



# GUIDELINES FOR TIGHTENING TORQUES

The below guidelines for relations between bolt size, strength class and required torque levels are meant for guidance only.

VDI 2230*			STEEL				STAINLESS		
Strength classes			5.8	8.8	10.9	12.9	50	70	80
Bolt		 DIN912 + ISO-4762	Torque Nm	Torque Nm	Torque Nm	Torque Nm	Torque Nm	Torque Nm	Torque Nm
M1.6	-		0,11	0,17	0,24	0,29	0,10	0,20	-
M2	-		0,22	0,35	0,49	0,58	0,25	0,30	-
M2.2	-		0,29	0,46	0,64	0,77	-	-	-
M2.5	-		0,44	0,70	0,98	1,20	0,45	0,60	-
M3	-		0,77	1,20	1,70	2,10	1,00	1,10	-
M3.5	-		1,20	1,90	2,70	3,30	-	-	-
M4	7	3	1,9	2,9	4,1	4,9	0,9	2	2,7
M5	8	4	3,7	6	8,5	10	2	4	5,3
M6	10	5	6,4	10	14	17	3,2	7	9
M8	13	6	16	25	35	41	8	17	23
M10	17/16	8	31	49	69	83	16	33	45
M12	19/18	10	54	86	120	145	27	58	77
M14	22/21	12	86	135	190	230	43	93	124
M16	24	14	130	210	295	355	66	142	190
M18	27	14	180	290	405	485	93	198	265
M20	30	17	255	410	580	690	130	278	371
M22	32	17	345	550	780	930	174	374	499
M24	36	19	440	710	1000	1200	224	480	640
M27	41	19	650	1050	1500	1800	331	708	-
M30	46	22	880	1450	2000	2400	450	964	-
M33	50	24	1200	1900	2700	3250	609	-	-
M36	55	27	1550	2450	3450	4150	782	-	-
M39	60	27	2.000	3.200	4.500	5.400	1.013	-	-
M42	65	32	2.450	3.950	5.550	6.650	-	-	-
M45	70	34*	3.100	4.950	6.950	8.350	-	-	-
M48	75	36	3.750	5.950	8.400	10.100	-	-	-
M52	80	38*	4.800	7.650	10.800	12.900	-	-	-
M56	85	41	5.950	9.550	13.400	16.100	-	-	-
M60	90	46*	7.400	11.900	16.700	20.000	-	-	-
M64	95	46	8.950	14.300	20.100	24.100	-	-	-
M68	100	50*	10.800	17.300	24.300	29.100	-	-	-

These torque values are only guide lines and are calculated with friction factor 0,125.

\* Does not meet the standards

Conversion factors: 1 Nm = 0.738 ft/lbs • 1 ft/lbs = 1.356 Nm



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CONTROLLED PRECISION IN TIGHTENING



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