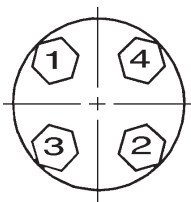
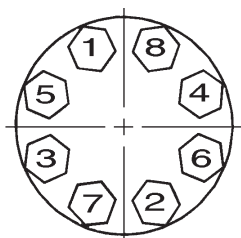


## Flange Bolt Tightening Sequence

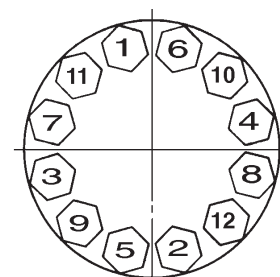
(Use appropriate gaskets and bolts)



**4 Bolt**



**8 Bolt**

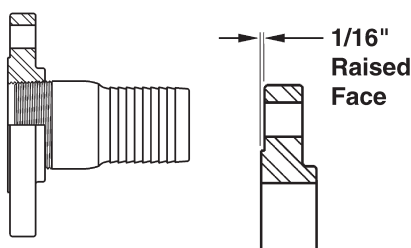


**12 Bolt**

See page 11433 for drilling dimensions

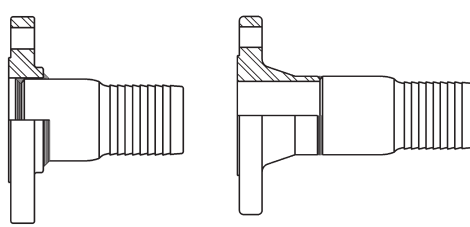
## Flange Diagrams

### Threaded Applications



Threaded flange  
with raised face

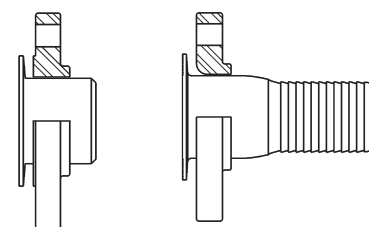
### Welded Applications



Slip-on flange  
with raised face

Weld neck flange  
with raised face

### Floating Applications (flange free to swivel)



Slip-on flange  
with raised face

Lap-joint flange

## Dimensions of 150 LB. ASA Steel Flanges

Nominal Pipe Size	Flange O.D.	Thickness <sup>1</sup>	O.D. of Raised Face	Diameter of Bolt Circle	Number of Bolts	Diameter of Bolt Holes	Diameter of Bolts
1"	4-1/4"	9/16"	2"	3-1/8"	4	5/8"	1/2"
1-1/4"	4.62"	5/8"	2-1/2"	3-1/2"	4	5/8"	1/2"
1-1/2"	5"	11/16"	2-7/8"	3-7/8"	4	5/8"	1/2"
2"	6"	3/4"	3-5/8"	4-3/4"	4	3/4"	5/8"
2-1/2"	7"	7/8"	4-1/8"	5-1/2"	4	3/4"	5/8"
3"	7-1/2"	15/16"	5"	6"	4	3/4"	5/8"
4"	9"	15/16"	6-3/16"	7-1/2"	8	3/4"	5/8"
5"	10"	15/16"	7-5/16"	8-1/2"	8	7/8"	3/4"
6"	11"	1"	8-1/2"	9-1/2"	8	7/8"	3/4"
8"	13-1/2"	1-1/8"	10-5/8"	11-3/4"	8	7/8"	3/4"
10"	16"	1-3/16"	12-3/4"	14-1/4"	12	1"	7/8"
12"	19"	1 1/4"	15"	17"	12	1"	7/8"

<sup>1</sup> 1/16" raised face is included in the thickness

## Dimensions of Tank Truck Flanges (TTMA Drilling)

Nominal Pipe Size	Flange O.D.	Thickness <sup>1</sup>	Diameter of Bolt Circle	Number of Bolts	Diameter of Bolt Holes	Diameter of Bolts
3"	5-5/8"	3/8"	4-7/8"	8	7/16"	3/8"
4"	6-5/8"	3/8"	5-7/8"	8	7/16"	3/8"
6"	8-7/8"	3/8"	8-1/8"	12	7/16"	3/8"

<sup>1</sup> Listed thickness is for aluminum flanges