

# ANSI FLANGE TORQUE RECOMMENDATIONS

## Important Note About Torque Values:

Singer Industrial does not take responsibility for any of these torque values, they're theoretical values. These bolt torque values are intended for use as guidelines only and are based on ideal conditions, perfect flanges, flange alignment & new well lubricated bolts/nuts according to the national boiler code, installed in accordance with the Singer Industrial Flange Installations Guidelines. Torque values are based on using weld-neck flanges and lubricated stud bolts with a 0.15 friction factor. Installer makes final decisions on torque values and should consult manufacturers.

ANSI Flange Class	Size (Inches)	Qty Bolts	Bolt Diameter (Inches)	Torque (Ft/Lbs)	Hydro Test Pressure (PSI)
150#	1	4	0.5	40	455
150#	1 1/4	4	0.5	40	455
150#	1 1/2	4	0.5	40	455
150#	2	4	0.625	80	455
150#	2 1/2	4	0.625	80	455
150#	3	4	0.625	110	455
150#	3 1/2	8	0.625	80	455
150#	4	8	0.625	100	455
150#	5	8	0.75	120	455
150#	6	8	0.75	130	455
150#	8	8	0.75	130	455
150#	10	12	0.875	215	455
150#	12	12	0.875	220	455
150#	14	12	1	320	455
150#	16	16	1	320	455
150#	18	16	1.125	450	455
150#	20	20	1.125	450	455
150#	22	20	1.125	460	455
150#	24	20	1.25	650	455
150#	26	24	1.25	650	455
150#	28	28	1.25	650	455
150#	30	28	1.25	650	455

ANSI Flange Class	Size (Inches)	Qty Bolts	Bolt Diameter (Inches)	Torque (Ft/Lbs)	Hydro Test Pressure (PSI)
150#	32	28	1.5	1000	455
150#	34	32	1.5	1000	455
150#	36	32	1.5	1100	455
150#	38	38	32	2	455
150#	40	36	1.5	1100	455
150#	42	36	1.5	1150	455
300#	1	4	0.625	80	1135
300#	1 1/4	4	0.625	80	1135
300#	1 1/2	4	0.75	110	1135
300#	2	8	0.625	110	1135
300#	2 1/2	8	0.75	150	1135
300#	3	8	0.75	150	1135
300#	3 1/2	8	0.75	150	1135
300#	4	8	0.75	180	1135
300#	5	8	0.75	180	1135
300#	6	12	0.75	170	1135
300#	8	12	0.875	265	1135
300#	10	16	1	320	1135
300#	12	16	1.125	450	1135
300#	14	20	1.125	450	1135
300#	16	20	1.25	650	1135
300#	18	24	1.25	650	1135
300#	20	24	1.25	650	1135
300#	22	24	1.5	1125	1135
300#	24	24	1.5	1200	1135
300#	26	28	1.625	1400	1135
300#	28	28	1.625	1500	1135
300#	30	28	1.75	1700	1135
300#	32	28	1.875	2000	1135
300#	34	28	1.875	2250	1135
300#	36	32	2	2300	1135
300#	38	32	2.5	2300	1135
300#	40	32	2	2300	1135
300#	42	32	2	2400	1135
400#	1	4	0.625	80	1510
400#	1 1/4	4	0.625	110	1510

<b>ANSI Flange Class</b>	<b>Size (Inches)</b>	<b>Qty Bolts</b>	<b>Bolt Diameter (Inches)</b>	<b>Torque (Ft/Lbs)</b>	<b>Hydro Test Pressure (PSI)</b>
400#	1 1/2	4	0.75	110	1510
400#	2	8	0.625	110	1510
400#	2 1/2	8	0.75	150	1510
400#	3	8	0.75	150	1510
400#	3 1/2	8	0.875	180	1510
400#	4	8	0.875	180	1510
400#	5	8	0.875	215	1510
400#	6	12	0.875	215	1510
400#	8	12	1	320	1510
400#	10	16	1.125	450	1510
400#	12	16	1.25	650	1510
400#	14	20	1.25	625	1510
400#	16	20	1.375	820	1510
400#	18	24	1.375	820	1510
400#	20	24	1.5	1100	1510
400#	22	24	1.625	1425	1510
400#	24	24	1.75	1775	1510
400#	26	28	1.75	1750	1510
400#	28	28	1.875	2200	1510
400#	30	28	2	2300	1510
400#	32	28	2	2300	1510
400#	34	28	2	2350	1510
400#	36	32	2	2350	1510
400#	38	32	2.5	4800	1510
400#	40	32	2.5	5200	1510
400#	42	32	2.5	5500	1510
600#	1	4	0.625	80	2245
600#	1 1/4	4	0.625	110	2245
600#	1 1/2	4	0.75	110	2245
600#	2	8	0.625	110	2245
600#	2 1/2	8	0.75	150	2245
600#	3	8	0.75	150	2245
600#	3 1/2	8	0.875	200	2245
600#	4	8	0.875	225	2245
600#	5	8	1	350	2245
600#	6	12	1	320	2245

ANSI Flange Class	Size (Inches)	Qty Bolts	Bolt Diameter (Inches)	Torque (Ft/Lbs)	Hydro Test Pressure (PSI)
600#	8	12	1.125	450	2245
600#	10	16	1.25	650	2245
600#	12	20	1.25	675	2245
600#	14	20	1.375	820	2245
600#	16	20	1.5	1125	2245
600#	18	20	1.625	1430	2245
600#	20	24	1.625	1400	2245
600#	22	24	1.75	1775	2245
600#	24	24	1.875	2230	2245
600#	26	28	1.875	2200	2245
600#	28	28	2	2300	2245
600#	30	28	2	2360	2245
600#	32	28	2.25	3900	2245
600#	34	28	2.25	3950	2245
600#	36	28	2.5	5500	2245
600#	38	28	2.75	7000	2245
600#	40	28	2.75	7200	2245
600#	42	28	2.75	7400	2245
900#	1	4	0.875	110	3355
900#	1 1/4	4	0.875	170	3355
900#	1 1/2	4	1	240	3355
900#	2	8	0.875	170	3355
900#	2 1/2	8	1	240	3355
900#	3	8	0.875	215	3355
900#	3 1/2	8	1.125	450	3355
900#	4	8	1.25	650	3355
900#	5	12	1.125	455	3355
900#	6	12	1.375	820	3355
900#	10	16	1.375	850	3355
900#	12	20	1.375	870	3355
900#	14	20	1.5	1125	3355
900#	16	20	1.625	1430	3355
900#	18	20	1.875	2230	3355
900#	20	20	2	2300	3355
900#	24	20	2.5	5500	3355
900#	26	20	2.75	7400	3355

<b>ANSI Flange Class</b>	<b>Size (Inches)</b>	<b>Qty Bolts</b>	<b>Bolt Diameter (Inches)</b>	<b>Torque (Ft/Lbs)</b>	<b>Hydro Test Pressure (PSI)</b>
900#	28	20	3	8400	3355
900#	30	20	3	9500	3355
900#	32	20	3.25	10500	3355
900#	34	20	3.5	12400	3355
900#	36	20	3.5	13800	3355
1500#	1	4	0.875	110	5585
1500#	1 1/4	4	0.875	170	5585
1500#	1 1/2	4	1	240	5585
1500#	2	8	0.875	170	5585
1500#	2 1/2	8	1	240	5585
1500#	3	8	1.125	370	5585
1500#	4	8	1.25	650	5585
1500#	5	8	1.5	1000	5585
1500#	6	12	1.375	820	5585
1500#	8	12	1.625	1400	5585
1500#	10	12	1.875	2100	5585
1500#	12	16	2	2300	5585
1500#	14	16	2.25	3400	5585
1500#	16	16	2.5	4300	5585
1500#	18	16	2.75	6200	5585
1500#	20	16	3	7800	5585
1500#	24	16	3.5	13000	5585
2500#	1	4	0.875	170	9280
2500#	1 1/4	4	1	300	9280
2500#	1 1/2	4	1.125	400	9280
2500#	2	8	1	300	9280
2500#	2 1/2	8	1.125	400	9280
2500#	3	8	1.25	600	9280
2500#	4	8	1.25	650	9280
2500#	5	8	1.75	1500	9280
2500#	6	8	2	2300	9280
2500#	8	12	2	2400	9280
2500#	10	12	2.5	4900	9280
2500#	12	12	2.75	7900	9280