

**Flange Bolting - Inconel 718 (Inch)**

Bolt Size	Part Number	Inch Dimensions					Flat Load (lbs)	*Torque (ft-lbs)
		O.D. D <sub>e</sub>	I.D. D <sub>i</sub>	Thick t	Dish h <sub>o</sub>	Height l <sub>o</sub>		
1/2"	X718 -1- 30	1.010	0.530	0.128	0.011	0.139	4,342	30
	X718 -1- 45	1.010	0.530	0.156	0.009	0.165	6,432	45
	X718 -1- 60	1.010	0.530	0.179	0.008	0.187	8,637	60
5/8"	X718 -2- 30	1.146	0.640	0.160	0.011	0.171	6,904	60
	X718 -2- 45	1.146	0.640	0.195	0.009	0.204	10,225	90
	X718 -2- 60	1.146	0.640	0.223	0.008	0.231	13,594	120
3/4"	X718 -3- 30	1.368	0.762	0.199	0.012	0.211	10,147	100
	X718 -3- 45	1.368	0.762	0.242	0.010	0.252	15,207	150
	X718 -3- 60	1.368	0.762	0.275	0.009	0.284	20,083	200
7/8"	X718 -4- 30	1.588	0.890	0.232	0.014	0.246	13,992	160
	X718 -4- 45	1.588	0.890	0.279	0.012	0.291	20,859	240
	X718 -4- 60	1.588	0.890	0.326	0.010	0.336	27,730	320
1"	X718 -5- 30	1.808	1.019	0.264	0.016	0.280	18,264	245
	X718 -5- 45	1.808	1.019	0.324	0.013	0.337	27,431	368
	X718 -5- 60	1.808	1.019	0.377	0.011	0.388	36,567	490
1-1/8"	X718 -6- 30	2.023	1.145	0.304	0.017	0.321	23,753	355
	X718 -6- 45	2.023	1.145	0.371	0.014	0.385	35,556	533
	X718 -6- 60	2.023	1.145	0.430	0.012	0.442	47,451	710
1-1/4"	X718 -7- 30	2.308	1.269	0.343	0.020	0.363	30,106	500
	X718 -7- 45	2.308	1.269	0.414	0.017	0.431	45,030	750
	X718 -7- 60	2.308	1.269	0.487	0.014	0.501	60,319	1000
1-3/8"	X718 -8- 30	2.468	1.400	0.375	0.021	0.396	37,078	680
	X718 -8- 45	2.468	1.400	0.461	0.017	0.478	55,765	1,020
	X718 -8- 60	2.468	1.400	0.541	0.014	0.555	74,221	1,360
1-1/2"	X718 -9- 30	2.680	1.525	0.415	0.022	0.437	44,770	800
	X718 -9- 45	2.680	1.525	0.508	0.018	0.526	67,187	1,200
	X718 -9- 60	2.680	1.525	0.582	0.016	0.598	89,807	1,600
1-5/8"	X718 -10- 30	2.950	1.650	0.452	0.025	0.477	53,453	1,100
	X718 -10- 45	2.950	1.650	0.558	0.020	0.578	80,454	1,650
	X718 -10- 60	2.950	1.650	0.647	0.017	0.664	106,802	2,200
1-3/4"	X718 -11- 30	3.170	1.775	0.493	0.026	0.519	62,525	1,500
	X718 -11- 45	3.170	1.775	0.606	0.021	0.627	93,794	2,250
	X718 -11- 60	3.170	1.775	0.702	0.018	0.720	124,975	3,000
1-7/8"	X718 -12- 30	3.390	1.900	0.528	0.028	0.556	72,388	2,000
	X718 -12- 45	3.390	1.900	0.646	0.023	0.669	108,901	3,000
	X718 -12- 60	3.390	1.900	0.744	0.020	0.764	144,662	4,000
2"	X718 -13- 30	3.600	2.030	0.568	0.029	0.597	83,194	2,200
	X718 -13- 45	3.600	2.030	0.693	0.024	0.717	125,042	3,300
	X718 -13- 60	3.600	2.030	0.797	0.021	0.818	166,433	4,400
2-1/4"	X718 -14- 30	4.040	2.280	0.645	0.032	0.677	106,814	3,180
	X718 -14- 45	4.040	2.280	0.792	0.026	0.818	160,675	4,770
	X718 -14- 60	4.040	2.280	0.908	0.023	0.931	214,182	6,360
2-1/2"	X718 -15- 30	4.490	2.530	0.717	0.036	0.753	133,458	4,400
	X718 -15- 45	4.490	2.530	0.882	0.029	0.911	200,119	6,600
	X718 -15- 60	4.490	2.530	1.020	0.025	1.045	266,824	8,800
2-3/4"	X718 -16- 30	4.920	2.780	0.793	0.039	0.832	163,294	5,920
	X718 -16- 45	4.920	2.780	0.969	0.032	1.001	244,459	8,880
	X718 -16- 60	4.920	2.780	1.129	0.027	1.156	326,235	11,840
3"	X718 -17- 30	5.358	3.030	0.870	0.042	0.912	195,943	7,720
	X718 -17- 45	5.358	3.030	1.068	0.034	1.102	293,437	11,580
	X718 -17- 60	5.358	3.030	1.225	0.030	1.255	390,707	15,440
3-1/4"	X718 -18- 60	5.400	3.290	1.333	0.026	1.359	462,290	-----
3-1/2"	X718 -19- 60	6.130	3.540	1.435	0.033	1.468	537,844	-----
3-3/4"	X718 -20- 60	6.665	3.790	1.554	0.036	1.590	621,561	-----
4"	X718 -21- 60	7.130	4.050	2.038	0.032	2.070	1,087,913	-----

-30 denotes 30,000 psi bolt stress  
 -45 denotes 45,000 psi bolt stress  
 -60 denotes 60,000 psi bolt stress

\* Torque values for sizes 1-1/8" and larger are based on the 8-pitch thread series for flanged piping