

METRIC

THREAD SIZE	FR PART NUMBER TO BS 7752	SL PART NUMBER TO BS 7751	INSERT LENGTH					FREE O/DIA.		NO. FREE COILS					PREVAILING TORQUE	
			1D	1.5D	2D	2.5D	3D	MIN	MAX	1D	1.5D	2D	2.5D	3D	MAX	MIN
			1	2	3	4	5	6	7	8			11	12	13	14
M2 x 0.4	F102	S102	2	3	4	5	6	2.6	2.8	2.9	4.9	6.9	8.9	10.9	0.12 Nm	0.003 Nm
M2.2 x 0.45	F1022	S1022	2.2	3.3	4.4	5.5	6.6	2.8	2.9	3.2	5.4	7.8	10	12.3	0.14 Nm	0.02 Nm
M2.5 X 0.45	F1025	S1025	2.5	3.75	5	6.25	7.5	3.3	3.5	3.5	5.9	8.1	10.5	12.9	0.23 Nm	0.05 Nm
M3 X 0.5	F103	S103	3	4.5	6	7.5	9	3.8	4.0	3.9	6.3	8.7	11.1	13.5	0.45 Nm	0.1 Nm
M3.5 X 0.6	F1035	S1035	3.5	5.25	7	8.75	10.5	4.55	4.75	3.7	6.3	8.7	11.2	13.3	0.68 Nm	0.12 Nm
M4 X 0.7	F104	S104	4	6	8	10	12	5.15	5.35	3.7	6.1	8.4	10.9	13.2	0.9 Nm	0.15 Nm
M4.5 X 0.75	F1045	S1045	4.5	6.75	9	11.25	13.5	6.02	5.77	3.9	6.6	9.3	11.9	14.6		
M5 X 0.8	F105	S105	5	7.5	10	12.5	15	6.35	6.6	4.3	6.9	9.7	12.3	14.8	1.6 Nm	0.3 Nm
M6 X 1.0	F106	S106	6	9	12	15	18	7.6	7.85	4.2	6.9	9.6	12.3	14.6	3 Nm	0.4 Nm
M7 X 1.0	F107	S107	7	10.5	14	17.5	21	8.65	8.9	5.3	8.2	11.1	14.3	17.4	4.5 Nm	0.6 Nm
M8 X 1.0	F408	S408	8	12	16	20	24	9.85	10.1	6.1	9.5	12.9	16.5	19.9		
M8 X 1.25	F108	S108	8	12	16	20	24	9.85	10.1	4.7	7.4	10.6	13.5	16.4	6 Nm	0.8 Nm
M9 X 1.25	F109	S109	9	13.5	18	22.5	27	10.85	11.1	5.3	8.6	11.9	15.3	18.1		
M10 X 1.0*	474		1/4	3/8	7/16	1/2	3/4	12.1	12.5	2.8	5.6	7.0	8.4	13.9		
M10 X 1.25	F510	S510	10	15	20	25	30	12.1	12.5	6.0	9.7	13.1	16.9	20.1		
M10 X 1.5	F110	S110	10	15	20	25	30	12.1	12.5	5.0	8.1	11.2	14.2	17.2	10.5 Nm	1.4 Nm
M11 X 1.5	F111	S111	11	16.5	22	27.5	33	13.1	13.5	5.6	9.0	12.3	15.7	19.1		
M12 X 1.25*	IN139		1/2	3/4				12.5	13.1	6.1	10.6					
M12 X 1.25	F512	S512	12	18	24	30	36	14.4	14.8	7.4	11.6	15.9	20.0	24.3		
M12 X 1.5	F412	S412	12	18	24	30	36	14.4	14.8	14.8	6.2	13.5	16.8	20.8		
M12 X 1.75	F112	S112	12	18	24	30	36	14.4	14.8	5.2	8.4	11.7	14.7	18.0	15.5 Nm	2.1 Nm
M14 X 1.25*	512		3/8	7/16	1/2	5/8	3/4	17.2	17.7	3.5	4.6	5.7	7.9	10.1		
M14 X 1.5	F414	S414	14	21	28	35	42	17.2	17.7	7.1	7.4	11.6	15.7	19.9		
M14 X 2.0	F114	S114	14	21	28	35	42	17.2	17.7	5.2	8.3	11.5	14.6	18.4	23.5 Nm	3 Nm
M16 X 1.5	F416	S416	16	24	32	40	48	19.4	19.9	8.3	13.0	17.7	22.4	27.6		
M16 X 2.0	F116	S116	16	24	32	40	48	19.4	19.9	6.1	9.7	13.3	16.8	21.4	31.5 Nm	4.2 Nm
M18 X 1.5*	514		1/2	5/8				22.2	22.8	4.6	6.5					
M18 X 1.5	F418	S418	18	27	36	45	54	21.5	22.0	9.5	14.9	20.2	25.3	31.4		
M18 X 2.0	F218	S218	18	27	36	45	54	21.5	22.0	7.1	11.2	15.1	19.1	23.1		
M18 X 2.5	F118	S118	18	27	36	45	54	21.5	22.0	5.6	9.0	12.3	15.5	19.1	42 Nm	5.5 Nm
M20 X 1.5	F420	S420	20	30	40	50	60	23.7	24.2	10.7	16.7	22.4	29.9	35.0		
M20 X 2.0	F220	S220	20	30	40	50	60	23.7	24.2	8.0	12.5	16.8	21.3	25.9		
M20 X 2.5	F120	S120	20	30	40	50	60	23.7	24.2	6.3	10.0	13.7	17.7	21.5	54 Nm	7 Nm
M22 X 1.5	F422	S422	22	33	44	55	66	26.3	26.8	11.7	18.1	24.5	32.0	38.6		
M22 X 2.0	F222	S222	22	33	44	55	66	26.3	26.8	8.7	13.6	18.4	23.7	28.7		
M22 X 2.5	F122	S122	22	33	44	55	66	26.3	26.8	6.9	10.9	15.0	19.6	23.8	67.5 Nm	9 Nm
M24 X 2.0	F224	S224	24	36	48	60	72	28.6	29.1	9.6	15.0	20.2	25.9	31.4		
M24 X 3.0	F124	S124	24	36	48			28.6	29.1	6.2	10.0	14.0	17.7	21.5	80 Nm	10.5 Nm
M27 X 2.0	F227	S227	27	40.5	54	67.5		32.2	32.7	10.9	17.1	22.6				
M27 X 3.0	F127	S127	27	40.5	54	67.5		32.2	32.7	7.1	11.4	15.4	20.1		94 Nm	12 Nm
M30 X 2.0	F230	S230	30	45	60	75		35.2	35.7	12.3	19.0	25.5	32.8			
M30 X 3.5	F130	S130	30	45	60	75	90	35.2	35.7	7.0	11.0	14.9	19	23.1	108 Nm	14 Nm
M33 X 2.0	F233	S233	33	49.5				38.3	38.8	13.7	21.2					
M33 X 3.5	F133	S133	33	49.5	66			38.3	38.8	7.8	12.2	16.5			122 Nm	15.5 Nm
M36 X 2.0	F436	S436	36	54	72			42.1	42.6	14.1	21.9	31.1				
M36 X 4.0	F136	S136	36	54	72			42.1	42.6	7.0	11.0	15.2			136 Nm	17.5 Nm
M39 X 2.0	F639	S639	39	58.5				45.1	45.6	16.3	25.0					
M39 X 4.0	F139	S139	39	58.5	78			45.1	45.6	7.7	12.2	16.6			150 Nm	19.5 Nm

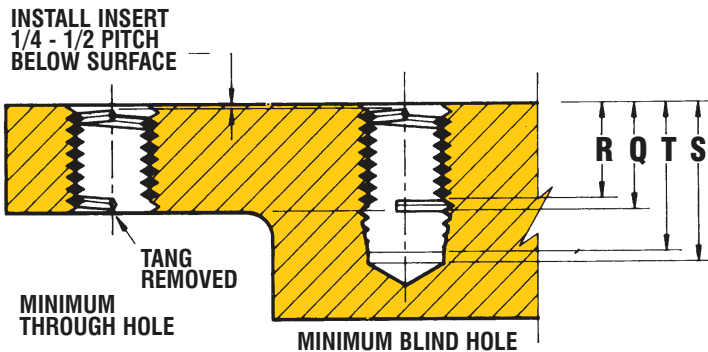
METRIC To BS 4377		TAPPED HOLE				FITTED MINOR DIA.
		MINOR DIA. MAX - MIN	MAJOR DIA.	CLASS 5H MAX - MIN	CLASS 6H MAX - MIN	
SIZE	DRILL	A	B	C	C	E
M2 X 0.4	2.10	2.18 - 2.09	2.52	2.30 - 2.26	2.31 - 2.26	1.57
M2.2 X 0.45	2.30	2.40 - 2.30	2.79	2.53 - 2.49	2.55 - 2.49	1.71
M2.5 X 0.45	2.60	2.70 - 2.60	3.09	2.83 - 2.79	2.85 - 2.79	2.01
M3 X 0.5	3.10	3.22 - 3.11	3.65	3.37 - 3.33	3.38 - 3.33	2.46
M3.5 X 0.6	3.60	3.75 - 3.63	4.28	3.94 - 3.89	3.96 - 3.89	2.85
M4 X 0.7	4.10	4.29 - 4.15	4.91	4.51 - 4.46	4.53 - 4.46	3.24
M4.5 X 0.75	4.70	4.81 - 4.66	5.47	5.04 - 4.99	5.06 - 4.99	3.69
M5 X 0.8	5.20	5.33 - 5.17	6.04	5.58 - 5.52	5.60 - 5.52	4.13
M6 X 1.0	6.20	6.41 - 6.22	7.30	6.72 - 6.65	6.74 - 6.65	4.92
M7 X 1.0	7.20	7.41 - 7.22	8.30	7.72 - 7.65	7.74 - 7.65	5.92
M8 X 1.0	8.20	8.41 - 8.22	9.30	8.72 - 8.65	8.74 - 8.65	6.92
M8 X 1.25	8.30	8.48 - 8.27	9.62	8.89 - 8.81	8.91 - 8.81	6.65
M9 X 1.25	9.30	9.48 - 9.27	10.62	9.89 - 9.81	9.91 - 9.81	7.65
M10 X 1.0 *	10.30	10.39 - 10.26	11.20		10.71 - 10.65	8.86
M10 X 1.25	10.30	10.48 - 10.27	11.62	10.89 - 10.81	10.91 - 10.81	8.65
M10 X 1.5	10.30	10.56 - 10.33	11.95	11.06 - 10.97	11.09 - 10.97	8.38
M11 X 1.5	11.30	11.56 - 11.33	12.95	12.06 - 11.97	12.09 - 11.97	9.38
M12 X 1.25 *	12.30	12.47 - 12.27	13.61		12.90 - 12.81	10.64
M12 X 1.25	12.30	12.48 - 12.27	13.62	12.90 - 12.81	12.93 - 12.81	10.65
M12 X 1.5	12.50	12.32 - 12.56	13.95	13.07 - 12.97	13.10 - 12.97	
M12 X 1.75	12.40	12.64 - 12.38	14.27	13.24 - 13.14	13.27 - 13.14	10.11
M14 X 1.25 *	9/6	14.40 - 14.28	15.57		15.04 - 14.97	12.65
M14 X 1.5	14.30	14.56 - 14.33	15.95	15.07 - 14.97	15.10 - 14.97	12.38
M14 X 2.0	14.50	14.73 - 14.43	16.60	15.41 - 15.30	15.44 - 15.30	11.84
M16 X 1.5	16.25	16.56 - 16.33	17.95	17.07 - 16.97	17.10 - 16.97	14.38
M16 X 2.0	16.50	16.73 - 16.43	18.60	17.41 - 17.30	17.44 - 17.30	13.84
M18 X 1.5 *	23/32	18.36 - 18.24	20.14		19.15 - 19.06	16.05
M18 X 1.5	18.25	18.56 - 18.33	19.95	19.07 - 18.97	19.10 - 18.97	16.38
M18 X 2.0	18.50	18.73 - 18.43	20.60	19.41 - 19.30	19.44 - 19.30	15.84
M18 X 2.5	18.50	18.90 - 18.54	21.25	19.74 - 19.62	19.78 - 19.62	15.29
M20 X 1.5	20.25	20.56 - 20.33	21.95	21.07 - 20.97	21.10 - 20.97	18.38
M20 X 2.0	20.50	20.73 - 20.43	22.60	21.41 - 21.30	21.44 - 21.30	17.84
M20 X 2.5	20.50	20.90 - 20.54	23.25	21.74 - 21.62	21.78 - 21.62	17.29
M22 X 1.5	22.50	22.56 - 22.33	23.95	23.07 - 22.97	23.10 - 22.97	20.38
M22 X 2.0	22.50	22.73 - 22.43	24.60	23.41 - 23.30	23.44 - 23.30	19.84
M22 X 2.5	22.50	22.90 - 22.54	25.25	23.74 - 23.62	23.78 - 23.62	19.29
M24 X 2.0	24.25	24.73 - 24.43	26.60	25.41 - 25.30	25.45 - 25.30	21.84
M24 X 3.0	24.75	25.05 - 24.65	27.90	26.09 - 25.95	26.14 - 25.95	20.75
M27 X 2.0	27.50	27.43 - 27.73	29.60			
M27 X 3.0	27.50	28.05 - 27.65	30.90	29.09 - 28.95	29.14 - 28.95	23.75
M30 X 2.0	30.50	30.43 - 30.73	32.60			
M30 X 3.5	30.50	31.21 - 30.76	34.55	32.43 - 32.27	32.47 - 32.27	26.21
M33 X 2.0	33.50	33.43 - 33.78	35.60			
M33 X 3.5	33.50	34.21 - 33.76	37.55	35.43 - 35.27	35.47 - 35.27	29.21
M36 X 2.0	36.50	36.43 - 36.73	38.60			
M36 X 4.0	36.50	37.34 - 36.87	41.20	38.76 - 38.60	38.81 - 38.60	31.67
M39 X 2.0	39.50	39.43 - 39.73	41.60			
M39 X 4.0	39.50	40.34 - 39.87	44.20	41.76 - 41.60	41.81 - 41.60	34.67

*Spark Plug Sizes

METRIC

Drilling & Tapping Depths

METRIC SIZE	1D				1.5D				2D				2.5D				3D			
	Q	R	S	T	Q	R	S	T	Q	R	S	T	Q	R	S	T	Q	R	S	T
M2 X 0.4	2.00	1.60	3.80	3.40	3.00	2.60	4.80	4.40	4.00	3.60	5.80	5.40	5.00	4.60	6.80	6.40	6.00	5.60	7.80	7.40
M2.2 X 0.45	2.20	1.75	4.23	3.78	3.30	2.85	5.33	4.88	4.40	3.95	6.43	5.98	5.50	5.05	7.53	7.08	6.60	6.15	8.63	8.18
M2.5 X 0.45	2.50	2.05	4.53	4.08	3.75	3.30	5.78	5.33	5.00	4.55	7.03	6.58	6.25	5.80	8.28	7.83	7.50	7.05	9.53	9.08
M3 X 0.5	3.00	2.50	5.25	4.75	4.50	4.00	6.75	6.25	6.00	5.50	8.25	7.75	7.50	7.00	9.75	9.25	9.00	8.50	11.25	10.75
M3.5 X 0.6	3.50	2.90	6.20	5.60	5.25	4.65	7.95	7.35	7.00	6.40	9.70	9.10	8.75	8.15	11.45	10.85	10.50	9.90	13.20	12.60
M4 X 0.7	4.00	3.30	7.15	6.45	6.00	5.30	9.15	8.45	8.00	7.30	11.15	10.45	10.00	9.30	13.15	12.45	12.00	11.30	15.15	14.45
M4.5 X 0.75	4.50	3.75	7.88	7.13	6.75	6.00	10.13	9.38	9.00	8.25	12.38	11.63	11.25	10.50	14.63	13.88	13.50	12.75	16.88	16.13
M5 X 0.8	5.00	4.20	8.60	7.80	7.50	6.70	11.10	10.30	10.00	9.20	13.60	12.80	12.50	11.70	16.10	15.30	15.00	14.20	18.60	17.80
M6 X 1.0	6.00	5.00	10.50	9.50	9.00	8.00	13.50	12.50	12.00	11.00	16.50	15.50	15.00	14.00	19.50	18.50	18.00	17.00	22.50	21.50
M7 X 1.0	7.00	6.00	11.50	10.50	10.50	9.50	15.00	14.00	14.00	13.00	18.50	17.50	17.50	16.50	22.00	21.00	21.00	20.00	25.50	24.50
M8 X 1.0	8.00	7.00	12.50	11.50	12.00	11.00	16.50	15.50	16.00	15.00	20.50	19.50	20.00	19.00	24.50	23.50	24.00	23.00	28.50	27.50
M8 X 1.25	8.00	6.75	13.63	12.38	12.00	10.75	17.63	16.38	16.00	14.75	21.63	20.38	20.00	18.75	25.63	24.38	24.00	22.75	29.63	28.38
M9 X 1.25	9.00	7.75	14.63	13.38	13.50	12.25	19.13	17.88	18.00	16.75	23.63	22.38	22.50	21.25	28.13	26.88	27.00	25.75	32.63	31.38
M10 X 1.25	10.00	8.75	15.63	14.38	15.00	13.75	20.63	19.38	20.00	18.75	25.63	24.38	25.00	23.75	30.63	29.38	30.00	28.75	35.63	34.38
M10 X 1.5	10.00	8.50	16.75	15.25	15.00	13.50	21.75	20.25	20.00	18.50	26.75	25.25	25.00	23.50	31.75	30.25	30.00	28.50	36.75	35.25
M11 X 1.5	11.00	9.50	17.75	16.25	16.50	15.00	23.25	21.75	22.00	20.50	28.75	27.25	27.50	26.00	34.25	32.75	33.00	31.50	39.75	38.25
M12 X 1.25	12.00	10.75	17.63	16.38	18.00	16.75	23.63	22.38	24.00	22.75	29.63	27.38	30.00	28.75	35.63	34.38	36.00	34.75	41.63	40.38
M12 X 1.75	12.00	10.25	19.88	18.13	18.00	16.25	25.88	24.13	24.00	22.25	31.88	30.13	30.00	28.25	37.88	36.13	36.00	34.25	43.88	42.13
M14 X 1.5	14.00	12.50	20.75	19.25	21.00	19.50	27.75	26.25	28.00	26.50	34.75	33.25	35.00	33.50	41.75	40.25	42.00	40.50	48.75	47.25
M14 X 2.0	14.00	12.00	23.00	21.00	21.00	19.00	30.00	28.00	28.00	26.00	37.00	35.00	35.00	33.00	44.00	42.00	42.00	40.00	51.00	49.00
M16 X 1.5	16.00	14.50	22.75	21.25	24.00	22.50	30.75	29.25	32.00	30.50	38.75	37.25	40.00	38.50	46.75	45.25	48.00	46.50	54.75	53.25
M16 X 2.0	16.00	14.00	25.00	23.00	24.00	22.00	33.00	31.00	32.00	30.00	41.00	39.00	40.00	38.00	49.00	47.00	48.00	46.00	57.00	55.00
M18 X 1.5	18.00	16.50	24.75	23.25	27.00	25.50	33.75	32.25	36.00	34.50	42.75	41.25	45.00	43.50	51.75	50.25	54.00	52.50	60.75	59.25
M18 X 2.0	18.00	16.00	27.00	25.00	27.00	25.00	36.00	34.00	36.00	34.00	45.00	43.00	45.00	43.00	54.00	52.00	54.00	52.00	63.00	61.00
M18 X 2.5	18.00	15.50	29.25	26.75	27.00	24.50	38.25	35.75	36.00	33.50	47.25	44.75	45.00	42.50	56.25	53.75	54.00	51.50	65.25	62.75
M20 X 1.5	20.00	18.50	26.75	25.25	30.00	28.50	36.75	35.25	40.00	38.50	46.75	45.25	50.00	48.50	56.75	55.25	60.00	58.50	66.75	65.25
M20 X 2.0	20.00	18.00	29.00	27.00	30.00	28.00	39.00	37.00	40.00	38.00	49.00	47.00	50.00	48.00	59.00	57.00	60.00	58.00	69.00	67.00
M20 X 2.5	20.00	17.50	31.25	28.75	30.00	27.50	41.25	38.75	40.00	37.50	51.25	48.75	50.00	47.50	61.25	58.75	60.00	57.50	71.25	68.75
M22 X 1.5	22.00	20.50	28.75	27.25	33.00	31.50	39.75	38.25	44.00	42.50	50.75	49.25	55.00	53.50	61.75	60.25	66.00	64.50	72.75	71.25
M22 X 2.0	22.00	20.00	31.00	29.00	33.00	31.00	42.00	40.00	44.00	42.00	53.00	51.00	55.00	53.00	64.00	62.00	66.00	64.00	75.00	73.00
M22 X 2.5	22.00	19.50	33.25	30.75	33.00	30.50	44.25	41.75	44.00	41.50	55.25	52.75	55.00	52.50	66.25	63.75	66.00	63.50	77.25	74.75
M24 X 2.0	24.00	22.00	33.00	31.00	36.00	34.00	45.00	43.00	48.00	46.00	57.00	55.00	60.00	58.00	69.00	67.00	72.00	70.00	81.00	79.00
M24 X 3.0	24.00	21.00	37.50	34.50	36.00	33.00	49.50	46.50	48.00	45.00	61.50	58.50	60.00	57.00	73.50	70.50	72.00	69.00	85.50	82.50
M27 X 3.0	27.00	24.00	40.50	37.50	40.50	37.50	54.00	51.00	54.00	51.00	67.50	64.50	67.50	64.50	81.00	78.00	81.00	78.00	94.50	91.50
M30 X 3.5	30.00	26.50	45.75	42.25	45.00	41.50	60.75	57.25	60.00	56.50	75.75	72.25	75.00	71.50	90.75	87.25	90.00	86.50	105.75	102.25
M33 X 3.5	33.00	29.50	48.75	45.25	49.50	46.00	65.25	61.75	66.00	62.50	81.75	78.25	82.50	79.00	98.25	94.75	99.00	95.50	114.75	111.25
M36 X 4.0	36.00	32.00	54.00	50.00	54.00	50.00	72.00	68.00	72.00	68.00	90.00	86.00	90.00	86.00	108.00	104.00	108.00	104.00	126.00	122.00
M39 X 4.0	39.00	35.00	57.00	53.00	58.50	54.50	76.50	72.50	78.00	74.00	96.00	92.00	97.50	93.50	115.50	111.50	117.00	113.00	135.00	131.00



- Q** - Full tapped thread length (min.)
- R** - Entering portion of screw (max.). If Tang is not removed.
- S** - Drill depth (min.) - excluding point.
- T** - Tap depth (min.) - including 3 1/2 threads chamfer of plug tap.

1. Figures in table are for min. depth holes. When possible, add 1 pitch to Q, S and T. Insert can then be installed 1/4 - 1/2 pitch below surface.
2. Depths of C'bores or C'sks. If any, must be added to values for Q, R, S and T.
3. If bottoming taps are used, S and T may be reduced by an amount equal to 2 x pitch.