

January 02, 2020

Attention: John Sims
FEDERAL FLANGE
BOX 925087
4014 PINEMONT
HOUSTON, TX 77292-5097

The design submission, tracking number 2019-08301, originally received on December 09, 2019 was surveyed and accepted for registration as follows:

CRN : 0B03971.2

Accepted on: January 02, 2020

Reg Type: RENEWAL

Expiry Date: January 02, 2030

Drawing No. : FLANGE SELECTION SHEET

Fitting type: STANDARD FLANGES

The registration is conditional on your compliance with the following notes:

- The scope of this registration is the renewal of the ASME B16.5 and WNF & Blind ASME B16.47 Series "A", standard flanges.
- The flanges shall be in full compliance with ASME B16.5 and B16.47, with respect to dimensions, pressure and temperature ratings, materials, markings, inspections etc...

As indicated on AB-41 Statutory Declaration form and submitted documentation, the code of construction are B16.5, B16.47 and other engineering analysis.

- This registration is valid only for fittings fabricated at the location(s) covered by the QC certificate attached to the accepted AB-41 Statutory Declaration form.
- This registration is valid only until the indicated expiry date and only if the Manufacturer maintains a valid quality management system approved by an acceptable third-party agency until that date.
- Should the approval of the quality management system lapse before the expiry date indicated above, this registration shall become void.

An invoice covering survey and registration fees will be forwarded from our Revenue Accounts.

If you have any question don't hesitate to contact me by phone at (780) 433-0281 ext 3382 or fax (780) 437-7787 or e-mail Stojanovic@absa.ca.

Sincerely,



STOJANOVIC, STEVAN, P. Eng.
DOP Cert. No. D00008849

STATUTORY DECLARATION Registration of Fittings

Single or Multiple Fitting Designs within one Fitting Category

I, John Sims, Quality Manager
(name of applicant) (position title) (must be in a position of authority)
of Federal Flange
(name of manufacturer)
located at 4014 Pinemont Drive, Houston, TX 77018
(plant address)

In this space, show facsimile of manufacturer's logo or trademark as it will appear on the fitting.

F

do solemnly declare that the fittings listed hereunder, which are subject to the Safety Codes Act (select only one)

- ☒ comply with the requirements of ANSI, ASME, API, MSS* which specifies the dimensions, (title of recognized North American Standard) materials of construction, pressure/temperature ratings and identification marking of the fittings, or
- ☐ are not covered by the provisions of a recognized North American standard and are therefore manufactured to comply with _____ as supported by the (title of code of construction or other applicable document) attached data which identifies the dimensions, materials of construction, pressure/temperature ratings and the basis for such ratings; and the identification marking of the fittings.

0B03971.2

I further declare that the manufacture of these fittings is controlled by a quality control program which has been verified as described in the below Table as being suitable for the manufacturing of these fittings to the stated standard, regulation, code, guideline or other applicable document. The fittings covered by the declaration for which I seek registration are as provided in the Supplementary Sheet(s) attached.

Quality Program Verification and Manufacturing Sites

A copy of the Quality Certificate from each manufacturing site must be included

Item #	Product Description, Model or Series	Quality Program	Scope of Certification	Expiry Date	Verifying Organization	Location(s) Plant Name and address
1.	Flanges	ISO 9001:2015	API 6A, 17D, ANSI Flanges and Specialty Products	2021/11/07	HSB Registration Services	4014 Pinemont Dr., Houston, TX
2.						

In support of this application, the following information, calculations and/or test data are attached:

ISO certificate, API 6A and 17D certificates, Federal product line card

* B16.1, B16.5, B16.36, B16.47, B16.48, API 6A, API 17D, MSS SP-44, all latest editions and addenda

[Signature]

(Signature of the Declarer)

12/7/2019

(Date)

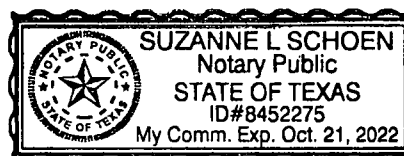
DECLARED before me at Federal Flange in the city of Houston of the state of Texas
(city) (province, territory, or state)

this 9th day of December, 2019
(Month) (Year)

(print) SUZANNE L SCHOEN
(a Commissioner of Oaths or Notary Public)

(sign) *[Signature]*
(a Commissioner of Oaths or Notary Public)

10/21/2022
(expiry date (mm/dd/yy))



Commissioner of Oaths / Notary Public in and for: Harris County Texas
(province, territory, or state)

For ABSA Office Use Only:

NOTES:

To the best of my knowledge and belief, the application meets the requirements of the Safety Codes Act and CSA Standard B51, Part 1, Clause 4.2, and is accepted for registration in Category _____

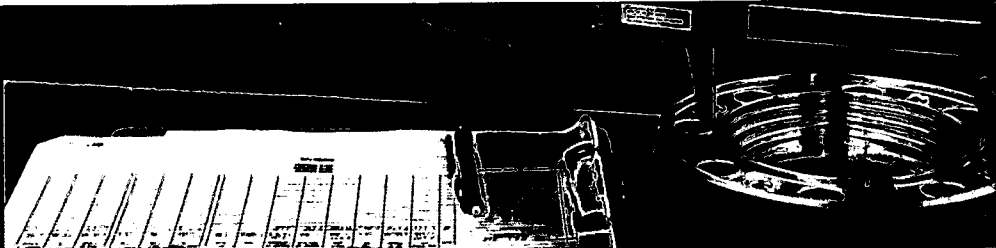
CRN: 0B03971.2

Registered Date: JAN 02 2020

Expiry Date: Jan. 02, 2030

Signature: *[Signature]* **STEVAN STOJANOVIC**
(Signature of the Administrator/SCO)

The information you provide is necessary only for the administration of the programs as required by the Alberta Safety Codes Act and Regulations in the Pressure Equipment Discipline



800-231-0150

SUPPLY HOUSES	REQUEST FOR QUOTE
ORIGINAL EQUIPMENT MANUFACTURER (OEM)	REQUEST FOR QUOTE
CUSTOM ENGINEERED PRODUCTS	REQUEST FOR QUOTE

FLANGE SELECTION

VIEW CERTIFICATIONS

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Welding Neck Flanges - Class 150	✓
Welding Neck Flanges - Class 300	✓
Welding Neck Flanges - Class 400	✓
Welding Neck Flanges - Class 600	✓
Welding Neck Flanges - Class 900	✓
Welding Neck Flanges - Class 1500	✓
Welding Neck Flanges - Class 2500	✓

ASBA

SAFETY CODES ACT - PROVINCE OF ALBERTA

REGISTRATION OF FITTINGS

REGISTRATION NO. 0B03971.2

DWG. NO. or CAT. NO. Flange Selection Sheet

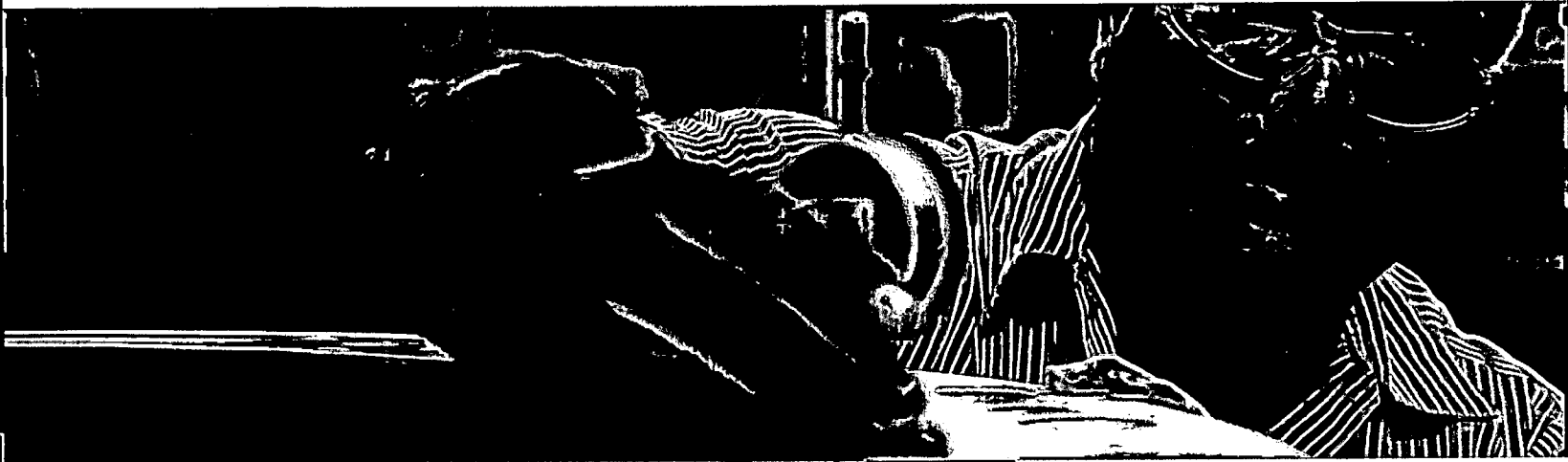
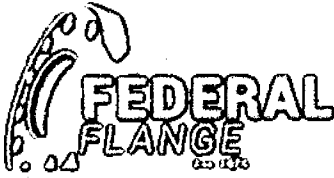
TYPE OF FITTINGS standard Flanges

JAN 02 2020

INITIALS lis

Date

STEVAN STOJANOVIC, P.Eng.
DESIGN SURVEY ENGINEER



800-231-0150

SUPPLY HOUSES	REQUEST FOR QUOTE
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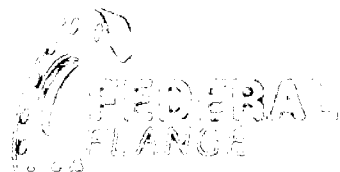
B16.47 – Series A/MSS SP44 Flanges – Class 150

Series A/MSS SP44 Flanges

Class 150

	Size	O	WNF	BLIND	Y	X	A	R	Diam. of bolt circle	No. of holes	Diam. of bolt hole	Diam. of bolt	R1
			WNF	BLIND									
		O	C	C	Y	X	A	R					r1
in.	26"	34.25	2.69	2.69	4.75	26.62	26	29.5	31.75	24	1.38	1 1/4	0.38
mm.		870	68.3	68.3	120.7	676.1	660.4	749.3	806.5		35.1	31.8	9.7
in.	28"	36.5	2.81	2.81	4.94	28.62	28	31.5	34	28	1.38	1 1/4	0.44
mm.		927.1	71.4	71.4	125.5	726.9	711.2	800.1	863.6		35.1	31.8	11.2
in.	30"	38.75	2.94	2.94	5.38	30.75	30	33.75	36	28	1.38	1 1/4	0.44
mm.		984.3	74.7	74.7	136.7	781.1	762	857.3	914.4		35.1	31.8	11.2
in.	32"	41.75	3.19	3.19	5.69	32.75	32	36	38.5	28	1.62	1 1/2	0.44
mm.		1060.5	81	81	144.5	831.9	812.8	914.4	977.9		41.1	38.1	11.2
in.	34"	43.75	3.25	3.25	5.88	34.75	34	38	40.5	32	1.62	1 1/2	0.5
mm.		1111.3	82.6	82.6	149.4	882.7	863.6	965.2	1028.7		41.1	38.1	12.7
in.	36"	46	3.56	3.56	6.19	36.75	36	40.25	42.75	32	1.62	1 1/2	0.5
mm.		1168.4	90.4	90.4	157.2	933.5	914.4	1022.4	1085.9		41.1	38.1	12.7
in.	38"	48.75	3.44	3.44	6.19	39	38	42.25	45.25	32	1.62	1 1/2	0.5
mm.		1238.3	87.4	87.4	157.2	990.6	965.2	1073.2	1149.4		41.1	38.1	12.7
in.	40"	50.75	3.56	3.56	6.44	41	40	44.25	47.25	36	1.62	1 1/2	0.5
mm.		1289.1	90.4	90.4	163.6	1041.4	1016	1124	1200.2		41.1	38.1	12.7
in.	42"	53	3.81	3.81	6.75	43	42	47	49.5	36	1.62	1 1/2	0.5
mm.		1346.2	96.8	96.8	171.5	1092.2	1066.8	1193.8	1257.3		41.1	38.1	12.7
in.	44"	55.25	4	4	7	45	44	49	51.75	40	1.62	1 1/2	0.5
mm.		1403.4	101.6	101.6	177.8	1143	1117.6	1244.6	1314.5		41.1	38.1	12.7
in.	46"	57.25	4.06	4.06	7.31	47.12	46	51	53.75	40	1.62	1 1/2	0.5
mm.		1454.2	103.1	103.1	185.7	1196.8	1168.4	1295.4	1365.3		41.1	38.1	12.7
in.	48"	59.5	4.25	4.25	7.56	49.12	48	53.5	56	44	1.62	1 1/2	0.5
mm.		1511.3	108	108	192	1247.6	1219.2	1358.9	1422.4		41.1	38.1	12.7
in.	50"	61.75	4.38	4.38	8	51.25	50	55.5	58.25	44	1.88	1 3/4	0.5
mm.		1568.5	111.3	111.3	203.2	1301.8	1270	1409.7	1479.6		47.8	44.5	12.7
in.	52"	64	4.56	4.56	8.25	53.25	52	57.5	60.25	44	1.88	1 3/4	0.5
mm.		1625.6	115.8	115.8	209.6	1352.6	1320.8	1460.5	1530.4		47.8	44.5	12.7
in.	54"	66.25	4.75	4.75	8.5	55.25	54	59.5	62.75	44	1.88	1 3/4	0.5
mm.		1682.8	120.7	120.7	215.9	1403.4	1371.6	1511.3	1593.9		47.8	44.5	12.7
in.	56"	68.75	4.88	4.88	9	57.38	56	62	65	48	1.88	1 3/4	0.5
mm.		1746.3	124	124	228.6	1457.5	1422.4	1574.8	1651		47.8	44.5	12.7
in.	58"	71	5.06	5.06	9.25	59.38	58	64	67.25	48	1.88	1 3/4	0.5
mm.		1803.4	128.5	128.5	235	1508.3	1473.2	1625.6	1708.2		47.8	44.5	12.7
in.	60"	73	5.19	5.19	9.44	61.38	60	66	69.25	52	1.88	1 3/4	0.5
mm.		1854.2	131.8	131.8	239.8	1559.1	1524	1676.4	1759		47.8	44.5	12.7

0B03971.2



PRESSURE CONNECTIONS FOR THE ENERGY INDUSTRY



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FLANGE SELECTION	
VIEW CERTIFICATION	

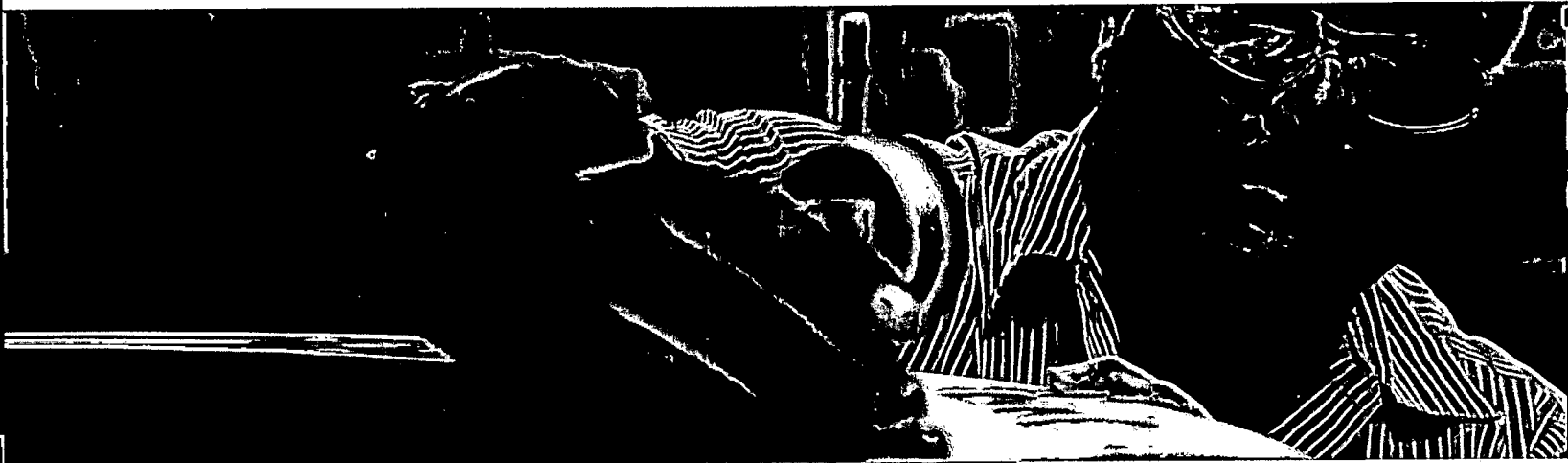
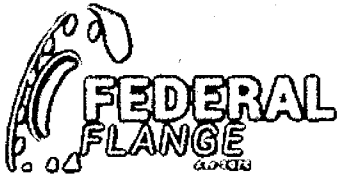
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B16.47 – Series A/MSS SP44 Flanges – Class 300

Series A/MSS SP44 Flanges

Class 300

Size	O	WNF	BLIND	Y	X	A	R	Diam. of bolt circle	No. of holes	Diam. of bolt hole	Diam. of bolt	R1
		WNF	BLIND									
	O	C	C	Y	X	A	R					r1
in. 26"	38.25	3.12	3.31	7.25	28.38	26	29.5	34.5	28	1.75	1 5/8	0.38
mm.	971.6	79.2	84.1	184.2	720.9	660.4	749.3	876.3		44.5	41.4	9.7
in. 28"	40.75	3.38	3.56	7.75	30.5	28	31.5	37	28	1.75	1 5/8	0.44
mm.	1035.1	85.9	90.4	196.9	774.7	711.2	800.1	939.8		44.5	41.4	11.2
in. 30"	43	3.62	3.75	8.25	32.56	30	33.75	39.25	28	1.88	1 3/4	0.44
mm.	1092.2	91.9	95.3	209.6	827	762	857.3	997		47.8	44.5	11.2
in. 32"	45.25	3.88	3.94	8.75	34.69	32	36	41.5	28	2	1 7/8	0.44
mm.	1149.4	98.6	100.1	222.3	881.1	812.8	914.4	1054.1		50.8	47.8	11.2
in. 34"	47.5	4	4.12	9.12	36.88	34	38	43.5	28	2	1 7/8	0.5
mm.	1206.5	101.6	104.6	231.6	936.8	863.6	965.2	1104.9		50.8	47.8	12.7
in. 36"	50	4.12	4.38	9.5	39	36	40.25	46	32	2.12	2	0.5
mm.	1270	104.6	111.3	241.3	990.6	914.4	1022.4	1168.4		53.8	50.8	12.7
in. 38"	46	4.25	4.25	7.12	39.12	38	40.5	43	32	1.62	1 1/2	0.5
mm.	1168.4	108	108	180.8	993.6	965.2	1028.7	1092.2		41.1	38.1	12.7
in. 40"	48.75	4.5	4.5	7.62	41.12	40	42.75	45.5	32	1.75	1 5/8	0.5
mm.	1238.3	114.3	114.3	193.5	1044.4	1016	1085.9	1155.7		44.5	41.4	12.7
in. 42"	50.75	4.69	4.69	7.88	43.25	42	44.75	47.5	32	1.75	1 5/8	0.5
mm.	1289.1	119.1	119.1	200.2	1098.6	1066.8	1136.7	1206.5		44.5	41.4	12.7
in. 44"	53.25	4.88	4.88	8.12	45.25	44	47	49.75	32	1.88	1 3/4	0.5
mm.	1352.6	124	124	206.2	1149.4	1117.6	1193.8	1263.7		47.8	44.5	12.7
in. 46"	55.75	5.06	5.06	8.5	47.38	46	49	52	28	2	1 7/8	0.5
mm.	1416.1	128.5	128.5	215.9	1203.5	1168.4	1244.6	1320.8		50.8	47.8	12.7
in. 48"	57.75	5.25	5.25	8.81	49.38	48	51.25	54	32	2	1 7/8	0.5
mm.	1466.9	133.4	133.4	223.8	1254.3	1219.2	1301.8	1371.6		50.8	47.8	12.7
in. 50"	60.25	5.5	5.5	9.12	51.38	50	53.5	56.25	32	2.12	2	0.5
mm.	1530.4	139.7	139.7	231.6	1305.1	1270	1358.9	1428.8		53.8	50.8	12.7
in. 52"	62.25	5.69	5.69	9.38	53.38	52	55.5	58.25	32	2.12	2	0.5
mm.	1581.2	144.5	144.5	238.3	1355.9	1320.8	1409.7	1479.6		53.8	50.8	12.7
in. 54"	65.25	6	6	9.94	55.5	54	57.75	61	28	2.38	2 1/4	0.5
mm.	1657.4	152.4	152.4	252.5	1409.7	1371.6	1466.9	1549.4		60.5	57.2	12.7
in. 56"	67.25	6.06	6.06	10.25	57.62	56	59.75	63	28	2.38	2 1/4	0.5
mm.	1708.2	153.9	153.9	260.4	1463.5	1422.4	1517.7	1600.2		60.5	57.2	12.7
in. 58"	69.25	6.25	6.25	10.5	59.62	58	62	65	32	2.38	2 1/4	0.5
mm.	1759	158.8	158.8	266.7	1514.3	1473.2	1574.8	1651		60.5	57.2	12.7
in. 60"	71.25	6.44	6.44	10.75	61.62	60	64	67	32	2.38	2 1/4	0.5
mm.	1809.8	163.6	163.6	273.1	1565.1	1524	1625.6	1701.8		60.5	57.2	12.7



800-231-0150

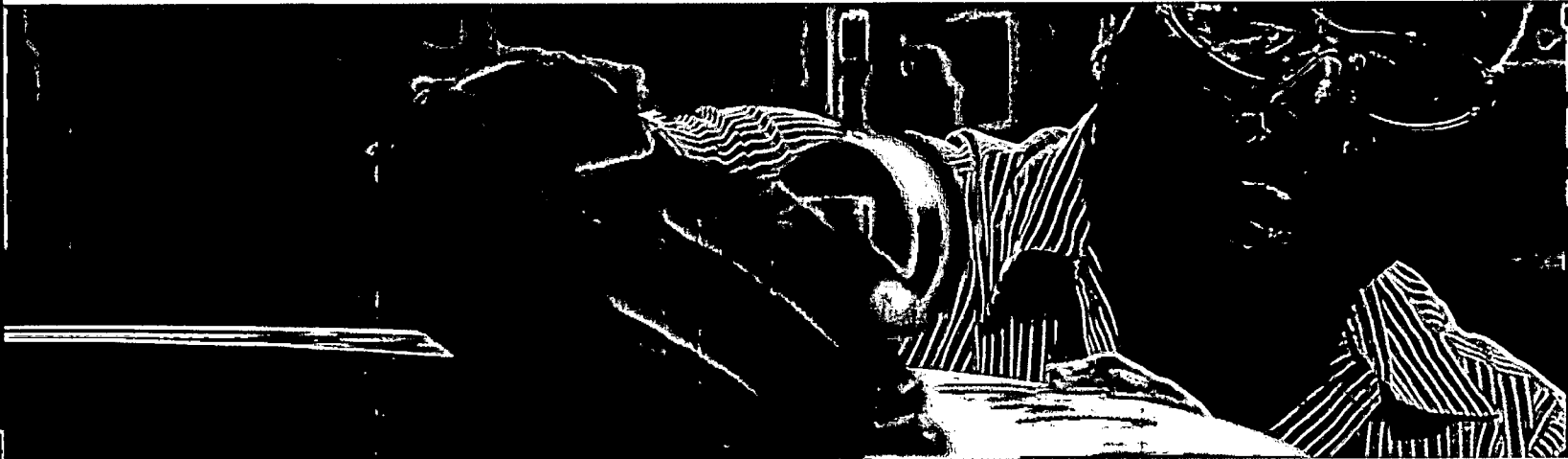
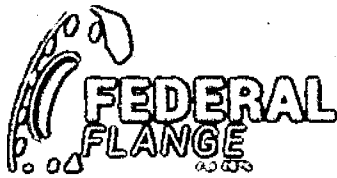
B16.47 – Series A/MSS SP44 Flanges – Class 400

Series A/MSS SP44 Flanges

Class 400

Size		O	WNF	BLIND	Y	X	A	R	Diam. of bolt circle	No. of holes	Diam. of bolt hole	Diam. of bolt	R1
			WNF	BLIND									
		O	C	C	Y	X	A	R					r1
in.	26"	38.25	3.5	3.88	7.62	28.62	26	29.5	34.5	28	1.88	1 3/4	0.44
mm.		971.6	88.9	98.6	193.5	726.9	660.4	749.3	876.3		47.8	44.5	11.2
in.	28"	40.75	3.75	4.12	8.12	30.81	28	31.5	37	28	2	1 7/8	0.5
mm.		1035.1	95.3	104.6	206.2	782.6	711.2	800.1	939.8		50.8	47.6	12.7
in.	30"	43	4	4.38	8.62	32.94	30	33.75	39.25	28	2.12	2	0.5
mm.		1092.2	101.6	111.3	218.9	836.7	762	857.3	997		53.8	50.8	12.7
in.	32"	45.25	4.25	4.56	9.12	35	32	36	41.25	28	2.12	2	0.5
mm.		1149.4	108	115.8	231.6	889	812.8	914.4	1047.8		53.8	50.8	12.7
in.	34"	47.5	4.38	4.81	9.5	37.19	34	38	43.5	28	2.12	2	0.56
mm.		1206.5	111.3	122.2	241.3	944.6	863.6	965.2	1104.9		53.8	50.8	14.2
in.	36"	50	4.5	5.06	9.88	39.38	36	40.25	46	32	2.12	2	0.56
mm.		1270	114.3	128.5	251	1000.3	914.4	1022.4	1168.4		53.8	50.8	14.2
in.	38"	47.5	4.88	4.88	8.12	39.5	38	40.75	44	32	1.88	1 3/4	0.56
mm.		1206.5	124	124	206.2	1003.3	965.2	1035.1	1117.6		47.8	44.5	14.2
in.	40"	50	5.12	5.12	8.5	41.5	40	43	46.25	32	2	1 7/8	0.56
mm.		1270	130	130	215.9	1054.1	1016	1092.2	1174.8		50.8	47.6	14.2
in.	42"	52	5.25	5.25	8.81	43.62	42	45	48.25	32	2	1 7/8	0.56
mm.		1320.8	133.4	133.4	223.8	1107.9	1066.8	1143	1225.6		50.8	47.6	14.2
in.	44"	54.5	5.5	5.5	9.18	45.62	44	47.25	50.5	32	2.12	2	0.56
mm.		1384.3	139.7	139.7	233.2	1158.7	1117.6	1200.2	1282.7		53.8	50.8	14.2
in.	46"	56.75	5.75	5.75	9.62	47.75	46	49.5	52.75	36	2.12	2	0.56
mm.		1441.5	146.1	146.1	244.3	1212.9	1168.4	1257.3	1339.9		53.8	50.8	14.2
in.	48"	59.5	6	6	10.12	49.88	48	51.5	55.25	28	2.38	2 1/4	0.56
mm.		1511.3	152.4	152.4	257	1267	1219.2	1308.1	1403.4		60.5	57.2	14.2
in.	50"	61.75	6.19	6.25	10.56	52	50	53.62	57.5	32	2.38	2 1/4	0.56
mm.		1568.5	157.2	158.8	268.2	1320.8	1270	1361.9	1460.5		60.5	57.2	14.2
in.	52"	63.75	6.38	6.44	10.88	54	52	55.62	59.5	32	2.38	2 1/4	0.56
mm.		1619.3	162.1	163.6	276.4	1371.6	1320.8	1412.7	1511.3		60.5	57.2	14.2
in.	54"	67	6.69	6.75	11.38	56.12	54	57.88	62.25	28	2.62	2 1/2	0.56
mm.		1701.8	169.9	171.5	289.1	1425.4	1371.6	1470.2	1581.2		66.5	63.5	14.2
in.	56"	69	6.88	6.94	11.75	58.25	56	60.12	64.25	32	2.62	2 1/2	0.56
mm.		1752.6	174.8	176.3	298.5	1479.6	1422.4	1527	1632		66.5	63.5	14.2
in.	58"	71	7	7.12	12.06	60.25	58	62.12	66.25	32	2.62	2 1/2	0.56
mm.		1803.4	177.8	180.8	306.3	1530.4	1473.2	1577.8	1682.8		66.5	63.5	14.2
in.	60"	74.25	7.31	7.44	12.56	62.38	60	64.38	69	32	2.88	2 5/8	0.56
mm.		1886	185.7	189	319	1584.5	1524	1635.3	1752.6		73.2	66.7	14.2

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B16.47 – Series A/MSS SP44 Flanges – Class 600

Series A/MSS SP44 Flanges

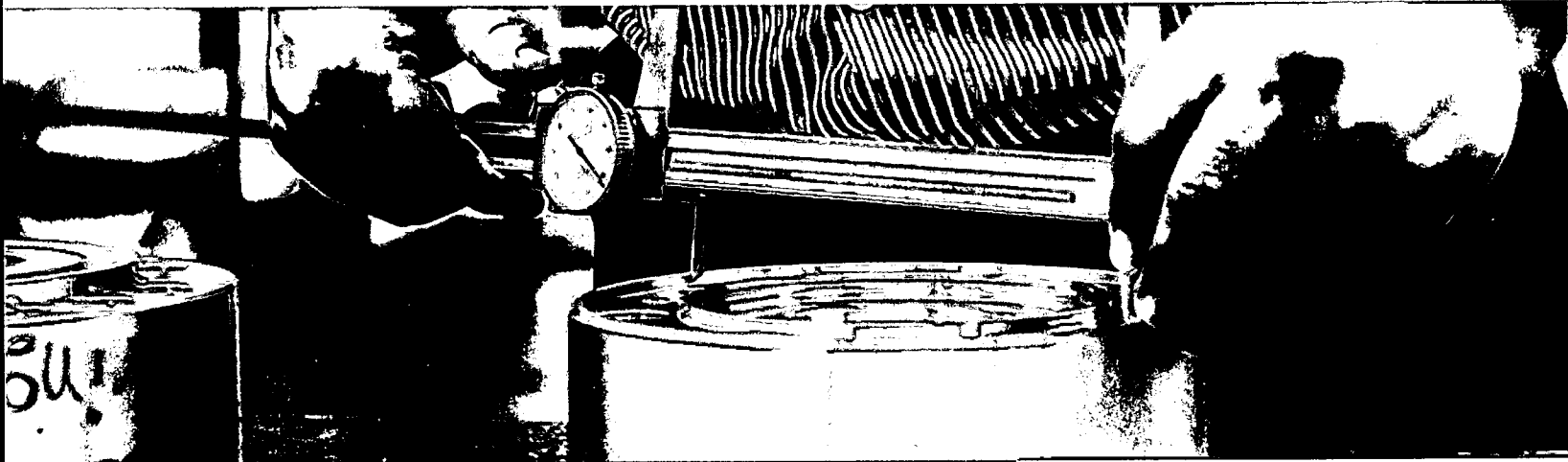
Class 600

Size		O	WNF	BLIND	Y	X	A	R	Diam. of bolt circle	No. of holes	Diam. of bolt hole	Diam. of bolt	R1
			WNF	BLIND									
		O	C	C	Y	X	A	R					r1
in.	26"	40	4.25	4.94	8.75	29.44	26	29.5	36	28	2	1 7/8	0.5
mm.		1016	108	125.5	222.3	747.8	660.4	749.3	914.4		50.8	47.6	12.7
in.	28"	42.25	4.38	5.19	9.25	31.62	28	31.5	38	28	2.12	2	0.5
mm.		1073.2	111.3	131.8	235	803.1	711.2	800.1	965.2		53.8	50.8	12.7
in.	30"	44.5	4.5	5.5	9.75	33.94	30	33.75	40.25	28	2.12	2	0.5
mm.		1130.3	114.3	139.7	247.7	862.1	762	857.3	1022.4		53.8	50.8	12.7
in.	32"	47	4.62	5.81	10.25	36.12	32	36	42.5	28	2.38	2 1/4	0.5
mm.		1193.8	117.3	147.6	260.4	917.4	812.8	914.4	1079.5		60.5	57.2	12.7
in.	34"	49	4.75	6.06	10.62	38.31	34	38	44.5	28	2.38	2 1/4	0.56
mm.		1244.6	120.7	153.9	269.7	973.1	863.6	965.2	1130.3		60.5	57.2	14.2
in.	36"	51.75	4.88	6.38	11.12	40.62	36	40.25	47	28	2.62	2 1/2	0.56
mm.		1314.5	124	162.1	282.4	1031.7	914.4	1022.4	1193.8		66.5	63.5	14.2
in.	38"	50	6	6.12	10	40.25	38	41.5	45.75	28	2.38	2 1/4	0.56
mm.		1270	152.4	155.4	254	1022.4	965.2	1054.1	1162.1		60.5	57.2	14.2
in.	40"	52	6.25	6.38	10.38	42.25	40	43.75	47.75	32	2.38	2 1/4	0.56
mm.		1320.8	158.8	162.1	263.7	1073.2	1016	1111.3	1212.9		60.5	57.2	14.2
in.	42"	55.25	6.62	6.75	11	44.38	42	46	50.5	28	2.62	2 1/2	0.56
mm.		1403.4	168.1	171.5	279.4	1127.3	1066.8	1168.4	1282.7		66.5	63.5	14.2
in.	44"	57.25	6.81	7	11.38	46.5	44	48.25	52.5	32	2.62	2 1/2	0.56
mm.		1454.2	173	177.8	289.1	1181.1	1117.6	1225.6	1333.5		66.5	63.5	14.2
in.	46"	59.5	7.06	7.31	11.81	48.62	46	50.25	54.75	32	2.62	2 1/2	0.56
mm.		1511.3	179.3	185.7	300	1234.9	1168.4	1276.4	1390.7		66.5	63.5	14.2
in.	48"	62.75	7.44	7.69	12.44	50.75	48	52.5	57.5	32	2.88	2 3/4	0.56
mm.		1593.9	189	195.3	316	1289.1	1219.2	1333.5	1460.5		73.2	69.9	14.2
in.	50"	65.75	7.75	8	12.94	52.88	50	54.5	60	28	3.12	3	0.56
mm.		1670.1	196.9	203.2	328.7	1343.2	1270	1384.3	1524		79.2	76.2	14.2
in.	52"	67.75	8	8.25	13.25	54.88	52	56.5	62	32	3.12	3	0.56
mm.		1720.9	203.2	209.6	336.6	1394	1320.8	1435.1	1574.8		79.2	76.2	14.2
in.	54"	70	8.25	8.56	13.75	57	54	58.75	64.25	32	3.12	3	0.56
mm.		1778	209.6	217.4	349.3	1447.8	1371.6	1492.3	1632		79.2	76.2	14.2
in.	56"	73	8.56	8.88	14.25	59.12	56	60.75	66.75	32	3.38	3 1/4	0.62
mm.		1854.2	217.4	225.6	362	1501.6	1422.4	1543.1	1695.5		85.9	82.6	15.7
in.	58"	75	8.75	9.12	14.56	61.12	58	63	68.75	32	3.38	3 1/4	0.62
mm.		1905	222.3	231.6	369.8	1552.4	1473.2	1600.2	1746.3		85.9	82.6	15.7
in.	60"	78.5	9.19	9.56	15.31	63.38	60	65.25	71.75	28	3.62	3 1/2	0.69
mm.		1993.9	233.4	242.8	388.9	1609.9	1524	1657.4	1822.5		91.9	88.9	17.5

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B16.47 – Series A/MSS SP44 Flanges – Class 900

Series A/MSS SP44 Flanges

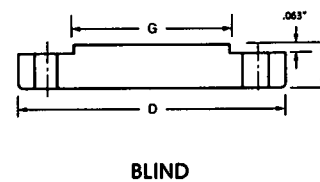
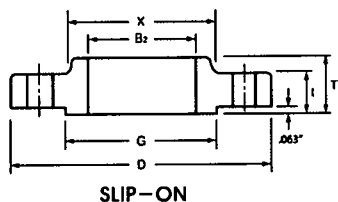
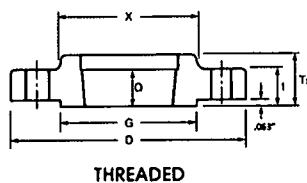
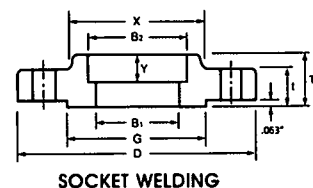
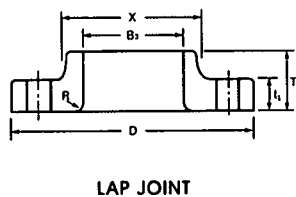
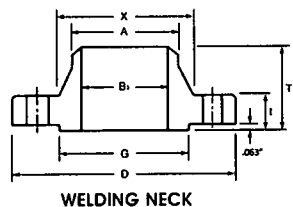
Class 900

Size		O	WNF	BLIND	Y	X	A	R	Diam. of bolt circle	No. of holes	Diam. of bolt hole	Diam. of bolt	R1
			WNF	BLIND									
		O	C	C	Y	X	A	R					r1
in.	26"	42.75	5.5	6.31	11.25	30.5	26	29.5	37.5	20	2.88	2 3/4	0.44
mm.		1085.9	139.7	160.3	285.8	774.7	660.4	749.3	952.5		73.2	69.9	11.2
in.	28"	46	5.62	6.75	11.75	32.75	28	31.5	40.25	20	3.12	3	0.5
mm.		1168.4	142.7	171.5	298.5	831.9	711.2	800.1	1022.4		79.2	76.2	12.7
in.	30"	48.5	5.88	7.18	12.25	35	30	33.75	42.75	20	3.12	3	0.5
mm.		1231.9	149.4	182.4	311.2	889	762	857.3	1085.9		79.2	76.2	12.7
in.	32"	51.75	6.25	7.62	13	37.25	32	36	45.5	20	3.38	3 1/4	0.5
mm.		1314.5	158.8	193.5	330.2	946.2	812.8	914.4	1155.7		85.9	82.6	12.7
in.	34"	55	6.5	8.06	13.75	39.62	34	38	48.25	20	3.62	3 1/2	0.56
mm.		1397	165.1	204.7	349.3	1006.3	863.6	965.2	1225.6		91.9	88.9	14.2
in.	36"	57.5	6.75	8.44	14.25	41.88	36	40.25	50.75	20	3.62	3 1/2	0.56
mm.		1460.5	171.5	214.4	362	1063.8	914.4	1022.4	1289.1		91.9	88.9	14.2
in.	38"	57.5	7.5	8.5	13.88	42.25	38	43.25	50.75	20	3.62	3 1/2	0.75
mm.		1460.5	190.5	215.9	352.6	1073.2	965.2	1098.6	1289.1		91.9	88.9	19.1
in.	40"	59.5	7.75	8.81	14.31	44.38	40	45.75	52.75	24	3.62	3 1/2	0.81
mm.		1511.3	196.9	223.8	363.5	1127.3	1016	1162.1	1339.9		91.9	88.9	20.6
in.	42"	61.5	8.12	9.12	14.62	46.31	42	47.75	54.75	24	3.62	3 1/2	0.81
mm.		1562.1	206.2	231.6	371.3	1176.3	1066.8	1212.9	1390.7		91.9	88.9	20.6
in.	44"	64.88	8.44	9.56	15.38	48.62	44	50	57.62	24	3.88	3 3/4	0.88
mm.		1648	214.4	242.8	390.7	1234.9	1117.6	1270	1463.5		98.6	95.3	22.4
in.	46"	68.25	8.88	10.86	16.18	50.88	46	52.5	60.5	24	4.12	4	0.88
mm.		1733.6	225.6	275.8	411	1292.4	1168.4	1333.5	1536.7		104.6	101.6	22.4
in.	48"	70.25	9.19	10.38	16.5	52.88	48	54.5	62.5	24	4.12	4	0.94
mm.		1784.4	233.4	263.7	419.1	1343.2	1219.2	1384.3	1587.5		104.6	101.6	23.9
in.	50"												
mm.													
in.	52"												
mm.													
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ANSI Flanges—Class 150



NOTES:

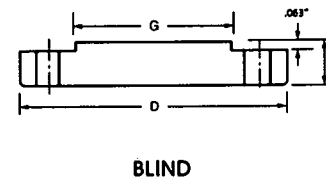
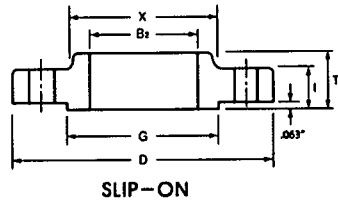
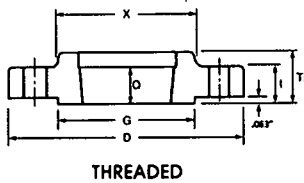
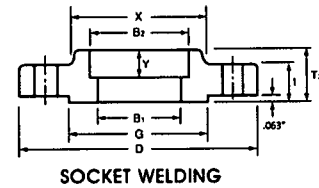
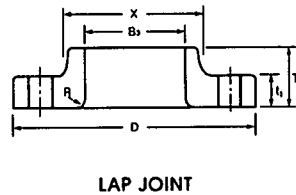
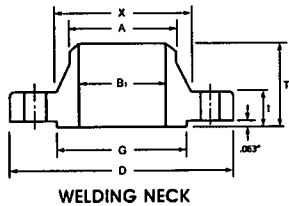
1. See sections 6 and 7 of ASME B16.5 for additional dimensions and tolerances.
2. See Figures 8, 9 and 10 of ASME B16.5 for details on welding ends.
3. Flange facing shown is for raised face type. For ring type joint facing, see Table 5 of ASME B16.5.
4. SO is Slip-On, SW is Socket Welding

0B03971.2

Nominal	Outside	Hub	Raised Face	Flange	Flange	Overall Length			Drilling			Weld End	Bore			Thread
Pipe Size	Diameter	Diameter	Diameter	Thickness	Lap Joint Thickness	Weldneck	SO, SW	Lap Joint	Bolt Circle Ø	No. of holes	Bolt Hole Ø	Diameter	Weldneck	SO, SW	Lap Joint	Length
-	D	X	G	t	t ₁	T ₁	T ₂	T ₃	-	-	-	A	B ₁	B ₂	B ₃	Q
1/2	3.50	1.19	1.38	0.44	0.44	1.88	0.62	0.62	2.38	4	0.62	0.84	To be specified by purchaser	0.88	0.90	0.62
3/4	3.88	1.50	1.69	0.50	0.50	2.06	0.62	0.62	2.75	4	0.62	1.05		1.09	1.11	0.62
1	4.25	1.94	2.00	0.56	0.56	2.19	0.69	0.69	3.12	4	0.62	1.32		1.36	1.38	0.69
1 1/4	4.62	2.31	2.50	0.62	0.62	2.25	0.81	0.81	3.50	4	0.62	1.66		1.70	1.72	0.81
1 1/2	5.00	2.56	2.88	0.69	0.69	2.44	0.88	0.88	3.88	4	0.62	1.90		1.95	1.97	0.88
2	6.00	3.06	3.62	0.75	0.75	2.50	1.00	1.00	4.75	4	0.75	2.38		2.44	2.46	1.00
2 1/2	7.00	3.56	4.12	0.88	0.88	2.75	1.12	1.12	5.50	4	0.75	2.88		2.94	2.97	1.12
3	7.50	4.25	5.00	0.94	0.94	2.75	1.19	1.19	6.00	4	0.75	3.50		3.57	3.60	1.19
3 1/2	8.50	4.81	5.50	0.94	0.94	2.81	1.25	1.25	7.00	8	0.75	4.00		4.07	4.10	1.25
4	9.00	5.31	6.19	0.94	0.94	3.00	1.31	1.31	7.50	8	0.75	4.50		4.60	4.60	1.31
5	10.00	6.44	7.31	0.94	0.94	3.50	1.44	1.44	8.50	8	0.88	5.56		5.66	5.69	1.44
6	11.00	7.56	8.50	1.00	1.00	3.50	1.56	1.56	9.50	8	0.88	6.63		6.75	6.75	1.56
8	13.50	9.69	10.62	1.12	1.12	4.00	1.75	1.75	11.75	8	0.88	8.63		8.72	8.75	1.75
10	16.00	12.00	12.75	1.19	1.19	4.00	1.94	1.94	14.25	12	1.00	10.75		10.88	10.92	1.94
12	19.00	14.38	15.00	1.25	1.25	4.50	2.19	2.19	17.00	12	1.00	12.75		12.88	12.92	2.19
14	21.00	15.75	16.25	1.38	1.38	5.00	2.25	3.12	18.75	12	1.12	14.00		14.14	14.18	2.25
16	23.50	18.00	18.50	1.44	1.44	5.00	2.50	3.44	21.25	16	1.12	16.00		16.16	16.19	2.50
18	25.00	19.88	21.00	1.56	1.56	5.50	2.69	3.81	22.75	16	1.25	18.00		18.18	18.20	2.69
20	27.50	22.00	23.00	1.69	1.69	5.69	2.88	4.06	25.00	20	1.25	20.00		20.20	20.25	2.88
24	32.00	26.12	27.25	1.88	1.88	6.00	3.25	4.38	29.50	20	1.38	24.00		24.25	24.25	3.25



ANSI Flanges—Class 300



NOTES:

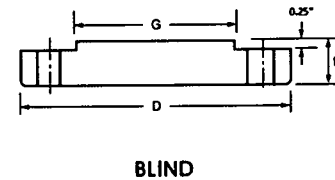
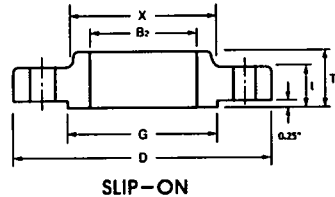
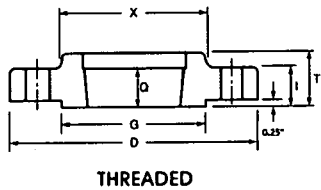
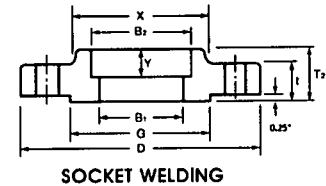
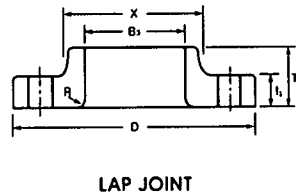
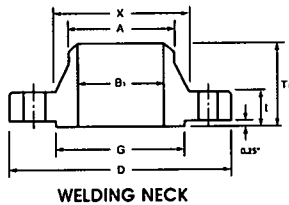
1. See sections 6 and 7 of ASME B16.5 for additional dimensions and tolerances.
2. See Figures 8, 9 and 10 of ASME B16.5 for details on welding ends.
3. Flange facing shown is for raised face type. For ring type joint facing, see Table 5 of ASME B16.5.
4. SO is Slip-On, SW is Socket Welding

0B03971.2

Nominal	Outside	Hub	Raised Face	Flange	Flange	Overall Length			Drilling			Weld End	Bore			Thread
Pipe Size	Diameter	Diameter	Diameter	Thickness	Lap Joint Thickness	Weldneck	SO, SW	Lap Joint	Bolt Circle Ø	No. of holes	Bolt Hole Ø	Diameter	Weld-neck	SO, SW	Lap Joint	Length
-	D	X	G	t	t ₁	T ₁	T ₂	T ₃	-	-	-	A	B ₁	B ₂	B ₃	Q
1/2	3.75	1.50	1.38	0.56	0.56	2.06	0.88	0.88	2.62	4	0.62	0.84	To be specified by purchaser	0.88	0.90	0.62
3/4	4.62	1.88	1.69	0.62	0.62	2.25	1.00	1.00	3.25	4	0.75	1.05		1.09	1.11	0.62
1	4.88	2.12	2.00	0.69	0.69	2.44	1.06	1.06	3.50	4	0.75	1.32		1.36	1.38	0.69
1 1/4	5.25	2.50	2.50	0.75	0.75	2.56	1.06	1.06	3.88	4	0.75	1.66		1.70	1.72	0.81
1 1/2	6.12	2.75	2.88	0.81	0.81	2.69	1.19	1.19	4.50	4	0.88	1.90		1.95	1.97	0.88
2	6.50	3.31	3.62	0.88	0.88	2.75	1.31	1.31	5.00	8	0.75	2.38		2.44	2.46	1.12
2 1/2	7.50	3.94	4.12	1.00	1.00	3.00	1.50	1.50	5.88	8	0.88	2.88		2.94	2.97	1.25
3	8.25	4.62	5.00	1.12	1.12	3.12	1.69	1.69	6.62	8	0.88	3.50		3.57	3.60	1.25
3 1/2	9.00	5.25	5.50	1.19	1.19	3.19	1.75	1.75	7.25	8	0.88	4.00		4.07	4.10	1.44
4	10.00	5.75	6.19	1.25	1.25	3.38	1.88	1.88	7.88	8	0.88	4.50		5.57	4.60	1.44
5	11.00	7.00	7.31	1.38	1.38	3.88	2.00	2.00	9.25	8	0.88	5.56		5.66	5.69	1.69
6	12.50	8.12	8.50	1.44	1.44	3.88	2.06	2.06	10.62	12	0.88	6.63		6.72	6.75	1.81
8	15.00	10.25	10.62	1.62	1.62	4.38	2.44	2.44	13.00	12	1.00	8.63		8.72	8.75	2.00
10	17.50	12.62	12.75	1.88	1.88	4.62	2.62	3.75	15.25	16	1.12	10.75		10.88	10.92	2.19
12	20.50	14.75	15.00	2.00	2.00	5.12	2.88	4.00	17.75	16	1.25	12.75		12.88	12.92	2.38
14	23.00	16.75	16.25	2.12	2.12	5.62	3.00	4.38	20.25	20	1.25	14.00		14.14	14.18	2.50
16	25.50	19.00	18.50	2.25	2.25	5.75	3.25	4.75	22.50	20	1.38	16.00		16.16	16.19	2.69
18	28.00	21.00	21.00	2.38	2.38	6.25	3.50	5.12	24.75	24	1.38	18.00		18.18	18.20	2.75
20	30.50	23.12	23.00	2.50	2.50	6.38	3.75	5.50	27.00	24	1.38	20.00		20.20	20.25	2.88
24	36.00	27.62	27.25	2.75	2.75	6.62	4.19	6.00	32.00	24	1.62	24.00		24.25	24.25	3.25



ANSI Flanges—Class 400



NOTES:

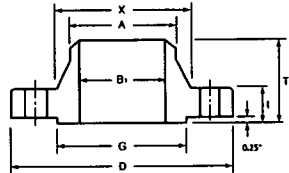
1. See sections 6 and 7 of ASME B16.5 for additional dimensions and tolerances.
2. See Figures 8, 9 and 10 of ASME B16.5 for details on welding ends.
3. Flange facing shown is for raised face type. For ring type joint facing, see Table 5 of ASME B16.5.
4. SO is Slip-On, SW is Socket Welding

0B03971.2

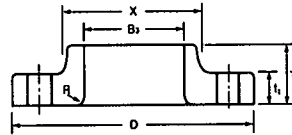
Nominal	Outside	Hub	Raised Face	Flange	Flange	Overall Length			Drilling			Weld End	Bore			Thread
Pipe Size	Diameter	Diameter	Diameter	Thickness	Lap Joint Thickness	Weldneck	SO, SW	Lap Joint	Bolt Circle Φ	No. of holes	Bolt Hole Φ	Diameter	Weldneck	SO, SW	Lap Joint	Length
-	D	X	R	t	t ₁	T ₁	T ₂	T ₃	-	-	-	A	B ₁	B ₂	B ₃	Q
½	3.75	1.50	1.38	0.81	0.56	2.31	1.12	0.88	2.62	4	0.62	0.84	To be specified by purchaser	0.88	0.90	0.62
¾	4.62	1.88	1.69	0.88	0.62	2.50	1.25	1.00	3.25	4	0.75	1.05		1.09	1.11	0.62
1	4.88	2.12	2.00	0.94	0.69	2.69	1.31	1.06	3.50	4	0.75	1.32		1.36	1.38	0.69
1 ¼	5.25	2.50	2.50	1.06	0.81	2.88	1.38	1.12	3.88	4	0.75	1.66		1.70	1.72	0.81
1 ½	6.12	2.75	2.88	1.13	0.88	3.00	1.50	1.25	4.50	4	0.88	1.90		1.95	1.97	0.88
2	6.50	3.31	3.62	1.25	1.00	3.12	1.69	1.44	5.00	8	0.75	2.38		2.44	2.46	1.12
2 ½	7.50	3.94	4.12	1.38	1.12	3.38	1.88	1.62	5.88	8	0.88	2.88		2.94	2.97	1.25
3	8.25	4.62	5.00	1.50	1.25	3.50	1.06	1.81	6.62	8	0.88	3.50		3.57	3.60	1.38
3 ½	9.00	5.25	5.50	1.63	1.38	3.63	1.19	1.94	7.25	8	1.00	4.00		4.07	4.10	1.56
4	10.00	5.75	6.19	1.63	1.38	3.75	2.25	2.00	7.88	8	1.00	4.50		4.57	4.60	1.44
5	11.00	7.00	7.31	1.75	1.50	4.25	2.38	2.12	9.25	8	1.00	5.56		5.66	5.69	1.69
6	12.50	8.12	8.50	1.88	1.62	4.31	2.50	2.25	10.62	12	1.00	6.63		6.72	6.75	1.81
8	15.00	10.25	10.62	2.12	1.88	4.88	2.94	2.69	13.00	12	1.12	8.63		8.72	8.75	2.00
10	17.50	12.62	12.75	2.38	2.12	5.12	3.12	4.00	15.25	16	1.25	10.75		10.88	10.92	2.19
12	20.50	14.75	15.00	2.50	2.25	5.63	3.38	4.25	17.75	16	1.38	12.75		12.88	12.92	2.38
14	23.00	16.75	16.25	2.63	2.38	6.12	3.56	4.62	20.25	20	1.38	14.00		14.14	14.18	2.50
16	25.50	19.00	18.50	2.75	2.50	6.25	3.94	5.00	22.50	20	1.50	16.00		16.16	16.19	2.69
18	28.00	21.00	21.00	2.88	2.62	6.75	4.12	5.38	24.75	24	1.50	18.00		18.18	18.20	2.75
20	30.50	23.12	23.00	3.00	2.75	6.88	4.25	5.75	27.00	24	1.62	20.00		20.20	20.25	2.88
24	36.00	27.62	27.25	3.25	3.00	7.12	4.75	6.25	32.00	24	1.88	24.00		24.25	24.25	3.25



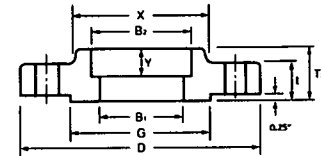
ANSI Flanges—Class 600



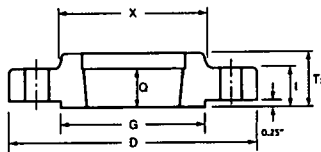
WELDING NECK



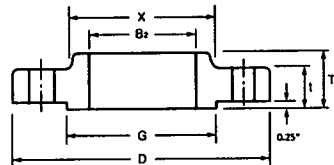
LAP JOINT



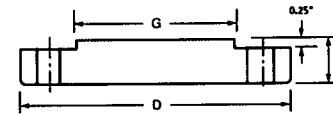
SOCKET WELDING



THREADED



SLIP-ON



BLIND

NOTES:

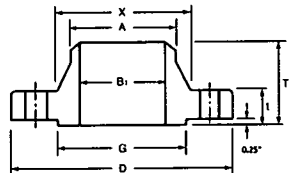
1. See sections 6 and 7 of ASME B16.5 for additional dimensions and tolerances.
2. See Figures 8, 9 and 10 of ASME B16.5 for details on welding ends.
3. Flange facing shown is for raised face type. For ring type joint facing, see Table 5 of ASME B16.5.
4. SO is Slip-On, SW is Socket Welding

0B 03 9 7 1 . 2

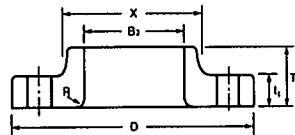
Nominal	Outside	Hub	Raised Face	Flange	Flange	Overall Length			Drilling			Weld End	Bore			Thread
Pipe Size	Diameter	Diameter	Diameter	Thickness	Lap Joint Thickness	Weldneck	SO, SW	Lap Joint	Bolt Circle Φ	No. of holes	Bolt Hole Φ	Diameter	Weldneck	SO, SW	Lap Joint	Length
-	D	X	G	t	t ₁	T ₁	T ₂	T ₃	-	-	-	A	B ₁	B ₂	B ₃	Q
1/2	3.75	1.50	1.38	0.81	0.56	2.31	1.12	0.88	2.62	4	0.62	0.84	To be specified by purchaser	0.88	0.90	0.62
3/4	4.62	1.88	1.69	0.88	0.62	2.50	1.25	1.00	3.25	4	0.75	1.05		1.09	1.11	0.62
1	4.88	2.12	2.00	0.94	0.69	2.69	1.31	1.06	3.50	4	0.75	1.32		1.36	1.38	0.69
1 1/4	5.25	2.50	2.50	1.06	0.81	2.88	1.38	1.12	3.88	4	0.75	1.66		1.70	1.72	0.81
1 1/2	6.12	2.75	2.88	1.13	0.88	3.00	1.50	1.25	4.50	4	0.88	1.90		1.95	1.97	0.88
2	6.50	3.31	3.62	1.25	1.00	3.12	1.69	1.44	5.00	8	0.75	2.38		2.44	2.46	1.12
2 1/2	7.50	3.94	4.12	1.38	1.12	3.38	1.88	1.62	5.88	8	0.88	2.88		2.94	2.97	1.25
3	8.25	4.62	5.00	1.50	1.25	3.50	1.06	1.81	6.62	8	0.88	3.50		3.57	3.60	1.38
3 1/2	9.00	5.25	5.50	1.63	1.38	3.63	1.19	1.94	7.25	8	1.00	4.00		4.07	4.10	1.56
4	10.75	6.00	6.19	1.75	1.50	4.25	2.38	2.12	8.50	8	1.00	4.50		4.57	4.60	1.62
5	13.00	7.44	7.31	2.00	1.75	4.75	2.63	2.38	10.50	8	1.12	5.56		5.66	5.69	1.88
6	14.00	8.75	8.50	1.12	1.88	4.88	2.88	2.62	11.50	12	1.12	6.62		6.72	6.75	2.00
8	16.50	10.75	10.62	2.38	2.19	5.50	3.25	3.00	13.75	12	1.25	8.62		8.72	8.75	2.25
10	20.00	13.50	12.75	2.75	2.50	6.25	3.63	4.38	17.00	16	1.38	10.75		10.88	10.92	2.56
12	22.00	15.75	15.00	2.88	2.62	6.38	3.88	4.62	19.25	20	1.38	12.75		12.88	12.92	2.75
14	23.75	17.00	16.25	3.00	2.75	6.75	3.94	5.00	20.75	20	1.50	14.00		14.14	14.18	2.88
16	27.00	19.50	18.50	3.25	3.00	7.25	4.44	5.50	23.75	20	1.62	16.00		16.16	16.19	3.06
18	29.25	21.50	21.00	3.50	3.25	7.50	4.88	6.00	25.75	20	1.75	18.00		18.18	18.20	3.12
20	32.00	24.00	23.00	3.75	3.50	7.75	5.25	6.50	28.50	24	1.75	20.00		20.20	20.25	3.25
24	37.00	28.25	27.25	4.25	4.00	8.25	5.75	7.25	33.00	24	2.00	24.00		24.25	24.25	3.62



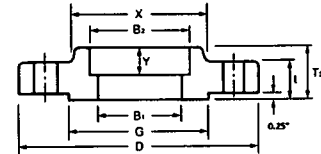
ANSI Flanges—Class 900



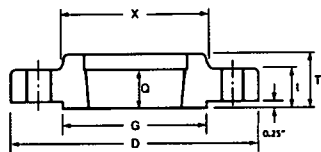
WELDING NECK



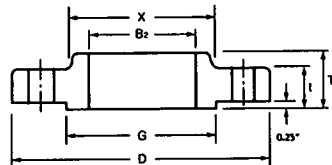
LAP JOINT



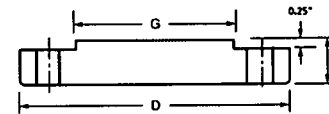
SOCKET WELDING



THREADED



SLIP-ON



BLIND

NOTES:

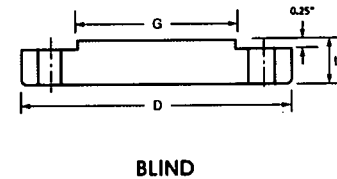
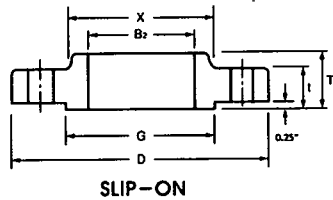
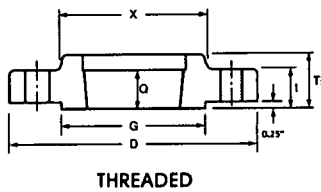
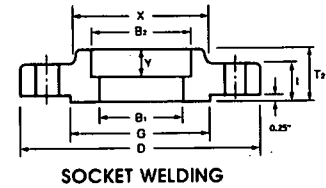
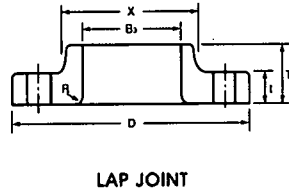
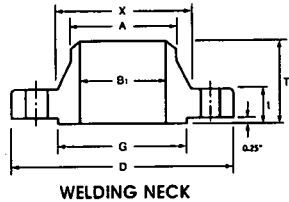
1. See sections 6 and 7 of ASME B16.5 for additional dimensions and tolerances.
2. See Figures 8, 9 and 10 of ASME B16.5 for details on welding ends.
3. Flange facing shown is for raised face type. For ring type joint facing, see Table 5 of ASME B16.5.
4. SO is Slip-On, SW is Socket Welding

0B03971.2

Nominal	Outside	Hub	Raised Face	Flange	Flange	Overall Length			Drilling			Weld End	Bore			Thread
Pipe Size	Diameter	Diameter	Diameter	Thickness	Lap Joint Thickness	Weldneck	SO, SW	Lap Joint	Bolt Circle Ø	No. of holes	Bolt Hole Ø	Diameter	Weldneck	SO, SW	Lap Joint	Length
-	D	X	G	t	t ₁	T ₁	T ₂	T ₃	-	-	-	A	B ₁	B ₂	B ₃	Q
½	4.75	1.50	1.38	1.13	.88	2.63	1.50	1.25	3.25	4	0.88	0.84	To be specified by purchaser	0.88	0.90	0.88
¾	5.12	1.75	1.69	1.25	1.00	3.00	1.63	1.38	3.50	4	0.88	1.05		1.09	1.11	1.00
1	5.88	2.06	2.00	1.38	1.12	3.12	1.88	1.62	4.00	4	1.00	1.32		1.36	1.38	1.12
1 ¼	6.25	2.50	2.50	1.38	1.12	3.12	1.88	1.62	4.38	4	1.00	1.66		1.70	1.72	1.19
1 ½	7.00	2.75	2.88	1.50	1.25	3.50	2.00	1.75	4.88	4	1.12	1.90		1.95	1.97	1.25
2	8.50	4.12	3.62	1.75	1.50	4.25	2.50	2.25	6.50	8	1.00	2.38		2.44	2.46	1.50
2 ½	9.62	4.88	4.12	1.88	1.62	4.38	2.75	2.50	7.50	8	1.12	2.88		2.94	2.97	1.88
3	9.50	5.00	5.00	1.75	1.50	4.25	2.38	2.12	7.50	8	1.00	3.50		3.57	3.60	1.62
4	11.50	6.25	6.19	2.00	1.75	4.75	3.00	2.75	9.25	8	1.25	4.50		4.57	4.60	1.88
5	13.75	7.50	7.31	2.25	2.00	5.25	3.38	3.13	11.00	8	1.38	5.56		5.66	5.69	2.12
6	15.00	9.25	8.50	2.44	2.19	5.75	3.63	3.38	12.50	12	1.25	6.63		6.72	6.75	2.25
8	18.50	11.75	10.62	2.75	2.50	6.63	4.25	4.50	15.50	12	1.50	8.63		8.72	8.75	2.50
10	21.50	14.50	12.75	3.00	2.75	7.50	4.50	5.00	18.50	16	1.50	10.75		10.88	10.92	2.81
12	24.00	16.50	15.00	3.38	3.12	8.12	4.88	5.62	21.00	20	1.50	12.75		12.88	12.92	3.00
14	25.25	17.75	16.25	3.63	3.38	8.63	5.38	6.12	22.00	20	1.62	14.00		14.14	14.18	3.25
16	27.75	20.00	18.50	3.75	3.50	8.75	5.50	6.50	24.25	20	1.75	16.00		16.16	16.19	3.38
18	31.00	22.25	21.00	4.25	4.00	9.25	6.25	7.50	27.00	20	2.00	18.00		18.18	18.20	3.50
20	33.75	24.50	23.00	4.50	4.25	10.00	6.50	8.25	29.50	20	2.12	20.00		20.20	20.25	3.62
24	41.00	29.50	27.25	5.75	5.50	11.75	8.25	10.50	35.50	20	2.62	24.00		24.25	24.25	4.00



ANSI Flanges—Class 1500



NOTES:

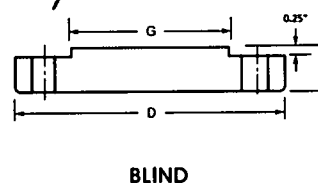
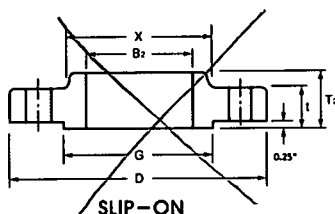
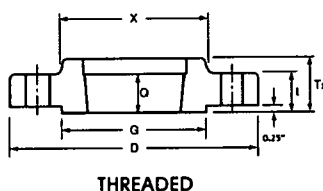
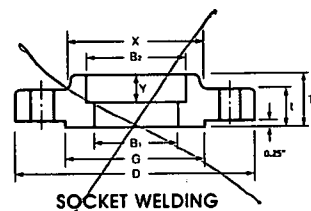
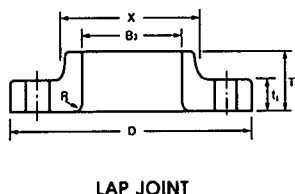
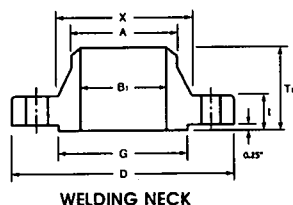
1. See sections 6 and 7 of ASME B16.5 for additional dimensions and tolerances.
2. See Figures 8, 9 and 10 of ASME B16.5 for details on welding ends.
3. Flange facing shown is for raised face type. For ring type joint facing, see Table 5 of ASME B16.5.
4. SO is Slip-On, SW is Socket Welding

0B03971.2

Nominal	Outside	Hub	Raised Face	Flange	Flange	Overall Length			Drilling			Weld End	Bore			Thread
Pipe Size	Diameter	Diameter	Diameter	Thickness	Lap Joint Thickness	Weldneck	SO, SW	Lap Joint	Bolt Circle Φ	No. of holes	Bolt Hole Φ	Diameter	Weldneck	SO, SW	Lap Joint	Length
-	D	X	G	t	t ₁	T ₁	T ₂	T ₃	-	-	-	A	B ₁	B ₂	B ₃	Q
1/2	4.75	1.50	1.38	1.13	.88	2.63	1.50	1.25	3.25	4	0.88	0.84	To be specified by purchaser	0.88	0.90	0.88
3/4	5.12	1.75	1.69	1.25	1.00	3.00	1.63	1.38	3.50	4	0.88	1.05		1.09	1.11	1.00
1	5.88	2.06	2.00	1.38	1.12	3.12	1.88	1.62	4.00	4	1.00	1.32		1.36	1.38	1.12
1 1/4	6.25	2.50	2.50	1.38	1.12	3.12	1.88	1.62	4.38	4	1.00	1.66		1.70	1.72	1.19
1 1/2	7.00	2.75	2.88	1.50	1.25	3.50	2.00	1.75	4.88	4	1.12	1.90		1.95	1.97	1.25
2	8.50	4.12	3.62	1.75	1.50	4.25	2.50	2.25	6.50	8	1.00	2.38		2.44	2.46	1.50
2 1/2	9.62	4.88	4.12	1.88	1.62	4.38	2.75	2.50	7.50	8	1.12	2.88		2.94	2.97	1.88
3	10.50	5.25	5.00	2.12	1.88	4.88	-	2.88	8.00	8	1.25	3.50		3.57	3.60	-
4	12.25	6.38	6.19	2.38	2.12	5.12	-	3.56	9.50	8	1.38	4.50		4.57	4.60	-
5	14.75	7.75	7.31	3.12	2.88	6.38	-	4.12	11.50	8	1.62	5.56		5.66	5.69	-
6	15.50	9.00	8.50	3.50	3.25	7.00	-	4.69	12.50	12	1.50	6.63		6.72	6.75	-
8	19.00	11.50	10.62	3.88	3.62	8.63	-	5.62	15.50	12	1.75	8.63		8.72	8.75	-
10	23.00	14.50	12.75	4.50	4.25	10.25	-	7.00	19.00	12	2.00	10.75		10.88	10.92	-
12	26.50	17.75	15.00	5.12	4.88	11.38	-	8.62	22.50	16	2.12	12.75		12.88	12.92	-
14	29.50	19.50	16.25	5.50	5.25	12.00	-	9.50	25.00	16	2.38	14.00		14.14	14.18	-
16	32.50	21.75	18.50	6.00	5.75	12.50	-	10.25	27.75	16	2.62	16.00		16.16	16.19	-
18	36.00	23.50	21.00	6.63	6.38	13.12	-	10.88	30.50	16	2.88	18.00		18.18	18.20	-
20	38.75	25.25	23.00	7.25	7.00	14.25	-	11.50	32.75	16	3.12	20.00		20.20	20.25	-
24	46.00	30.00	27.25	8.25	8.00	16.25	-	13.00	39.00	16	3.62	24.00		24.25	24.25	-



ANSI Flanges—Class 2500



NOTES:

1. See sections 6 and 7 of ASME B16.5 for additional dimensions and tolerances.
2. See Figures 8, 9 and 10 of ASME B16.5 for details on welding ends.
3. Flange facing shown is for raised face type. For ring type joint facing, see Table 5 of ASME B16.5.
4. SO is Slip-On, SW is Socket Welding

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Nominal	Outside	Hub	Raised Face	Flange	Flange	Overall Length			Drilling			Weld End	Bore			Thread
Pipe Size	Diameter	Diameter	Diameter	Thickness	Lap Joint Thickness	Weldneck	SO, SW	Lap Joint	Bolt Circle Φ	No. of holes	Bolt Hole Φ	Diameter	Weldneck	SO, SW	Lap Joint	Length
-	D	X	G	t	t ₁	T ₁	T ₂	T ₃	-	-	-	A	B ₁	B ₂	B ₃	Q
½	5.25	1.69	1.38	1.44	1.19	3.12	1.81	1.56	3.50	4	0.88	0.84	To be specified by purchaser	0.88	0.90	1.12
¾	5.50	2.00	1.69	1.50	1.25	3.38	1.94	1.69	3.75	4	0.88	1.05		1.09	1.11	1.25
1	6.25	2.25	2.00	1.63	1.38	3.75	2.12	1.88	4.25	4	1.00	1.32		1.36	1.38	1.38
1 ¼	7.25	2.88	2.50	1.75	1.50	4.00	2.31	2.06	5.12	4	1.12	1.66		1.70	1.72	1.50
1 ½	8.00	3.12	2.88	2.00	1.75	4.63	2.63	2.38	5.75	4	1.25	1.90		1.95	1.97	1.75
2	9.25	3.75	3.62	2.25	2.00	5.25	3.00	2.75	6.75	8	1.12	2.38		2.44	2.46	2.00
2 ½	10.50	4.50	4.12	2.50	2.25	5.88	3.38	3.12	7.75	8	1.25	2.88		2.94	2.97	2.25
3	12.00	5.25	5.00	2.88	2.62	6.88	-	3.62	9.00	8	1.38	3.50		3.57	3.60	2.50
4	14.00	6.50	6.19	3.25	3.00	7.75	-	4.25	10.75	8	1.62	4.50		4.57	4.60	2.75
5	16.50	8.00	7.31	3.88	3.62	9.25	-	5.12	12.75	8	1.88	5.56		5.66	5.69	3.00
6	19.00	9.25	8.50	4.50	4.25	11.00	-	6.00	14.50	8	2.12	6.63		6.72	6.75	3.25
8	21.75	12.00	10.62	5.25	5.00	12.75	-	7.00	17.25	12	2.12	8.63		8.72	8.75	3.75
10	26.50	14.75	12.75	6.75	6.50	16.75	-	9.00	21.25	12	2.62	10.75		10.88	10.92	4.25
12	30.00	17.38	15.00	7.50	7.25	18.50	-	10.00	24.38	12	2.88	12.75		12.88	12.92	4.75