



## FLANGE TOLERANCES

GENERAL NOTE: Dimensions are in inches.

### \*Outside Diameter of Flange (dimension O)

OD $\leq 12$	$\pm 0.060$
OD $> 12, \leq 24$	$\pm 0.120$
OD $> 24$	$\pm 0.190$

### Thickness of Flange (dimension C)

Raised Face, Class 400 and above Flat Face, RTJ,

NPS 18 and smaller	+0.120, -zero
NPS 20 and larger	+0.190, -zero

Class 300 Flat Face Flanges

NPS 18 and smaller	+0.120, -0.060
NPS 20 and larger	+0.190, -0.060

### Hub

\*Diameter of hub at base (dimension X)

NPS 5 and smaller	$\pm 0.030$
NPS 6 and larger	$\pm 0.060$

Taper of hub

$\leq 7^\circ$

Outside diameter of welding end of welding neck flanges (dimension A)

NPS 5 and smaller	+0.09, -0.03
NPS 6 and larger	+0.16, -0.03

Wall thickness (welding neck flanges)

min. 87.5% of the nominal

### Length Through Hub (dimension Y)

Welding Neck

NPS 4 and smaller	$\pm 0.060$
NPS 5 to 10, inclusive	+0.060, -0.120
NPS 12 and larger	+0.120, -0.180

\*Slip-On, Threaded,

NPS 10 and smaller	$\pm 0.060$
NPS 12 and larger	$\pm 0.120$

### Bore

Slip-On, Counter-bore Threaded  
(dimension B and Q)

NPS 10 and smaller	+0.030, -zero
NPS 12 and larger	+0.060, -zero

Welding Neck (dimension B)

Is  $\pm 0.5\%$  of nominal value

### Facings

\*Facing Height

$\pm 0.010$

Diameter of raised face (dimension R)

Class 150, 300 (0.06 in. raised face)  $\pm 0.030$

Class 400 + (0.25 in. raised face)  $\pm 0.020$

Ring Joint Facing

Depth (dimension E)

+0.016, -zero

Width (dimension F)

$\pm 0.008$

Pitch diameter (dimension P)

$\pm 0.005$

Radius at bottom (dimension R)

$R \leq 0.060$  +0.030, -zero

$R > 0.060$   $\pm 0.030$

23 degree angle

$\pm 1/2$  deg.

### Drilling and Facing

Diameter of bolt circle

$\pm 0.060$

Center-to-center of adjacent bolt holes

$\pm 0.030$

Eccentricity between bolt circle and diameter and machined facing diameters

NPS 2 1/2 and smaller  $\pm 0.030$

NPS 3 and larger  $\pm 0.060$

\*Diameter of bolt holes

$\pm 0.020$

### Pressure Tap Location

Smaller than NPS 4  $\pm 0.020$

NPS 4 and larger  $\pm 0.030$

**Note: Tolerances marked with an \* are Kerkau Tolerances**

# BORE SCHEDULES

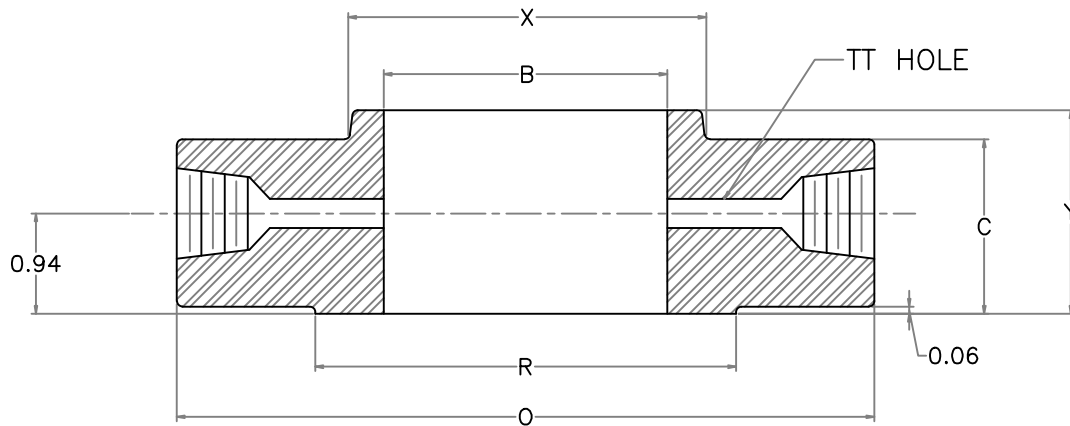


ASME B36.10M - 1996

NOMINAL WALL THICKNESS AND INSIDE DIAMETER																
Nominal Pipe Size	Outside Diameter	WALL I.D.	5	10	20	30	STD.	40	60	XH	80	100	120	140	160	XXH
<b>26</b>	26.000	Wall	---	.312	---	---	.375	---	---	.500	---	---	---	---	---	---
		I.D.	---	25.376	---	---	25.250	---	---	25.000	---	---	---	---	---	---
<b>28</b>	28.000	Wall	---	.312	.500	.625	.375	---	---	.500	---	---	---	---	---	---
		I.D.	---	27.376	27.000	26.750	27.250	---	---	27.000	---	---	---	---	---	---
<b>30</b>	30.000	Wall	.250	.312	.500	.625	.375	---	---	.500	---	---	---	---	---	---
		I.D.	29.500	29.376	29.000	28.750	29.250	---	---	29.000	---	---	---	---	---	---
<b>32</b>	32.000	Wall	---	.312	.500	.625	.375	.688	---	.500	---	---	---	---	---	---
		I.D.	---	31.376	31.000	30.750	31.250	30.624	---	31.000	---	---	---	---	---	---
<b>34</b>	34.000	Wall	---	.312	.500	.625	.375	.688	---	.500	---	---	---	---	---	---
		I.D.	---	33.376	33.000	32.750	33.250	32.624	---	33.000	---	---	---	---	---	---
<b>36</b>	36.000	Wall	---	.312	.500	.625	.375	.688	---	.500	---	---	---	---	---	---
		I.D.	---	35.376	35.000	34.750	35.250	34.624	---	35.000	---	---	---	---	---	---
<b>38</b>	38.000	Wall	---	---	---	---	.375	---	---	.500	---	---	---	---	---	---
		I.D.	---	---	---	---	37.250	---	---	37.000	---	---	---	---	---	---
<b>40</b>	40.000	Wall	---	---	---	---	.375	---	---	.500	---	---	---	---	---	---
		I.D.	---	---	---	---	39.250	---	---	39.000	---	---	---	---	---	---
<b>42</b>	42.000	Wall	---	---	---	---	.375	---	---	.500	---	---	---	---	---	---
		I.D.	---	---	---	---	41.250	---	---	41.000	---	---	---	---	---	---
<b>44</b>	44.000	Wall	---	---	---	---	.375	---	---	.500	---	---	---	---	---	---
		I.D.	---	---	---	---	43.250	---	---	43.000	---	---	---	---	---	---
<b>46</b>	46.000	Wall	---	---	---	---	.375	---	---	.500	---	---	---	---	---	---
		I.D.	---	---	---	---	45.250	---	---	45.000	---	---	---	---	---	---
<b>48</b>	48.000	Wall	---	---	---	---	.375	---	---	.500	---	---	---	---	---	---
		I.D.	---	---	---	---	47.250	---	---	47.000	---	---	---	---	---	---
<b>4</b>	4.500	Wall	.083	.120	---	.188	.237	.237	---	.337	.337	---	.438	---	.531	.674
		I.D.	4.334	4.260	---	4.124	4.026	4.026	---	3.826	3.826	---	3.624	---	3.438	3.152
<b>5</b>	5.563	Wall	.109	.134	---	---	.258	.258	---	.375	.375	---	.500	---	.625	.750
		I.D.	5.345	5.295	---	---	5.047	5.047	---	4.813	4.813	---	4.563	---	4.313	4.063
<b>6</b>	6.625	Wall	.109	.134	---	---	.280	.280	---	.432	.432	---	.562	---	.719	.864
		I.D.	6.407	6.357	---	---	6.065	6.065	---	5.761	5.761	---	5.501	---	5.187	4.897
<b>8</b>	8.625	Wall	.109	.148	.250	.277	.322	.322	.406	.500	.500	.594	.719	.812	<b>.906</b>	.875
		I.D.	8.407	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
<b>10</b>	10.750	Wall	.134	.165	.250	.307	.365	.365	.500	.500	.594	.719	.844	<b>1.000</b>	<b>1.125</b>	<b>1.000</b>
		I.D.	10.482	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
<b>12</b>	12.750	Wall	.156	.180	.250	.330	.375	.406	.562	.500	.688	.844	<b>1.000</b>	<b>1.125</b>	<b>1.312</b>	<b>1.000</b>
		I.D.	12.438	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
<b>14</b>	14.000	Wall	.156	.250	.312	.375	.375	.438	.594	.500	.750	<b>.938</b>	<b>1.094</b>	<b>1.250</b>	<b>1.406</b>	---
		I.D.	13.688	13.500	13.376	13.250	13.250	13.124	12.812	13.000	12.500	12.124	11.812	11.500	11.188	---
<b>16</b>	16.000	Wall	.165	.250	.312	.375	.375	.500	.656	.500	.844	<b>1.031</b>	<b>1.219</b>	<b>1.438</b>	<b>1.594</b>	---
		I.D.	15.670	15.500	15.376	15.250	15.250	15.000	14.688	15.000	14.312	13.938	13.562	13.124	12.812	---
<b>18</b>	18.000	Wall	.165	.250	.312	.438	.375	.562	.750	.500	<b>.938</b>	<b>1.156</b>	<b>1.375</b>	<b>1.562</b>	<b>1.781</b>	---
		I.D.	17.670	17.500	17.376	17.124	17.250	16.876	16.500	17.000	16.124	15.688	15.250	14.876	14.438	---
<b>20</b>	20.000	Wall	.188	.250	.375	.500	.375	.594	.812	.500	<b>1.031</b>	<b>1.281</b>	<b>1.500</b>	<b>1.750</b>	<b>1.969</b>	---
		I.D.	19.624	19.500	19.250	19.000	19.250	18.812	18.376	19.000	17.938	17.438	17.000	16.500	16.062	---
<b>22</b>	22.000	Wall	.188	.250	.375	.500	.375	---	.875	.500	<b>1.125</b>	<b>1.375</b>	<b>1.625</b>	<b>1.875</b>	<b>2.125</b>	---
		I.D.	21.624	21.500	21.250	21.000	21.250	---	20.250	21.000	19.750	19.250	18.750	18.250	17.750	---
<b>24</b>	24.000	Wall	.218	.250	.375	.562	.375	.688	<b>.969</b>	.500	<b>1.219</b>	<b>1.531</b>	<b>1.812</b>	<b>2.062</b>	<b>2.344</b>	---
		I.D.	23.564	23.500	23.250	22.876	23.250	22.624	22.062	23.000	21.562	20.938	20.376	19.876	19.312	---

Note: Dimensions are in inches.

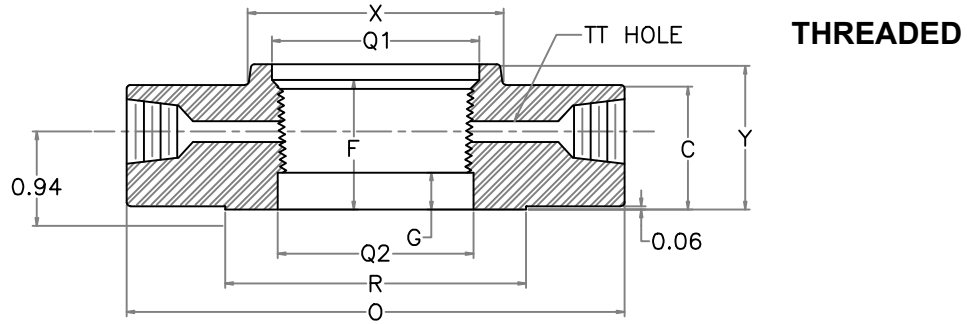
Note: Bore schedules with wall thickness greater than .88 are in bold print, indicating different welding end contour.



## SLIP-ON WELDING

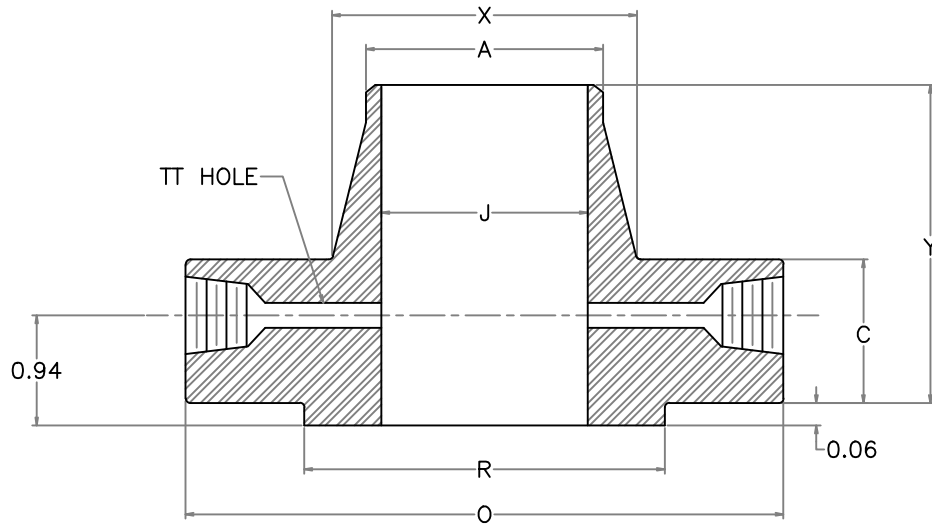
### ANSI B16.36 300# SLIP ON ORIFICE DIMENSIONS

Nominal Pipe Size	Outside Diameter of Raised Face R	Outside Diameter of Flange O	Minimum Thickness of Flange C	Length Through Hub Y	Diameter of Hub X	Bore B	Diameter of Pressure Connection TT	Drilling				
								Bolt Circle	Number of Holes	Diameter of Holes	Diameter of Bolts	Length of stud bolts
1	2.00	4.88	1.44	1.81	2.12	1.36	1/4	3.50	4	11/16	5/8	5.00
1 1/2	2.88	6.12	1.44	1.81	2.75	1.95	1/4	4.50	4	4/5	3/4	5.25
2	3.62	6.50	1.44	1.88	3.31	2.44	1/4	5.00	8	2/3	5/8	5.00
2 1/2	4.12	7.50	1.44	1.94	3.94	2.94	1/4	5.88	8	4/5	3/4	5.25
3	5.00	8.25	1.44	2.00	4.62	3.57	3/8	6.62	8	13./16	3/4	5.25
4	6.19	10.00	1.44	2.06	5.75	4.57	1/2	7.88	8	4/5	3/4	5.25
6	8.50	12.50	1.44	2.06	8.12	6.72	1/2	10.62	12	7/8	3/4	5.25
8	10.62	15.00	1.56	2.38	10.25	8.72	1/2	13.00	12	1	7/8	5.75
10	12.75	17.50	1.81	2.56	12.62	10.88	1/2	15.25	16	1 1/8	1	6.50
12	15.00	20.50	1.94	2.81	14.75	12.88	1/2	17.75	16	1 1/4	1 1/8	7.00
14	16.25	23.00	2.06	2.94	16.75	14.14	1/2	20.25	20	1 1/4	1 1/8	7.25
16	18.50	25.50	2.19	3.19	19.00	16.16	1/2	22.50	20	1 3/8	1 1/4	7.75
18	21.00	28.00	2.31	2.31	21.00	18.18	1/2	24.75	24	1 3/8	1 1/4	8.00
20	23.00	30.50	2.44	2.44	23.12	20.2	1/2	27.00	24	1 3/8	1 1/4	8.50
24	27.25	36.00	2.69	2.69	27.62	24.25	1/2	32.00	24	1 5/8	1 1/2	9.50



### ANSI B16.36 300# THREADED ORIFICE DIMENSIONS

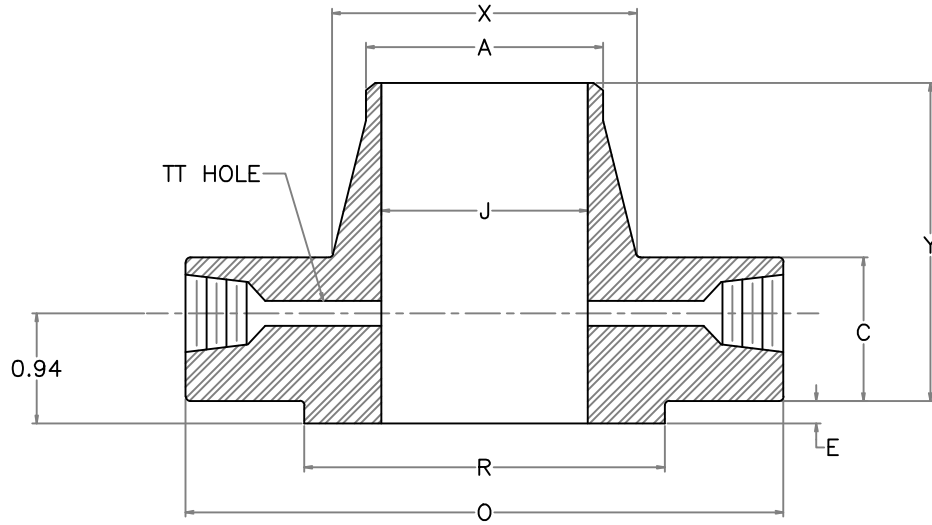
	Nominal Pipe Size	1	1 1/2	2	2.5	3	4	6	8
		Outside Diameter of Flange O	4.88	6.12	6.50	7.50	8.25	10.00	12.50
Outside Diameter of Raised Face R		2.00	2.88	3.62	4.12	5.00	6.19	8.50	10.62
Minimum Thickness of Flange C		1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.62
Length Through Hub Y		1.88	1.88	1.94	2.00	2.06	2.12	2.12	2.44
Diameter of Hub X		2.12	2.75	3.31	3.94	4.62	5.75	8.12	10.25
counterbore diameter	Q1	1.41	1.99	2.50	3.00	3.63	4.63	6.75	8.75
	Q2	1.30	1.89	2.36	2.84	3.46	4.45	6.57	8.55
depth from face	F	1.44	1.47	1.50	1.75	1.81	1.88	1.88	2.19
	G	0.75	0.72	0.69	0.56	0.56	0.56	0.31	0.44
	Diameter of Pressure Connection TT	1/4	1/4	1/4	1/4	3/8	1/2	1/2	1/2
	Bolt Circle	3.50	4.5	5.00	5.88	6.62	7.88	10.62	13.00
	Number of Holes	4	4	8	8	8	8	12	12
	Diameter of Holes	11/16	13/16	11/16	13/16	13/16	13/16	7/8	1
	Diameter of Bolts	5/8	3/4	5/8	3/4	3/4	3/4	3/4	7/8
Length	Machine Bolts	4.5	4.75	4.5	4.75	4.75	4.75	4.75	5
	Stud Bolts	5	5.25	5	5.25	5.25	5.25	5.25	5.75



### WELDING NECK

### ANSI B16.36 300# WN ORIFICE DIMENSIONS

Nominal Pipe Size	Outside Diameter of Raised Face R	Outside Diameter of Flange O	Minimum Thickness of Flange C	Length Through Hub Y	Diameter of Hub X	Bore B	Diameter of Pressure Connection TT	Drilling				
								Bolt Circle	Number of Holes	Diameter of Holes	Diameter of Bolts	Length of stud bolts
1	2.00	4.88	1.44	3.19	2.12		1/4	3.50	4	11/16	5/8	5.00
1 1/2	2.88	6.12	1.44	3.31	2.75		1/4	4.50	4	13/16	3/4	5.25
2	3.62	6.50	1.44	3.31	3.31		1/4	5.00	8	11/16	5/8	5.00
2 1/2	4.12	7.50	1.44	3.44	3.94		1/4	5.88	8	13/16	3/4	5.25
3	5.00	8.25	1.44	3.44	4.62		3/8	6.62	8	13/16	3/4	5.25
4	6.19	10.00	1.44	3.56	5.75		1/2	7.88	8	13/16	3/4	5.25
6	8.50	12.50	1.44	3.88	8.12	SEE BORE SCHE- DULE	1/2	10.62	12	7/8	3/4	5.25
8	10.62	15.00	1.56	4.31	10.25		1/2	13.00	12	1	7/8	5.75
10	12.75	17.50	1.81	4.56	12.62		1/2	15.25	16	1 1/8	1	6.50
12	15.00	20.50	1.94	5.06	14.75		1/2	17.75	16	1 1/4	1 1/8	7.00
14	16.25	23.00	2.06	5.56	16.75		1/2	20.25	20	1 1/4	1 1/8	7.25
16	18.50	25.50	2.19	5.69	19.00		1/2	22.50	20	1 3/8	1 1/4	7.75
18	21.00	28.00	2.31	6.19	21.00		1/2	24.75	24	1 3/8	1 1/4	8.00
20	23.00	30.50	2.44	6.31	23.12	1/2	27.00	24	1 3/8	1 1/4	8.50	
24	27.25	36.00	2.69	6.56	27.62	1/2	32.00	24	1 5/8	1 1/2	9.50	

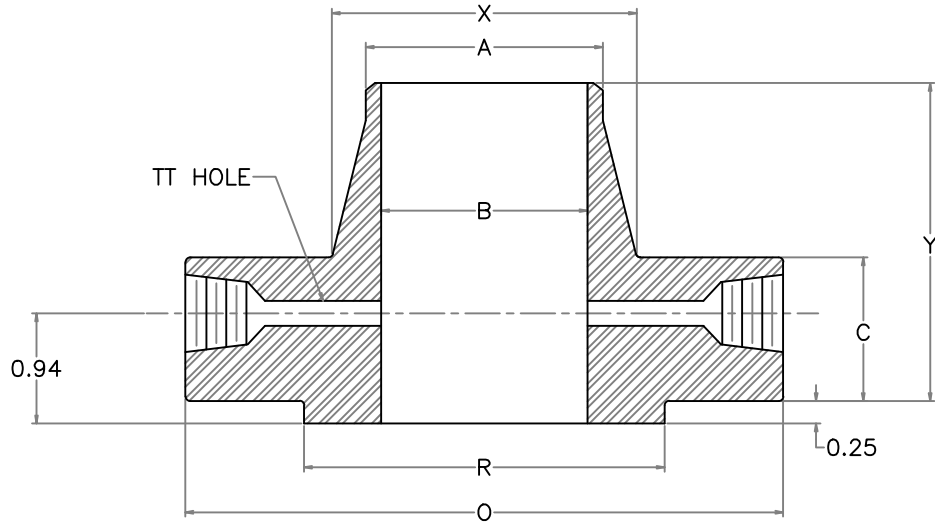


**WELDING NECK**

**ANSI B16.36 600# WN ORIFICE DIMENSIONS**

Nominal Pipe Size	Outside Diameter of Raised Face R	Outside Diameter of Flange O	Minimum Thickness of Flange C	Length Through Hub Y	Diameter of Hub X	Hub Diameter at Weld End A	Raised Face E	Diameter of Pressure Connection TT	Drilling			Length of stud bolts	
									Bolt Circle	Number of Holes	Diameter of Holes		Diameter of Bolts
1	2.00	4.88	1.44	3.19	2.12	1.32	0.06	1/4	3.50	4	0.69	5/8	5.00
1 1/2	2.88	6.12	1.44	3.32	2.75	1.90	0.06	1/4	4.50	4	0.81	3/4	5.25
2	3.62	6.50	1.44	3.32	3.31	2.38	0.06	1/4	5.00	8	0.69	5/8	5.00
2 1/2	4.12	7.50	1.44	3.44	3.94	2.88	0.06	1/4	5.88	8	0.81	3/4	5.25
3	5.00	8.25	1.44	3.44	4.62	3.50	0.06	3/8	6.62	8	0.81	3/4	5.25
4	6.19	10.75	1.50	4.00	6.00	4.50	0.25	1/2	8.50	8	1	7/8	6.00
6	8.50	14.00	1.88	4.62	8.75	6.63	0.25	1/2	11.50	12	1.12	1	7.00
8	10.62	16.50	2.19	5.25	10.75	8.63	0.25	1/2	13.75	12	1.25	1 1/8	7.75
10	12.75	20.00	2.50	6.00	13.50	10.75	0.25	1/2	17.00	16	1.38	1 1/4	8.75
12	15.00	22.00	2.62	6.12	15.75	12.75	0.25	1/2	19.25	20	1.38	1 1/4	9.00
14	16.25	23.75	2.75	6.50	17.00	14.00	0.25	1/2	20.75	20	1.5	1 3/8	9.50
16	18.50	27.00	3.00	7.00	19.50	16.00	0.25	1/2	23.75	20	1.62	1 1/2	10.25
18	21.00	29.25	3.25	7.25	21.50	18.00	0.25	1/2	25.75	20	1.75	1 5/8	11.00
20	23.00	32.00	3.50	7.50	24.00	20.00	0.25	1/2	28.50	24	1.75	1 5/8	11.75
24	27.25	37.00	4.00	8.00	28.25	24.00	0.25	1/2	33.00	24	2	1 7/8	13.25

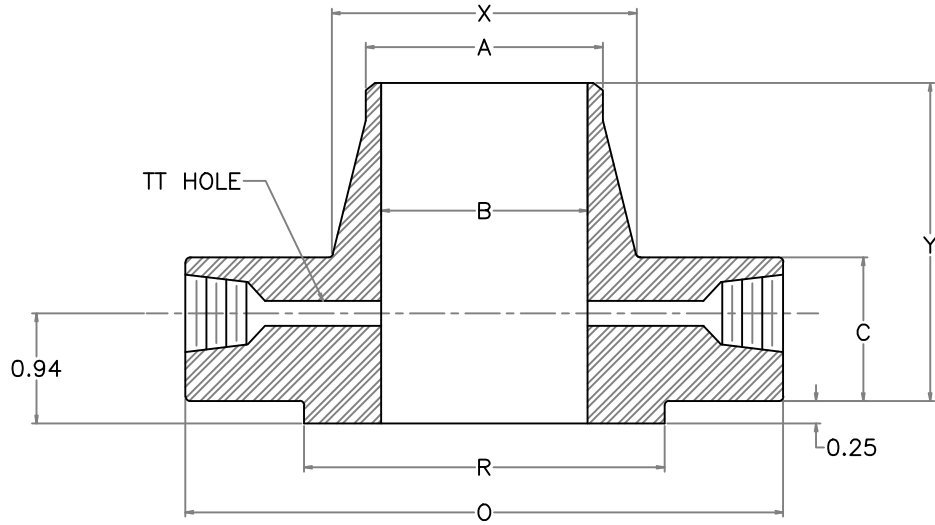
SEE BORE SCHEDULE



**WELDING NECK**

**ANSI B16.36 900# WN ORIFICE DIMENSIONS**

Nominal Pipe Size	Outside Diameter of Raised Face R	Outside Diameter of Flange O	Minimum Thickness of Flange C	Length Through Hub Y	Diameter of Hub X	Hub Diameter at Weld End A	Bore B	Diameter of Pressure Connection TT	Drilling				
									Bolt Circle	Number of Holes	Diameter of Holes	Diameter of Bolts	Length of stud bolts
1													
1 1/2									Use Class 1500 for dimensions		Use Class 1500 for dimensions		
2													
2 1/2													
3	5.00	9.50	1.50	4.00	5.00	3.50		3/8	7.50	8	1	7/8	6.00
4	6.19	11.50	1.75	4.50	6.25	4.50		1/2	9.25	8	1.25	1 1/8	7.00
6	8.50	15.00	2.19	5.50	9.25	6.63	SEE BORE SCHEDULE	1/2	12.50	12	1.25	1 1/8	7.75
8	10.62	18.50	2.50	6.38	11.75	8.63		1/2	15.50	12	1.5	1 3/8	9.00
10	12.75	21.50	2.75	7.25	14.50	10.75		1/2	18.50	16	1.5	1 3/8	9.50
12	15.00	24.00	3.12	7.88	16.50	12.75		1/2	21.00	20	1.5	1 3/8	10.25
14	16.25	25.25	3.38	8.38	17.75	14.00		1/2	22.00	20	1.62	1 1/2	11.00
16	18.50	27.75	3.50	8.50	20.00	16.00		1/2	24.25	20	1.75	1 5/8	11.50
18	21.00	31.00	4.00	9.00	22.25	18.00		1/2	27.00	20	2	1 7/8	13.00
20	23.00	33.75	4.25	9.75	24.50	20.00		1/2	29.50	20	2.12	2	14.00
24	27.25	41.00	5.50	11.50	29.50	24.00		1/2	35.50	20	2.62	2 1/2	17.50

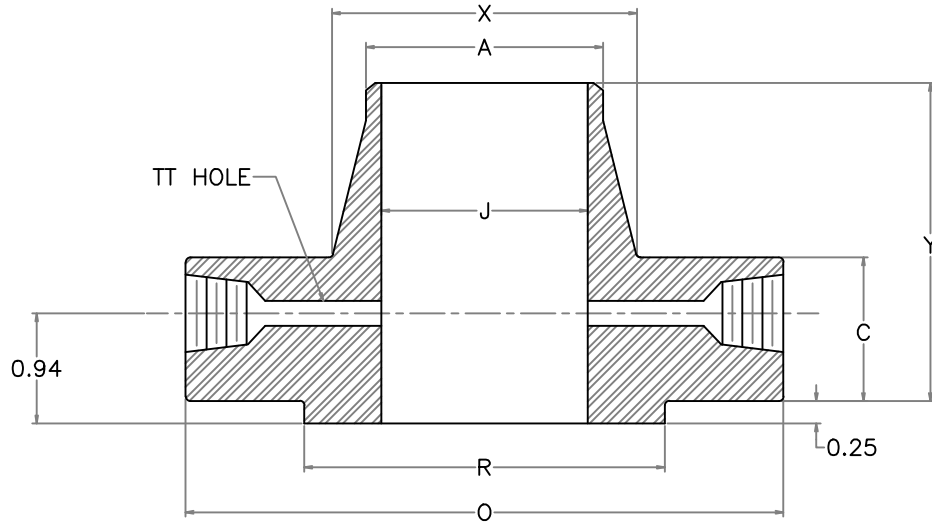


**WELDING NECK**

**ANSI B16.36 1500# WN ORIFICE DIMENSIONS**

Nominal Pipe Size	Outside Diameter of Raised Face R	Outside Diameter of Flange O	Minimum Thickness of Flange C	Length Through Hub Y	Diameter of Hub X	Hub Diameter at Weld End A	Bore B	Diameter of Pressure Connection TT	Drilling				
									Bolt Circle	Number of Holes	Diameter of Holes	Diameter of Bolts	Length of stud bolts
1	2.00	5.88	1.50	3.25	2.06	1.32		1/4	4.00	4	1	7/8	6.00
1 1/2	2.88	7.00	1.50	3.50	2.75	1.90		1/4	4.88	4	1.12	1	6.25
2	3.62	8.50	1.50	4.00	4.12	2.38		1/4	6.50	8	1	7/8	6.00
2 1/2	4.12	9.62	1.62	4.12	4.88	2.88		1/4	7.50	8	1.12	1	6.50
3	5.00	10.50	1.88	4.62	5.25	3.50		3/8	8.00	8	1.25	1 1/8	7.25
4	6.19	12.25	2.12	4.88	6.38	4.50		1/2	9.50	8	1.38	1 1/4	8.00
6	8.50	15.50	3.25	6.75	9.00	6.63	SEE BORE SCHE-DULE	1/2	12.50	12	1.5	1 3/8	10.50
8	10.62	19.00	3.62	8.38	11.50	8.63		1/2	15.50	12	1.75	1 5/8	11.75
10	12.75	23.00	4.25	10.00	14.50	10.75		1/2	19.00	12	2	1 7/8	13.50
12	15.00	26.50	4.88	11.12	17.75	12.75		1/2	22.50	16	2.12	2	15.00
14	16.25	29.50	5.25	11.75	19.50	14.00		1/2	25.00	16	2.38	2 1/4	16.25
16	18.50	32.50	5.75	12.25	21.75	16.00		1/2	27.75	16	2.62	2 1/2	17.75
18	21.00	36.00	6.38	12.88	23.50	18.00		1/2	30.50	16	2.88	2 3/4	19.75
20	23.00	38.75	7.00	14.00	25.25	20.00		1/2	32.75	16	3.12	3	21.50
24	27.25	46.00	8.00	16.00	30.00	24.00		1/2	39.00	16	3.62	3 1/2	14.50

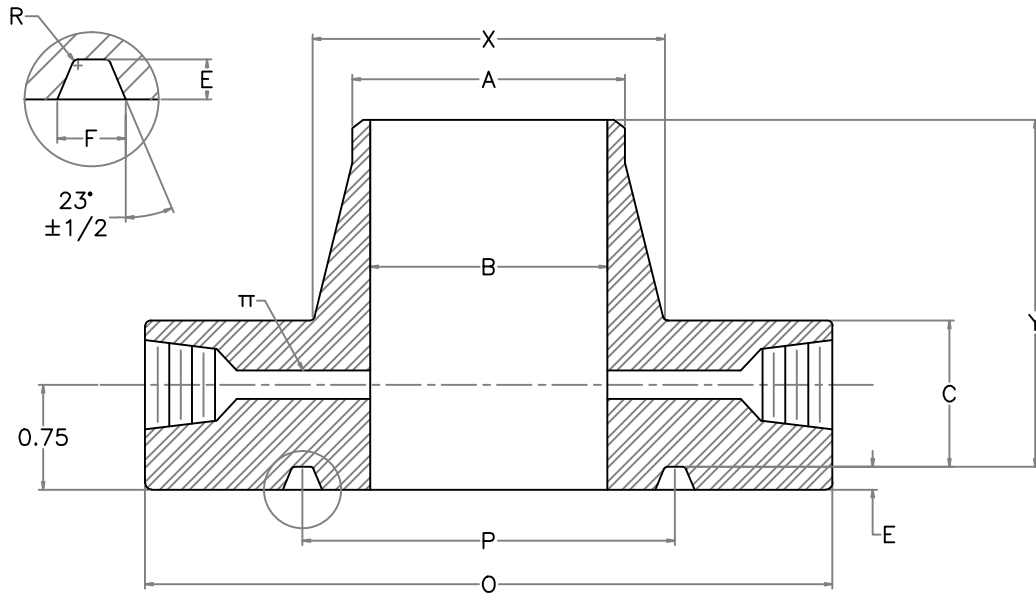




**WELDING NECK**

**ANSI B16.36 2500# WN ORIFICE DIMENSIONS**

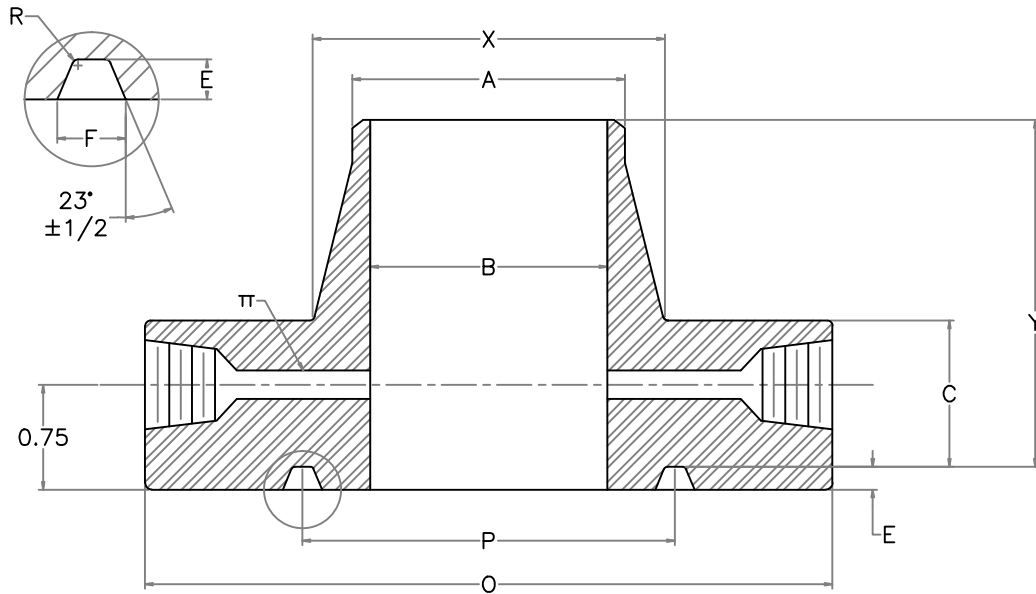
Nominal Pipe Size	Outside Diameter of Raised Face R	Outside Diameter of Flange O	Minimum Thickness of Flange C	Length Through Hub Y	Diameter of Hub X	Hub Diameter at Weld End A	Diameter of bore	Diameter of Pressure Connection TT	Drilling				
									Bolt Circle	Number of Holes	Diameter of Holes	Diameter of Bolts	Length of stud bolts
1	2.00	6.25	1.50	3.62	2.25	1.32		1/4	4.25	4	1	7/8	6.00
1 1/2	2.88	8.00	1.75	4.38	3.12	1.90		1/4	5.75	4	1.25	1 1/8	7.00
2	3.62	9.25	2.00	5.00	3.75	2.38		1/4	6.75	8	1.12	1	7.25
2 1/2	4.12	10.50	2.25	5.62	4.50	2.88	SEE	1/4	7.75	8	1.25	1 1/8	8.00
3	5.00	12.00	2.62	6.62	5.25	3.50	BORE	3/8	9.00	8	1.38	1 1/4	9.00
4	6.19	14.00	3.00	7.50	6.50	4.50	SCH-	1/2	10.75	8	1.62	1 1/2	10.25
6	8.50	19.00	4.25	10.75	9.25	6.63	DULE	1/2	14.50	8	2.12	2	13.75
8	10.62	21.75	5.00	12.50	12.00	8.63		1/2	17.25	12	2.12	2	15.25
10	12.75	26.50	26.50	16.50	14.75	10.75		1/2	21.25	12	2.62	2 1/2	19.25
12	15.00	30.00	30.00	18.25	17.38	12.75		1/2	24.38	12	2.88	2 3/4	21.25



## WELDING NECK

### ANSI B16.36 600# WN RTJ ORIFICE DIMENSIONS

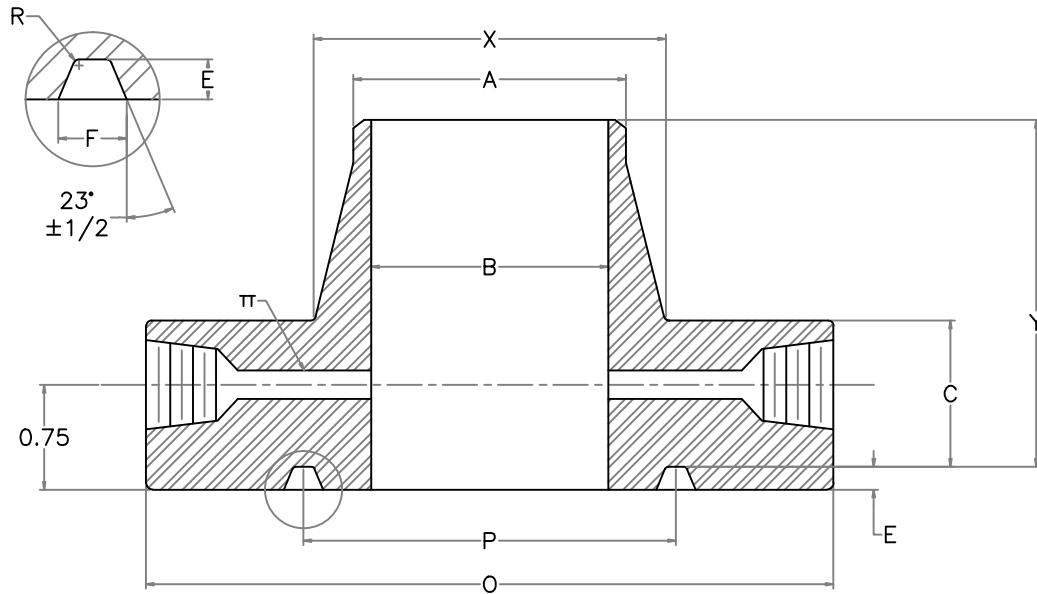
Nominal Pipe Size	Groove Number	Pitch Diameter P	Groove Depth E	Groove Width F	Radius at Bottom R	Bore B	Diameter of Pressure Connection TT	Drilling				
								Bolt Circle	Number of Holes	Diameter of Holes	Diameter of Bolts	Length of stud bolts
1	R16	2.000	0.250	0.344	0.03		1/4	3.50	4	0.75	5/8	5.50
1 1/2	R20	2.688	0.250	0.344	0.03		1/4	4.50	4	0.88	3/4	5.50
2	R23	3.250	0.312	0.469	0.03		1/4	5.00	8	0.75	5/8	5.50
2 1/2	R26	4.000	0.312	0.469	0.03		1/4	5.88	8	0.88	3/4	5.75
3	R31	4.875	0.312	0.469	0.03		3/8	6.62	8	0.88	3/4	5.75
4	R37	5.875	0.312	0.469	0.03		1/2	8.50	8	1	7/8	6.50
6	R45	8.312	0.312	0.469	0.03	SEE BORE SCHE-DULE	1/2	11.50	12	1.12	1	7.50
8	R49	10.625	0.312	0.469	0.03		1/2	13.75	12	1.25	1 1/8	8.25
10	R53	12.750	0.312	0.469	0.03		1/2	17.00	16	1.38	1 1/4	9.25
12	R57	15.000	0.312	0.469	0.03		1/2	19.25	20	1.38	1 1/4	9.50
14	R61	16.500	0.312	0.469	0.03		1/2	20.75	20	1.5	1 3/8	10.00
16	R65	18.500	0.312	0.469	0.03		1/2	23.75	20	1.62	1 1/2	10.75
18	R69	21.000	0.312	0.469	0.03		1/2	25.75	20	1.75	1 5/8	11.50
20	R73	23.000	0.375	0.531	0.06		1/2	28.50	24	1.75	1 5/8	12.50
24	R77	27.250	0.438	0.656	0.06		1/2	33.00	24	2	1 7/8	13.75



## WELDING NECK

### ANSI B16.36 900# WN RTJ ORIFICE DIMENSIONS

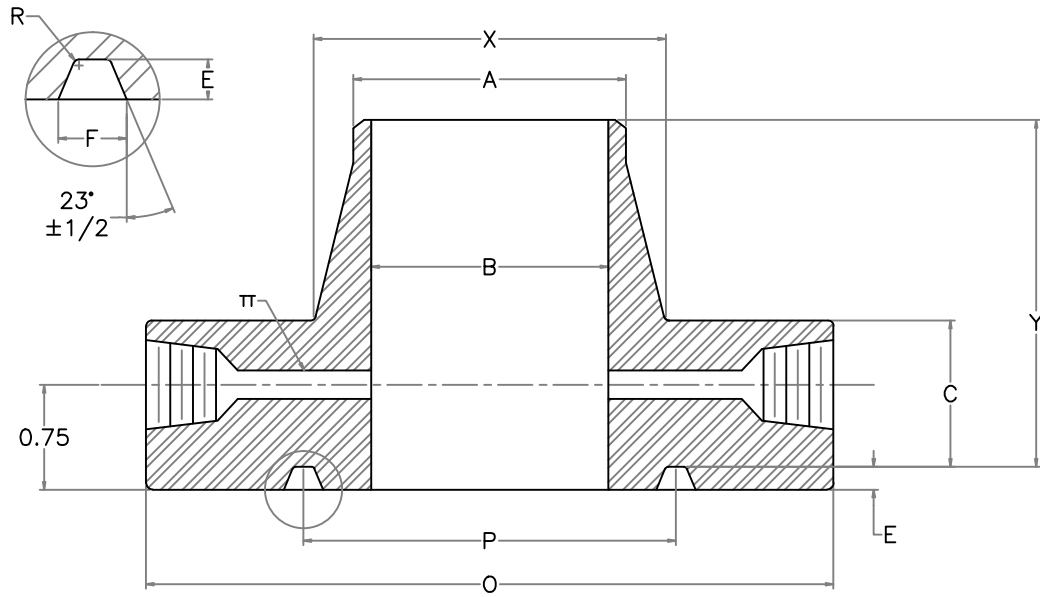
Nominal Pipe Size	Groove Number	Pitch Diameter P	Groove Depth E	Groove Width F	Radius at Bottom R	Bore B	Diameter of Pressure Connection TT	Drilling					
								Bolt Circle	Number of Holes	Diameter of Holes	Diameter of Bolts	Length of stud bolts	
1													
1 1/2		Use Class 1500 Dimensions							Use Class 1500 Dimensions				
2													
2 1/2													
3	R31	4.875	0.312	0.469	0.03		3/8	7.50	8	1	7/8	6.50	
4	R37	5.875	0.312	0.469	0.03		1/2	9.25	8	1.25	1 1/8	7.50	
6	R45	8.312	0.312	0.469	0.03	SEE BORE SCHEDULE	1/2	12.50	12	1.25	1 1/8	8.25	
8	R49	10.625	0.312	0.469	0.03		1/2	15.50	12	1.5	1 3/8	9.50	
10	R53	12.750	0.312	0.469	0.03		1/2	18.50	16	1.5	1 3/8	10.00	
12	R57	15.000	0.312	0.469	0.03		1/2	21.00	20	1.5	1 3/8	10.75	
14	R62	16.500	0.438	0.656	0.06		1/2	22.00	20	1.62	1 1/2	11.50	
16	R66	18.500	0.438	0.656	0.06	1/2	24.25	20	1.75	1 5/8	12.00		
18	R70	21.000	0.500	0.781	0.06	1/2	27.00	20	2	1 7/8	13.75		
20	R74	23.000	0.500	0.781	0.06	1/2	29.50	20	2.12	2	14.75		
24	R78	27.250	0.625	1.062	0.09	1/2	35.50	20	2.62	2 1/2	18.50		



## WELDING NECK

### ANSI B16.36 1500# WN RTJ ORIFICE DIMENSIONS

Nominal Pipe Size	Groove Number	Pitch Diameter P	Groove Depth E	Groove Width E	Radius at Bottom R	Bore B	Diameter of Pressure Connection TT	Drilling				
								Bolt Circle	Number of Holes	Diameter of Holes	Diameter of Bolts	Length of stud bolts
1	R16	2.000	0.250	0.344	0.03		1/4	4.00	4	1	7/8	6.25
1 1/2	R20	2.688	0.250	0.344	0.03		1/4	4.88	4	1.12	1	6.50
2	R24	3.750	0.312	0.469	0.03		1/4	6.50	8	1.00	7/8	6.50
2 1/2	R27	4.250	0.312	0.469	0.03		1/4	7.50	8	1.12	1	7.00
3	R35	5.375	0.312	0.469	0.03		3/8	8.00	8	1.25	1 1/8	7.25
4	R39	6.375	0.312	0.469	0.03		1/2	9.50	8	1.38	1 1/4	8.50
6	R46	8.312	0.375	0.531	0.06	SEE BORE	1/2	12.50	12	1.5	1 3/8	11.00
8	R50	10.625	0.438	0.656	0.06	SCHE-	1/2	15.50	12	1.75	1 5/8	12.25
10	R54	12.750	0.438	0.656	0.06	DULE	1/2	19.00	12	2	1 7/8	14.00
12	R58	15.000	0.562	0.906	0.06		1/2	22.50	16	2.12	2	15.75
14	R63	16.500	0.625	1.062	0.09		1/2	25.00	16	2.38	2 1/4	17.50
16	R67	18.500	0.688	1.188	0.09		1/2	27.25	16	2.62	2 1/2	19.00
18	R71	21.000	0.688	1.188	0.09		1/2	30.50	16	2.88	2 3/4	21.00
20	R75	23.000	0.688	1.312	0.09		1/2	32.75	16	3.12	3	22.50
24	R79	27.250	0.812	1.438	0.09		1/2	39.00	16	3.62	3 1/2	26.00



## WELDING NECK

### ANSI B16.36 2500# WN RTJ ORIFICE DIMENSIONS

Nominal Pipe Size	Groove Number	Pitch Diameter P	Groove Depth E	Groove Width F	Radius at Bottom R	Bore B	Diameter of Pressure Connection TT	Drilling				
								Bolt Circle	Number of Holes	Diameter of Holes	Diameter of Bolts	Length of stud bolts
1	R18	2.375	0.250	0.344	0.03		1/4	4.25	4	1	7/8	6.25
1 1/2	R23	3.250	0.312	0.469	0.03		1/4	5.75	4	1.25	1 1/8	7.50
2	R26	4.000	0.312	0.469	0.03		1/4	6.75	8	1.12	1	7.75
2 1/2	R28	4.375	0.375	0.531	0.06	SEE	1/4	7.75	8	1.25	1 1/8	8.50
3	R32	5.000	0.375	0.531	0.06	BORE	3/8	9.00	8	1.38	1 1/4	9.50
4	R38	6.188	0.438	0.656	0.06	SCHE-	1/2	10.75	8	1.62	1 1/2	10.75
6	R47	9.000	0.500	0.781	0.06	DULE	1/2	14.50	8	2.12	2	14.50
8	R51	11.000	0.562	0.906	0.06		1/2	17.25	12	2.12	2	16.00
10	R55	13.500	0.688	1.188	0.09		1/2	21.25	12	2.62	2 1/2	20.25
12	R60	16.000	0.688	1.312	0.09		1/2	24.38	12	2.88	2 3/4	22.50