

DIN 931 / ISO 4014 Partial Thread
DIN 933 / ISO 4017 Full Thread

Width Across Flats (s)	M2		M3		M4		M5		M6		(M7)		M8	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 931/933 (1987)	3.82	4.00	5.32	5.50	6.78	7.00	7.78	8.00	9.78	10.00	10.73	11.00	12.73	13.00
ISO 4014/4017 (1988)	3.82	4.00	5.32	5.50	6.78	7.00	7.78	8.00	9.78	10.00			12.73	13.00
JIS B 1180 (1977)													11.75	12.00
ANSI B 18.2.3.1M (1979)							7.78	8.00	9.78	10.00			12.73	13.00

Head Height (k)	M2		M3		M4		M5		M6		(M7)		M8	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 931/933 (1987)	1.28	1.52	1.88	2.12	2.68	2.92	3.35	3.65	3.85	4.15	4.65	4.95	5.15	5.45
ISO 4014/4017 (1988)	1.275	1.525	1.875	2.125	2.675	2.925	3.35	3.65	3.85	4.15			5.15	5.45
JIS B 1180 (1977)													5.35	5.65
ANSI B 18.2.3.1M (1979)							3.35	3.65	3.85	4.15			5.1	5.5

Comparable Thread Lengths For DIN - ISO - JIS - ANSI													
DIN 931	M2	M3	M4	M5	M6	(M7)	M8						
Lengths ≤125mm	10	12	14	16	18	20	22						
Lengths >125mm≤200mm				22	24	26	28						
Lengths >200 mm							41						
ISO 4014	M2	M3	M4	M5	M6	(M7)	M8						
Lengths ≤125mm	10	12	14	16	18		22						
Lengths >125mm≤200mm													
Lengths >200 mm													
JIS 1180	M2	M3	M4	M5	M6	(M7)	M8						
Lengths ≤125mm							22						
Lengths >125mm≤200mm													
Lengths >200 mm													
ANSI B18.2.3.1M	M2	M3	M4	M5	M6	(M7)	M8						
Lengths ≤125mm				16	18		22						
Lengths >125mm≤200mm				22	24		28						
Lengths >200 mm				35	37		41						

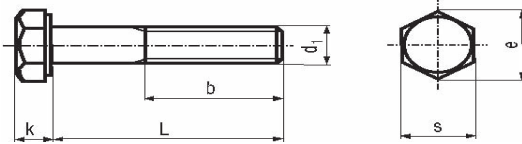
Width Across Flats (s)	M10		M12		(M14)		M16		(M18)		M20		(M22)	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 931/933 (1987)	16.73	17.00	18.67	19.00	21.67	22.00	23.67	24.00	26.67	27.00	29.67	30.00	31.61	32.00
ISO 4014/4017 (1988)	15.73	16.00	17.73	18.00	20.67	21.00	23.67	24.00	26.67	27.00	29.67	30.00	33.38	34.00
JIS B 1180 (1977)	13.75	14.00	16.65	17.00										
ANSI B 18.2.3.1M (1979)	15.73	16.00	17.73	18.00	20.67	21.00	23.67	24.00			29.16	30.00		

Head Height (k)	M10		M12		(M14)		M16		(M18)		M20		(M22)	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 931/933 (1987)	6.22	6.58	7.32	7.68	8.62	8.98	9.82	10.18	11.28	11.72	12.28	12.72	13.78	14.22
ISO 4014/4017 (1988)	6.22	6.58	7.32	7.68	8.62	8.98	9.82	10.18	11.285	11.715	12.285	12.715	13.785	14.215
JIS B 1180 (1977)	6.8	7.2	7.8	8.2										
ANSI B 18.2.3.1M (1979)	6.17	6.63	7.24	7.76	8.51	9.09	9.68	10.32			12.12	12.88		

Comparable Thread Lengths For DIN - ISO - JIS - ANSI													
DIN 931	M10	M12	(M14)	M16	(M18)	M20	(M22)						
Lengths ≤125mm	26	30	34	38	42	46	50						
Lengths >125mm≤200mm	32	36	40	44	48	52	56						
Lengths >200 mm	45	49	53	57	61	65	69						
ISO 4014	M10	M12	(M14)	M16	(M18)	M20	(M22)						
Lengths ≤125mm	26	30	34	38	42	46	50						
Lengths >125mm≤200mm			40	44	48	52	56						
Lengths >200 mm							69						
JIS 1180	M10	M12	(M14)	M16	(M18)	M20	(M22)						
Lengths ≤125mm	26	30											
Lengths >125mm≤200mm													
Lengths >200 mm													
ANSI B18.2.3.1M	M10	M12	(M14)	M16	(M18)	M20	(M22)						
Lengths ≤125mm	26	30	34	38		46							
Lengths >125mm≤200mm	32	36	40	44		52							
Lengths >200 mm	45	49	53	57		65							

For More Detailed Information, Please Refer To Complete DIN, ISO, JIS or ANSI Standard, Which Are The Governing Standards.

DIN 931/933 / ISO 4014/4017 / JIS B1180 / ANSI B 18.2.3.1M



DIN 931 / ISO 4014 Partial Thread
DIN 933 / ISO 4017 Full Thread

Width Across Flats (s)	M24		(M27)		M30		(M33)		M36		(M39)		M42	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 931/933 (1987)	35.38	36.00	40	41	45	46	49	50	53.8	55.0	58.8	60.0	63.1	65.0
ISO 4014/4017 (1988)	35.38	36.00	40	41	45	46	49	50	53.8	55.0	58.8	60.0	63.1	65.0
ANSI B 18.2.3.1M (1979)	35	36			45	46			53.8	55.0				

Head Height (k)	M24		(M27)		M30		(M33)		M36		(M39)		M42	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 931/933 (1987)	14.78	15.22	16.65	17.35	18.28	19.12	20.58	21.42	22.08	22.92	24.58	25.42	25.58	26.42
ISO 4014/4017 (1988)	14.785	15.215	16.65	17.35	18.28	19.12	20.58	21.42	22.08	22.92	24.58	25.42	25.58	26.42
ANSI B 18.2.3.1M (1979)	14.56	15.44			17.92	19.48			21.62	23.38				

Comparable Thread Lengths For DIN - ISO - JIS - ANSI													
DIN 931	M24	(M27)	M30	(M33)	M36	(M39)	M42						
Lengths ≤125mm	54	60	66	72	78	84	90						
Lengths >125mm≤200mm	60	66	72	78	84	90	96						
Lengths >200 mm	73	79	85	91	97	103	109						
ISO 4014	M24	(M27)	M30	(M33)	M36	(M39)	M42						
Lengths ≤125mm	54	60	66	72	78	84	90						
Lengths >125mm≤200mm	60	66	72	78	84	90	96						
Lengths >200 mm	73	79	85	91	97	103	109						
ANSI B18.2.3.1M	M24	(M27)	M30	(M33)	M36	(M39)	M42						
Lengths ≤125mm	54		66										
Lengths >125mm≤200mm	60		72		84		96						
Lengths >200 mm	73		85		97		109						

Width Across Flats (s)	(M45)		M48		(M52)		M56		(M60)		M64		M72	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 931/933 (1987)	68.1	70.0	73.1	75.0	78.1	80.0	82.8	85.0	87.8	90.0	92.8	95.0	102.8	105.0
ISO 4014/4017 (1988)	68.1	70.0	73.1	75.0	78.1	80.0	82.8	85.0	87.8	90.0	92.8	95.0		

Head Height (k)	(M45)		M48		(M52)		M56		(M60)		M64		M72	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
DIN 931/933 (1987)	27.58	28.42	29.58	30.42	32.5	33.5	34.5	35.5	37.5	38.5	39.5	40.5	44.5	45.5
ISO 4014/4017 (1988)	27.58	28.42	29.58	30.42	32.5	33.5	34.5	35.5	37.5	38.5	39.5	40.5		

Comparable Thread Lengths For DIN - ISO - JIS - ANSI													
DIN 931	(M45)	M48	(M52)	M56	(M60)	M64	M72						
Lengths ≤125mm	96	102											
Lengths >125mm≤200mm	102	108	116	124	132	140	156						
Lengths >200 mm	115	121	129	137	145	153	169						
ISO 4014	(M45)	M48	(M52)	M56	(M60)	M64	M72						
Lengths ≤125mm													
Lengths >125mm≤200mm	102	108	116										
Lengths >200 mm	115	121	129	137	145	153							
ANSI B18.2.3.1M	(M45)	M48	(M52)	M56	(M60)	M64	M72						
Lengths ≤125mm													
Lengths >125mm≤200mm		108											
Lengths >200 mm		121		137		153	169						

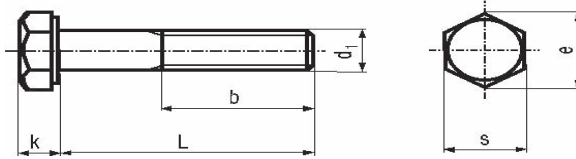
<b>Property Class</b>	8.8sd 16mm		8.8zd 16mm		10.9		A2 /A4-50		A2 /A4-70		A2 /A4-80	
<b>Tensile Strength</b>	116000 psi		120350 psi		150800 psi		72500 psi		101500 psi		116000 psi	
<b>Yield Strength</b>	92800 psi		95700 psi		136300 psi		30450 psi		65250 psi		87000 psi	
<b>Rockwell Hardness (HRC)</b>	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
	22	32	23	34	32	39	NA	NA	NA	NA	NA	NA

<b>Property Class</b>	Steel	Stainless Steel
	8.8 & 10.9	A2 & A4
<b>Finish</b>	Furnace Black	Plain
<b>Thread Tolerance</b>	6g	

For More Detailed Information, Please Refer To Complete DIN, ISO, JIS or ANSI Standard, Which Are The Governing Standards.

DIN 931/933 (1987) / ISO 4014/4017 (1988) / JIS B1180 (1977) / ANSI B 18.2.3.1M (1979) - LFG 01/01/09 Revised

See Next Page For Additional Information



DIN 931 / ISO 4014 Partial Thread  
DIN 933 / ISO 4017 Full Thread

JIS B 1180 Length Tolerance is the same as ISO 4014 / 4017 Product Grade A through 120 mm long.

Please contact your Lindstrom or Mega Service Center For ANSI Length Tolerance.

For Reference Point Only	
Diameter	Coarse Thread Pitch
M2	0.4
M3	0.5
M4	0.7
M5	0.8
M6	1
M7	1
M8	1.25
M10	1.5
M12	1.75
M14	2
M16	2
M18	2.5
M20	2.5
M22	2.5
M24	3
M27	3
M30	3.5
M33	3.5
M36	4
M39	4
M42	4.5
M45	4.5
M48	5
M52	5
M56	5.5
M60	5.5
M64	6
M72	6

In Metric language, you should not show the thread pitch if you are using coarse thread pitch.

Product Grade	A		B		A		B	
	min	max	min	max	min	max	min	max
Nominal Length L								
6	5.76	6.24			5.76	6.24		
8	7.71	8.29			7.71	8.29		
10	9.71	10.29			9.71	10.29		
12	11.65	12.35			11.65	12.35		
(14)	13.65	14.35						
16	15.65	16.35			15.65	16.35		
(18)	17.65	18.35						
20	19.58	20.42			19.58	20.42		
(22)	21.58	22.42						
25	24.58	25.42			24.58	25.42		
(28)	27.58	28.42						
30	29.58	30.42			29.58	30.42		
35	34.5	35.5			34.5	35.5		
40	39.5	40.5			39.5	40.5		
45	44.5	45.5			44.5	45.5		
50	49.5	50.5			49.5	50.5		
55	54.4	55.6			54.4	55.6		
60	59.4	60.6			59.4	60.6		
65	64.4	65.6			64.4	65.6		
70	69.4	70.6			69.4	70.6		
(75)	74.4	75.6						
80	79.4	80.6			79.4	80.6		
(85)	84.3	85.7						
90	89.3	90.7	88.25	91.75	89.3	90.7		
(95)	94.3	95.7	93.25	96.75				
100	99.3	100.7	98.25	101.75	99.3	100.7	98.25	100.75
110	109.3	110.7	108.25	111.75	109.3	110.7	108.25	111.75
120	119.3	120.7	118.25	121.75	119.3	120.7	118.25	121.75
130	129.2	130.8	128	132	129.2	130.8	128	132
140	139.2	140.8	138	142	139.2	140.8	138	142
150	149.2	150.8	148	152	149.2	150.8	148	152
160	159.2	160.8	158	162			158	162
(170)	169.2	170.8	168	172				
180	179.2	180.8	178	182			178	182
(190)	189.08	190.92	187.7	192.3				
200	199.08	200.92	197.7	202.3			197.7	202.3
220			217.7	222.3			217.7	222.3
240			237.7	242.3			237.7	242.3
260			257.4	262.6			257.4	262.6
280			277.4	282.6			277.4	282.6
300			297.4	302.6			297.4	302.6
320			317.15	322.85			317.15	322.85
340			337.15	342.85			337.15	342.85
360			357.15	362.85			357.15	362.85
380			377.15	382.85			377.15	382.85
400			397.15	402.85			397.15	402.85
420			416.85	423.15			416.85	423.15
440			436.85	443.15			436.85	443.15
460			456.85	463.15			456.85	463.15
480			476.85	483.15			476.85	483.15
500			496.85	503.15			496.85	503.15

Diameters & Lengths Shown in ( ) are Not recommended for new design.  
 The major difference between DIN, ISO, JIS and ANSI is the smaller WAF.  
 The JIS standard for hex heads is only available in M8, M10, and M12.  
 With the exception of M8, M10, M12, 14 and M22 WAF, all standards are basically functional and interchangeable.  
 Width across corners (e) is relative to Width Across Flats.  
 The DIN standard is still the most widely accepted standard worldwide except for the US Automotive Industry.

For More Detailed Information, Please Refer To Complete DIN, ISO, JIS or ANSI Standard, Which Are The Governing Standards.