

October 14, 2022

Attention: Brad Cantin
MAASS FLANGE CORPORATION
6202 LUMBERDALE ROAD
HOUSTON, TX 77092

The design submission, tracking number 2022-03819, originally received on July 08, 2022 was surveyed and accepted for registration as follows:

CRN : 0B06472.2

Accepted on: October 14, 2022

Reg Type: ADDITION TO ACC. FITTING

Expiry Date: October 14, 2032

Drawing No. : Additional Mfg. Facility, CRN renewal

Fitting type: flanges

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

Registration is based on the understanding that the flanges are in full compliance with ASME B16.34, B16.36, B16.47 & 16.48 Tables of materials, rating and dimensions

As indicated on AB-41 Statutory Declaration or AB-351 Declaration of Conformity form and submitted documentation, the code of construction are B16.5 and B16.47.

- It is our understanding that the fitting(s), included as the scope of this submission, that is(are) subject to the Safety Codes Act shall comply with the requirements of the indicated Standard or Code of Construction on the AB-41 Statutory Declaration or AB-351 Declaration of Conformity as supported by the attached data which identifies the dimensions, materials of construction, press./temp. ratings and the basis for such ratings, and the identification marking of the fittings.

- 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 or AB-351 Declaration of Conformity form.

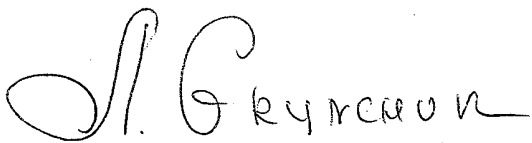
- This registration is valid only until the indicated expiry date and only if the Manufacturer maintains a valid quality management system approved by an acceptable third-party agency, and maintains a valid Certification of Authorization Permit if required by the jurisdiction where manufacturing takes place, 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 3330 or fax (780) 437-7787 or e-mail grynchuk@absa.ca.

Sincerely,



GRYNCHUK, MILLA, P. Eng.
DOP Cert. No. D00005217



Maass Flange Corporation

December 09, 2021

Re: Maass Flange Corporation Rebranding Updates

Please accept this letter as supplemental information to the update requested for Canadian Registration Number 0B06472.2 (all Provinces and Territories as applicable).

Due to rebranding initiatives and additional manufacturing facility, we would like to add a logo and address to our current registration.

Current locations:

- 6202 Lumberdale Road Houston, Texas
- 507 Highway 90 East Sealy, Texas
- Carr. Presa La Amistad KM. 7, CD. Acuna, Coah., Mexico

Location to add (machine shop relocation):

- 13770 Industrial Road Houston, Texas

Stamp/Logo to maintain:



Stamp/Logo to add:

•MFC•

Existing registered specifications will continue as per the following

Alberta	0B06472.2
Newfoundland	0B06472.20
British Columbia	0B06472.21
Saskatchewan	0B06472.23
Manitoba	0B06472.24
Ontario	0B06472.25
Quebec	0B06472.26

New Brunswick	0B06472.27
Nova Scotia	0B06472.28
Prince Edward Island	0B06472.29
Nunavut	0B06472.2N
NW Territories	0B06472.2T
Yukon	0B06472.2Y

Please contact us if you have any questions or require additional information.

Paul Pflughaupt
Quality Manager
Maass Flange Corporation



Coffer | FVC | Maass | Taper-Lok | TMW

August 23, 2022

Alberta Boilers Safety Association (ABSA)
9410 20 Ave NW,
Edmonton, AB
T6N 0A4

Subject: Ameriforge Acquisition of Maass Flange Corp

Greetings,

AFGlobal / Ameriforge announced that they have acquired Maass Flange Corp. effective June 8, 2021

<https://www.businesswire.com/news/home/20210608005881/en/AFG-Holdings-Acquires-Maass-Flange-Corporation>

Maass Flange Corp will continue to manufacture their brand under their current Quality Control program & ISO Certificates at the following locations:

13770 Industrial Road, Houston, Texas, 77015-6821

Acuna Parque Industrial Amistad, 26248 Coahuila, Ciudad Acuña Mexico

With forging facilities in the following locations:

507 Highway 90, Sealy Texas, 77474

6202 Lumberdale Road, Houston, Texas, 77092

Best Regards,

Steve Baxter

President

Ameriforge LLC

Coffer | FVC | Maass | Taper-Lok® | TMW

13770 Industrial Road, Houston, TX 77015 USA

713.393.4406 (office), 713.516.0989 (cell)

sbaxter@afglobalcorp.com

The management system of

Maass Flange Corp.

6202 Lumberdale Rd.
US-77092 Houston, Texas, USA



has been assessed and certified as meeting the requirements of

ISO 9001:2015

For the following activities

**Sales and Manufacturing of Rings, Flanges
and Forgings of Various Material Grades**

This certificate is valid from 06.06.2019 until 05.06.2022 and remains valid
subject to satisfactory surveillance audits. Recertification audit due a
minimum of 60 days before the expiration date.
Issue 1

Multiple certificates have been issued for this scope
The main certificate is numbered DE19/819944291.00

ppa Jan Meemken
Director CBE Germany

Authorised by

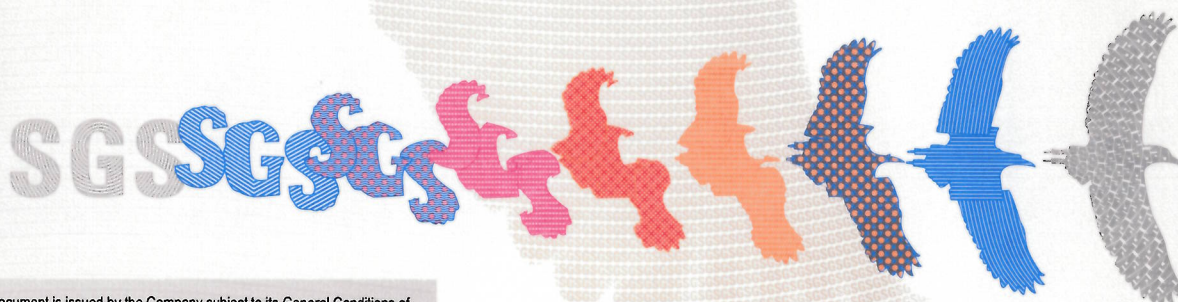
Hagen Senne
Head of Certification Body



Deutsche
Akkreditierungsstelle
D-ZM-12088-01-00

SGS-TÜV Saar GmbH
Am TÜV 1 66280 Sulzbach (Germany)
e-mail: de.cbe.zertifizierung@sgs.com www.sgs-tuev-saar.com

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The management system of

**Maass Flange Corp.
(Forging Plant)**

507 Highway 90
US-77474 East Sealy, Texas, USA



has been assessed and certified as meeting the requirements of

ISO 9001:2015

For the following activities

**Sales and Manufacturing of Rings, Flanges
and Forgings of Various Material Grades**

This certificate is valid from 06.06.2019 until 05.06.2022 and remains valid
subject to satisfactory surveillance audits. Recertification audit due a
minimum of 60 days before the expiration date.

Issue 1

Multiple certificates have been issued for this scope
The main certificate is numbered DE19/819944291.00

Authorised by

ppa Jan Meemken
Director CBE Germany

Hagen Senne
Head of Certification Body



SGS-TÜV Saar GmbH

Am TÜV 1 66280 Sulzbach (Germany)

e-mail: de.cbe.zertifizierung@sgs.com www.sgs-tuev-saar.com

Page 1 of 1



The management system of

Industrias Maass de México S.A. de C.V.

Carr. Presa La Amistad KM. 7
MX-CD. Acuna, Coah., MEXICO



has been assessed and certified as meeting the requirements of

ISO 9001:2015

For the following activities

**Sales and Manufacturing of Flanges and Forgings
as well as Sales of Rings of Various Material Grades**

This certificate is valid from 06.06.2019 until 05.06.2022 and remains valid
subject to satisfactory surveillance audits. Recertification audit due a
minimum of 60 days before the expiration date.
Issue 1

Multiple certificates have been issued for this scope
The main certificate is numbered DE19/819944291.00

ppa Jan Meemken
Director CBE Germany

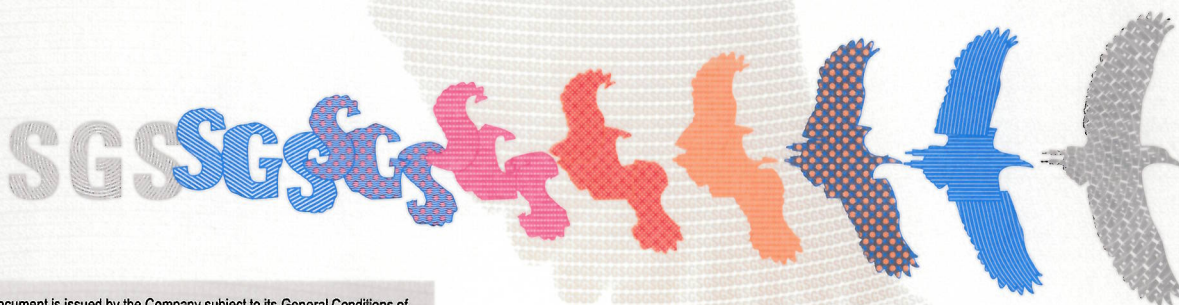
Authorised by

Hagen Senne
Head of Certification Body



SGS-TÜV Saar GmbH
Am TÜV 1 66280 Sulzbach (Germany)
e-mail: de.cbe.zertifizierung@sgs.com www.sgs-tuev-saar.com

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MANAGEMENT SYSTEM CERTIFICATE

Certificate no.:
CERT-04068-2006-AQ-HOU-ANAB

Initial certification date:
09 October, 2002

Valid:
27 August, 2021 – 26 August, 2024

This is to certify that the management system of
Ameriforge Corporation
13770 Industrial Rd, Houston, TX, 77015-6821, USA

has been found to conform to the Quality Management System standard:
ISO 9001:2015

This certificate is valid for the following scope:
The Manufacture, Heat Treating, and Machining of Ferrous and Non-Ferrous Products, Flanges and Flanged Fittings, Riser Assembly and Fabrication of Components

Place and date:
Katy, TX, 17 August, 2021



For the issuing office:
DNV - Business Assurance
1400 Ravello Drive, Katy, TX, 77449-5164, USA



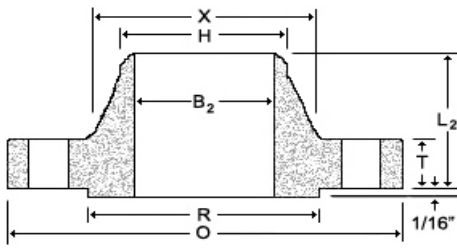
Sherif Mekkawy
Management Representative



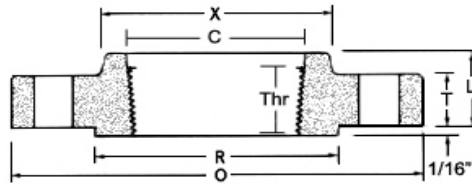
MAASS GLOBAL GROUP
MAASS FLANGE USA



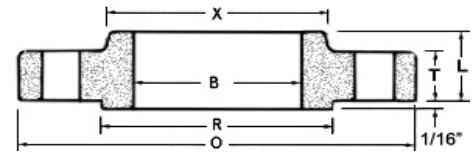
ANSI B16.5 Class 150 Forged Flanges



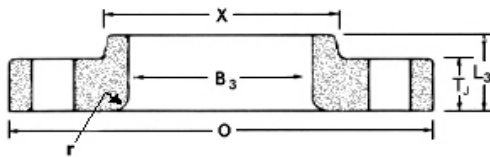
Weld Neck



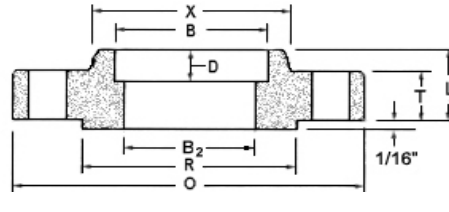
Threaded



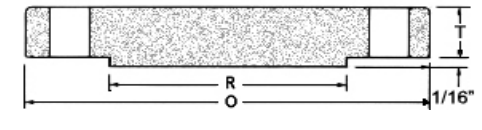
Slip-On



Lap Joint



Socket Weld



Blind

Nom. Pipe Size	O	T	T _J	R	X	#/Dia of Holes ^a	Bolt Circle Dia	B	B ₂ ^b	B ₃	H	L	L ₂	L ₃ ^c	r	D	Thr
½	3.50	0.38	0.44	1.38	1.19	4-0.62	2.38	0.88	0.62	0.90	0.84	0.56	1.81	0.62	0.12	0.38	0.62
¾	3.88	0.44	0.50	1.69	1.50	4-0.62	2.75	1.09	0.82	1.11	1.05	0.56	2.00	0.62	0.12	0.44	0.62
1	4.25	0.50	0.56	2.00	1.94	4-0.62	3.12	1.36	1.05	1.38	1.32	0.62	2.12	0.69	0.12	0.50	0.69
1¼	4.62	0.56	0.62	2.50	2.31	4-0.62	3.50	1.70	1.38	1.72	1.66	0.75	2.19	0.81	0.19	0.56	0.81
1½	5.00	0.62	0.69	2.88	2.56	4-0.62	3.88	1.95	1.61	1.97	1.90	0.81	2.38	0.88	0.25	0.62	0.88
2	6.00	0.69	0.75	3.62	3.06	4-0.75	4.75	2.44	2.07	2.46	2.38	0.94	2.44	1.00	0.31	0.69	1.00
2½	7.00	0.81	0.88	4.12	3.56	4-0.75	5.50	2.94	2.47	2.97	2.88	1.06	2.69	1.12	0.31	0.75	1.12
3	7.50	0.88	0.94	5.00	4.25	4-0.75	6.00	3.57	3.07	3.60	3.50	1.12	2.69	1.19	0.38	0.81	1.19
3½	8.50	0.88	0.94	5.50	4.81	8-0.75	7.00	4.07	3.55	4.10	4.00	1.19	2.75	1.25	0.38	0.88	1.25
4	9.00	0.88	0.94	6.19	5.31	8-0.75	7.50	4.57	4.03	4.60	4.50	1.25	2.94	1.31	0.44	0.94	1.31
5	10.00	0.88	0.94	7.31	6.44	8-0.88	8.50	5.66	5.05	5.69	5.56	1.38	3.44	1.44	0.44	0.94	1.44
6	11.00	0.94	1.00	8.50	7.56	8-0.88	9.50	6.72	6.07	6.75	6.63	1.50	3.44	1.56	0.50	1.06	1.56
8	13.50	1.06	1.12	10.62	9.69	8-0.88	11.75	8.72	7.98	8.75	8.63	1.69	3.94	1.75	0.50	1.25	1.75
10	16.00	1.12	1.19	12.75	12.00	12-1.00	14.25	10.88	10.02	10.92	10.75	1.88	3.94	1.94	0.50	1.31	1.94
12	19.00	1.19	1.25	15.00	14.38	12-1.00	17.00	12.88	12.00	12.92	12.75	2.12	4.44	2.19	0.50	1.56	2.19
14	21.00	1.31	1.38	16.25	15.75	12-1.12	18.75	14.14	13.25	14.18	14.00	2.19	4.94	3.12	0.50	1.63	2.25
16	23.50	1.38	1.44	18.50	18.00	16-1.12	21.25	16.16	15.25	16.19	16.00	2.44	4.94	3.44	0.50	1.75	2.50
18	25.00	1.50	1.56	21.00	19.88	16-1.25	22.75	18.18	17.25	18.20	18.00	2.62	5.44	3.81	0.50	1.94	2.69
20	27.50	1.62	1.69	23.00	22.00	20-1.25	25.00	20.20	19.25	20.25	20.00	2.81	5.62	4.06	0.50	2.13	2.88
22	29.50	1.75	1.81	25.25	24.25	20-1.38	27.25	22.22	21.25	22.25	22.00	3.07	5.82	4.25	0.50	2.38	3.13
24	32.00	1.81	1.88	27.25	26.12	20-1.38	29.50	24.25	23.25	24.25	24.00	3.19	5.94	4.38	0.50	2.50	3.25

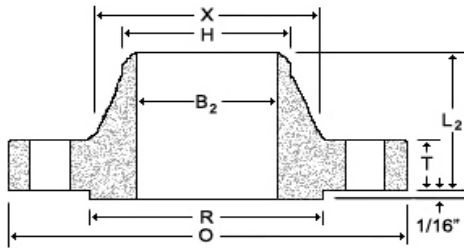
Dimensions are in inches.

(a)- Bolt hole diameter 1/8 in. larger than bolt diameter.

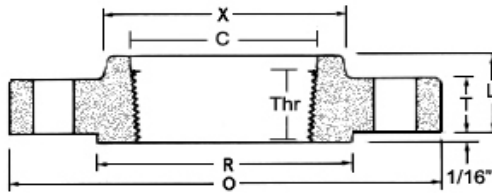
(b)- Standard bore dimensions provided. See bore chart for other wall thicknesses.

(c)- This dimension is commonly associated with "true" lap joints. Industry standard is to make to the slip on length through the hub.

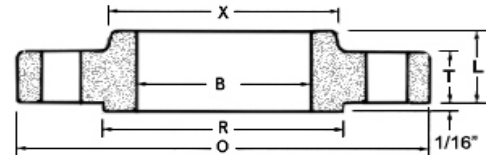
ANSI B16.5 Class 300 Forged Flanges



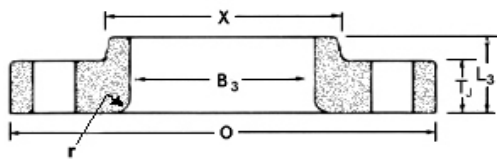
Weld Neck



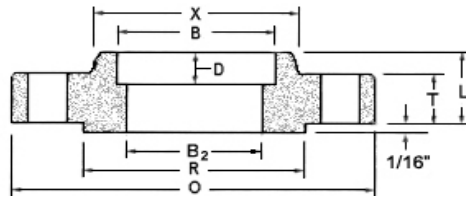
Threaded



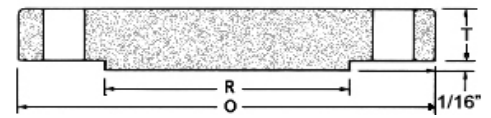
Slip-On



Lap Joint



Socket Weld



Blind

Nom. Pipe Size	O	T	T _J	R	X	#/Dia of Holes ^a	Bolt Circle Dia	B	B ₂ ^b	B ₃	H	L	L ₂	L ₃ ^c	r	C	D	Thr
½	3.75	0.50	0.56	1.38	1.50	4-0.63	2.62	0.88	0.62	0.90	0.84	0.81	2.00	0.88	0.12	0.93	0.38	0.62
¾	4.62	0.56	0.62	1.69	1.88	4-0.75	3.25	1.09	0.82	1.11	1.05	0.94	2.19	1.00	0.12	1.14	0.44	0.62
1	4.88	0.62	0.69	2.00	2.12	4-0.75	3.50	1.36	1.05	1.38	1.32	1.00	2.38	1.06	0.12	1.41	0.50	0.69
1¼	5.25	0.69	0.75	2.50	2.50	4-0.75	3.88	1.70	1.38	1.72	1.66	1.00	2.50	1.06	0.19	1.75	0.56	0.81
1½	6.12	0.75	0.81	2.88	2.75	4-0.88	4.50	1.95	1.61	1.97	1.90	1.13	2.63	1.19	0.25	1.98	0.62	0.88
2	6.50	0.81	0.88	3.62	3.31	8-0.75	5.00	2.44	2.07	2.46	2.38	1.25	2.69	1.31	0.31	2.50	0.69	1.12
2½	7.50	0.94	1.00	4.12	3.94	8-0.88	5.88	2.94	2.47	2.97	2.88	1.44	2.94	1.50	0.31	3.00	0.75	1.25
3	8.25	1.06	1.12	5.00	4.62	8-0.88	6.62	3.57	3.07	3.60	3.50	1.63	3.06	1.69	0.38	3.63	0.81	1.25
3½	9.00	1.12	1.19	5.50	5.25	8-0.88	7.25	4.07	3.55	4.10	4.00	1.69	3.13	1.75	0.38	4.13	....	1.44
4	10.00	1.19	1.25	6.19	5.75	8-0.88	7.88	4.57	4.03	4.60	4.50	1.82	3.32	1.88	0.44	4.63	....	1.44
5	11.00	1.31	1.38	7.31	7.00	8-0.88	9.25	5.66	5.05	5.69	5.56	1.94	3.82	2.00	0.44	5.69	....	1.69
6	12.50	1.38	1.44	8.50	8.12	12-0.88	10.62	6.72	6.07	6.75	6.63	2.00	3.82	2.06	0.50	6.75	....	1.81
8	15.00	1.56	1.62	10.62	10.25	12-1.00	13.00	8.72	7.98	8.75	8.63	2.38	4.32	2.44	0.50	8.75	....	2.00
10	17.50	1.81	1.88	12.75	12.62	16-1.12	15.25	10.88	10.02	10.92	10.75	2.56	4.56	3.75	0.50	10.88	....	2.19
12	20.50	1.94	2.00	15.00	14.75	16-1.25	17.75	12.88	12.00	12.92	12.75	2.82	5.06	4.00	0.50	12.94	....	2.38
14	23.00	2.06	2.12	16.25	16.75	20-1.25	20.25	14.14	13.25	14.18	14.00	2.94	5.56	4.38	0.50	14.19	....	2.50
16	25.50	2.19	2.25	18.50	19.00	20-1.38	22.50	16.16	15.25	16.19	16.00	3.19	5.69	4.75	0.50	16.19	....	2.69
18	28.00	2.31	2.38	21.00	21.00	24-1.38	24.75	18.18	17.25	18.20	18.00	3.44	6.19	5.12	0.50	18.19	....	2.75
20	30.50	2.44	2.50	23.00	23.12	24-1.38	27.00	20.20	19.25	20.25	20.00	3.69	6.32	5.50	0.50	20.19	....	2.88
22	33.00	2.57	2.63	25.25	25.25	24-1.63	29.25	22.22	21.25	22.25	22.00	3.93	6.43	5.75	0.50	22.19	....	3.13
24	36.00	2.69	2.75	27.25	27.62	24-1.63	32.00	24.25	23.25	24.25	24.00	4.13	6.56	6.00	0.50	24.19	....	3.25

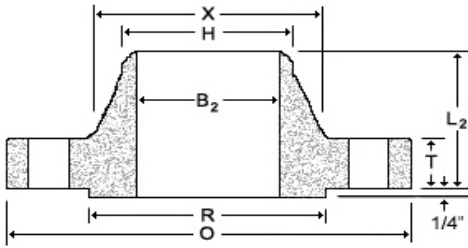
Dimensions are in inches.

(a)- Bolt hole diameter 1/8 in. larger than bolt diameter.

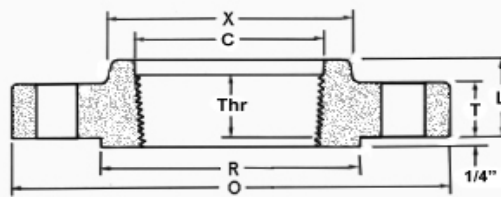
(b)- Standard bore dimensions provided. See bore chart for other wall thicknesses.

(c)- This dimension is commonly associated with "true" lap joints. Industry standard is to make to the slip on length through the hub.

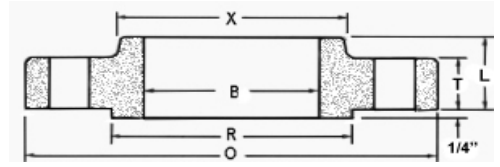
ANSI B16.5 Class 400 Forged Flanges



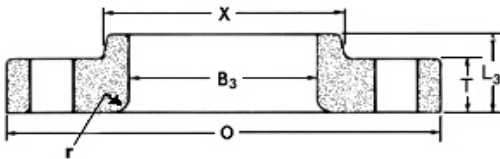
Weld Neck



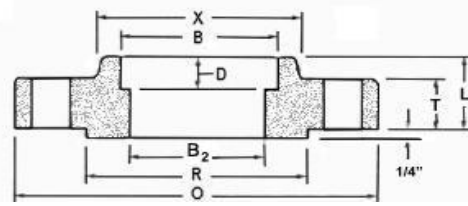
Threaded



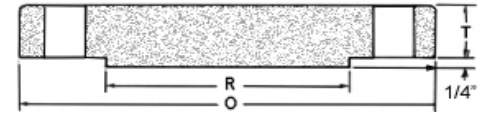
Slip-On



Lap Joint



Socket Weld



Blind

Nom. Pipe Size	O	T	R	X	#/Dia of Holes ^a	Bolt Circle Dia	B	B ₂ ^b	B ₃	H	L	L ₂	L ₃ ^c	r	C	D	Thr
1/2	3.75	0.56	1.38	1.50	4-0.63	2.62	0.88	To be specified by Purchaser.	0.90	0.84	0.88	2.06	0.88	0.12	0.93	0.38	0.62
3/4	4.62	0.62	1.69	1.88	4-0.75	3.25	1.09		1.11	1.05	1.00	2.25	1.00	0.12	1.14	0.44	0.62
1	4.88	0.69	2.00	2.12	4-0.75	3.50	1.36		1.38	1.32	1.06	2.44	1.06	0.12	1.41	0.50	0.69
1 1/4	5.25	0.81	2.50	2.50	4-0.75	3.88	1.70		1.72	1.66	1.12	2.62	1.12	0.19	1.75	0.56	0.81
1 1/2	6.12	0.88	2.88	2.75	4-0.88	4.50	1.95		1.97	1.90	1.25	2.75	1.25	0.25	1.99	0.62	0.88
2	6.50	1.00	3.62	3.31	8-0.75	5.00	2.44		2.46	2.38	1.44	2.88	1.44	0.31	2.50	0.69	1.12
2 1/2	7.50	1.12	4.12	3.94	8-0.88	5.88	2.94		2.97	2.88	1.62	3.12	1.62	0.31	3.00	0.75	1.25
3	8.25	1.25	5.00	4.62	8-0.88	6.62	3.57		3.60	3.50	1.81	3.25	1.81	0.38	3.63	0.81	1.38
3 1/2	9.00	1.38	5.50	5.25	8-1.00	7.25	4.07		4.10	4.00	1.94	3.38	1.94	0.38	4.13	....	1.56
4	10.00	1.38	6.19	5.75	8-1.00	7.88	4.57		4.60	4.50	2.00	3.50	2.00	0.44	4.63	....	1.44
5	11.00	1.50	7.31	7.00	8-1.00	9.25	5.66		5.69	5.56	2.12	4.00	2.12	0.44	5.69	....	1.69
6	12.50	1.62	8.50	8.12	12-1.00	10.62	6.72		6.75	6.63	2.25	4.06	2.25	0.50	6.75	....	1.81
8	15.00	1.88	10.62	10.25	12-1.12	13.00	8.72		8.75	8.63	2.69	4.62	2.69	0.50	8.75	....	2.00
10	17.50	2.12	12.75	12.62	16-1.25	15.25	10.88		10.92	10.75	2.88	4.88	4.00	0.50	10.88	....	2.19
12	20.50	2.25	15.00	14.75	16-1.38	17.75	12.88		12.92	12.75	3.12	5.38	4.25	0.50	12.94	....	2.38
14	23.00	2.38	16.25	16.75	20-1.38	20.25	14.14		14.18	14.00	3.31	5.88	4.62	0.50	14.19	....	2.50
16	25.50	2.50	18.50	19.00	20-1.50	22.50	16.16		16.19	16.00	3.69	6.00	5.00	0.50	16.19	....	2.69
18	28.00	2.62	21.00	21.00	24-1.50	24.75	18.18		18.20	18.00	3.88	6.50	5.38	0.50	18.19	....	2.75
20	30.50	2.75	23.00	23.12	24-1.62	27.00	20.20		20.25	20.00	4.00	6.62	5.75	0.50	20.19	....	2.88
22	33.00	2.88	25.25	25.25	24-1.75	29.25	22.22		22.25	22.00	4.25	6.75	6.00	0.50	....	....	--
24	36.00	3.00	27.25	27.62	24-1.88	32.00	24.25		24.25	24.00	4.50	6.88	6.25	0.50	24.19	....	3.25

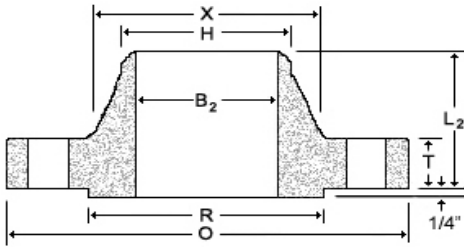
Dimensions are in inches.

(a)- Bolt hole diameter 1/8 in. larger than bolt diameter.

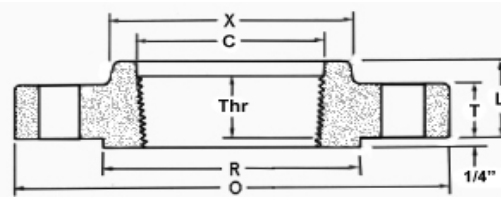
(b)- See bore chart for wall thicknesses.

(c)- This dimension is commonly associated with "true" lap joints. Industry standard is to make to the slip on length through the hub.

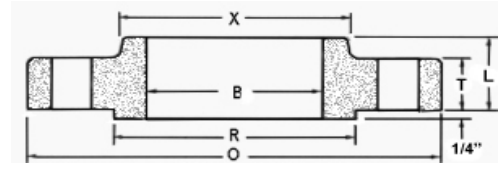
ANSI B16.5 Class 600 Forged Flanges



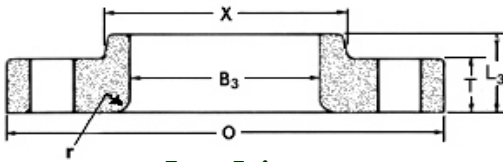
Weld Neck



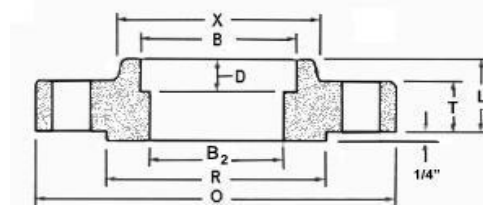
Threaded



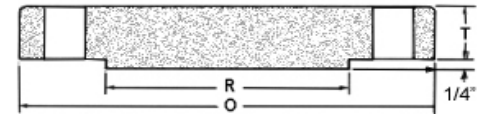
Slip-On



Lap Joint



Socket Weld



Blind

Nom. Pipe Size	O	T	R	X	#/Dia of Holes ^a	Bolt Circle Dia	B	B ₂ ^b	B ₃	H	L	L ₂	L ₃ ^c	r	C	D	Thr
1/2	3.75	0.56	1.38	1.50	4-0.63	2.62	0.88	To be specified by Purchaser.	0.90	0.84	0.88	2.06	0.88	0.12	0.93	0.38	0.62
3/4	4.62	0.62	1.69	1.88	4-0.75	3.25	1.09		1.11	1.05	1.00	2.25	1.00	0.12	1.14	0.44	0.62
1	4.88	0.69	2.00	2.12	4-0.75	3.50	1.36		1.38	1.32	1.06	2.44	1.06	0.12	1.41	0.50	0.69
1 1/4	5.25	0.81	2.50	2.50	4-0.75	3.88	1.70		1.72	1.66	1.12	2.62	1.12	0.19	1.75	0.56	0.81
1 1/2	6.12	0.88	2.88	2.75	4-0.88	4.50	1.95		1.97	1.90	1.25	2.75	1.25	0.25	1.99	0.62	0.88
2	6.50	1.00	3.62	3.31	8-0.75	5.00	2.44		2.46	2.38	1.44	2.88	1.44	0.31	2.50	0.69	1.12
2 1/2	7.50	1.12	4.12	3.94	8-0.88	5.88	2.94		2.97	2.88	1.62	3.12	1.62	0.31	3.00	0.75	1.25
3	8.25	1.25	5.00	4.62	8-0.88	6.62	3.57		3.60	3.50	1.81	3.25	1.81	0.38	3.63	0.81	1.38
3 1/2	9.00	1.38	5.50	5.25	8-1.00	7.25	4.07		4.10	4.00	1.94	3.38	1.94	0.38	4.13	....	1.56
4	10.75	1.50	6.19	6.00	8-1.00	8.50	4.57		4.60	4.50	2.12	4.00	2.12	0.44	4.63	....	1.62
5	13.00	1.75	7.31	7.44	8-1.12	10.50	5.66		5.69	5.56	2.38	4.50	2.38	0.44	5.69	....	1.88
6	14.00	1.88	8.50	8.75	12-1.12	11.50	6.72		6.75	6.63	2.62	4.62	2.62	0.50	6.75	....	2.00
8	16.50	2.19	10.62	10.75	12-1.25	13.75	8.72		8.75	8.63	3.00	5.25	3.00	0.50	8.75	....	2.25
10	20.00	2.50	12.75	13.50	16-1.38	17.00	10.88		10.92	10.75	3.38	6.00	4.38	0.50	10.88	....	2.56
12	22.00	2.62	15.00	15.75	20-1.38	19.25	12.88		12.92	12.75	3.62	6.12	4.62	0.50	12.94	....	2.75
14	23.75	2.75	16.25	17.00	20-1.50	20.75	14.14		14.18	14.00	3.69	6.50	5.00	0.50	14.19	....	2.88
16	27.00	3.00	18.50	19.50	20-1.63	23.75	16.16		16.19	16.00	4.19	7.00	5.50	0.50	16.19	....	3.06
18	29.25	3.25	21.00	21.50	20-1.75	25.75	18.18		18.20	18.00	4.62	7.25	6.00	0.50	18.19	....	3.12
20	32.00	3.50	23.00	24.00	24-1.75	28.50	20.20		20.25	20.00	5.00	7.50	6.50	0.50	20.19	....	3.25
22	34.25	3.75	25.25	26.25	24-1.88	30.63	22.22		22.25	22.00	5.25	7.75	6.88	0.50	....	....	--
24	37.00	4.00	27.25	28.25	24-2.00	33.00	24.25		24.25	24.00	5.50	8.00	7.25	0.50	24.19	....	3.62

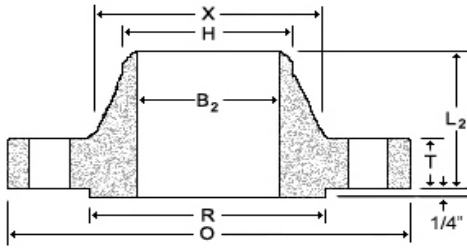
Dimensions are in inches.

(a)- Bolt hole diameter 1/8 in. larger than bolt diameter.

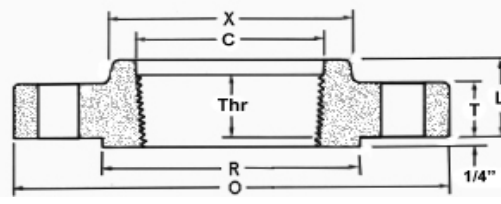
(b)- See bore chart for wall thicknesses.

(c)- This dimension is commonly associated with "true" lap joints. Industry standard is to make to the slip on length through the hub.

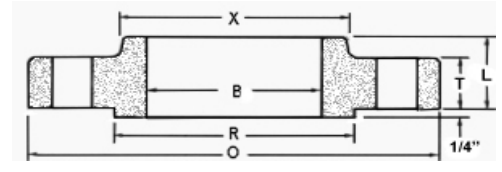
ANSI B16.5 Class 900 Forged Flanges



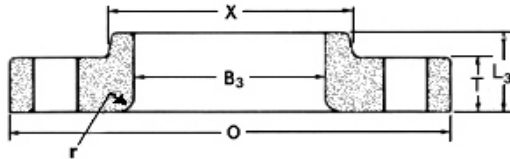
Weld Neck



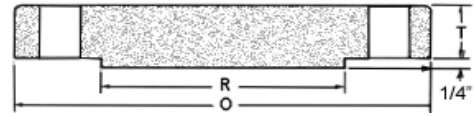
Threaded



Slip-On



Lap Joint



Blind

Nom. Pipe Size	O	T	R	X	#/Dia of Holes ^a	Bolt Circle Dia	B	B ₂ ^b	B ₃	H	L	L ₂	L ₃ ^c	r	C	Thr
Sizes 1/2" through 2 1/2" are identical to class 1500.																
3	9.50	1.50	5.00	5.00	8-1.00	7.50	3.57	To be specified by Purchaser.	3.60	3.50	2.12	4.00	2.12	0.38	3.63	1.62
4	11.50	1.75	6.19	6.25	8-1.25	9.25	4.57		4.60	4.50	2.75	4.50	2.75	0.44	4.63	1.88
5	13.75	2.00	7.31	7.50	8-1.38	11.00	5.66		5.69	5.56	3.12	5.00	3.12	0.44	5.69	2.12
6	15.00	2.19	8.50	9.25	12-1.25	12.50	6.72		6.75	6.63	3.38	5.50	3.38	0.50	6.75	2.25
8	18.50	2.50	10.63	11.75	12-1.50	15.50	8.72		8.75	8.63	4.00	6.38	4.50	0.50	8.75	2.50
10	21.50	2.75	12.75	14.50	16-1.50	18.50	10.88		10.92	10.75	4.25	7.25	5.00	0.50	10.88	2.81
12	24.00	3.12	15.00	16.50	20-1.50	21.00	12.88		12.92	12.75	4.63	7.88	5.62	0.50	12.94	3.00
14	25.25	3.38	16.25	17.75	20-1.63	22.00	14.14		14.18	14.00	5.12	8.38	6.12	0.50	14.19	3.25
16	27.75	3.50	18.50	20.00	20-1.75	24.25	16.16		16.19	16.00	5.25	8.50	6.50	0.50	16.19	3.38
18	31.00	4.00	21.00	22.25	20-2.00	27.00	18.18		18.20	18.00	6.00	9.00	7.50	0.50	18.19	3.50
20	33.75	4.25	23.00	24.50	20-2.13	29.50	20.20	To be specified by Purchaser.	20.25	20.00	6.25	9.75	8.25	0.50	20.19	3.62
24	41.00	5.50	27.25	29.50	20-2.63	35.50	24.25		24.25	24.00	8.00	11.50	10.50	0.50	24.19	4.00

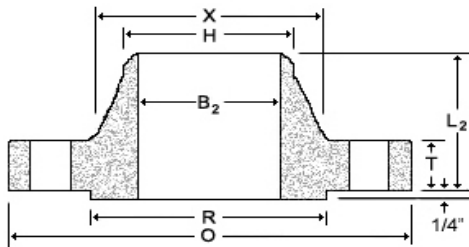
Dimensions are in inches.

(a)- Bolt hole diameter 1/8 in. larger than bolt diameter.

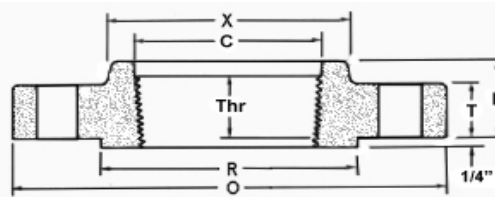
(b)- See bore chart for wall thicknesses.

(c)- This dimension is commonly associated with "true" lap joints. Industry standard is to make to the slip on length through the hub.

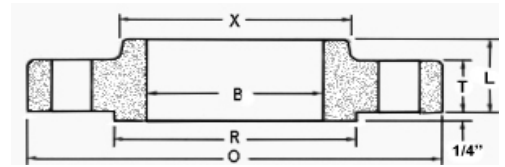
ANSI B16.5 Class 1500 Forged Flanges



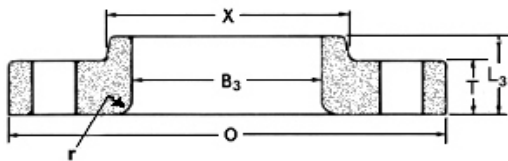
Weld Neck



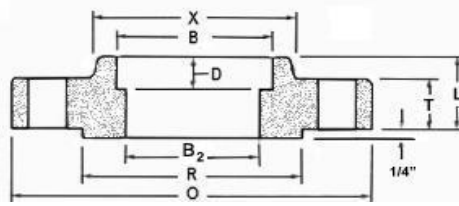
Threaded



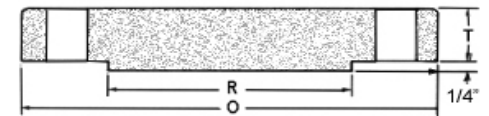
Slip-On



Lap Joint



Socket Weld



Blind

Nom. Pipe Size	O	T	R	X	#/Dia of Holes ^a	Bolt Circle Dia	B	B ₂ ^b	B ₃	H	L	L ₂	L ₃ ^c	r	C	D	Thr
1/2	4.75	0.88	1.38	1.50	4-0.88	3.25	0.88	To be specified by Purchaser.	0.90	0.84	1.25	2.38	1.25	0.12	0.93	0.38	0.88
3/4	5.12	1.00	1.69	1.75	4-0.88	3.50	1.09		1.11	1.05	1.38	2.75	1.38	0.12	1.14	0.44	1.00
1	5.88	1.12	2.00	2.06	4-1.00	4.00	1.36		1.38	1.32	1.62	2.88	1.62	0.12	1.41	0.50	1.12
1 1/4	6.25	1.12	2.50	2.50	4-1.00	4.38	1.70		1.72	1.66	1.62	2.88	1.62	0.19	1.75	0.56	1.19
1 1/2	7.00	1.25	2.88	2.75	4-1.12	4.88	1.95		1.97	1.90	1.75	3.25	1.75	0.25	1.99	0.62	1.25
2	8.50	1.50	3.63	4.12	8-1.00	6.50	2.44		2.46	2.38	2.25	4.00	2.25	0.31	2.50	0.69	1.50
2 1/2	9.62	1.62	4.13	4.88	8-1.12	7.50	2.94		2.97	2.88	2.50	4.12	2.50	0.31	3.00	0.75	1.88
3	10.50	1.88	5.00	5.25	8-1.25	8.00	...		3.60	3.50	...	4.62	2.88	0.38	...	...	...
4	12.25	2.12	6.19	6.38	8-1.38	9.50	...		4.60	4.50	...	4.88	3.56	0.44	...	...	...
5	14.75	2.88	7.31	7.75	8-1.63	11.50	...		5.69	5.56	...	6.12	4.12	0.44	...	...	...
6	15.50	3.25	8.50	9.00	12-1.50	12.50	...		6.75	6.63	...	6.75	4.69	0.50	...	...	...
8	19.00	3.62	10.63	11.50	12-1.75	15.50	...		8.75	8.63	...	8.38	5.62	0.50	...	...	...
10	23.00	4.25	12.75	14.50	12-2.00	19.00	...		10.92	10.75	...	10.00	7.00	0.50	...	...	...
12	26.50	4.88	15.00	17.75	16-2.12	22.50	...		12.92	12.75	...	11.12	8.62	0.50	...	...	...
14	29.50	5.25	16.25	19.50	16-2.38	25.00	...		14.18	14.00	...	11.75	9.50	0.50	...	...	...
16	32.50	5.75	18.50	21.75	16-2.63	27.75	...		16.19	16.00	...	12.25	10.25	0.50	...	...	...
18	36.00	6.38	21.00	23.50	16-2.88	30.50	...		18.20	18.00	...	12.88	10.88	0.50	...	...	...
20	38.75	7.00	23.00	25.25	16-3.12	32.75	...		20.25	20.00	...	14.00	11.50	0.50	...	...	...
24	46.00	8.00	27.25	30.00	16-3.63	39.00	...		24.25	24.00	...	16.00	13.00	0.50	...	...	...

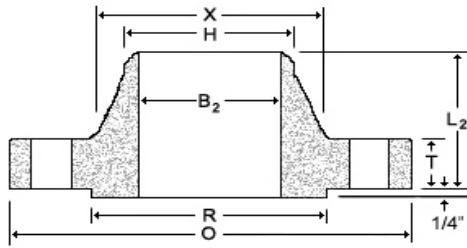
Dimensions are in inches.

(a)- Bolt hole diameter 1/8 in. larger than bolt diameter.

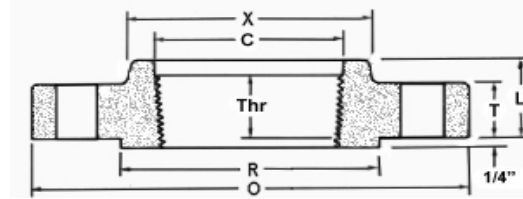
(b)- See bore chart for wall thicknesses.

(c)- This dimension is commonly associated with "true" lap joints. Industry standard is to make to the slip on length through the hub.

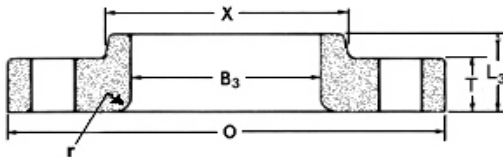
ANSI B16.5 Class 2500 Forged Flanges



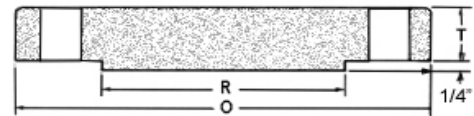
Weld Neck



Threaded



Lap Joint



Blind

Nom. Pipe Size	O	T	R	X	#/Dia of Holes ^a	Bolt Circle Dia	B ₂ ^b	B ₃	H	L	L ₂	L ₃	r	C	Thr
1/2	5.25	1.19	1.38	1.69	4-0.88	3.50	To be specified by Purchaser.	0.90	0.84	1.56	2.88	1.56	0.12	0.93	1.12
3/4	5.50	1.25	1.69	2.00	4-0.88	3.75		1.11	1.05	1.69	3.12	1.69	0.12	1.14	1.25
1	6.25	1.38	2.00	2.25	4-1.00	4.25		1.38	1.32	1.88	3.50	1.88	0.12	1.41	1.38
1 1/4	7.25	1.50	2.50	2.88	4-1.12	5.13		1.72	1.66	2.06	3.75	2.06	0.19	1.75	1.50
1 1/2	8.00	1.75	2.88	3.12	4-1.25	5.75		1.97	1.90	2.38	4.38	2.38	0.25	1.99	1.75
2	9.25	2.00	3.63	3.75	8-1.12	6.75		2.46	2.38	2.75	5.00	2.75	0.31	2.50	2.00
2 1/2	10.50	2.25	4.13	4.50	8-1.25	7.75		2.97	2.88	3.12	5.62	3.12	0.31	3.00	2.25
3	12.00	2.62	5.00	5.25	8-1.38	9.00		3.60	3.50	....	6.62	3.62	0.38	....	....
4	14.00	3.00	6.19	6.50	8-1.63	10.75		4.60	4.50	....	7.50	4.25	0.44	....	....
5	16.50	3.62	7.31	8.00	8-1.88	12.75		5.69	5.56	....	9.00	5.12	0.44	....	....
6	19.00	4.25	8.50	9.25	8-2.12	14.50		6.75	6.63	....	10.75	6.00	0.50	....	....
8	21.75	5.00	10.63	12.00	12-2.12	17.25		8.75	8.63	....	12.50	7.00	0.50	....	....
10	26.50	6.50	12.75	14.75	12-2.63	21.25		10.92	10.75	....	16.50	9.00	0.50	....	....
12	30.00	7.25	15.00	17.38	12-2.88	24.38		12.92	12.75	....	18.25	10.00	0.50	....	....

Dimensions are in inches.

(a)- Bolt hole diameter 1/8 in. larger than bolt diameter.

(b)- See bore chart for wall thicknesses.

ANSI B16.5 -1/2"-24" Forged Flanges Approximate Weight List (lbs.)

CLASS	Nominal Pipe Size	Slip On	Threaded	Socket Weld	Lap Joint	Blind	Weld Neck
150 lb	1/2	1	1	2	1	2	2
	3/4	2	2	2	2	2	2
	1	2	2	2	2	2	3
	1 1/4	3	3	3	3	3	3
	1 1/2	3	3	3	3	4	4
	2	5	5	5	5	5	6
	2 1/2	8	8	8	8	7	10
	3	9	9	9	9	9	11.5
	3 1/2	11	12	11	11	13	12
	4	13	13	13	13	17	16.5
	5	15	15	15	15	20	21
	6	19	19	19	19	27	26
	8	30	30	30	30	47	42
	10	43	43	43	43	70	54
	12	64	64	64	64	123	88
	14	90	90	90	105	140	114
	16	106	98	98	140	180	140
	18	130	130	130	160	220	165
	20	165	165	165	195	285	197
	22	185	185	185	245	355	225
	24	220	220	220	275	430	268
300 lb	1/2	2	2	3	2	2	2
	3/4	3	3	3	3	3	3
	1	3	3	3	3	4	4
	1 1/4	4.5	4.5	4	4.5	6	5
	1 1/2	6.5	6.5	6	6.5	7	7
	2	7	7	7	7	8	9
	2 1/2	10	10	10	10	12	12
	3	13	14	13	14.5	16	18
	3 1/2	17	17	17	17	21	20
	4	23.5	24	22	24	28	26.5
	5	29	31	28	28	37	36
	6	39	39	39	39	50	45
	8	58	58	58	58	81	69
	10	81	81	81	91	124	100
	12	115	115	115	140	185	142
	14	165	165	165	190	250	206
	16	210	220	190	234	315	250
	18	253	280	250	305	414	320
	20	315	325	315	375	515	400
	22	370	370	370	435	640	465
	24	490	490	475	550	800	580

CLASS	Nominal Pipe Size	Slip On	Threaded	Socket Weld	Lap Joint	Blind	Weld Neck
400 lb	½	2	2	2	2	2	3
	¾	3	3	3	3	3	3.5
	1	3.5	3.5	3.5	3.5	4	4
	1¼	4.5	4.5	4.5	4.5	6	4.5
	1½	6.5	6.5	6.5	6.5	8	8
	2	8	8	8	8	10	10
	2½	12	12	12	11	15	14
	3	15	15	15	14	20	18
	3½	21	21	21	20	29	26
	4	26	26	26	25	33	35
	5	31	31	31	29	44	43
	6	44	44	44	42	61	57
	8	67	67	67	64	100	89
	10	91	91	91	110	155	125
	12	130	130	130	152	226	175
	14	191	191	191	210	310	233
	16	253	253	253	280	398	295
	18	310	310	310	345	502	360
	20	378	378	378	420	621	445
	22	405	405	405	455	720	505
	24	539	539	539	615	936	640
600 lb	½	2	2	2	2	3	3
	¾	3	3	3	3	4	4
	1	4	4	4	4	4	4
	1¼	5	5	5	5	6	6
	1½	7	7	7	7	8	8
	2	9	9	9	9	10	12
	2½	13	13	13	12	15	18
	3	16	16	16	15	20	23
	3½	21	21	21	20	29	26
	4	37	37	37	36	41	42
	5	63	63	63	63	68	68
	6	80	80	80	78	86	81
	8	115	15	15	112	140	120
	10	177	177	177	195	231	190
	12	215	215	215	240	295	226
	14	259	259	259	290	378	347
	16	366	366	366	400	527	481
	18	476	476	476	469	665	555
	20	612	612	612	604	855	690
	22	590	590	590	670	1000	720
	24	876	876	876	866	1250	977

CLASS	Nominal Pipe Size	Slip On	Threaded	Socket Weld	Lap Joint	Blind	Weld Neck
900 lb	½	6	6	6	6	4	7
	¾	6	6	6	6	6	7
	1	7.5	7.5	7.5	7.5	9	8.5
	1¼	10	10	10	10	10	10
	1½	14	14	14	14	14	14
	2	22	22	22	21	25	24
	2½	31	31	31	25	32	31
	3	36	36	36	29	35	36
	4	53	53	53	51	54	53
	5	83	83	83	81	87	86
	6	110	110	110	105	115	110
	8	172	172	172	190	200	187
	10	245	245	245	277	290	268
	12	326	326	326	371	415	372
	14	400	400	400	415	520	562
	16	459	459	459	488	619	685
	18	647	647	647	670	880	924
	20	792	792	792	868	1107	1164
	24	1480	1480	1480	1659	2099	2107
1500 lb	½	6	6	6	6	4	7
	¾	6	6	6	6	6	7
	1	8	8	8	8	9	9
	1¼	10	10	10	10	10	10
	1½	14	14	14	14	14	14
	2	25	25	25	25	25	25
	2½	36	36	36	35	35	36
	3	48	48	48	47	48	48
	4	73	73	73	75	73	73
	5	132	132	132	140	140	132
	6	165	165	165	170	160	165
	8	260	260	260	286	302	275
	10	436	436	436	485	510	455
	12	667	667	667	749	775	690
	14	940	940	940	890	975	940
2500 lb	16	1250	1250	1250	1250	1300	1250
	18	1625	1625	1625	1475	1750	1625
	20	2050	2050	2050	1775	2225	2050
	24	2825	2825	2825	2825	3625	3325
	½	....	7	....	7	7	8
	¾	....	9	....	8	10	9
	1	....	12	....	12	12	13
	1¼	....	18	....	17	18	20
	1½	....	25	....	24	25	28
	2	....	38	....	37	39	42
	2½	....	55	....	53	56	52
	3	....	83	....	80	86	94
	4	....	127	....	122	133	146
	5	....	210	....	204	223	244
	6	....	323	....	314	345	378
	8	....	485	....	471	533	576
	10	....	925	....	897	1025	1068
	12	....	1300	....	1262	1464	1608

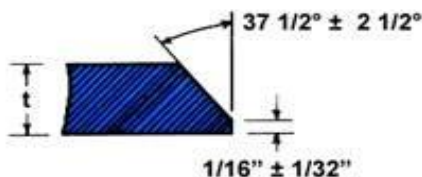
Dimensional Tolerances B16.5 - 2003

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

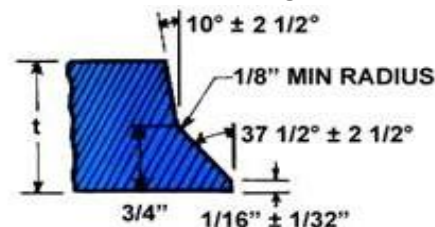
Weld Neck		
Outside Diameter (1)	when the O.D. is 24" or less	$\pm 1/16"$
	when the O.D. is over 24"	$\pm 1/8"$
Inside Diameter	$\leq 10"$	$\pm 1/32"$
	12" through 18"	$\pm 1/16"$
	$\geq 20"$	$+1/8"$ $-1/16"$
Diameter of Contact Face	1/16" Raised Face	$\pm 1/32"$
	1/4" Raised Face Tongue & Groove Male,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

WELDING BEVEL STANDARDS

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



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



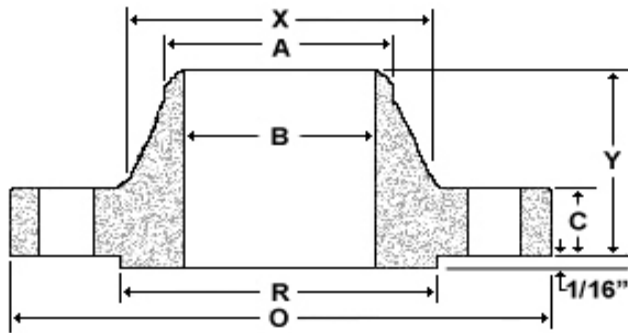
(1) Tolerances not listed in B16.5-2003



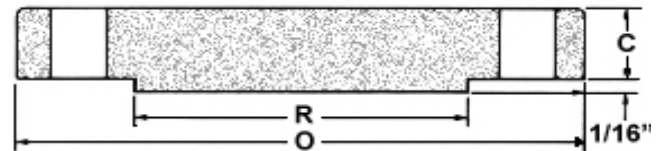
A Quick Note on B16.47

ASME has incorporated most of the MSS-SP44 specification into B16.47 Series A and most of the API 605 Specification into B16.47 series B. They have also added Blinds to these two specs. You may note that these specs include only Weld Necks and Blinds. For Slip-On's over 24" you must refer to either Industry Standard (which are not automatically covered by ASME) or Boiler Code Flanges. If you need help deciding which flange best suits your application feel free to contact us.

B16.47 Series A Class 150 Weld Neck & Blind



Weld Neck



Blind

Nom Size	Thickness								Drilling				Weight	
	OD	Weld Neck	Blind	OD of RF	Dia at Base	Bore	LTH	Dia Bevel	Bolt Circle	Bolt Length	Hole Dia	# of Holes	Weld Neck	Blind
	O	C	C	R	X	B	Y	A		(1)	(2)			
26	34.25	2.63	2.63	29.50	26.62	To be specified by Purchaser.	4.69	26.00	31.75	8.75	1.38	24	300	702
28	36.50	2.75	2.75	31.50	28.62		4.88	28.00	34.00	9.00	1.38	28	345	833
30	38.75	2.88	2.88	33.75	30.75		5.32	30.00	36.00	9.25	1.38	28	400	982
32	41.75	3.13	3.13	36.00	32.75		5.63	32.00	38.50	10.50	1.62	28	505	1237
34	43.75	3.19	3.19	38.00	34.75		5.82	34.00	40.50	10.50	1.62	32	540	1384
36	46.00	3.50	3.50	40.25	36.75		6.13	36.00	42.75	11.00	1.62	32	640	1676
38	48.75	3.38	3.38	42.25	39.00		6.13	38.00	45.25	11.00	1.62	32	720	1819
40	50.75	3.50	3.50	44.25	41.00		6.38	40.00	47.25	11.00	1.62	36	775	2040
42	53.00	3.75	3.75	47.00	43.00		6.69	42.00	49.50	11.50	1.62	36	890	2381
44	55.25	3.94	3.94	49.00	45.00		6.94	44.00	51.75	12.00	1.62	40	990	2717
46	57.25	4.00	4.00	51.00	47.12		7.25	46.00	53.75	12.00	1.62	40	1060	2961
48	59.50	4.19	4.19	53.50	49.12		7.50	48.00	56.00	12.50	1.62	44	1185	3348
50	61.75	4.32	4.32	55.50	51.25		7.94	50.00	58.25	13.25	1.88	44	1270	3716
52	64.00	4.50	4.50	57.50	53.25		8.19	52.00	60.50	13.75	1.88	44	1410	4156
54	66.25	4.69	4.69	59.50	55.25		8.44	54.00	62.75	14.00	1.88	44	1585	4639
56	68.75	4.82	4.82	62.00	57.38		8.94	56.00	65.00	14.25	1.88	48	1760	5132
58	71.00	5.00	5.00	64.00	59.38		9.19	58.00	67.25	14.75	1.88	48	1915	5675
60	73.00	5.13	5.13	66.00	61.38		9.38	60.00	69.25	15.00	1.88	52	2045	6154

Dimensions are in inches. Weights are in pounds.

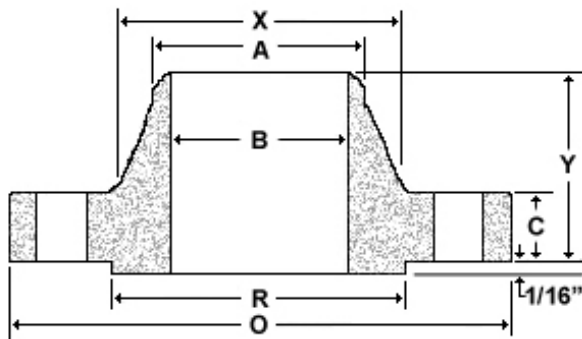
(1) Bolt lengths are calculated based on bolting one WN to one Blind.

(2) Bolt diameter should be 1/8" less than the bolt hole diameter.

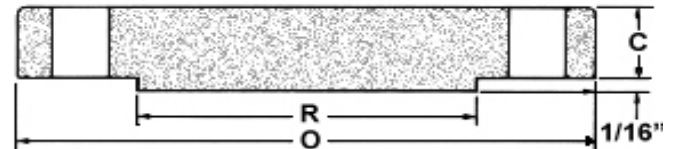
Note:

Larger sizes as well as intermediate sizes can be furnished.

B16.47 Series A Class 300 Weld Neck & Blind



Weld Neck



Blind

Nom Size	Thickness								Drilling				Weight	
	OD	Weld Neck	Blind	OD of RF	Dia at Base	Bore	LTH	Dia Bevel	Bolt Circle	Bolt Length	Hole Dia	# of Holes	Weld Neck	Blind
	O	C	C	R	X	B	Y	A		(1)	(2)			
26	38.25	3.07	3.25	29.50	28.38	To be specified by Purchaser.	7.19	26.00	34.50	10.75	1.75	28	605	1078
28	40.75	3.32	3.50	31.50	30.50		7.69	28.00	37.00	11.25	1.75	28	745	1315
30	43.00	3.57	3.69	33.75	32.56		8.19	30.00	39.25	12.00	1.88	28	870	1543
32	45.25	3.82	3.88	36.00	34.69		8.69	32.00	41.50	12.50	2.00	28	1005	1795
34	47.50	3.94	4.07	38.00	36.88		9.07	34.00	43.50	13.00	2.00	28	1145	2068
36	50.00	4.07	4.32	40.25	39.00		9.44	36.00	46.00	13.50	2.12	32	1275	2436
38	46.00	4.19	4.19	40.50	39.12		7.06	38.00	43.00	12.50	1.62	32	695	2001
40	48.75	4.44	4.44	42.75	41.25		7.56	40.00	45.50	13.25	1.75	32	840	2380
42	50.75	4.63	4.63	44.75	43.25		7.82	42.00	47.50	13.75	1.75	32	950	2688
44	53.25	4.82	4.82	47.00	45.25		8.06	44.00	49.75	14.25	1.88	32	1055	3079
46	55.75	5.00	5.00	49.00	47.38		8.44	46.00	52.00	15.00	2.00	28	1235	3499
48	57.75	5.19	5.19	51.25	49.38		8.75	48.00	54.00	15.25	2.00	32	1380	3896
50	60.25	5.44	5.44	53.50	51.38		9.07	50.00	56.25	16.00	2.12	32	1530	4442
52	62.25	5.63	5.63	55.50	53.38		9.32	52.00	58.25	16.50	2.12	32	1660	4906
54	65.25	5.94	5.94	57.75	55.50		9.88	54.00	61.00	17.50	2.38	28	2050	5684
56	67.25	6.00	6.00	59.75	57.62		10.19	56.00	63.00	17.75	2.38	28	2155	6098
58	69.25	6.19	6.19	62.00	59.62		10.44	58.00	65.00	18.00	2.38	32	2270	6669
60	71.25	6.38	6.38	64.00	61.62		10.69	60.00	67.00	18.50	2.38	32	2470	7274

Dimensions are in inches. Weights are in pounds.

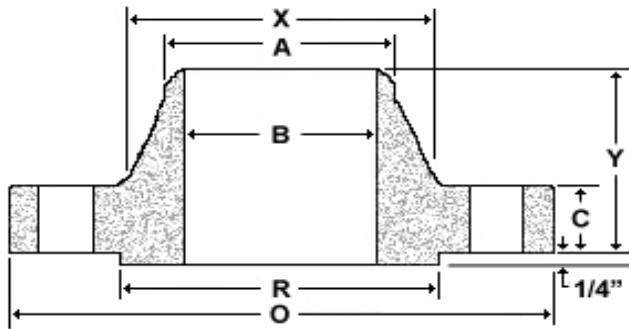
(1) Bolt lengths are calculated based on bolting one WN to one blind.

(2) Bolt diameter should be 1/8" less than the bolt hole diameter.

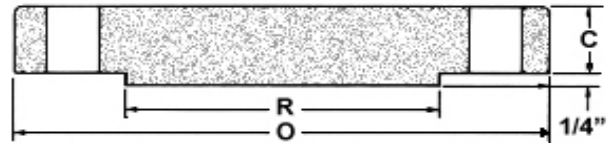
Note:

Larger sizes as well as intermediate sizes can be furnished.

B16.47 Series A Class 400 Weld Neck & Blind



Weld Neck



Nom Size	Thickness			Drilling									Weight	
	OD	Weld Neck	Blind	OD of RF	Dia at Base	Bore B	LTH	Dia Bevel	Bolt Circle	Bolt Length	Hole Dia	# of Holes	Weld Neck	Blind
	O	C	C	R	X		Y	A		(1)	(2)			
26	38.25	3.50	3.88	29.50	28.62		7.62	26.00	34.50	12.50	1.88	28	650	1263
28	40.75	3.75	4.12	31.50	30.81		8.12	28.00	37.00	13.25	2.00	28	785	1522
30	43.00	4.00	4.38	33.75	32.94		8.62	30.00	39.25	14.00	2.12	28	905	1802
32	45.25	4.25	4.56	36.00	35.00		9.12	32.00	41.50	14.25	2.12	28	1065	2077
34	47.50	.	.	38.00	37.19		.	34.00	43.50	14.75	.	28	1200	2415
36	50.00	4.50	5.06	40.25	39.38		9.88	36.00	46.00	15.00	2.12	32	1340	2815
38	47.50	4.88	4.88	40.75	39.50		8.12	38.00	44.00	14.75	1.88	32	935	2450
40	50.00	5.12	5.12	43.00	41.50		8.50	40.00	46.25	15.50	2.00	32	1090	2848
42	52.00	5.25	5.25	45.00	43.62		8.81	42.00	48.25	15.75	2.00	32	1190	3159
44	54.50	5.50	5.50	47.25	45.62		9.18	44.00	50.50	16.50	2.12	32	1375	3635
46	56.75	5.75	5.75	49.50	47.75		9.62	46.00	52.75	17.00	2.12	36	1525	4120
48	59.50	6.00	6.00	51.50	49.88		10.12	48.00	55.25	18.00	2.38	28	1790	4726
50	61.75	6.19	6.25	53.62	52.00		10.56	50.00	57.50	18.50	2.38	32	1950	5303
52	63.75	6.38	6.44	55.62	54.00		10.88	52.00	59.50	18.75	2.38	32	2125	5823
54	67.00	6.69	6.75	57.88	56.12		11.38	54.00	62.25	20.00	2.62	28	2565	6742
56	69.00	6.88	6.94	60.12	58.25		11.75	56.00	64.25	20.25	2.62	32	2710	7352
58	71.00	7.00	7.12	62.12	60.25		12.06	58.00	66.25	20.50	2.62	32	3230	7986
60	74.25	7.31	7.44	64.38	62.38		12.56	60.00	69.00	21.75	2.88	32	3820	9126

Dimensions are in inches. Weights are in pounds.

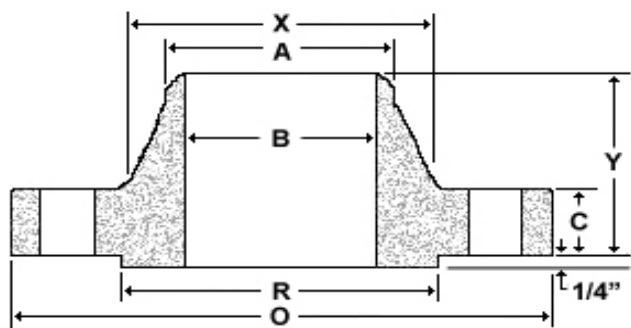
(1) Bolt lengths are calculated based on bolting one WN to one blind.

(2) Bolt diameter should be 1/8" less than the bolt hole diameter.

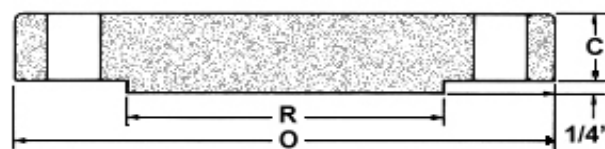
Note:

Larger sizes as well as intermediate sizes can be furnished.

B16.47 Series A Class 600 Weld Neck & Blind



Weld Neck



Blind

Nom Size	Thicknes								Drilling				Weights	
	OD	Weld Neck	Blind	OD of RF	Dia at Base	Bore	LTH	Dia Bevel	Bolt Circle	Bolt Length	Hole Dia	# of Holes	Weld Neck	Blind
	O	C	C	R	X	B	Y	A	(1)	(2)				
26	40.00	4.25	4.94	29.50	29.44		8.75	26.00	36.00	14.50	2.00	28	940	1759
28	42.25	4.38	5.19	31.50	31.62		9.25	28.00	38.00	15.00	2.12	28	1060	2061
30	44.50	4.50	5.50	33.75	33.94		9.75	30.00	40.25	15.50	2.12	28	1210	2423
32	47.00	4.62	5.81	36.00	36.12		10.25	32.00	42.50	16.50	2.38	28	1375	2856
34	49.00	4.75	6.06	38.00	38.31		10.62	34.00	44.50	16.75	2.38	28	1540	3237
36	51.75	4.88	6.38	40.25	40.62		11.12	36.00	47.00	17.75	2.62	28	1705	3802
38	50.00	6.00	6.12	41.50	40.25		10.00	38.00	45.75	18.25	2.38	28	1470	3404
40	52.00	6.25	6.38	43.75	42.25		10.38	40.00	47.75	18.75	2.38	32	1630	3838
42	55.25	6.62	6.75	46.00	44.38		11.00	42.00	50.50	19.75	2.62	28	2030	4585
44	57.25	6.81	7.00	48.25	46.50		11.38	44.00	52.50	20.25	2.62	32	2160	5105
46	59. 0	7. 6	7. 1	50. 5	48. 2		11. 1	46. 0	54. 5	20. 5	2. 2	32	2410	5758
48	62.75	7.44	7.69	52.50	50.75		12.44	48.00	57.50	22.25	2.88	32	2855	6737
50	65.75	7.75	8.00	54.50	52.88		12.94	50.00	60.00	23.25	3.12	28	3330	7695
52	67.75	8.00	8.25	56.50	54.88		13.25	52.00	62.00	23.75	3.12	32	3560	8426
54	70.00	8.25	8.56	58.75	57.00		13.75	54.00	64.25	24.25	3.12	32	3920	9333
56	73.00	8.56	8.88	60.75	59.12		14.25	56.00	66.75	25.50	3.38	32	4280	10529
58	75.00	8.75	9.12	63.00	61.12		14.56	58.00	68.75	26.00	3.38	32	4640	11414
60	78.50	9.19	9.56	65.25	63.38		15.31	60.00	71.75	27.25	3.62	28	5000	13108

Dimensions are in inches. Weights are in pounds.

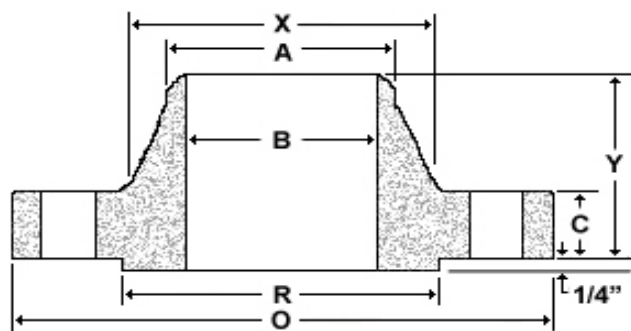
(1) Bolt lengths are calculated based on bolting one WN to one blind.

(2) Bolt diameter should be 1/8" less than the bolt hole diameter.

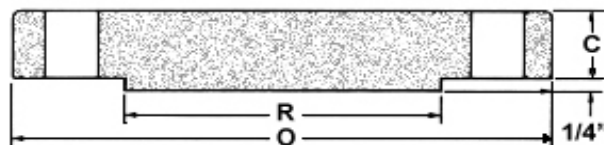
Note:

Larger sizes as well as intermediate sizes can be furnished.

B16.47 Series A Class 900 Weld Neck & Blind



Weld Neck



Blind

Nom Size		Thickness											Weight	
	OD	Weld Neck	Blind	OD of RF	Dia at Base	Bore	LTH	Dia Bevel	Bolt Circle	Bolt Length	Hole Dia	# of Holes	Weld Neck	Blind
	O	C	C	R	X	B	Y	A		(1)	(2)			
26	42.75	5.50	6.31	29.50	30.50	To be specified by Purchaser.	11.25	26.00	37.50	18.75	2.88	20	1525	2566
28	46.00	5.62	6.75	31.50	32.75		11.75	28.00	40.25	19.75	3.12	20	1810	3178
30	48.50	5.88	7.18	33.75	35.00		12.25	30.00	42.75	20.50	3.12	20	2120	3758
32	51.75	6.25	7.62	36.00	37.25		13.00	32.00	45.50	22.00	3.38	20	2545	4541
34	55. 0	6. 0	8. 6	38. 0	39. 2		13. 5	34. 0	48. 5	23. 0	3. 2	20	2970	5425
36	57.50	6.75	8.44	40.25	41.88		14.25	36.00	50.75	23.75	3.62	20	3395	6209
38	57.50	7.50	8.50	43.25	42.25		13.88	38.00	50.75	24.50	3.62	20	3385	6253
40	59.50	7.75	8.81	45.75	44.38		14.31	40.00	52.75	25.00	3.62	24	3620	6940
42	61.50	8.12	9.12	47.75	46.31		14.62	42.00	54.75	25.75	3.62	24	3960	7675
44	64.88	8.44	9.56	50.00	48.62		15.38	44.00	57.62	27.00	3.88	24	4300	8954
46	68.25	8.88	10.06	52.50	50.88		16.18	46.00	60.50	28.50	4.12	24	4640	10426
48	70.25	9.19	10.38	54.50	52.88		16.50	48.00	62.50	29.00	4.12	24	4980	11398

Dimensions are in inches. Weights are in pounds.

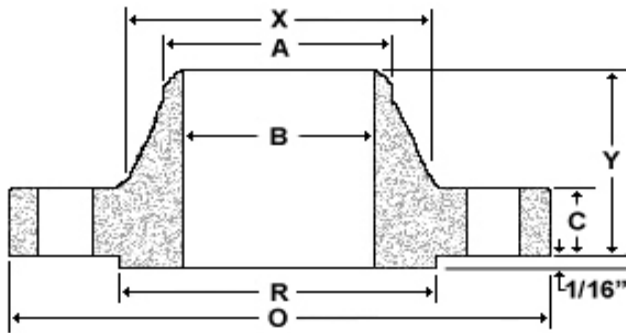
(1) Bolt lengths are calculated based on bolting one WN to one blind.

(2) Bolt diameter should be 1/8" less than the bolt hole diameter.

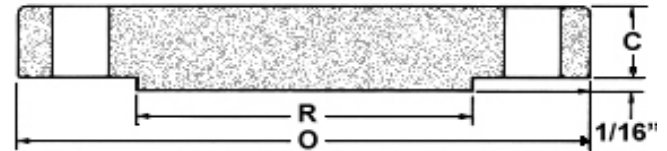
Note:

Larger sizes as well as intermediate sizes can be furnished.

B16.47 Series B Class 75 Weld Neck & Blind



Weld Neck



Blind

Nom Size	Thickness								Drilling				Weight	
	OD	Weld Neck	Blind	OD of RF	Dia at Base	Bore	LTH	Dia Bevel	Bolt Circle	Bolt Length	Hole Dia	# of Holes	Weld Neck	Blind
	O	C	C	R	X	B	Y	A		(1)	(2)			
26	30.00	1.25	1.25	27.75	26.62		2.25	26.06	28.50	4.50	0.75	36	80	255
28	32.00	1.25	1.25	29.75	28.62		2.38	28.06	30.50	4.50	0.75	40	85	290
30	34.00	1.25	1.25	31.75	30.62		2.50	30.06	32.50	4.50	0.75	44	90	330
32	36.00	1.32	1.38	33.75	32.62		2.69	32.06	34.50	4.75	0.75	48	105	390
34	38.00	1.32	1.44	35.75	34.62		2.82	34.06	36.50	4.75	0.75	52	110	430
36	40.69	1.38	1.61	38.00	36.81		3.32	36.06	39.06	5.25	0.88	40	145	518
38	42.69	1.44	1.69	40.00	38.81		3.44	38.06	41.06	5.50	0.88	40	160	595
40	44.69	1.44	1.69	42.00	40.81		3.57	40.06	43.06	5.50	0.88	44	170	760
42	46.69	1.50	1.82	44.00	42.81		3.69	42.06	45.06	5.50	0.88	48	185	895
44	49.25	1.63	1.88	46.25	44.88		4.07	44.06	47.38	6.00	1.00	36	230	1065
46	51.25	1.69	1.94	48.25	46.88		4.19	46.06	49.38	6.25	1.00	40	245	1185
48	53.25	1.75	2.07	50.25	48.88		4.32	48.06	51.38	6.50	1.00	44	270	1315
50	55.25	1.82	2.13	52.25	50.94		4.50	50.06	53.38	6.50	1.00	44	290	1505
52	57.38	1.82	2.19	54.25	52.94		4.69	52.06	55.50	6.75	1.00	48	310	1665
54	59.38	1.88	2.32	56.25	55.00		4.88	54.06	57.50	6.75	1.00	48	340	1840
56	62.00	1.94	2.38	58.50	57.12		5.25	56.06	59.88	7.25	1.12	40	400	2110
58	64.00	2.00	2.44	60.50	59.12		5.38	58.06	61.88	7.25	1.12	44	430	2300
60	66.00	2.13	2.57	62.50	61.12		5.63	60.06	63.88	7.75	1.12	44	475	2500

Dimensions are in inches. Weights are in pounds.

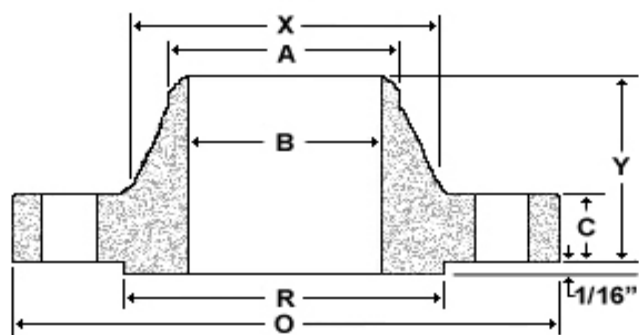
(1) Bolt lengths are calculated based on bolting one WN to one blind.

(2) Bolt diameter should be 1/8" less than the bolt hole diameter.

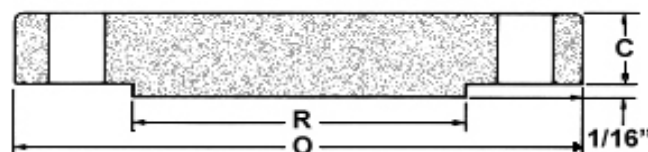
Note:

Larger sizes as well as intermediate sizes can be furnished.

B16.47 Series B Class 150 Weld Neck & Blind



Weld Neck



Blind

Nom Size	Thickness								Drilling				Weight	
	OD	Weld Neck	Blind	OD of RF	Dia at Base	Bore	LTH	Dia Bevel	Bolt Circle	Bolt Length	Hole Dia	# of Holes	Weld Neck	Blind
	O	C	C	R	X	B	Y	A		(1)	(2)			
26	30.94	1.57	1.69	28.00	26.94	To be specified by Purchaser.†	3.44	26.06	29.31	5.50	0.88	36	120	373
28	32.94	1.69	1.82	30.00	28.94		3.69	28.06	31.31	5.75	0.88	40	140	454
30	34.94	1.69	1.94	32.00	31.00		3.88	30.06	33.31	6.00	0.88	44	150	543
32	37.06	1.75	2.07	34.00	33.06		4.19	32.06	35.44	6.25	0.88	48	170	648
34	39.56	1.88	2.19	36.25	35.12		4.28	34.06	37.69	6.75	1.00	40	210	783
36	41.62	2.00	2.25	38.25	37.19		4.57	36.06	39.75	6.75	1.00	44	240	890
38	44.25	2.07	2.44	40.25	39.25		4.82	38.12	42.12	7.50	1.12	40	290	1089
40	46.25	2.13	2.57	42.50	41.31		5.00	40.12	44.12	7.75	1.12	44	310	1247
42	48.25	2.25	2.63	44.50	43.38		5.19	42.12	46.12	7.75	1.12	48	345	1393
44	50.25	2.32	2.75	46.50	45.38		5.32	44.12	48.12	8.00	1.12	52	370	1579
46	52.81	2.38	2.88	48.62	47.44		5.63	46.12	50.56	8.50	1.25	40	435	1824
48	54.81	2.50	3.00	50.75	49.50		5.82	48.12	52.56	8.75	1.25	44	480	2045
50	56.81	2.63	3.13	52.75	51.50		6.00	50.12	54.56	9.00	1.25	48	520	2284
52	58.81	2.69	3.25	54.75	53.56		6.13	52.12	56.56	9.25	1.25	52	550	2547
54	61.00	2.75	3.38	56.75	55.62		6.32	54.12	58.75	9.50	1.25	56	620	2848
56	63.00	2.82	3.50	58.75	57.69		6.50	56.12	60.75	9.75	1.25	60	650	3144
58	65.94	2.88	3.62	60.75	59.69		6.82	58.12	63.44	10.00	1.38	48	780	3560
60	67.94	2.94	3.75	63.00	61.81		7.00	60.12	65.44	10.25	1.38	52	850	3913

Dimensions are in inches. Weights are in pounds.

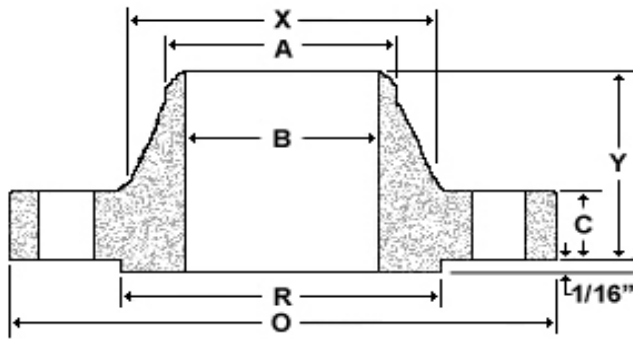
(1) Bolt lengths are calculated based on bolting one WN to one blind.

(2) Bolt diameter should be 1/8" less than the bolt hole diameter.

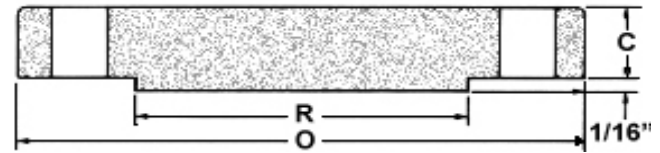
Note:

Larger sizes as well as intermediate sizes can be furnished.

B16.47 Series B Class 300 Weld Neck & Blind



Weld Neck



Blind

Nom Size	Thickness					Drilling							Weight	
	OD	Weld Neck	Blind	OD of RF	Dia at Base	Bore	LTH	Dia Bevel	Bolt Circle	Bolt Length	Hole Dia	# of Holes	Weld Neck	Blind
	O	C	C	R	X	B	Y	A		(1)	(2)			
26	34.12	3.44	3.44	29.00	27.62		5.63	26.19	31.62	10.50	1.38	32	400	907
28	36.25	3.44	3.44	31.00	29.75		5.81	28.19	33.75	10.50	1.38	36	450	1023
30	39.00	3.63	3.63	33.25	32.00		6.16	30.25	36.25	11.25	1.50	36	550	1249
32	41.50	4.00	4.00	35.50	34.00		6.56	32.25	38.50	12.00	1.62	32	685	1556
34	43.62	4.00	4.00	37.50	36.12		6.75	34.25	40.62	12.00	1.62	36	750	1719
36	46.12	4.00	4.00	39.75	38.00		7.06	36.25	42.88	12.50	1.75	32	840	1921
38	48.12	4.31	4.31	41.75	40.00		7.50	38.25	44.88	13.00	1.75	36	915	2257
40	50.12	4.50	4.50	43.88	42.00		7.75	40.25	46.88	13.50	1.75	40	990	2549
42	52.50	4.63	4.63	46.00	44.00		8.00	42.31	49.00	14.00	1.88	36	1135	2876
44	54.50	4.94	4.94	48.00	46.19		8.38	44.31	51.00	14.50	1.88	40	1235	3304
46	57.50	5.00	5.06	50.00	48.38		8.69	46.31	53.75	15.00	2.00	36	1470	3766
48	59.50	5.00	5.25	52.25	50.31		8.75	48.31	55.75	15.25	2.00	40	1575	4183
50	61.50	5.38	5.44	54.25	52.38		9.19	50.31	57.75	15.75	2.00	44	1710	4629
52	63.50	5.56	5.61	56.25	54.44		9.50	52.31	59.75	16.00	2.00	48	1840	5096
54	65.88	5.32	5.81	58.25	56.50		9.38	54.31	62.12	16.00	2.00	48	1980	5678
56	69.50	6.00	6.12	60.50	58.81		10.50	56.31	65.00	17.75	2.38	36	2595	6642
58	71.94	6.00	6.31	62.75	60.94		10.75	58.31	67.44	18.00	2.38	40	2770	7347
60	73.94	5.88	6.50	65.00	62.94		10.63	60.31	69.44	18.00	2.38	40	2870	7980

Dimensions are in inches. Weights are in pounds.

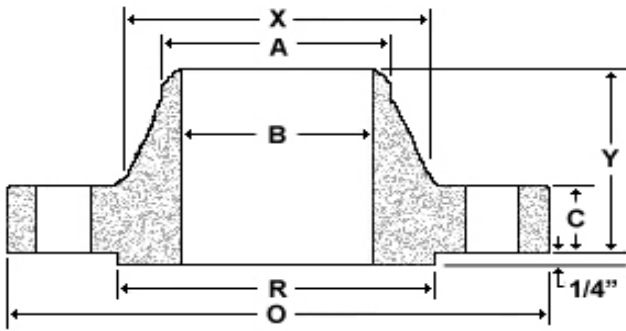
(1) Bolt lengths are calculated based on bolting one WN to one blind.

(2) Bolt diameter should be 1/8" less than the bolt hole diameter.

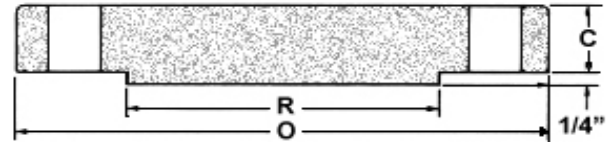
Note:

Larger sizes as well as intermediate sizes can be furnished.

B16.47 Series B Class 400 Weld Neck & Blind



Weld Neck



Blind

Nom Size		Thickness							Drilling				Weight	
	OD	Weld Neck	Blind	OD of RF	Dia at Base	Bore	LTH	Dia Bevel	Bolt Circle	Bolt Length	Hole Dia	# of Holes	Weld Neck	Blind
	O	C	C	R	X	B	Y	A		(1)	(2)			
26	33.50	3.50	3.50	28.00	27.12	-	5.88	26.00	30.75	11.25	1.50	28	360	874
28	36.00	3.75	3.75	30.00	29.12		6.25	28.00	33.00	12.00	1.62	24	450	1081
30	38.25	4.00	4.00	32.25	31.25		6.69	30.00	35.25	12.50	1.62	28	530	1302
32	40.75	4.25	4.25	34.38	33.25		7.06	32.00	37.50	13.25	1.75	28	635	1570
34	42.75	.	.	36.50	35.38		.	34.00	39.50	13.50	.	32	690	1781
36	45.50	4.69	4.69	38.62	37.50		7.88	36.00	42.00	14.50	1.88	28	855	2160
38	47.50	4.88	4.88	40.75	39.50		8.12	38.00	44.00	14.75	1.88	32	935	2450
40	50.00	5.12	5.12	43.00	41.50		8.50	40.00	46.25	15.50	2.00	32	1090	2848
42	52.00	5.25	5.25	45.00	43.62		8.81	42.00	48.25	15.75	2.00	32	1190	3159
44	54.50	5.50	5.50	47.25	45.62		9.18	44.00	50.50	16.50	2.12	32	1375	3635
46	56.75	5.75	5.75	49.50	47.75		9.62	46.00	52.75	17.00	2.12	36	1525	4120
48	59.50	6.00	6.00	51.50	49.88		10.12	48.00	55.25	18.00	2.38	28	1790	4726
50	61.75	6.19	6.25	53.62	52.00		10.56	50.00	57.50	18.50	2.38	32	1950	5303
52	63.75	6.38	6.44	55.62	54.00		10.88	52.00	59.50	18.75	2.38	32	2125	5823
54	67.00	6.69	6.75	57.88	56.12		11.38	54.00	62.25	20.00	2.62	28	2565	6742
56	69.00	6.88	6.94	60.12	58.25		11.75	56.00	64.25	20.25	2.62	32	2710	7352
58	71.00	7.00	7.12	62.12	60.25		12.06	58.00	66.25	20.50	2.62	32	3230	7986
60	74.25	7.31	7.44	64.38	62.38		12.56	60.00	69.00	21.75	2.88	32	3820	9126

Dimensions are in inches. Weights are in pounds.

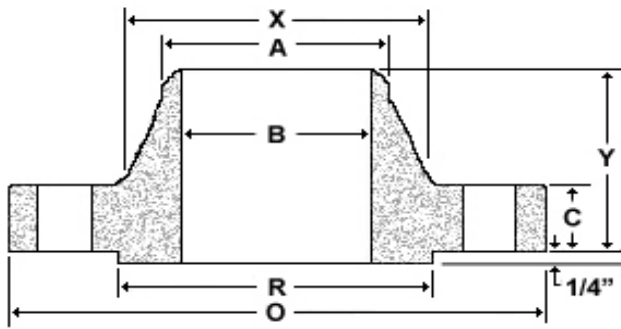
(1) Bolt lengths are calculated based on bolting one WN to one blind.

(2) Bolt diameter should be 1/8" less than the bolt hole diameter.

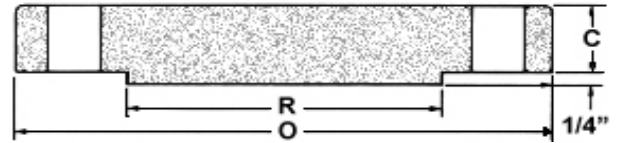
Note:

Larger sizes as well as intermediate sizes can be furnished.

B16.47 Series B Class 600 Weld Neck & Blind



Weld Neck



Blind

Nom Size	Thickness								Drilling				Weights	
	OD	Weld Neck	Blind	OD of RF	Dia at Base	Bore	LTH	Dia Bevel	Bolt Circle	Bolt Length	Hole Dia	# of Holes	Weld Neck	Blind
	O	C	C	R	X	B	Y	A		(1)	(2)			
26	35.00	4.38	4.38	28.62	27.50	To be specified by Purchaser. †	7.12	26.00	31.75	13.50	1.75	28	550	1194
28	37.50	4.56	4.56	30.88	29.62		7.50	28.00	34.00	14.25	1.88	28	650	1427
30	40.25	4.94	5.00	33.12	31.75		8.06	30.00	36.50	15.25	2.00	28	810	1802
32	42.75	5.12	5.31	35.25	33.88		8.50	32.00	38.75	16.00	2.12	28	950	2159
3	5.5	5.6	5.8	37.0	36.0		9.19	34.0	41.0	17.25	2.8	24	1205	2645
36	47.75	5.75	5.94	39.75	38.12		9.56	36.00	43.50	17.75	2.38	28	1340	3013
38	50.00	6.00	6.12	41.50	40.25		10.00	38.00	45.75	18.25	2.38	28	1470	3404
40	52.00	6.25	6.38	43.75	42.25		10.38	40.00	47.75	18.75	2.38	32	1630	3838
42	55.25	6.62	6.75	46.00	44.38		11.00	42.00	50.50	19.75	2.62	28	2030	4585
44	57.25	6.81	7.00	48.25	46.50		11.38	44.00	52.50	20.25	2.62	32	2160	5105
46	59.50	7.06	7.31	50.25	48.62		11.81	46.00	54.75	20.75	2.62	32	2410	5758
48	62.75	7.44	7.69	52.50	50.75		12.44	48.00	57.50	22.25	2.88	32	2855	6737
50	65.75	7.75	8.00	54.50	52.88		12.94	50.00	60.00	23.25	3.12	28	3330	7695
52	67.75	8.00	8.25	56.50	54.88		13.25	52.00	62.00	23.75	3.12	32	3560	8426
54	70.00	8.25	8.56	58.75	57.00		13.75	54.00	64.25	24.25	3.12	32	3920	9333
56	73.00	8.56	8.88	60.75	59.12		14.25	56.00	66.75	25.50	3.38	32	4280	10,529
58	75.00	8.75	9.12	63.00	61.12		14.56	58.00	68.75	26.00	3.38	32	4640	11,414
60	78.50	.	.	65.25	63.38		15.31	60.00	71.75	27.25	.	28	5000	13,108

Dimensions are in inches. Weights are in pounds.

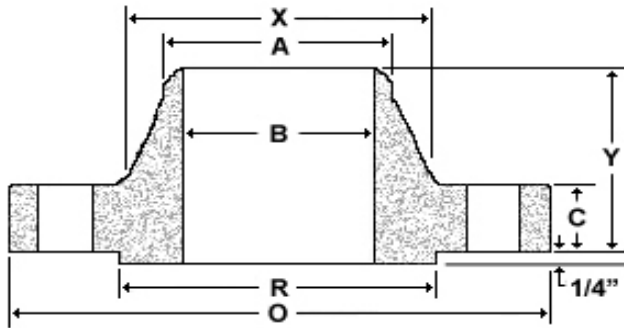
(1) Bolt lengths are calculated based on bolting one WN to one blind.

(2) Bolt diameter should be 1/8" less than the bolt hole diameter.

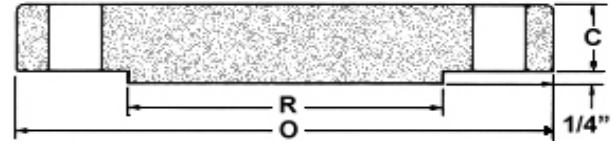
Note:

Larger sizes as well as intermediate sizes can be furnished.

B16.47 Series B Class 900 Weld Neck & Blind



Weld Neck



Blind

Nom Size		Thickness							Drilling				Weights	
	OD	Weld Neck	Blind	OD of RF	Dia at Base	Bore	LTH	Dia Bevel	Bolt Circle	Bolt Length	Hole Dia	# of Holes	Weld Neck	Blind
	O	C	C	R	X	B	Y	A		(1)	(2)			
26	40.25	5.31	6.06	30.00	29.25	To be specified by Purchaser .	10.19	26.00	35.50	17.75	2.62	20	1050	2184
28	43.50	5.81	6.56	32.25	31.38		10.88	28.00	38.25	19.50	2.88	20	1520	2762
30	46.50	6.12	6.93	34.50	33.50		11.38	30.00	40.75	20.50	3.12	20	1820	3334
32	48.75	6.31	7.31	36.50	35.75		11.94	32.00	43.00	21.00	3.12	20	2065	3865
34	51.75	6.75	7.68	39.00	37.88		12.56	34.00	45.50	22.50	3.38	20	2450	4576
36	53.00	6.81	7.94	40.50	40.00		12.81	36.00	47.25	22.25	3.12	24	2520	4963
38	57.50	7.50	8.50	43.25	42.25		13.88	38.00	50.75	24.50	3.62	20	3385	6253
40	59.50	7.75	8.81	45.75	44.38		14.31	40.00	52.75	25.00	3.62	24	3620	6940
42	61.50	8.12	9.12	47.75	46.31		14.62	42.00	54.75	25.75	3.62	24	3960	7675
44	64.88	8.44	9.56	50.00	48.62		15.38	44.00	57.62	27.00	3.88	24	4300	8954
46	68.25	8.88	10.06	52.50	50.88		16.18	46.00	60.50	28.50	4.12	24	4640	10,426
48	70.25	9.19	10.38	54.50	52.88		16.50	48.00	62.50	29.00	4.12	24	4980	11,398

Dimensions are in inches. Weights are in pounds.

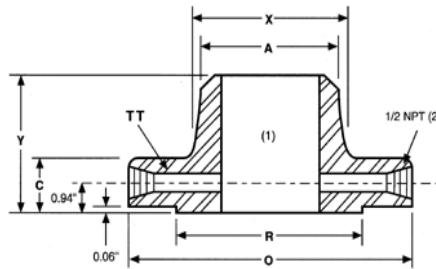
(1) Bolt lengths are calculated based on bolting one WN to one blind.

(2) Bolt diameter should be 1/8" less than the bolt hole diameter.

Note:

Larger sizes as well as intermediate sizes can be furnished.

Welding Neck Orifice Class 300



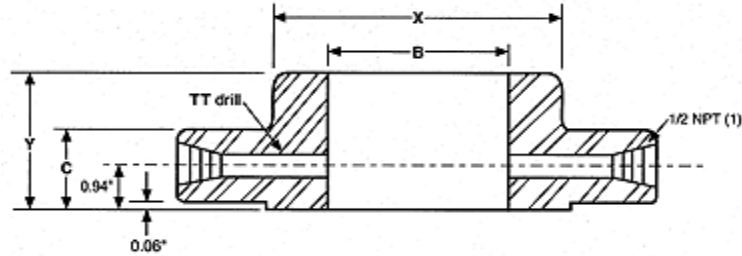
									Drilling			
	Nom Size	OD	Thickness	OD of RF	Dia at Base	Dia Bevel	LTH	Dia of Pressure Connection	Bolt Circle	Hole Dia	# of Holes	Bolt Dia
		O	C	R	X	A	Y	TT				
in	1	4.88	1.50	2.00	2.12	1.32	3.25	1/4	3.50	0.69	4	5/8
mm		124.0	38.1	50.8	53.8	33.5	82.6	6.4	88.9	17.5		15.9
in	1 1/2	6.12	1.50	2.88	2.75	1.90	3.38	1/4	4.50	0.81	4	3/4
mm		155.4	38.1	73.2	69.9	48.3	85.9	6.4	114.3	20.6		19.1
in	2	6.50	1.50	3.62	3.31	2.38	3.38	1/4	5.00	0.69	8	5/8
mm		165.1	38.1	91.9	84.1	60.5	85.9	6.4	127.0	17.5		15.9
in	2 1/2	7.50	1.50	4.12	3.94	2.88	3.50	1/4	5.88	0.81	8	3/4
mm		190.5	38.1	104.6	100.1	73.2	88.9	6.4	149.4	20.6		19.1
in	3	8.25	1.50	5.00	4.62	3.50	3.50	3/8	6.62	0.81	8	3/4
mm		209.6	38.1	127.0	117.3	88.9	88.9	9.5	168.1	20.6		19.1
in	4	10.00	1.50	6.19	5.75	4.50	3.62	1/2	7.88	0.81	8	3/4
mm		254.0	38.1	157.2	146.1	114.3	91.9	12.7	200.2	20.6		19.1
in	6	12.50	1.50	8.50	8.12	6.63	3.94	1/2	10.62	0.88	12	3/4
mm		317.5	38.1	215.9	206.2	168.4	100.1	12.7	269.7	22.4		19.1
in	8	15.00	1.62	10.62	10.25	8.63	4.38	1/2	13.00	1.00	12	7/8
mm		381.0	41.1	269.7	260.4	219.2	111.3	12.7	330.2	25.4		22.2
in	10	17.50	1.88	12.75	12.62	10.75	4.62	1/2	15.25	1.12	16	1
mm		444.5	47.8	323.9	320.5	273.1	117.3	12.7	387.4	28.4		25.4
in	12	20.50	2.00	15.00	14.75	12.75	5.12	1/2	17.75	1.25	16	1 1/8
mm		520.7	50.8	381.0	374.7	323.9	130.0	12.7	450.9	31.8		28.6
in	14	23.00	2.12	16.25	16.75	14.00	5.62	1/2	20.25	1.25	20	1 1/8
mm		584.2	53.8	412.8	425.5	355.6	142.7	12.7	514.4	31.8		28.6
in	16	25.50	2.25	18.50	19.00	16.00	5.75	1/2	22.50	1.38	20	1 1/4
mm		647.7	57.2	469.9	482.6	406.4	146.1	12.7	571.5	35.1		31.8
in	18	28.00	2.38	21.00	21.00	18.00	6.25	1/2	24.75	1.38	24	1 1/4
mm		711.2	60.5	533.4	533.4	457.2	158.8	12.7	628.7	35.1		31.8
in	20	30.50	2.50	23.00	23.12	20.00	6.38	1/2	27.00	1.38	24	1 1/4
mm		774.7	63.5	584.2	587.2	508.0	162.1	12.7	685.8	35.1		31.8
in	24	36.00	2.75	27.25	27.62	24.00	6.62	1/2	32.00	1.62	24	1 1/2
mm		914.4	69.9	692.2	701.5	609.6	168.1	12.7	812.8	41.1		38.1

Note: Weld Neck flanges NPS 3" and smaller are identical to Class 600 flanges and may be so marked.

(1) Bore diameter to be specified by purchaser.

(2) Other NPT and SW connections available upon request.

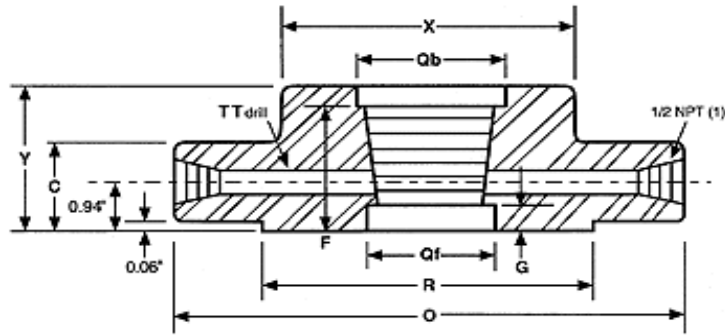
Slip-On Orifice Class 300



									Drilling			
	Nom Size	OD	Thickness	OD of RF	Dia at base	Bore	LTH	Dia of Pressure Connection	Bolt Circle	Hole Dia	# of holes	Bolt Dia
		O	C	R	X	B	Y	TT				
in	1	4.88	1.50	2.00	2.12	1.36	1.88	1/4	3.50	0.69	4	5/8
mm		124.0	38.1	50.8	53.8	34.5	47.8	6.4	88.9	17.5		15.9
in	1 1/2	6.12	1.50	2.88	2.75	1.95	1.88	1/4	4.50	0.81	4	3/4
mm		155.4	38.1	73.2	69.9	49.5	47.8	6.4	114.3	20.6		19.1
in	2	6.50	1.50	3.62	3.31	2.44	1.94	1/4	5.00	0.69	8	5/8
mm		165.1	38.1	91.9	84.1	62.0	49.3	6.4	127.0	17.5		15.9
in	2 1/2	7.50	1.50	4.12	3.94	2.94	2.00	1/4	5.88	0.81	8	3/4
mm		190.5	38.1	104.6	100.1	74.7	50.8	6.4	149.4	20.6		19.1
in	3	8.25	1.50	5.00	4.62	3.57	2.06	3/8	6.62	0.81	8	3/4
mm		209.6	38.1	127.0	117.3	90.7	52.3	9.5	168.1	20.6		19.1
in	4	10.00	1.50	6.19	5.75	4.57	2.12	1/2	7.88	0.81	8	3/4
mm		254.0	38.1	157.2	146.1	116.1	53.8	12.7	200.2	20.6		19.1
in	6	12.50	1.50	8.50	8.12	6.72	2.12	1/2	10.62	0.88	12	3/4
mm		317.5	38.1	215.9	206.2	170.7	53.8	12.7	269.7	22.4		19.1
in	8	15.00	1.62	10.62	10.25	8.72	2.44	1/2	13.00	1.00	12	7/8
mm		381.0	41.1	269.7	260.4	221.5	62.0	12.7	330.2	25.4		22.2
in	10	17.50	1.88	12.75	12.62	10.88	2.62	1/2	15.25	1.12	16	1
mm		444.5	47.8	323.9	320.5	276.4	66.5	12.7	387.4	28.4		25.4
in	12	20.50	2.00	15.00	14.75	12.88	2.88	1/2	17.75	1.25	16	1 1/8
mm		520.7	50.8	381.0	374.7	327.2	73.2	12.7	450.9	31.8		28.6
in	14	23.00	2.12	16.25	16.75	14.14	3.00	1/2	20.25	1.25	20	1 1/8
mm		584.2	53.8	412.8	425.5	359.2	76.2	12.7	514.4	31.8		28.6
in	16	25.50	2.25	18.50	19.00	16.16	3.25	1/2	22.50	1.38	20	1 1/4
mm		647.7	57.2	469.9	482.6	410.5	82.6	12.7	571.5	35.1		31.8
in	18	28.00	2.38	21.00	21.00	18.18	3.50	1/2	24.75	1.38	24	1 1/4
mm		711.2	60.5	533.4	533.4	461.8	88.9	12.7	628.7	35.1		31.8
in	20	30.50	2.50	23.00	23.12	20.20	3.75	1/2	27.00	1.38	24	1 1/4
mm		774.7	63.5	584.2	587.2	513.1	95.3	12.7	685.8	35.1		31.8
in	24	36.00	2.75	27.25	27.62	24.25	4.19	1/2	32.00	1.62	24	1 1/2
mm		914.4	69.9	692.2	701.5	616.0	106.4	12.7	812.8	41.1		38.1

1. Other NPT and SW connections available upon request.

Threaded Orifice Class 300



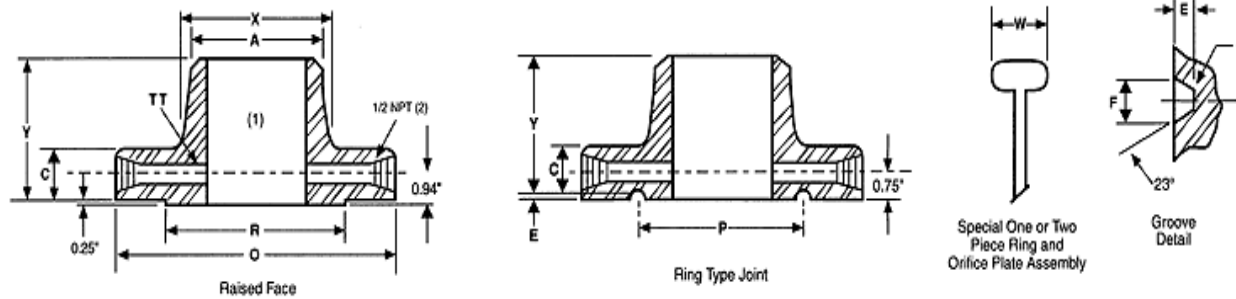
												Drilling			
Nom Size		OD	Thickness	OD of RF	Dia at Base	LTH	OD of Counter Bore		Counter Bore Depth (from face)		Dia of Pressure Connection	Bolt Circle	Hole Dia	# of Holes	Bolt Dia
		O	C	R	X	Y	Qb ⁽²⁾	Qf ⁽³⁾	F	G	TT				
in.	1	4.88	1.50	2.00	2.12	1.88	1.41	1.30	1.44	0.75	1/4	3.50	0.69	4	5/8
mm.		124.0	38.1	50.8	53.8	47.8	35.8	33.0	36.6	19.1	6.4	88.9	17.5		15.9
in.	1 1/2	6.12	1.50	2.88	2.75	1.88	1.99	1.89	1.47	0.72	1/4	4.50	0.81	4	3/4
mm.		155.4	38.1	73.2	69.9	47.8	50.5	48.0	37.3	18.3	6.4	114.3	20.6		19.1
in.	2	6.50	1.50	3.62	3.31	1.94	2.50	2.36	1.50	0.69	1/4	5.00	0.69	8	5/8
mm.		165.1	38.1	91.9	84.1	49.3	63.5	59.9	38.1	17.5	6.4	127.0	17.5		15.9
in.	2 1/2	7.50	1.50	4.12	3.94	2.00	3.00	2.84	1.75	0.56	1/4	5.88	0.81	8	3/4
mm.		190.5	38.1	104.6	100.1	50.8	76.2	72.1	44.5	14.2	6.4	149.4	20.6		19.1
in.	3	8.25	1.50	5.00	4.62	2.06	3.63	3.46	1.81	0.56	3/8	6.62	0.81	8	3/4
mm.		209.6	38.1	127.0	117.3	52.3	92.2	87.9	46.0	14.2	9.5	168.1	20.6		19.1
in.	4	10.00	1.50	6.19	5.75	2.12	4.63	4.45	1.88	0.56	1/2	7.88	0.81	8	3/4
mm.		254.0	38.1	157.2	146.1	53.8	117.6	113.0	47.8	14.2	12.7	200.2	20.6		19.1
in.	6	12.50	1.50	8.50	8.12	2.12	6.75	6.57	1.88	0.31	1/2	10.62	0.88	12	3/4
mm.		317.5	38.1	215.9	206.2	53.8	171.5	166.9	47.8	7.9	12.7	269.7	22.4		19.1
in.	8	15.00	1.62	10.62	10.25	2.44	8.75	8.55	2.19	0.44	1/2	13.00	1.00	12	7/8
mm.		381.0	41.1	269.7	260.4	62.0	222.3	217.2	55.6	11.2	12.7	330.2	25.4		22.2

(1) Other NPT and SW connections available upon request.

(2) Qb counterbore back.

(3) Qf counterbore face.

Welding Neck Orifice Class 400

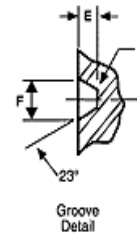
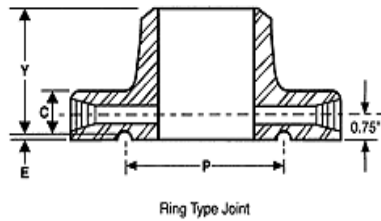
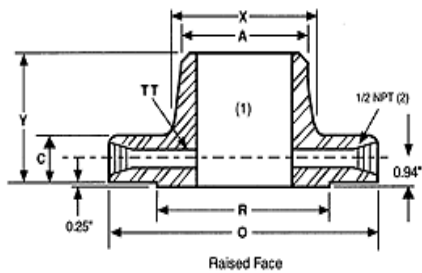


									Drilling				Ring Type Joint					
	Nom Size	OD	Thickness	OD of RF	Dia at Base	Dia Bevel	LTH	Dia of Pressure Connection	Bolt Circle	Hole Dia	# of holes	Bolt Dia	Grove #	Pitch Dia	Groove Depth	Groove width	Rad at Bottom	Spec Oval RH
		O	C	R	X	A	Y	TT						P	E	F	r max	W
in	4	10.00	1.50	6.19	5.75	4.50	3.50	1/2	7.88	1.00	8	7/8	R37	5.875	0.312	0.469	0.03	1.06
mm		254.0	38.1	157.2	146.1	114.3	88.9	12.7	200.2	25.4		22.2		149.225	7.925	11.913	0.8	26.9
in	6	12.50	1.62	8.50	8.12	6.63	4.06	1/2	10.62	1.00	12	7/8	R45	8.312	0.312	0.469	0.03	1.06
mm		317.5	41.1	215.9	206.2	168.4	103.1	12.7	269.7	25.4		22.2		211.125	7.925	11.913	0.8	26.9
in	8	15.00	1.88	10.62	10.25	8.63	4.62	1/2	13.00	1.12	12	1	R49	10.625	0.312	0.469	0.03	1.06
mm		381.0	47.8	269.7	260.4	219.2	117.3	12.7	330.2	28.4		25.4		269.875	7.925	11.913	0.8	26.9
in	10	17.50	2.12	12.75	12.62	10.75	4.88	1/2	15.25	1.25	16	1 1/8	R53	12.750	0.312	0.469	0.03	1.06
mm		444.5	53.8	323.9	320.5	273.1	124.0	12.7	387.4	31.8		28.6		323.850	7.925	11.913	0.8	26.9
in	12	20.50	2.25	15.00	14.75	12.75	5.38	1/2	17.75	1.38	16	1 1/4	R57	15.000	0.312	0.469	0.03	1.06
mm		520.7	57.2	381.0	374.7	323.9	136.7	12.7	450.9	35.1		31.8		381.000	7.925	11.913	0.8	26.9
in	14	23.00	2.39	16.25	16.75	14.00	5.88	1/2	20.25	1.38	20	1 1/4	R61	16.500	0.312	0.469	0.03	1.06
mm		584.2	60.7	412.8	425.5	355.6	149.4	12.7	514.4	35.1		31.8		419.100	7.925	11.913	0.8	26.9
in	16	25.50	2.50	18.50	19.00	16.00	6.00	1/2	22.50	1.50	20	1 3/8	R65	18.500	0.312	0.469	0.03	1.19
mm		647.7	63.5	469.9	482.6	406.4	152.4	12.7	571.5	38.1		34.9		469.900	7.925	11.913	0.8	30.2
in	18	28.00	2.62	21.00	21.00	18.00	6.50	1/2	24.75	1.50	24	1 3/8	R69	21.000	0.312	0.469	0.03	1.19
mm		711.2	66.5	533.4	533.4	457.2	165.1	12.7	628.7	38.1		34.9		533.400	7.925	11.913	0.8	30.2
in	20	30.50	2.75	23.00	23.12	20.00	6.62	1/2	27.00	1.62	24	1 1/2	R73	23.000	0.375	0.531	0.06	1.25
mm		774.7	69.9	584.2	587.1	508.0	168.1	12.7	685.8	41.1		38.1		584.200	9.525	13.487	1.5	31.8
in	24	36.00	3.00	27.25	27.62	24.00	6.88	1/2	32.00	1.89	24	1 3/4						
mm		914.4	76.2	692.2	701.5	609.6	174.8	12.7	812.8	48.0		44.5						

Note: Weld Neck flanges NPS 3" and smaller are identical to Class 600 flanges and may be so marked.

1. Bore diameter to be specified by purchaser.
2. Other NPT and SW connections available upon request.

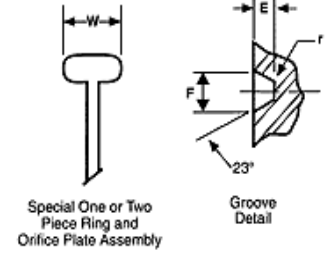
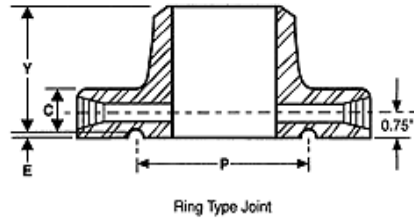
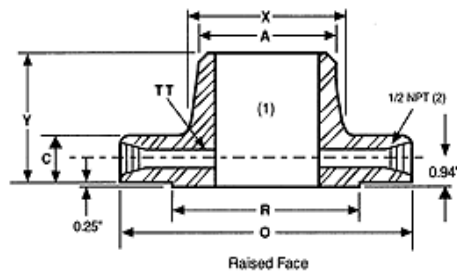
Welding Neck Orifice Class 600



									Drilling						Ring Type Joint				
	Nom Size	OD	Thickness	OD of RF	Dia at base	Dia Bevel	LTH	Dia of Pressure Connection	Bolt Circle	Hole Dia		# of holes	Bolt Dia	Groove #	Pitch Dia	Groove Depth	Groove width	Rad at Bottom	Spec Oval RH
		O	C	R	X	A	Y	TT		RF	RJ				P	E	F	r max	W
in	1	4 88	1 50	2 00	2 12	1 32	3 25	1/4	3 50	0 69	0 75	4	5/8	R16	2 000	0 250	0 344	0 03	1 00
mm		124 0	38 1	50 8	53 8	33 5	82 6	6 4	88 9	17 50	19 1		15 9		50 800	6 350	8 738	0 8	25 4
in	1 1/2	6 12	1 50	2 88	2 75	1 90	3 38	1/4	4 50	0 81	0 88	4	3/4	R20	2 688	0 250	0 344	0 03	1 00
mm		155 4	38 1	73 2	69 9	48 3	85 9	6 4	114 3	20 60	22 4		19 1		68 275	6 350	8 738	0 8	25 4
in	2	6 50	1 50	3 62	3 31	2 38	3 38	1/4	5 00	0 69	0 75	8	5/8	R23	3 250	0 312	0 469	0 03	1 06
mm		165 1	38 1	91 9	84 1	60 5	85 9	6 4	127 00	17 50	19 1		15 9		82 550	7 925	11 913	0 8	26 9
in	2 1/2	7 50	1 50	4 12	3 94	2 88	3 50	1/4	5 88	0 81	0 88	8	3/4	R26	4 000	0 312	0 469	0 03	1 06
mm		190 5	38 1	104 6	100 1	73 2	88 9	6 4	149 35	20 60	22 4		19 1		101 600	7 925	11 913	0 8	26 9
in	3	8 25	1 50	5 00	4 62	3 50	3 50	3/8	6 62	0 81	0 88	8	3/4	R31	4 875	0 312	0 469	0 03	1 06
mm		209 6	38 1	127 0	117 3	88 9	88 9	9 5	168 15	20 60	22 4		19 1		123 825	7 925	11 913	0 8	26 9
in	4	10 75	1 50	6 19	6 00	4 50	4 00	1/2	8 50	1 00	1 00	8	7/8	R37	5 875	0 312	0 469	0 03	1 06
mm		273 1	38 1	157 2	152 4	114 3	101 6	12 7	215 9	25 40	25 4		22 2		149 225	7 925	11 913	0 8	26 9
in	6	14 00	1 88	8 50	8 75	6 63	4 62	1/2	11 50	1 12	1 12	12	1	R45	8 312	0 312	0 469	0 03	1 06
mm		355 6	47 8	215 9	222 3	168 4	117 3	12 7	292 1	28 40	28 4		25 4		211 125	7 925	11 913	0 8	26 9
in	8	16 50	2 19	10 62	10 75	8 63	5 25	1/2	13 75	1 25	1 25	12	1 1/8	R49	10 625	0 312	0 469	0 03	1 06
mm		419 1	55 6	269 7	273 1	219 2	133 4	12 7	349 25	31 80	31 8		28 6		269 875	7 925	11 913	0 8	26 9
in	10	20 00	2 50	12 75	13 50	10 75	6 00	1/2	17 00	1 38	1 38	16	1 1/4	R53	12 750	0 312	0 469	0 03	1 06
mm		508 0	63 5	323 9	342 9	273 1	152 4	12 7	431 8	35 10	35 1		31 8		323 850	7 925	11 913	0 8	26 9
in	12	22 00	2 62	15 00	15 75	12 75	6 12	1/2	19 25	1 38	1 38	20	1 1/4	R57	15 000	0 312	0 469	0 03	1 06
mm		558 8	66 5	381 0	400 1	323 9	155 4	12 7	488 95	35 10	35 1		31 8		381 000	7 925	11 913	0 8	26 9
in	14	23 75	2 75	16 25	17 00	14 00	6 50	1/2	20 75	1 50	1 50	20	1 3/8	R61	16 500	0 312	0 469	0 03	1 06
mm		603 3	69 9	412 8	431 8	355 6	165 1	12 7	527 05	38 10	38 1		35 1		419 100	7 925	11 913	0 8	26 9
in	16	27 00	3 00	18 50	19 50	16 00	7 00	1/2	23 75	1 60	1 60	20	1 1/2	R65	18 500	0 312	0 469	0 03	1 19
mm		685 8	76 2	469 9	495 3	406 4	177 8	12 7	603 25	41 10	41 1		38 1		469 900	7 925	11 913	0 8	30 2
in	18	29 25	3 25	21 00	21 50	18 00	7 25	1/2	25 75	1 75	1 75	20	1 5/8	R69	21 000	0 312	0 469	0 03	1 19
mm		743 0	82 6	533 4	546 1	457 2	184 2	12 7	654 05	44 50	44 5		41 3		533 400	7 925	11 913	0 8	30 2
in	20	32 00	3 50	23 00	24 00	20 00	7 50	1/2	28 50	1 75	1 75	24	1 5/8	R73	23 000	0 375	0 531	0 06	1 25
mm		812 8	88 9	584 2	609 6	508 0	190 5	12 7	723 9	44 50	44 5		41 3		584 200	9 525	13 487	1 5	31 8
in	24	37 00	4 00	27 25	28 25	24 00	8 00	1/2	33 00	2 00	2 00	24	1 7/8						
mm		939 8	101 6	692 2	717 6	609 6	203 2	12 7	838 2	50 80	50 8		47 6						

1. Bore diameter to be specified by purchaser.
2. Other NPT and SW connections available upon request.

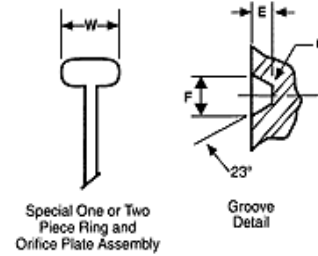
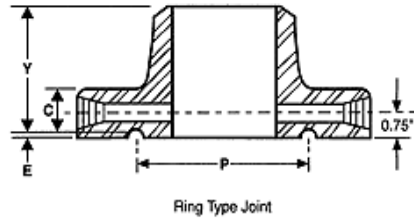
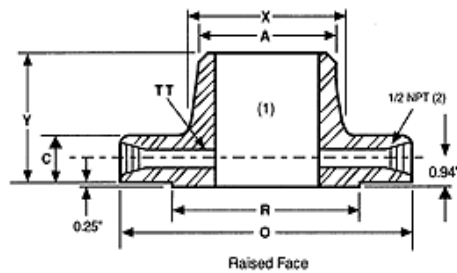
Welding Neck Orifice Class 900



									Drilling				Ring Type Joint					
	Nom Size	OD	Thickness	OD of RF	Dia at Base	Dia Bevel	LTH	Dia of Pressure Connection	Bolt Circle	Hole Dia	# of holes	Bolt Dia	Grove #	Pitch Dia	Groove Depth	Groove Width	Rad at Bottom	Spec Oval RH
		O	C	R	X	A	Y	TT						P	E	F	r max	W
in	3	9 50	1 50	5 00	5 00	3 50	4 00	3/8	7 50	1 00	8	7/8	R31	4 875	0 312	0 469	0 03	1 06
mm		241 3	38 1	127 0	127 0	88 9	101 6	9 5	190 5	25 40		22 2		123 825	7 925	11 913	0 8	26 9
in	4	11 50	1 75	6 19	6 25	4 50	4 50	1/2	9 25	1 25	8	1 1/8	R37	5 875	0 312	0 469	0 03	1 06
mm		292 1	44 5	157 2	158 8	114 3	114 3	12 7	235 0	31 80		28 6		149 225	7 925	11 913	0 8	26 9
in	6	15 00	2 19	8 50	9 25	6 63	5 50	1/2	12 50	1 25	12	1 1/8	R45	8 312	0 312	0 469	0 03	1 06
mm		381 0	55 6	215 9	235 0	168 4	139 7	12 7	317 5	31 80		28 6		211 125	7 925	11 913	0 8	26 9
in	8	18 50	2 50	10 62	11 75	8 63	6 38	1/2	15 50	1 50	12	1 3/8	R49	10 625	0 312	0 469	0 03	1 06
mm		469 9	63 5	269 7	298 5	219 2	162 1	12 7	393 7	38 10		34 9		269 875	7 925	11 913	0 8	26 9
in	10	21 50	2 75	12 75	14 50	10 75	7 25	1/2	18 50	1 50	16	1 3/8	R53	12 750	0 312	0 469	0 03	1 06
mm		546 1	69 9	323 9	368 3	273 1	184 2	12 7	469 9	38 10		34 9		323 850	7 925	11 913	0 8	26 9
in	12	24 00	3 12	15 00	16 50	12 75	7 88	1/2	21 00	1 50	20	1 3/8	R57	15 000	0 312	0 469	0 03	1 06
mm		609 6	79 2	381 0	419 1	323 9	200 2	12 7	533 4	38 10		34 9		381 000	7 925	11 913	0 8	26 9
in	14	25 25	3 38	16 25	17 75	14 00	8 38	1/2	22 00	1 62	20	1 1/2						
mm		641 4	85 9	412 8	450 9	355 6	212 9	12 7	558 8	41 10		38 1						
in	16	27 75	3 50	18 50	20 00	16 00	8 50	1/2	24 30	1 75	20	1 5/8						
mm		704 9	88 9	469 9	508 0	406 4	215 9	12 7	616 0	44 50		41 3						
in	18	31 00	4 00	21 00	22 25	18 00	9 00	1/2	27 00	2 00	20	1 7/8						
mm		787 4	101 6	533 4	565 2	457 2	228 6	12 7	685 8	50 80		47 6						
in	20	33 75	4 25	23 00	24 50	20 00	9 75	1/2	29 50	2 12	20	2						
mm		857 3	108 0	584 2	622 3	508 0	247 7	12 7	749 3	53 80		50 8						
in	24	41 00	5 50	27 25	29 50	24 00	11 50	1/2	35 50	2 62	20	2 1/2						
mm		1041 4	139 7	692 2	749 3	609 6	292 1	12 7	901 7	66 50		63 5						

1. Bore diameter to be specified by purchaser.
2. Other NPT and SW connections available upon request.

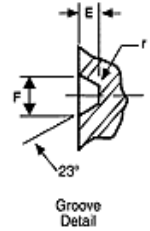
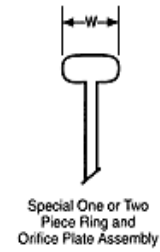
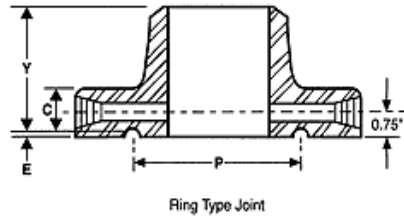
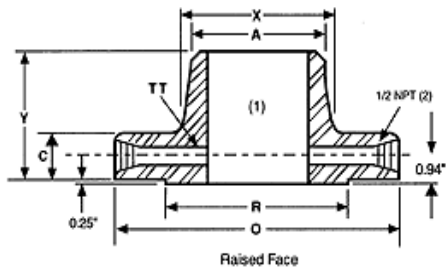
Welding Neck Orifice Class 1500



									Drilling				Ring Type Joint					
	Nom Size	OD	Thickness	OD of RF	Dia at Base	Dia Bevel	LTH	Dia of Pressure Connection	Bolt Circle	Hole Dia	# of holes	Bolt Dia	Grove #	Pitch Dia	Groove Depth	Groove Width	Rad at Bottom	Spec Oval RH
		O	C	R	X	A	Y	TT						P	E	F	r max	W
in	1	5 88	1 50	2 00	2 06	1 32	3 25	1/4	4 00	1 00	4	7/8	R16	2 000	0 250	0 344	0 03	1 00
mm		149 4	38 1	50 8	52 3	33 5	82 6	6 4	101 6	25 4		22 2		50 800	6 350	8 738	0 8	25 4
in	1 1/2	7 00	1 50	2 88	2 75	1 90	3 50	1/4	4 88	1 12	4	1	R20	2 688	0 250	0 344	0 03	1 00
mm		177 8	38 1	73 2	69 9	48 3	88 9	6 4	124 0	28 4		25 4		68 275	6 350	8 738	0 8	25 4
in	2	8 50	1 50	3 62	4 12	2 38	4 00	1/4	6 50	1 00	8	7/8	R24	3 750	0 312	0 469	0 03	1 06
mm		215 9	38 1	91 9	104 6	60 5	101 6	6 4	165 1	25 4		22 2		95 250	7 925	11 913	0 8	26 9
in	2 1/2	9 62	1 62	4 12	4 88	2 88	4 12	1/4	7 50	1 12	8	1	R27	4 250	0 312	0 469	0 03	1 06
mm		244 3	41 1	104 6	124 0	73 2	104 6	6 4	190 5	28 4		25 4		107 950	7 925	11 913	0 8	26 9
in	3	10 50	1 88	5 00	5 25	3 50	4 62	3/8	8 00	1 25	8	1 1/8	R35	5 375	0 312	0 469	0 03	1 06
mm		266 7	47 8	127 0	133 4	88 9	117 3	9 5	203 2	31 8		28 6		136 525	7 925	11 913	0 8	26 9
in	4	12 25	2 12	6 19	6 38	4 50	4 88	1/2	9 50	1 38	8	1 1/4	R39	6 375	0 312	0 469	0 03	1 06
mm		311 2	53 8	157 2	162 1	114 3	124 0	12 7	241 3	35 1		31 8		161 925	7 925	11 913	0 8	26 9
in	6	15 50	3 25	8 50	9 00	6 63	6 75	1/2	12 50	1 50	12	1 3/8	R46	8 312	0 375	0 531	0 06	1 12
mm		393 7	82 6	215 9	228 6	168 4	171 5	12 7	317 5	38 1		34 9		211 125	9 525	13 487	1 5	28 4
in	8	19 00	3 62	10 62	11 50	8 63	8 38	1/2	15 50	1 75	12	1 5/8	.....	.....	.....	.....	.....	.....
mm		482 6	91 9	269 7	292 1	219 2	212 9	12 7	393 7	44 5		41 3	.....	.....	.....	.....	.....	.....
in	10	23 00	4 25	12 75	14 50	10 75	10 00	1/2	19 00	2 00	12	1 7/8	.....	.....	.....	.....	.....	.....
mm		584 2	108 0	323 9	368 3	273 1	254 0	12 7	482 6	50 8		47 6	.....	.....	.....	.....	.....	.....
in	12	26 50	4 88	15 00	17 75	12 75	11 12	1/2	22 50	2 12	16	2	.....	.....	.....	.....	.....	.....
mm		673 1	124 0	381 0	450 9	323 9	282 4	12 7	571 5	53 8		50 8	.....	.....	.....	.....	.....	.....
in	14	29 50	5 25	16 25	19 50	14 00	11 75	1/2	25 00	2 38	16	2 1/4	.....	.....	.....	.....	.....	.....
mm		749 3	133 4	412 8	495 3	355 6	298 5	12 7	635 0	60 5		57 2	.....	.....	.....	.....	.....	.....
in	16	32 50	5 75	18 50	21 75	16 00	12 25	1/2	27 80	2 60	16	2 1/2	.....	.....	.....	.....	.....	.....
mm		825 5	146 1	469 9	552 1	406 4	311 2	12 7	704 9	66 5		63 5	.....	.....	.....	.....	.....	.....
in	18	36 00	6 38	21 00	23 50	18 00	12 88	1/2	30 50	2 88	16	2 3/4	.....	.....	.....	.....	.....	.....
mm		914 4	162 1	533 4	596 9	457 2	327 2	12 7	774 7	73 2		69 9	.....	.....	.....	.....	.....	.....
in	20	38 75	7 00	23 00	25 25	20 00	14 00	1/2	32 75	3 12	16	3	.....	.....	.....	.....	.....	.....
mm		984 3	177 8	584 2	641 4	508 0	355 6	12 7	831 9	79 2		76 2	.....	.....	.....	.....	.....	.....
in	24	46 00	8 00	27 25	30 00	24 00	16 00	1/2	39 00	3 62	16	3 1/2	.....	.....	.....	.....	.....	.....
mm		1168 4	203 2	692 2	762 0	609 6	406 4	12 7	990 6	91 9		88 9	.....	.....	.....	.....	.....	.....

1. Bore diameter to be specified by purchaser.
2. Other NPT and SW connections available upon request.

Welding Neck Orifice Class 2500



									Drilling				Ring Type Joint					
	Nom Size	OD	Thickness	OD of RF	Dia at Base	Dia Bevel	LTH	Dia of Pressure Connection	Bolt Circle	Hole Dia	# of holes	Bolt Dia	Grove #	Pitch Dia	Groove Depth	Groove Width	Rad at Bottom	Spec Oval RH
		O	C	R	X	A	Y	TT						P	E	F	r max	W
in	1	6 25	1 50	2 00	2 25	1 32	3 62	1/4	4 25	1 00	4	7/8	R18	2 375	0 250	0 344	0 03	1 00
mm		158 8	38 1	50 8	57 2	33 5	91 9	6 4	108 0	25 4		22 2		60 325	6 350	8 738	0 8	25 4
in	1 1/2	8 00	1 75	2 88	3 12	1 90	4 38	1/4	5 75	1 25	4	1 1/8	R23	3 250	0 312	0 469	0 03	1 06
mm		203 2	44 5	73 2	79 2	48 3	111 3	6 4	146 1	31 8		28 6		82 550	7 925	11 913	0 8	26 9
in	2	9 25	2 00	3 62	3 75	2 38	5 00	1/4	6 75	1 12	8	1	R26	4 000	0 312	0 469	0 03	1 06
mm		235 0	50 8	91 9	95 3	60 5	127 0	6 4	171 5	28 4		25 4		101 600	7 925	11 913	0 8	26 9
in	2 1/2	10 50	2 25	4 12	4 50	2 88	5 62	1/4	7 75	1 25	8	1 1/8	R28	4 375	0 375	0 531	0 06	1 19
mm		266 7	57 2	104 6	114 3	73 2	142 7	6 4	196 9	31 8		28 6		111 125	9 525	13 487	1 5	30 2
in	3	12 00	2 62	5 00	5 25	3 50	6 62	3/8	9 00	1 38	8	1 1/4	R32	5 000	0 375	0 531	0 06	1 19
mm		304 8	66 5	127 0	133 4	88 9	168 1	9 5	228 6	35 1		31 8		127 000	9 525	13 487	1 5	30 2
in	4	14 00	3 00	6 19	6 50	4 50	7 50	1/2	10 75	1 62	8	1 1/2	.....	.....	.....	.....	.....	.....
mm		355 6	76 2	157 2	165 1	114 3	190 5	12 7	273 1	41 1		38 1	.....	.....	.....	.....	.....	.....
in	6	19 00	4 25	8 50	9 25	6 63	10 75	1/2	14 50	2 12	8	2	.....	.....	.....	.....	.....	.....
mm		482 6	108 0	215 9	235 0	168 4	273 1	12 7	368 3	53 8		50 8	.....	.....	.....	.....	.....	.....
in	8	21 75	5 00	10 62	12 00	8 63	12 50	1/2	17 25	2 12	12	2	.....	.....	.....	.....	.....	.....
mm		552 5	127 0	269 7	304 8	219 2	317 5	12 7	438 2	53 8		50 8	.....	.....	.....	.....	.....	.....
in	10	26 50	6 50	12 75	14 75	10 75	16 50	1/2	21 25	2 62	12	2 1/2	.....	.....	.....	.....	.....	.....
mm		673 1	165 1	323 9	374 7	273 1	419 1	12 7	539 8	66 5		63 5	.....	.....	.....	.....	.....	.....
in	12	30 00	7 25	15 00	17 38	12 75	18 25	1/2	24 38	2 88	12	2 3/4	.....	.....	.....	.....	.....	.....
mm		762 0	184 2	381 0	441 5	323 9	463 6	12 7	619 3	73 2		69 9	.....	.....	.....	.....	.....	.....

1. Bore diameter to be specified by purchaser.
2. Other NPT and SW connections available upon request.

Wall Thicknesses

Nom Pipe Size	OD	NOMINAL WALL THICKNESS												
		Sch 10	Sch 20	Sch 30	STD Wall	Sch 40	Sch 60	EXT Hvy	Sch 80	Sch 100	Sch 120	Sch 140	Sch 160	XX Hvy
½	0.840	0.083	.....	.....	0.109	0.109	.....	0.147	0.147	.....	.....	.....	0.188	0.294
¾	1.050	0.083	.....	.....	0.113	0.113	.....	0.154	0.154	.....	.....	.....	0.219	0.308
1	1.315	0.109	.....	.....	0.133	0.133	.....	0.179	0.179	.....	.....	.....	0.250	0.358
1 ¼	1.660	0.109	.....	.....	0.140	0.140	.....	0.191	0.191	.....	.....	.....	0.250	0.382
1 ½	1.900	0.109	.....	.....	0.145	0.145	.....	0.200	0.200	.....	.....	.....	0.281	0.400
2	2.375	0.109	.....	.....	0.154	0.154	.....	0.218	0.218	.....	.....	.....	0.344	0.436
2 ½	2.875	0.120	.....	.....	0.203	0.203	.....	0.276	0.276	.....	.....	.....	0.375	0.552
3	3.500	0.120	.....	.....	0.216	0.216	.....	0.300	0.300	.....	.....	.....	0.438	0.600
3 ½	4.000	0.120	.....	.....	0.226	0.226	.....	0.318	0.318	.....	.....	.....	.....	0.636
4	4.500	0.120	.....	.....	0.237	0.237	.....	0.337	0.337	.....	0.438	.....	0.531	0.674
5	5.563	0.134	.....	.....	0.258	0.258	.....	0.375	0.375	.....	0.500	.....	0.625	0.750
6	6.625	0.134	.....	.....	0.280	0.280	.....	0.432	0.432	.....	0.562	.....	0.719	0.864
8	8.625	0.148	0.250	0.277	0.322	0.322	0.406	0.500	0.500	0.594	0.719	0.812	0.906	0.875
10	10.750	0.165	0.250	0.307	0.365	0.365	0.500	0.500	0.594	0.719	0.844	1.000	1.125	1.000
12	12.750	0.180	0.250	0.330	0.375	0.406	0.562	0.500	0.688	0.844	1.000	1.125	1.312	1.000
14	14.000	0.250	0.312	0.375	0.375	0.438	0.594	0.500	0.750	0.938	1.094	1.250	1.406	.....
16	16.000	0.250	0.312	0.375	0.375	0.500	0.656	0.500	0.844	1.031	1.219	1.438	1.594	.....
18	18.000	0.250	0.312	0.438	0.375	0.562	0.750	0.500	0.938	1.156	1.375	1.562	1.781	.....
20	20.000	0.250	0.375	0.500	0.375	0.594	0.812	0.500	1.031	1.281	1.500	1.750	1.969	.....
22	22.000	0.250	.....	.....	0.375	.....	.....	0.500	.....	.....	.....	.....	.....	.....
24	24.000	0.250	0.375	0.562	0.375	0.688	0.969	0.500	1.219	1.531	1.812	2.062	2.344	.....
26	26.000	.....	.....	.....	0.375	.....	.....	0.500	.....	.....	.....	.....	.....	.....
30	30.000	0.312	0.500	0.625	0.375	.....	.....	0.500	.....	.....	.....	.....	.....	.....
36	36.000	0.312	0.500	0.625	0.375	0.750	.....	0.500	.....	.....	.....	.....	.....	.....
40	40.000	.....	.....	.....	0.375	.....	.....	0.500	.....	.....	.....	.....	.....	.....
42	42.000	.....	.....	.....	0.375	.....	.....	0.500	.....	.....	.....	.....	.....	.....
48	48.000	.....	.....	.....	0.375	.....	.....	0.500	.....	.....	.....	.....	.....	.....

Dimensions are in inches.

1. Light Wall thicknesses are identical to stainless steel Schedule 10S in sizes through 12", and to Schedule 10 sizes 14", and larger.
2. Standard Wall thicknesses are identical to stainless steel Schedule 40S in sizes through 10".
3. Extra Heavy Wall thicknesses are identical to stainless steel Schedule 80S in sizes through 8".
4. Other types, sizes, and thicknesses of flanges can be provided to meet application.
5. Stocked and manufactured in carbon steel, stainless steel, and variety of other metals and alloy.
6. Inside pipe diameters are provide on the following page.

Weld Neck Flange Bores

Nom Pipe Size	OD	NOMINAL BORE												
		Sch 10	Sch 20	Sch 30	STD Wall	Sch 40	Sch 60	EXT Hvy	Sch 80	Sch 100	Sch 120	Sch 140	Sch 160	XX Hvy
½	0.840	0.674	.....	.....	0.622	0.622	.....	0.546	0.546	.....	.....	.....	0.464	0.252
¾	1.050	0.884	.....	.....	0.824	0.824	.....	0.742	0.742	.....	.....	.....	0.612	0.434
1	1.315	1.097	.....	.....	1.049	1.049	.....	0.957	0.957	.....	.....	.....	0.815	0.599
1 ¼	1.660	1.442	.....	.....	1.380	1.380	.....	1.278	1.278	.....	.....	.....	1.160	0.896
1 ½	1.900	1.682	.....	.....	1.610	1.610	.....	1.500	1.500	.....	.....	.....	1.338	1.100
2	2.375	2.157	.....	.....	2.067	2.067	.....	1.939	1.939	.....	.....	.....	1.687	1.503
2 ½	2.875	2.635	.....	.....	2.469	2.469	.....	2.323	2.323	.....	.....	.....	2.125	1.771
3	3.500	3.260	.....	.....	3.068	3.068	.....	2.900	2.900	.....	.....	.....	2.624	2.300
3 ½	4.000	3.760	.....	.....	3.548	3.548	.....	3.364	3.364	.....	.....	.....	.....	2.728
4	4.500	4.260	.....	.....	4.026	4.026	.....	3.826	3.826	.....	3.624	.....	3.438	3.152
5	5.563	5.295	.....	.....	5.047	5.047	.....	4.813	4.813	.....	4.563	.....	4.313	4.063
6	6.625	6.357	.....	.....	6.065	6.065	.....	5.761	5.761	.....	5.501	.....	5.187	4.897
8	8.625	8.329	8.125	8.071	7.981	7.981	7.813	7.625	7.625	7.437	7.187	7.001	6.813	6.875
10	10.750	10.420	10.250	10.136	10.020	10.020	9.750	9.750	9.562	9.312	9.062	8.750	8.500	8.750
12	12.750	12.390	12.250	12.090	12.000	11.938	11.626	11.750	11.374	11.062	10.750	10.500	10.126	10.750
14	14.000	13.500	13.376	13.250	13.250	13.124	12.812	13.000	12.500	12.124	11.812	11.500	11.188	.....
16	16.000	15.500	15.376	15.250	15.250	15.000	14.688	15.000	14.312	13.938	13.562	13.124	12.812	.....
18	18.000	17.500	17.376	17.124	17.250	16.876	16.500	17.000	16.124	15.688	15.250	14.876	14.438	.....
20	20.000	19.500	19.250	19.000	19.250	18.812	18.376	19.000	17.938	17.438	17.000	16.500	16.062	.....
22	22.000	21.500	.....	.....	21.250	.....	.....	21.000	.....	.....	.....	.....	.....	.....
24	24.000	23.500	23.250	22.876	23.250	22.624	22.062	23.000	21.562	20.938	20.376	19.876	19.312	.....
26	26.000	.....	.....	.....	25.250	.....	.....	25.000	.....	.....	.....	.....	.....	.....
30	30.000	29.376	29.000	28.750	29.250	.....	.....	29.000	.....	.....	.....	.....	.....	.....
36	36.000	35.376	35.000	34.750	35.250	34.500	.....	35.000	.....	.....	.....	.....	.....	.....
40	40.000	.....	.....	.....	39.250	.....	.....	39.000	.....	.....	.....	.....	.....	.....
42	42.000	.....	.....	.....	41.250	.....	.....	41.000	.....	.....	.....	.....	.....	.....
48	48.000	.....	.....	.....	47.250	.....	.....	47.000	.....	.....	.....	.....	.....	.....

Dimensions are in inches.

1. Source: ANSI B36.10
2. These dimensions are the same for inside pipe diameter. **ALWAYS** specify bore when ordering.
3. Other types, sizes, and thicknesses of flanges can be provided to meet application.
4. Stocked and manufactured in carbon steel, stainless steel, and a variety of other metals and alloys.
5. Wall thicknesses are provided on the previous page.

DIMENSIONS OF RING-JOINT FACINGS

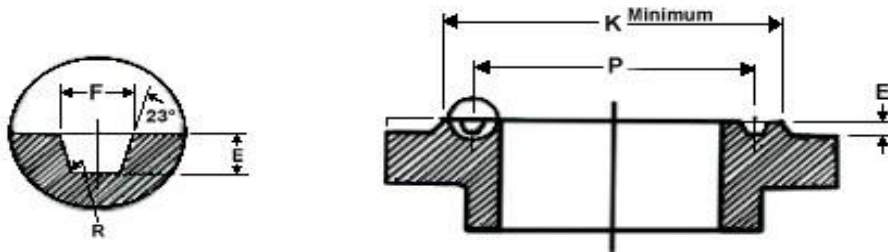


Tolerances	
E(depth)	+0.016
F(width)	-0
P(pitch diam)	±0.008
R(radius at bottom)	±0.005
23°(angle)	Max
	±1/2°

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

Dimensions in inches. RF height matches depth of groove.

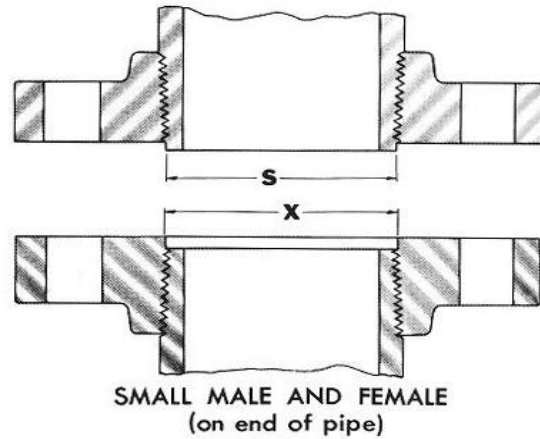
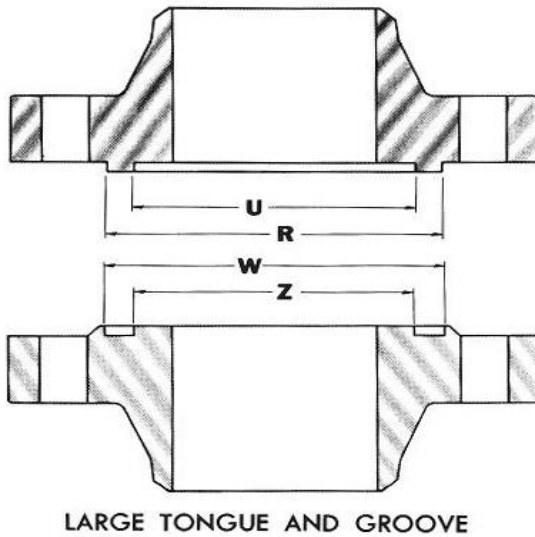
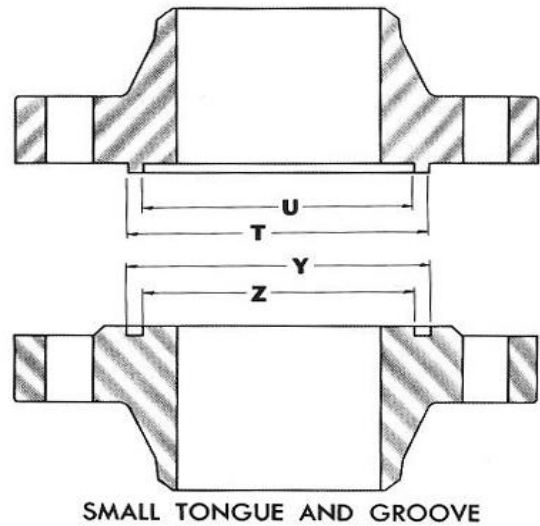
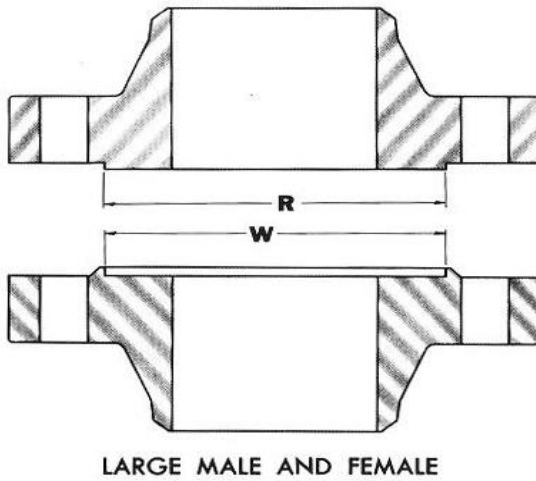
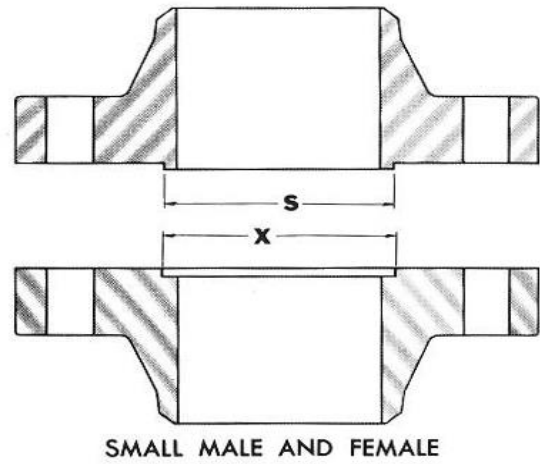
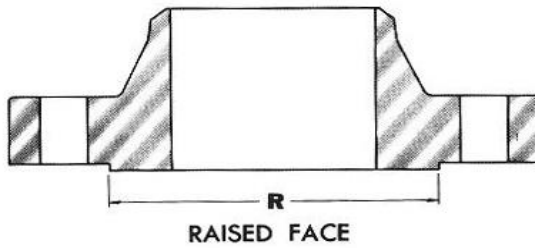
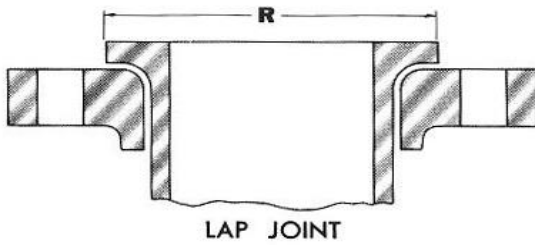
DIMENSIONS OF RING-JOINT FACINGS



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

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

Alternate Flange Facings



Alternate Flange Facings for 150, 300, 400, 600, 900, 1500 and 2500 lb. Flanges

Nominal Size (in.)	RF, LJ, Large Male and Large Tongue	Small Male (3)	Small Tongue	ID of Large and Small Tongue	Large Female and Large Groove	Small Female (3)	Small Groove	ID of Large and Small Groove	Raised Face 150 and 300 Pound Standards (2)	RF, Large and Small Male and Tongue 400, 600, 900, 1500, & 2500 lb. Standards (2)	Depth of Groove or Female
	R	S	T	U	W	X	Y	Z			
1/2	1.38	0.72	1.38	1.00	1.44	0.78	1.44	0.94	0.06	0.25	0.19
3/4	1.69	0.94	1.69	1.31	1.75	1.00	1.75	1.25	0.06	0.25	0.19
1	2.00	1.19	1.88	1.50	2.06	1.25	1.94	1.44	0.06	0.25	0.19
1 1/4	2.50	1.50	2.25	1.88	2.56	1.56	2.31	1.81	0.06	0.25	0.19
1 1/2	2.88	1.75	2.50	2.12	2.94	1.81	2.56	2.06	0.06	0.25	0.19
2	3.62	2.25	3.25	2.88	3.69	2.31	3.31	2.81	0.06	0.25	0.19
2 1/2	4.12	2.69	3.75	3.38	4.19	2.75	3.81	3.31	0.06	0.25	0.19
3	5.00	3.31	4.62	4.25	5.06	3.38	4.69	4.19	0.06	0.25	0.19
3 1/2	5.50	3.81	5.12	4.75	5.56	3.88	5.19	4.69	0.06	0.25	0.19
4	6.19	4.31	5.69	5.19	6.25	4.38	5.75	5.12	0.06	0.25	0.19
5	7.31	5.38	6.81	6.31	7.38	5.44	6.88	6.25	0.06	0.25	0.19
6	8.50	6.38	8.00	7.50	8.56	6.44	8.06	7.44	0.06	0.25	0.19
8	10.62	8.38	10.00	9.38	10.69	8.44	10.06	9.31	0.06	0.25	0.19
10	12.75	10.50	12.00	11.25	12.81	10.56	12.06	11.19	0.06	0.25	0.19
12	15.00	12.50	14.25	13.50	15.06	12.56	14.31	13.44	0.06	0.25	0.19
14	16.25	13.75	15.50	14.75	16.31	13.81	15.56	14.69	0.06	0.25	0.19
16	18.50	15.75	17.62	16.75	18.56	15.81	17.69	16.69	0.06	0.25	0.19
18	21.00	17.75	20.12	19.25	21.06	17.81	20.19	19.19	0.06	0.25	0.19
20	23.00	19.75	22.00	21.00	23.06	19.81	22.06	20.94	0.06	0.25	0.19
24	27.25	23.75	26.25	25.25	27.31	23.81	26.31	25.19	0.06	0.25	0.19

1. Regular facing for 150 and 300 lb. Steel flanged fittings and flange standards is a 1/16 inch raised face included in the minimum flange thickness. A 1/16 inch raised face is also permitted on the 400, 600, 900, 1500, and 2500 Lb. Flange standards, but it must be added to the minimum flange thickness.
2. Regular facing for 400, 600, 900, 1500, and 2500 lb. Flange standards is a ¼ inch raised face not included in minimum flange thickness dimensions.
3. Care should be taken in the use of joints of these dimensions, (they apply particularly on lines where the joint is made on the end of pipe) to insure that pipe used is thick enough to permit sufficient bearing surface to prevent crushing the gasket. Threaded companion flanges are furnished with plain face and are threaded with American Standard Locknut Thread.
4. Dimensions shown are consistent with specifications predating the 1990's. Alternate face connections are typically supplied to meet older designs. Please specify if your requirements dictate otherwise.

**STATUTORY DECLARATION
Registration of Fittings**
Single or Multiple Fitting Designs within one Fitting Category

I, Paul Pflughaupt, Quality Manager
(name of applicant) (position title) (must be in a position of authority)
of Maass Flange Corporation
(name of manufacturer)

located at 6202 Lumberdale Road, Houston, Texas
(plant address)

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



•MFC•

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

- ☒ comply with the requirements of ASME B16.5, B16.36, B16.47, B16.48 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.

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.	Pipe Flanges	ISO	Sales and Manufacturing of Rings, Flanges and Forgings of Various Material Grades	05.06.2022	SGS TUV SAAR	- Maass Ring and Forge 6202 Lumberdale Rd. Houston, Texas - Maass Flange Corp 507 Highway 90 E. Sealy, Texas

Tracking #: _____

						- Maass Flange Corp - Industrias Maass de Mexico Acuna Plant Carr. Presa La Amistad KM. 7 CD. Acuna, Coah., MEXICO
2.	Pipe Flanges	ISO	The Manufacture, Heat Treating, and Machining of Ferrous and Non-Ferrous Products, Flanges and Flanged Fittings, Riser Assembly and Fabrication of Components	26 Aug 2024	DNV	- Maass Flange Corp - Machine Shop 13770 Industrial Rd. Houston, Texas

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

ISO Certifications



(Signature of the Declarer)

2022/08/23

(Date)

DECLARED before me at LONDON in the COUNTY OF MIDDLESEX of ONTARIO
(city) (province, territory, or state)

this 23RD day of AUGUST, 2022
(Month) (Year)

(print) A. BRAD CANTIN
(a Commissioner of Oaths or Notary Public)

(sign) 
(a Commissioner of Oaths or Notary Public)

02/03/2023
(expiry date (mm/dd/yy))

Alan Brad Cantin, a Commissioner, etc.,
Province of Ontario, for Maass Flange
Canada Inc. Expires February 3, 2023.

Commissioner of Oaths / Notary Public in and for: ONTARIO, CANADA
(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: _____

Registered Date: _____

Expiry Date: _____

Signature: _____
(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

2022-03819

ABSA

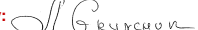
SAFETY CODES ACT - PROVINCE OF ALBERTA

ACCEPTED: **0B06472.2**

See acceptance letter for
conditions of registration.

Date: 2022-10-14

By:


MILLA GRYNCHUK, P. Eng
DOP: D00005217

This stamp and signature have been affixed electronically to this registered design as required by Section 20(1) of the Pressure Equipment Safety Regulation, in accordance with the Electronic Transactions Act.

Table 1 Scope of Fitting Designs**

Item #	Primary Pressure Bearing / Retaining Component	Material of Construction	Port Connections and Size Range	MDMT	Rated Pressure		Pressure Class(es) / Schedule(s)	Design Code(s) of Construction	Reference Catalogue (pages) or Drawing(s)
					At Ambient Temperature	At Maximum Temperature			
1	Pipe Flanges	Various	½" – 60" NPS	N/A	Per system code of construction	Per system code of construction	Class 150 – 2500	ASME B16.5, B16.47, B16.48, B16.36	All Maass Catalog - Rev 9-30

Table 2 Additional Scope Information

List/Attach Additional Detail and References (Product Configurations, Options, Illustrations, etc.)
Example: Series X Options
ASME B16.5 Class 150-1500 1/2-24", Class 2500 1/2-12" ASME B16.47A Class 150-600 26-60", Class 900 26-48" ASME B16.47B Class 150-300 26-60", Class 400-900 26-48" ASME B16.48 Class 150-1500 1/2-24", Class 2500 1/2"-12" ASME B16.36 Class 300-1500 1-24", Class 2500 1-12"

** For additional alternatives of Table 1, refer to Form AB-41a, Guide for Completing Form AB-41