	50	0.62
1.1/2" x 1.1/4"	40A x 32A	14	24	24	62	27.9	50	0.62
2" x 1"	50A x 25A	16	26	24	66	20.1	65	1.03
2" x 1.1/4"	50A x 32A	16	26	24	66	27.9	65	1.03
2" x 1.1/2"	50A x 40A	16	26	24	66	32.0	65	1.03
2.1/2" x 1.1/4"	65A x 32A	18	38	24	80	27.9	80	1.51
2.1/2" x 1.1/2"	65A x 40A	18	38	24	80	32.0	80	1.51
2.1/2" x 2"	65A x 50A	18	38	26	82	39.9	80	1.51
3" x 2"	80A x 50A	20	40	24	84	32.0	95	2.22
3" x 2"	80A x 50A	20	40	26	86	39.9	95	2.22
3" x 2.1/2"	80A x 65A	20	40	38	98	55.1	95	2.22

Note:

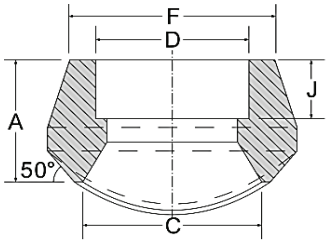
1. H.Size 2.1/2" and smaller are hexgonal bodies,size 3" is Octagonal body.

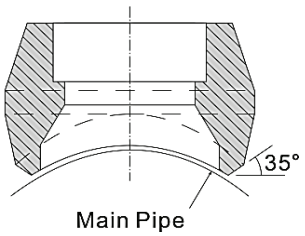


Street Elbow | Threaded | ASME B16.11

Unit : mm

Nominal Pipe Size		Outside Dia. of Bend		Center to End				Internal Diameter				Thickness		Length of Internal Thread		Length of External Thread	
		Class Designation															
		3000	6000	3000	6000	3000	6000	3000	6000	3000	6000	3000	6000	3000	6000	3000	6000
INCH	DN	H		A		A1		D		D1		G		B		B1	
1/4"	8A	25	33	22.2	25.4	31.7	38.1	11.2	11.2	7	3	3.3	6.6	8	8	10.3	10.3
3/8"	10A	33	38	25.4	28.6	38.1	41.2	14.5	14.5	9	4.7	3.51	6.98	9	9	10.4	10.4
1/2"	15A	38	46	28.6	34.9	41.2	47.6	15.7	15.7	13	6.3	4.09	8.15	11	11	13.6	13.6
3/4"	20A	46	56	34.9	44.5	47.6	57.2	20.9	20.9	16	11.1	4.32	8.53	12.5	12.5	13.8	13.8
1"	25A	56	62	44.5	50.8	57.2	66.7	26.6	26.6	20	15.2	4.98	9.93	14.5	14.5	17.3	17.3
1.1/4"	32A	62	75	50.8	54	66.7	71.4	35	35	28	22.8	5.28	10.59	17	17	18	18
1.1/2"	40A	75	84	54	63.5	71.4	84	40.9	40.9	30	27.9	5.56	11.07	18	18	18.4	18.4
2"	50A	84	-	63.5	-	84	-	52.5	-	40	-	7.14	-	19	-	19.3	-





Sockolet | 3000# | STD/XS | ANSI ASME B16.11

Unit : mm

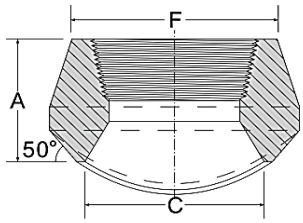
Out-Let Pipe NPS		A	C	D	F	J (Min.)
1/8"	6A	19	13.7	10.9	17.3	10
1/4"	8A	19	13.7	14.4	22	10
3/8"	10A	21	17.1	17.8	25.8	10
1/2"	15A	25	21.3	22	31.3	10
3/4"	20A	27	26.7	27.3	37.1	13
1"	25A	33	33.4	34.1	45.5	13
1.1/4"	32A	33	42.2	42.8	54.9	13
1.1/2"	40A	35	48.3	48.9	61.6	13
2"	50A	38	60.3	61.4	75.3	16
2.1/2"	65A	46	73	74.2	91.7	16
3"	80A	51	88.9	90.1	109.1	16
4"	100A	57	114.3	115.8	137.2	19

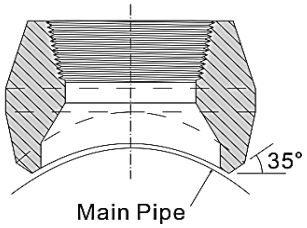
Sockolet | 6000# | S160/XXS | ANSI ASME B16.11

Out-Let Pipe NPS		A	C	D	F	J (Min.)
1/2"	15A	32	16.6	22	33.9	10
3/4"	20A	37	21.2	27.3	41.2	13
1"	25A	40	27	34.1	49.9	13
1.1/4"	32A	41	35.8	42.8	58.6	13
1.1/2"	40A	43	41.2	48.9	66.7	13
2"	50A	52	51.6	61.4	83.2	16

Note:

1. 3000# Out-let size 4" and less fit a number of run pipe sizes and the fittings are marked accordingly.





Threadedolet | 3000# | STD/XS | ANSI ASME B1.20.1

Unit : mm

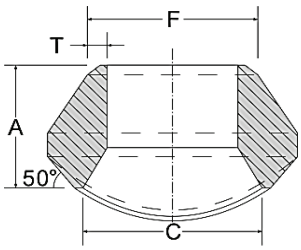
Out-Let Pipe NPS		A	C	F
1/8"	6A	19	13.7	17.3
1/4"	8A	19	13.7	22
3/8"	10A	21	17.1	25.8
1/2"	15A	25	21.3	31.3
3/4"	20A	27	26.7	37.1
1"	25A	33	33.4	45.5
1.1/4"	32A	33	42.2	54.9
1.1/2"	40A	35	48.3	61.6
2"	50A	38	60.3	75.3
2.1/2"	65A	46	73	91.7
3"	80A	51	88.9	109.1
4"	100A	57	114.3	137.2

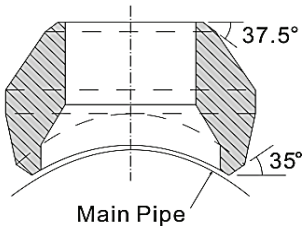
Threadedolet | 6000# | S160/XXS | ANSI ASME B1.20.1

Unit : mm

Out-Let Pipe NPS		A	C	F
1/2"	15A	32	16.6	33.9
3/4"	20A	37	21.2	41.2
1"	25A	40	27	49.9
1.1/4"	32A	41	35.8	58.6
1.1/2"	40A	43	41.2	66.7
2"	50A	52	51.6	83.2

Note:
1. 3000# Out-let size 4" and less fit a number of run pipe sizes and the fittings are marked accordingly.



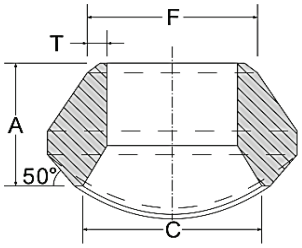


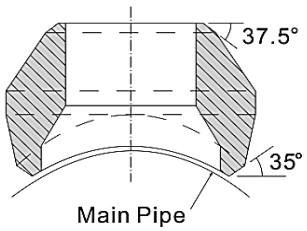
Weldolets | S40/STD | ANSI/ASME B16.26

Unit : mm

Out-Let Pipe NPS		A	C	F	T
1/8"	6A	16	13.7	10.3	1.73
1/4"	8A	16	13.7	13.7	2.24
3/8"	10A	19	17.1	17.1	2.31
1/2"	15A	19	21.3	21.3	2.77
3/4"	20A	22	26.7	26.7	2.87
1"	25A	27	33.4	33.4	3.38
1.1/4"	32A	32	42.2	42.2	3.56
1.1/2"	40A	33	48.3	48.3	3.68
2"	50A	38	60.3	60.3	3.91
2.1/2"	65A	41	73.0	73.0	5.16
3"	80A	44	88.9	88.9	5.49
3.1/2"	90A	48	101.6	101.6	5.74
4"	100A	51	114.3	114.3	6.02
5"	125A	57	141.3	141.3	6.55
6"	150A	60	168.3	168.3	7.11
8"	200A	70	219.3	219.3	8.11
10"	250A	78	273.1	273.1	9.27
12"	300A	86	323.9	323.9	9.53
14"	350A	89	355.6	355.6	9.53
16"	400A	94	406.4	406.4	9.53
18"	450A	97	457.2	457.2	9.53
20"	500A	102	508.0	508.0	9.53
24"	600A	116	609.6	609.6	9.53

Note:
1. Outlet size 4" and less fit a number of run pipe sizes and the fittings are marked accordingly.
2. Outlet size 5" and up order to specific size combination.



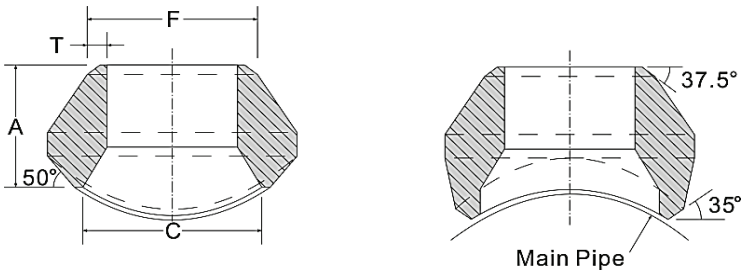


Weldolets | S80/XS | ANSI ASME B16.25

Unit : mm

Out-Let Pipe NPS		A	C	F	T
1/8"	6A	16	13.7	10.3	2.41
1/4"	8A	16	13.7	13.7	3.02
3/8"	10A	19	17.1	17.1	3.20
1/2"	15A	19	21.3	21.3	3.73
3/4"	20A	22	26.7	26.7	3.91
1"	25A	27	33.4	33.4	4.55
1.1/4"	32A	32	42.2	42.2	4.85
1.1/2"	40A	33	48.3	48.3	5.08
2"	50A	38	60.3	60.3	5.54
2.1/2"	65A	41	73.0	73.0	7.01
3"	80A	44	88.9	88.9	7.62
3.1/2"	90A	48	101.6	101.6	8.56
4"	100A	51	114.3	114.3	8.56
5"	125A	57	141.3	141.3	9.53
6"	150A	78	168.3	168.3	10.97
8"	200A	99	219.3	219.3	12.70
10"	250A	94	273.1	273.1	12.70
12"	300A	103	323.9	323.9	12.70
14"	350A	100	355.6	355.6	12.70
16"	400A	106	406.4	406.4	12.70
18"	450A	111	457.2	457.2	12.70
20"	500A	119	508.0	508.0	12.70
24"	600A	140	609.6	609.6	12.70

Note:
1. Outlet size 4" and less fit a number of run pipe sizes and the fittings are marked accordingly.
2. Outlet size 5" and up order to specific size combination.



Weldolets | S160/XXS | ANSI ASME B16.25

Unit : mm

Out-Let Pipe NPS		A	C	F	T (S160)	T (XXS)
1/2"	15A	28	13.8	21.3	4.78	7.47
3/4"	20A	32	18.9	26.7	5.56	7.82
1"	25A	38	24.3	33.4	6.35	9.09
1.1/4"	32A	44	32.5	42.2	6.35	9.70
1.1/2"	40A	51	38.1	48.3	7.14	10.15
2"	50A	55	49.2	60.3	8.74	11.07
2.1/2"	65A	62	59.0	73.0	9.53	14.02
3"	80A	73	73.7	88.9	11.13	15.24
4"	100A	84	97.2	114.3	13.49	17.12
5"	125A	94	122.2	141.3	15.88	19.05
6"	150A	105	146.4	168.3	18.26	21.95

Note:
1. Outlet size by order to specific size combation.

Get in touch

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