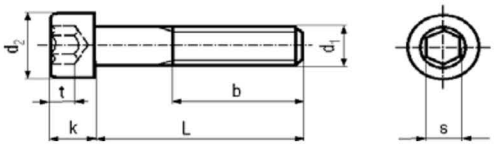

Head Diameter d2 max. allows for Knurled Head

For Screws Not Fully Threaded, The Thread Length Shown Is Minimum

Thread Size d1	(M1.4)		M1.6		M2		M2.5		M2.6		M3		M4	
Thread Pitch	0.3		0.35		0.4		0.45		0.45		0.5		0.7	
Thread Length b	Full Thread		Full Thread		Full Thread		Full Thread		Full Thread		25mm & Longer 18mm		30mm & Longer 20mm	
Head Dia. d2	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	2.46	2.74	2.86	3.14	3.62	3.98	4.32	4.68	4.82	5.18	5.32	5.68	6.78	7.22
ISO 4762 (1997)			2.86	3.14	3.62	3.98	4.32	4.68			5.32	5.68	6.78	7.22
ANSI B 18.3.1 M (1986)			2.87	3.00	3.65	3.80	4.33	4.50			5.32	5.50	6.80	7.00
Head Height k	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	1.26	1.40	1.46	1.60	1.86	2.00	2.36	2.50	2.46	2.60	2.86	3.00	3.82	4.00
ISO 4762 (1997)			1.46	1.60	1.86	2.00	2.36	2.50			2.86	3.00	3.82	4.00
ANSI B 18.3.1 M (1986)			1.52	1.60	1.91	2.00	2.40	2.50			2.89	3.00	3.88	4.00
Key Size nominal s	1.3		1.5		1.5		2		2		2.5		3	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	1.320	1.360	1.520	1.560	1.520	1.560	2.020	2.060	2.020	2.060	2.520	2.580	3.020	3.080
ISO 4762 (1997)			1.520	1.560	1.520	1.560	2.020	2.060			2.520	2.580	3.020	3.080
ANSI B 18.3.1 M (1986)			1.520	1.545	1.520	1.545	2.020	2.045			2.520	2.560	3.020	3.071
Key Engagement t	min.		min.		min.		min.		min.		min.		min.	
DIN 912 (1983)	0.60		0.70		1.00		1.10		1.20		1.30		2.00	
ISO 4762 (1997)			0.70		1.00		1.10				1.30		2.00	
ANSI B 18.3.1 M (1986)			0.80		1.00		1.25				1.50		2.00	

Thread Size d1	M5		M6		M8		M10		M12		(M14)		M16	
Thread Pitch	0.8		1		1.25		1.5		1.75		2		2	
Thread Length b	30mm & Longer 22mm		35mm & Longer 24mm		40mm & Longer 28mm		45mm & Longer 32mm		55mm & Longer 36mm		60mm & Longer 40mm		65mm & Longer 44mm	
Head Dia. d2	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	8.28	8.72	9.78	10.22	12.73	13.27	15.73	16.27	17.73	18.27	20.67	21.33	23.67	24.33
ISO 4762 (1997)	8.28	8.72	9.78	10.22	12.73	13.27	15.73	16.27	17.73	18.27	20.67	21.33	23.67	24.33
ANSI B 18.3.1 M (1986)	8.27	8.50	9.74	10.00	12.70	13.00	15.67	16.00	17.63	18.00	20.60	21.00	23.58	24.00
Head Height k	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	4.82	5.00	5.70	6.00	7.64	8.00	9.64	10.00	11.57	12.00	13.57	14.00	15.57	16.00
ISO 4762 (1997)	4.82	5.00	5.70	6.00	7.64	8.00	9.64	10.00	11.57	12.00	13.57	14.00	15.57	16.00
ANSI B 18.3.1 M (1986)	4.86	5.00	5.85	6.00	7.83	8.00	9.81	10.00	11.79	12.00	13.77	14.00	15.76	16.00
Key Size nominal s	4		5		6		8		10		12		14	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	4.020	4.095	5.020	5.140	6.020	6.140	8.025	8.175	10.025	10.175	12.032	12.212	14.032	14.212
ISO 4762 (1997)	4.020	4.095	5.020	5.140	6.020	6.140	8.025	8.175	10.025	10.175	12.032	12.212	14.032	14.212
ANSI B 18.3.1 M (1986)	4.020	4.084	5.020	5.084	6.020	6.095	8.025	8.115	10.025	10.127	12.032	12.146	14.032	14.159
Key Engagement t	min.		min.		min.		min.		min.		min.		min.	
DIN 912 (1983)	2.5		3.0		4.0		5.0		6.0		7.0		8.0	
ISO 4762 (1997)	2.5		3.0		4.0		5.0		6.0		7.0		8.0	
ANSI B 18.3.1 M (1986)	2.5		3.0		4.0		5.0		6.0		7.0		8.0	

Thread Size d1	(M18)		M20		(M22)		M24		(M27)		M30		M33	
Thread Pitch	2.5		2.5		2.5		3		3		3.5		3.5	
Thread Length b	70mm & Longer 48mm		80mm & Longer 52mm		80mm & Longer 56mm		90mm & Longer 60mm		100mm & Longer 66mm		110mm & Longer 72mm		110mm & Longer 78mm	
Head Dia. d2	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	26.67	27.33	29.67	30.33	32.61	33.39	35.61	36.39	39.61	40.39	44.61	45.39	49.61	50.39
ISO 4762 (1997)			29.67	30.33			35.61	36.39			44.61	45.39		
ANSI B 18.3.1 M (1986)			29.53	30.00			35.48	36.00			44.42	45.00		
Head Height k	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	17.57	18.00	19.48	20.00	21.48	22.00	23.48	24.00	26.48	27.00	29.48	30.00	32.38	33.00
ISO 4762 (1997)			19.48	20.00			23.48	24.00			29.48	30.00		
ANSI B 18.3.1 M (1986)			19.73	20.00			23.70	24.00			29.67	30.00		
Key Size nominal s	14		17		17		19		19		22		24	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	14.032	14.212	17.050	17.230	17.050	17.230	19.065	19.275	19.065	19.275	22.065	22.275	24.065	24.275
ISO 4762 (1997)			17.050	17.230			19.065	19.275			22.065	22.275		
ANSI B 18.3.1 M (1986)			17.050	17.216			19.065	19.243			22.065	22.319		
Key Engagement t	min.		min.		min.		min.		min.		min.		min.	
DIN 912 (1983)	9.0		10.0		11.0		12.0		13.5		15.5		18.0	
ISO 4762 (1997)			10.0				12.0				15.5			
ANSI B 18.3.1 M (1986)			10.0				12.0				15.0			

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DIN 912 (1983) / ISO 4762 (1997) / ANSI B 18.3.1M (1982) - LFG 10/01/10 REVISED

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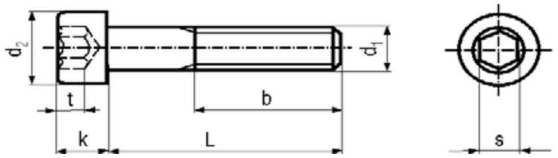

Head Diameter d2 max. allows for Knurled Head

For Screws Not Fully Threaded, The Thread Length Shown Is Minimum

Thread Size d1	M36		(M39)		M42		(M45)		M48		M56		M64	
Thread Pitch	4		4		4.5		4.5		5		5.5		6	
Thread Length b	120mm & Longer 84mm		120mm & Longer 84mm		140mm & Longer 96mm		140mm & Longer 96mm		160mm & Longer 108mm		180mm & Longer 124mm		200mm & Longer 140mm	
Head Dia. d2	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	53.54	54.46	57.54	58.46	62.54	63.46	66.54	67.46	71.54	72.46	83.46	84.54	95.46	96.54
ISO 4762 (1997)	53.54	54.46			62.54	63.46			71.54	72.46	83.46	84.54	95.46	96.54
ANSI B 18.3.1 M (1986)	53.37	54.00			62.31	63.00			71.27	72.00				
Head Height k	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	35.38	36.00	38.38	39.00	41.38	42.00	44.38	45.00	47.38	48.00	55.26	56.00	63.26	64.00
ISO 4762 (1997)	35.38	36.00			41.38	42.00			47.38	48.00	55.26	56.00	63.26	64.00
ANSI B 18.3.1 M (1986)	35.64	36.00			41.61	42.00			47.58	48.00				
Key Size nominal s	27		27		32		32		36		41		46	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	27.065	27.275	27.065	27.275	32.080	32.330	32.080	32.330	36.080	36.330	41.080	41.330	46.080	46.330
ISO 4762 (1997)	27.065	27.275			32.080	32.330			36.080	36.330	41.080	41.330	46.080	46.330
ANSI B 18.3.1 M (1986)	27.065	27.319			32.080	32.461			36.080	36.461				
Key Engagement t	min.		min.		min.		min.		min.		min.		min.	
DIN 912 (1983)	19.0		22.0		24.0		24.0		28.0		34.0		38.0	
ISO 4762 (1997)	19.0				24.0				28.0		34.0		38.0	
ANSI B 18.3.1 M (1986)	18.0				21.0				24.0					

Thread Size d1	M72		M80		M90		M100	
Thread Pitch	6		6		6		6	
Thread Length b	220mm & Longer 156mm		240mm & Longer 172mm		260mm & Longer 192mm		280mm & Longer 212mm	
Head Dia. d2	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	107.46	108.54	119.46	120.54	134.37	135.63	149.37	150.63
Head Height k	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	71.26	72.00	79.26	80.00	89.13	90.00	99.13	100.00
Key Size nominal s	55		65		75		85	
	min.	max.	min.	max.	min.	max.	min.	max.
DIN 912 (1983)	55.100	55.400	65.100	65.400	75.100	75.400	85.120	85.470
Key Engagement t	min.		min.		min.		min.	
DIN 912 (1983)	43.0		48.0		54.0		60.0	

Property Class	12.9		8.8≤d 16mm		8.8≥d 16mm		10.9		A2 / A4-50		A2 / A4-70		A2 / A4-80	
Tensile Strength	176900 psi		116000 psi		120350 psi		150800 psi		72500 psi		101500 psi		116000 psi	
Yield Strength	159500 psi		92800 psi		95700 psi		136300 psi		30450 psi		65250 psi		87000 psi	
Rockwell Hardness (HRC)	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
	39	44	22	32	23	34	32	39	NA	NA	NA	NA	NA	NA

Property Class	Steel	Steel	Stainless Steel
	12.9	8.8 & 10.9	A2 & A4
Finish	Furnace Black		Plain
Thread Tolerance	5g6g	6g	

Diameters & Lengths With ( ) are not recommended for new design.

M1.4, 2.6, 39 and 45 are no longer included in DIN 912.

M1.4, 2.6, 18, 22, 27, 33, 39, and 45 are no longer included in ISO 4762.

The basic difference between DIN 912-12.9 (1983) / ISO 4762-12.9 (1997) and ANSI B 18.3.1M (1986) is both DIN and ISO have a thread tolerance of 5g6g, while ANSI has a thread tolerance of 4g6g, which may not be readily available on a worldwide basis.

ANSI B 18.3.1 M is only available in Property Class 12.9.

FOR MORE DETAILED INFORMATION, PLEASE REFER TO COMPLETE DIN, ISO, OR ANSI STANDARD, WHICH ARE THE GOVERNING STANDARDS

DIN 912 (1983) / ISO 4762 (1997) / ANSI B 18.3.1M (1982) - LFG 10/01/10 REVISED

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Length Tolerance	DIN 912		ISO 4762		ANSI B18.3.1M M1.6 Thru M10		ANSI B18.3.1M M12 Thru M20		ANSI B18.3.1M Over M20	
Nominal Length	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
2	1.80	2.20	1.80	2.20						
2.5	2.30	2.70	2.30	2.70	2.20	2.80				
3	2.80	3.20	2.80	3.20	2.70	3.30				
4	3.76	4.24	3.76	4.24	3.70	4.30				
5	4.76	5.24	4.76	5.24	4.70	5.30				
6	5.76	6.24	5.76	6.24	5.70	6.30				
8	7.71	8.29	7.71	8.29	7.70	8.30				
10	9.71	10.29	9.71	10.29	9.70	10.30				
12	11.65	12.35	11.65	12.35	11.70	12.30				
(14)	13.65	14.35								
16	15.65	16.35	15.65	16.35	15.70	16.30	15.70	16.30		
(18)	17.65	18.35								
20	19.58	20.42	19.58	20.42	19.60	20.40	19.60	20.40		
(22)	21.58	22.42								
25	24.58	25.42	24.58	25.42	24.60	25.40	24.60	25.40		
(28)	27.58	28.42								
30	29.58	30.42	29.58	30.42	29.60	30.40	29.60	30.40		
35	34.50	35.50	34.50	35.50	34.60	35.40	34.60	35.40		
40	39.50	40.50	39.50	40.50	39.60	40.40	39.60	40.40	39.30	40.70
45	44.50	45.50	44.50	45.50	44.60	45.40	44.60	45.40	44.30	45.70
50	49.50	50.50	49.50	50.50	49.60	50.40	49.60	50.40	49.30	50.70
55	54.40	55.60	54.40	55.60	54.30	55.70	54.00	56.00	53.50	56.50
60	59.40	60.60	59.40	60.60	59.30	60.70	59.00	61.00	58.50	61.50
65	64.40	65.60	64.40	65.60	64.30	65.70	64.00	66.00	63.50	66.50
70	69.40	70.60	69.40	70.60	69.30	70.70	69.00	71.00	68.50	71.50
(75)	74.40	75.60								
80	79.40	80.60	79.40	80.60	79.30	80.70	79.00	81.00	78.50	81.50
(85)	84.30	85.70								
90	89.30	90.70	89.30	90.70	89.30	90.70	89.00	91.00	88.50	91.50
(95)	94.30	95.70								
100	99.30	100.70	99.30	100.70	99.30	100.70	99.00	101.00	98.50	101.50
110	109.30	110.70	109.30	110.70	109.30	110.70	109.00	111.00	108.50	111.50
120	119.30	120.70	119.30	120.70	119.30	120.70	119.00	121.00	118.50	121.50
130	129.20	130.80	129.20	130.80	129.00	131.00	128.50	131.50	128.00	132.00
140	139.20	140.80	139.20	140.80	139.00	141.00	138.50	141.50	138.00	142.00
150	149.20	150.80	149.20	150.80	149.00	151.00	148.50	151.50	148.00	152.00
160	159.20	160.80	159.20	160.80	159.00	161.00	158.50	161.50	158.00	162.00
(170)	169.20	170.80								
180	179.20	180.80	179.20	180.80	179.00	181.00	178.50	181.50	178.00	182.00
(190)	189.08	190.93								
200	199.08	200.93	199.08	200.93	199.00	201.00	198.50	201.50	198.00	202.00
220	219.08	220.93	219.08	220.93	218.00	222.00	217.50	222.50	217.00	223.00
240	239.08	240.93	239.08	240.93	238.00	242.00	237.50	242.50	237.00	243.00
260	258.95	261.05	258.95	261.05	258.00	262.00	257.50	262.50	257.00	263.00
280	278.95	281.05	278.95	281.05						
300	298.95	301.05	298.95	301.05	298.00	302.00	297.50	302.50	297.00	303.00
320	318.85	321.15								
340	338.85	341.15								
360	358.85	361.15								
380	378.85	381.15								
400	398.85	401.15								
420	418.75	421.25								
440	438.75	441.25								
460	458.75	461.25								
480	478.75	481.25								
500	498.75	501.25								

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DIN 912 (1983) / ISO 4762 (1997) / ANSI B 18.3.1M (1982) - LFG 10/01/10 REVISED

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