

# 1. Torque Tables For Spiral Wound Gaskets (ASME B16.5) and for Insulating Gaskets

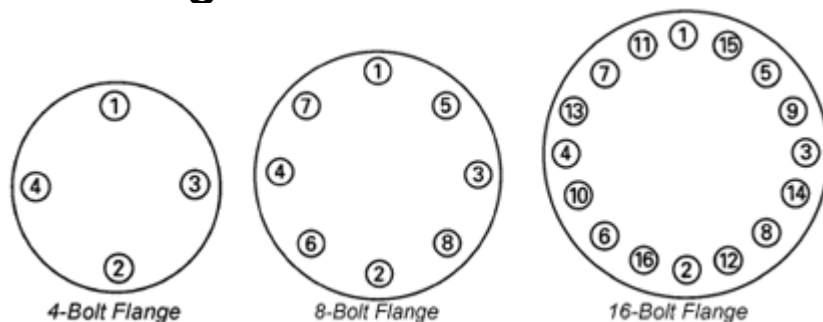
ANSI 150							
Flange Size (inch)	No. of Bolts	Size of Stud Bolts (inches)	Length of Stud Bolts (inches)	Prefer Torque (ft lb)	Min Torque (ft lb)	Max. Torque (ft lb)	Torque for Insulating (ft lb)
1/2	4	1/2	2 1/2	47	16	60	40
3/4	4	1/2	2 1/2	60	22	60	40
1	4	1/2	2 3/4	60	30	60	40
1 1/4	4	1/2	2 3/4	60	33	60	40
1 1/2	4	1/2	3	60	47	60	40
2	4	5/8	3 1/4	120	74	120	80
2 1/2	4	5/8	3 1/2	120	87	120	80
3	4	5/8	3 3/4	120	120	120	110
4	4	5/8	3 3/4	120	92	120	100
5	8	3/4	4	200	124	200	120
6	8	3/4	4	200	178	200	130
8	8	3/4	4 1/2	200	200	200	130
10	12	7/8	4 3/4	320	236	320	215
12	12	7/8	4 3/4	320	320	320	220
14	12	1	5 1/4	490	408	490	320
16	16	1	5 1/2	490	412	490	320
18	16	1 1/8	6	710	649	710	450
20	20	1 1/8	6 1/4	710	572	710	450
24	20	1 1/4	7	1000	820	1000	650

ANSI 300							
Flange Size (inches)	No. of Bolts	Size of Bolts (inches)	Length of Stud Bolts (inches)	Prefer Torque (ft lb)	Min Torque (ft lb)	Max. Torque (ft lb)	Torque for Insulating (ft lb)
1/2	4	1/2	2 3/4	47	16	60	40
3/4	4	5/8	3	84	28	120	80
1	4	5/8	3 1/4	115	38	120	80
1 1/4	4	5/8	3 1/4	120	41	120	80
1 1/2	4	3/4	3 3/4	197	66	200	110
2	4	5/8	3 1/2	113	38	120	110
2 1/2	8	3/4	4	146	49	200	150
3	8	3/4	4 1/4	200	71	200	150
4	8	3/4	4 1/4	200	104	200	180
5	8	3/4	4 3/4	200	124	200	180
6	12	3/4	5	200	118	200	170
8	12	7/8	5 1/2	320	194	320	265
10	16	1	6 1/4	490	206	490	320
12	16	1 1/8	6 3/4	710	307	710	450
14	20	1 1/8	7	710	268	710	450
16	20	1 1/4	7 1/2	1000	398	1000	650
18	24	1 1/4	7 3/4	1000	477	1000	650
20	24	1 1/8	6 1/4	1000	525	1000	650
24	24	1 1/4	8 1/4	1600	723	1600	1200

## ANSI 600

Flange Size (inch)	No. of Bolts	Size of Bolts (inches)	Length of Stud Bolts (inches)	Prefer Torque (ft lb)	Min Torque (ft lb)	Max. Torque (ft lb)	Torque for Insulating (ft lb)
1/2	4	1/2	3 1/4	47	16	60	40
3/4	4	5/8	3 1/2	84	28	120	80
1	4	5/8	3 3/4	115	38	120	80
1 1/4	4	5/8	4	120	41	120	110
1 1/2	4	3/4	4 1/4	197	66	200	110
2	8	5/8	4 1/4	113	38	120	110
2 1/2	8	3/4	4 3/4	146	49	200	150
3	8	3/4	5	200	71	200	150
4	8	7/8	5 3/4	320	150	320	225
5	8	1	6 1/2	490	222	490	350
6	12	1	6 3/4	490	201	490	320
8	12	1 1/8	7 3/4	710	307	710	450
10	16	1 1/4	8 1/2	1000	347	1000	650
12	20	1 1/4	8 3/4	1000	364	1000	675
14	20	1 3/8	9 1/4	1223	408	1360	820
16	20	1 1/2	10	1542	514	1600	1125
18	20	1 5/8	10 3/4	2200	757	2200	1430
20	24	1 5/8	11 1/2	2084	695	2200	1400
24	24	1 7/8	13	3306	1102	4000	2230

## 2. Bolting Procedures



- Place the gasket on the flange surface to be sealed.
- Bring the opposing flange into contact with the gasket.
- Clean the bolts and lubricate them with a quality lubricant, such as an oil and graphite mixture.
- Place the bolts into the bolt holes.
- Finger-tighten the nuts.
- Follow the bolting sequence in the diagrams above.
- During the initial tightening sequence, do not tighten any bolts more than 30% of the recommended bolt stress. Doing so will cause cocking of the flange and the gasket will be crushed.
- Upon reaching the recommended torque requirements, do a clockwise bolt-to-bolt torque check to make certain that the bolts have been stressed evenly.
- Due to creep and stress relaxation, it is essential to prestress the bolts to ensure adequate stress load during operation.