

JIS

JAPANESE INDUSTRIAL STANDARD

Slotted head screws

Ⓔ JIS B 1101—1996

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JAPANESE INDUSTRIAL STANDARD

J I S



Slotted head screws

B 1101-1996

1. Scope This Japanese Industrial Standard specifies the steel slotted head screws (hereafter, referred to as "steel screws"), stainless steel slotted head screws (hereafter referred to as "stainless steel screws") and nonferrous metal slotted head screws (hereafter referred to as "nonferrous metal screws") for general use.

- Remarks
1. When the steel screws, stainless steel screws and nonferrous metal screws are generically called, these are simply called "screws".
 2. The screws which are not in accordance with the text of this Standard are specified in Annex.
 3. The cited standards are given in Attached Table 5.
 4. The International Standards corresponding to the text of this Standard are given in Attached Table 6.

2. Definitions The main definitions to be used in this Standard are in accordance with JIS B 0101.

3. Classification The screws shall be classified as given in Table 1 according to the shapes of head.

Table 1. Classification of screws

Type	Corresponding International Standard
Slotted cheese head screws	ISO 1207 : 1992
Slotted pan head screws	ISO 1580 : 1994
Slotted countersunk head screws	ISO 2009 : 1994
Slotted raised countersunk head screws	ISO 2010 : 1994

4. Qualities The qualities of the screws shall be in accordance with Table 2.

Table 2. Qualities of screws

Division		Qualities		
		Steel screw	Stainless steel screw	Nonferrous metal screw
Screw threads	Tolerance class	6 g ⁽¹⁾		
	Applicable standards	Text of JIS B 0205 and text of JIS B 0209		
Mechanical properties	Division	Strength class 4.8, 5.8	Property class A2-50, A2-70	Material symbol ⁽²⁾ —
	Applicable standards	Text of JIS B 1051	JIS B 1054	JIS B 1057
Tolerances	Product grade	A		
	Applicable standard	JIS B 1021		
Surface treatment		Generally it shall not be processed. When the surface treatment of plating or the like is required particularly, it shall be so designated by the purchaser. When the electroplating is to be processed, it shall be in accordance with JIS B 1044.		
Surface discontinuities		Unless otherwise specified, it shall be in accordance with JIS B 1041.		

Notes ⁽¹⁾ The maximum permissible dimension of the screw threads, when the electroplating has been processed on the steel screw, it shall be in accordance with the maximum permissible dimension of tolerance class 4 h specified in the text of JIS B 0209.

⁽²⁾ As to the material symbols of nonferrous metal screws, any one of those specified in JIS B 1057 shall be determined upon agreement between the purchaser and the manufacturer.

5. Shapes and dimensions The shapes and dimensions of the screws shall be in accordance with Attached Tables 1 to 4.

6. Materials The materials of the screws shall be in accordance with the following:

- (1) The material of the steel screws shall be in accordance with 3. of the text of JIS B 1051.
- (2) The material of the stainless steel screws shall be in accordance with 5. of JIS B 1054.
- (3) The material of the nonferrous metal screws shall be in accordance with 4. of JIS B 1057.

7. Inspection The inspection of the screws shall be in accordance with the following:

- (1) The inspection on the mechanical properties shall be in accordance with JIS B 1051 for steel screws, with JIS B 1054 for stainless steel screws and with JIS B 1057 for nonferrous metal screws, and the results shall conform to the strength class, property class and material symbol of Table 2.
- (2) As to the shapes and dimensions, the inspection on the screw threads and geometrical tolerances shall be carried out by the measuring method in accordance

with JIS B 1071 or a method instead of this, and the results shall conform to the values of Table 2 and Attached Tables 1 to 4. However, the go ring gauge used for the screw threads processed with electroplating shall be that for 4h in accordance with JIS B 0251.

The shapes and dimensions of the countersunk head part of Attached Table 3 should preferably be in accordance with the gauge inspection specified in JIS B 1013.

- (3) The inspection on surface discontinuities, unless particularly designated, shall be carried out in accordance with JIS B 1041, and the results shall conform to the permissible limit specified in JIS B 1041.
- (4) The acceptance inspection, unless particularly specified, shall be in accordance with JIS B 1091.

8. Designation The screws shall be designated by the Standard number, type of screw, product grade, designation of thread (d) $\times$ nominal length (l), symbol of strength class of mechanical property (symbol of property class in the case of stainless steel screws, and material symbol in the case of nonferrous metal screws), and designated matter.

- Remarks
1. The Standard number, unless particularly required, may be omitted.
 2. As to the designated matter, the shape of screw end, type of surface treatment or the like shall be indicated, as required.

Examples :

(For steel screws)	JIS B 1101	Slotted pan head screw	- A -	M3 $\times$ 12	- 4.8	- A2K ⁽³⁾
(For stainless steel screws)		Slotted countersunk head screw	- A -	M5 $\times$ 16	- A2-50	
(For nonferrous metal screws)		Slotted raised countersunk head screw	- A -	M6 $\times$ 20	- CU2	- Flat point
	(Standard number)	(Type)	(Product grade)	($d \times l$)	(Strength class)	(Designated matter)

Note ⁽³⁾ A2K is according to the symbol of Annex D to JIS B 1044.

9. Marking

9.1 Marking on products The marking on products of the screws shall be in accordance with the following :

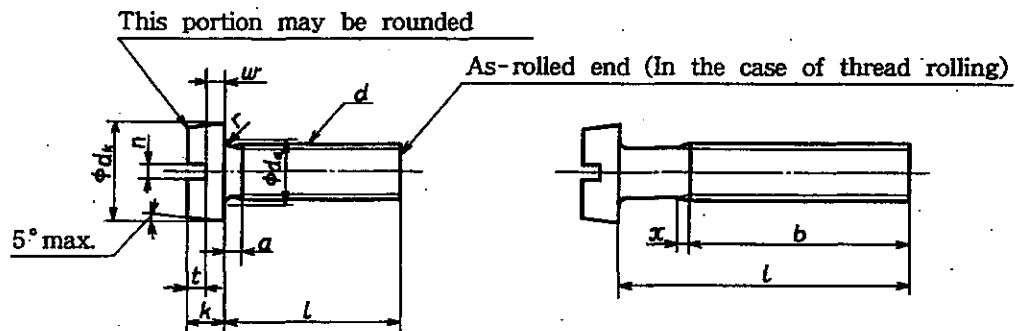
- (1) The steel screws shall be in accordance with 6.1 of the text of JIS B 1051.
- (2) The stainless steel screws shall be in accordance with 8.1 of JIS B 1054.
- (3) The nonferrous metal screws shall be in accordance with 7.1 of JIS B 1057.

9.2 Marking on packages The package of the screws shall be marked with the following information on the outer face.

- (1) Type of screw
- (2) Product grade
- (3) Designation of thread $\times$ nominal length
- (4) Symbol of strength class (for steel screws), symbol of property class (in the case of stainless steel screws, a combined symbol of steel type and strength class) and material symbol (in the case of nonferrous metal screws)

- (5) Designated matter
- (6) Quantity
- (7) Manufacturer's name or abbreviation (As to the abbreviation, the registered trademark should be used as far as possible.)

Attached Table 1. Shape and dimensions of slotted cheese head screws



Unit : mm

Designation of threads $d(^4)$		M1.6	M2	M2.5	M3	(M3.5)	M4	M5	M6	M8	M10
Pitch (P)		0.35	0.4	0.45	0.5	0.6	0.7	0.8	1	1.25	1.5
a	Max.	0.7	0.8	0.9	1	1.2	1.4	1.6	2	2.5	3
b	Min.	25	25	25	25	38	38	38	38	38	38
d_k	Nominal=Max.	3.00	3.80	4.50	5.50	6.00	7.00	8.50	10.00	13.00	16.00
	Min.	2.86	3.62	4.32	5.32	5.82	6.78	8.28	9.78	12.73	15.73
d_a	Max.	2	2.6	3.1	3.6	4.1	4.7	5.7	6.8	9.2	11.2
k	Nominal=Max.	1.10	1.40	1.80	2.00	2.40	2.60	3.30	3.9	5.0	6.0
	Min.	0.96	1.26	1.66	1.86	2.26	2.46	3.12	3.6	4.7	5.7
n	Nominal	0.4	0.5	0.6	0.8	1	1.2	1.2	1.6	2	2.5
	Max.	0.60	0.70	0.80	1.00	1.20	1.51	1.51	1.91	2.31	2.81
	Min.	0.46	0.56	0.66	0.86	1.06	1.26	1.26	1.66	2.06	2.56
r	Min.	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.25	0.4	0.4
t	Min.	0.45	0.6	0.7	0.85	1	1.1	1.3	1.6	2	2.4
w	Min.	0.4	0.5	0.7	0.75	1	1.1	1.3	1.6	2	2.4
x	Max.	0.9	1	1.1	1.25	1.5	1.75	2	2.5	3.2	3.8
$l(^5)$		(Informative reference) Approximate mass per 1000 pieces in kg (Density : 7.85 kg/dm ³)									
Nominal length (^4)	Min.	Max.									
2	1.8	2.2	0.07								
3	2.8	3.2	0.082	0.16	0.272						
4	3.76	4.24	0.094	0.179	0.302	0.515					
5	4.76	5.24	0.105	0.198	0.332	0.56	0.786	1.09			
6	5.76	6.24	0.117	0.217	0.362	0.604	0.845	1.17	2.06		
8	7.71	8.29	0.14	0.254	0.422	0.692	0.966	1.33	2.3	3.56	
10	9.71	10.29	0.163	0.291	0.482	0.78	1.08	1.47	2.55	3.92	7.85
12	11.65	12.35	0.186	0.329	0.542	0.868	1.2	1.63	2.8	4.27	8.49
14	13.65	14.35	0.209	0.365	0.602	0.956	1.32	1.79	3.05	4.62	9.13
16	15.65	16.35	0.232	0.402	0.662	1.04	1.44	1.95	3.3	4.98	9.77
20	19.58	20.42		0.478	0.782	1.22	1.68	2.25	3.78	5.69	11
25	24.58	25.42			0.932	1.44	1.98	2.64	4.4	6.56	12.6
30	29.58	30.42				1.66	2.28	3.02	5.02	7.45	14.2
35	34.5	35.5					2.57	3.41	5.62	8.25	15.8
40	39.5	40.5						3.8	6.25	9.2	17.4
45	44.5	45.5							6.88	10	18.9
50	49.5	50.5							7.5	10.9	20.6
(55)	54.05	55.95								11.8	22.1
60	59.05	60.95								12.7	23.7
(65)	64.05	65.95									25.2
70	69.05	70.95									26.8
(75)	74.05	75.95									28.3
80	79.05	80.95									29.8

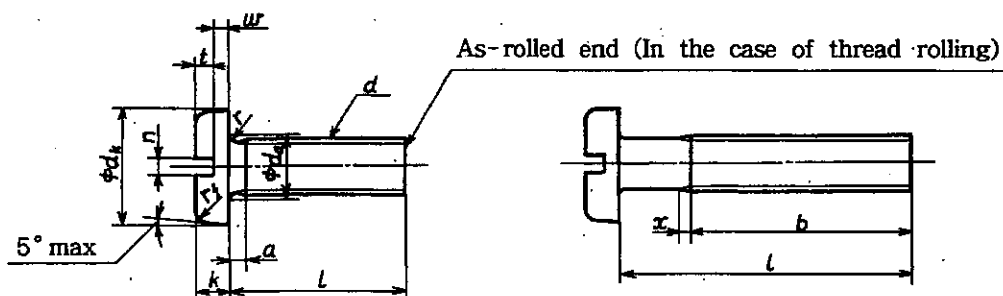
Notes (^4) The designation of threads and nominal length given in parentheses should not be used as far as possible.

(^5) The preferable nominal length (l) relative to the designation of threads

shall be in the frame of bold lines, and those of shorter in nominal length than the positions of broken lines, unless designated by the purchaser, shall be of full screw threads. In this case, $b=l-a$.

- Remarks
1. The designation of n shall be used as the basic dimension when its minimum and maximum are determined.
 2. The diameter of unthreaded part (body) shall generally be approximately the pitch diameter of screw threads, or may also be the nominal diameter of screw threads approximately. However, its diameter shall not exceed the maximum value of major diameter of screw threads.
 3. The shape of screw end shall be as-rolled end in the case of thread rolling, and be chamfered end in the case of screw thread cutting, and when other screw end is required, it shall be designated by the purchaser. However, the shape and dimensions of screw end shall generally be in accordance with JIS B 1003.
 4. This Table is in accordance with ISO 1207.

Attached Table 2. Shape and dimensions of slotted pan head screws



Unit : mm

Designation of threads d (*)		M1.6	M2	M2.5	M3	(M3.5)	M4	M5	M6	M8	M10
Pitch (P)		0.35	0.4	0.45	0.5	0.6	0.7	0.8	1	1.25	1.5
a	Max.	0.7	0.8	0.9	1	1.2	1.4	1.6	2	2.5	3
b	Min.	25	25	25	25	38	38	38	38	38	38
d_k	Nominal = Max.	3.2	4.0	5.0	5.6	7.00	8.00	9.50	12.00	16.00	20.00
	Min.	2.9	3.7	4.7	5.3	6.64	7.64	9.14	11.57	15.57	19.48
d_a	Max.	2	2.6	3.1	3.6	4.1	4.7	5.7	6.8	9.2	11.2
k	Nominal = Max.	1.00	1.30	1.50	1.80	2.10	2.40	3.00	3.6	4.8	6.0
	Min.	0.86	1.16	1.36	1.66	1.96	2.26	2.86	3.3	4.5	5.7
n	Nominal	0.4	0.5	0.6	0.8	1	1.2	1.2	1.6	2	2.5
	Max.	0.60	0.70	0.80	1.00	1.20	1.51	1.51	1.91	2.31	2.81
	Min.	0.46	0.56	0.66	0.86	1.06	1.26	1.26	1.66	2.06	2.56
r	Min.	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.25	0.4	0.4
r_f	Ref.	0.5	0.6	0.8	0.9	1	1.2	1.5	1.8	2.4	3
t	Min.	0.35	0.5	0.6	0.7	0.8	1	1.2	1.4	1.9	2.4
w	Min.	0.3	0.4	0.5	0.7	0.8	1	1.2	1.4	1.9	2.4
x	Max.	0.9	1	1.1	1.25	1.5	1.75	2	2.5	3.2	3.8
l (*)		(Informative reference) Approximate mass per 1000 pieces in kg (Density : 7.85 kg/dm ³)									
Nominal length (*)	Min.	Max.									
2	1.8	2.2	0.075								
2.5	2.3	2.7	0.081	0.152							
3	2.8	3.2	0.087	0.161	0.281						
4	3.76	4.24	0.099	0.18	0.311	0.463					
5	4.76	5.24	0.11	0.198	0.341	0.507	0.825	1.16			
6	5.76	6.24	0.122	0.217	0.371	0.551	0.885	1.24	2.12		
8	7.71	8.29	0.145	0.254	0.431	0.639	1	1.39	2.37	4.02	
10	9.71	10.29	0.168	0.292	0.491	0.727	1.12	1.55	2.61	4.37	9.38
12	11.65	12.35	0.192	0.329	0.551	0.816	1.24	1.7	2.86	4.72	10
14	13.65	14.35	0.215	0.366	0.611	0.904	1.36	1.86	3.11	5.1	10.6
16	15.65	16.35	0.238	0.404	0.671	0.992	1.48	2.01	3.36	5.45	11.2
20	19.58	20.42		0.478	0.792	1.17	1.72	2.32	3.85	6.14	12.6
25	24.58	25.42			0.942	1.39	2.02	2.71	4.47	7.01	14.1
30	29.58	30.42				1.61	2.32	3.1	5.09	7.9	15.7
35	34.5	35.5					2.62	3.48	5.71	8.78	17.3
40	39.5	40.5						3.87	6.32	9.66	18.9
45	44.5	45.5							6.94	10.5	20.5
50	49.5	50.5							7.56	11.4	22.1
(55)	54.05	55.95								12.3	23.7
60	59.05	60.95								13.2	25.3
(65)	64.05	65.95									26.9
70	69.05	70.95									28.5
(75)	74.05	75.95									30.1
80	79.05	80.95									31.7

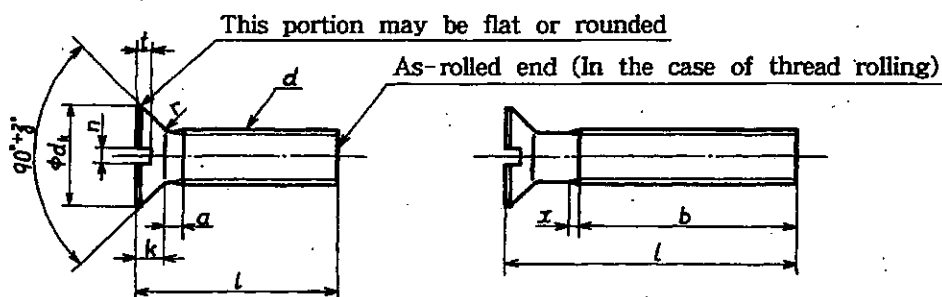
Remarks 1. The designation of n shall be used as the basic dimension when its minimum and maximum are determined.

2. The diameter of unthreaded part (body) shall generally be approximately

the pitch diameter of screw thread, or may also be the nominal diameter of screw threads approximately. However, its diameter shall not exceed the maximum value of major diameter of screw threads.

3. The shape of screw end shall be as-rolled end in the case of thread rolling, and be chamfered end in the case of screw thread cutting, and when other screw end is required, it shall be designated by the purchaser. However, the shape and dimensions of screw end shall generally be in accordance with JIS B 1003.
4. This Table is in accordance with ISO 1580.

Attached Table 3. Shape and dimensions of slotted countersunk head screws



Unit : mm

Designation of threads $d^{(*)}$			M1.6	M2	M2.5	M3	(M3.5)	M4	M5	M6	M8	M10
Pitch (P)			0.35	0.4	0.45	0.5	0.6	0.7	0.8	1	1.25	1.5
a	Max.		0.7	0.8	0.9	1	1.2	1.4	1.6	2	2.5	3
b	Min.		25	25	25	25	38	38	38	38	38	38
$d_k^{(6)}$	Maximum theoretical dimension Actual dimension		3.6	4.4	5.5	6.3	8.2	9.4	10.4	12.6	17.3	20
		Nominal = Max.	3.0	3.8	4.7	5.5	7.30	8.40	9.30	11.30	15.80	18.30
		Min.	2.7	3.5	4.4	5.2	6.94	8.04	8.94	10.87	15.37	17.78
$k^{(6)}$	Nominal = Max.		1	1.2	1.5	1.65	2.35	2.7	2.7	3.3	4.65	5
n	Nominal		0.4	0.5	0.6	0.8	1	1.2	1.2	1.6	2	2.5
	Max.		0.60	0.70	0.80	1.00	1.20	1.51	1.51	1.91	2.31	2.81
	Min.		0.46	0.56	0.66	0.86	1.06	1.26	1.26	1.66	2.06	2.56
r	Max.		0.4	0.5	0.6	0.8	0.9	1	1.3	1.5	2	2.5
l	Max.		0.50	0.6	0.75	0.85	1.2	1.3	1.4	1.6	2.3	2.6
	Min.		0.32	0.4	0.50	0.60	0.9	1.0	1.1	1.2	1.8	2.0
x	Max.		0.9	1	1.1	1.25	1.5	1.75	2	2.5	3.2	3.8
$l^{(7)}$			(Informative reference) Approximate mass per 1000 pieces in kg (Density : 7.85 kg/dm ³)									
Nominal length ⁽⁴⁾	Min.	Max.										
2.5	2.3	2.7	0.053									
3	2.8	3.2	0.058	0.101								
4	3.76	4.24	0.069	0.119	0.206							
5	4.76	5.24	0.081	0.137	0.236	0.335						
6	5.76	6.24	0.093	0.152	0.266	0.379	0.633	0.903				
8	7.71	8.29	0.116	0.193	0.326	0.467	0.753	1.06	1.48	2.38		
10	9.71	10.29	0.139	0.231	0.386	0.555	0.873	1.22	1.72	2.73	5.68	
12	11.65	12.35	0.162	0.268	0.446	0.643	0.993	1.37	1.96	3.08	6.32	9.54
(14)	13.65	14.35	0.185	0.306	0.507	0.731	1.11	1.53	2.2	3.43	6.96	10.6
16	15.65	16.35	0.208	0.343	0.567	0.82	1.23	1.68	2.44	3.78	7.6	11.6
20	19.58	20.42		0.417	0.687	0.996	1.47	2	2.92	4.48	8.88	13.6
25	24.58	25.42			0.838	1.22	1.77	2.39	3.52	5.36	10.5	16.1
30	29.58	30.42				1.44	2.07	2.78	4.12	6.23	12.1	18.7
35	34.5	35.5					2.37	3.17	4.72	7.11	13.7	21.2
40	39.5	40.5						3.56	5.32	7.98	15.3	23.7
45	44.5	45.5							5.92	8.86	16.9	26.2
50	49.5	50.5							6.52	9.73	18.5	28.8
(55)	54.05	55.95								10.6	20.1	31.3
60	59.05	60.95								11.5	21.7	33.8
(65)	64.05	65.95									23.3	36.3
70	69.05	70.95									24.9	38.9
(75)	74.05	75.95									26.5	41.4
80	79.05	80.95									28.1	43.9

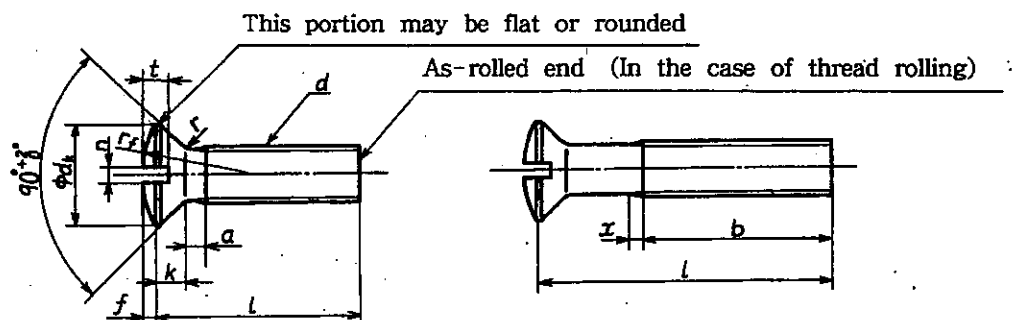
Notes ⁽⁶⁾ As to d_k and k , refer to JIS B 1013.

⁽⁷⁾ The preferable nominal lengths relative to the designation of threads shall be within the frame of bold lines, and those of shorter nominal length than

the positions of broken lines, unless designated by the purchaser, shall be of full screw threads. In this case, $b = l - (k + a)$.

- Remarks
1. The designation of n shall be used as the basic dimension when its minimum and maximum are determined.
 2. The diameter of unthreaded part (body) shall generally be approximately the pitch diameter of screw thread, or may also be the nominal diameter of screw threads approximately. However, its diameter shall not exceed the maximum value of major diameter of screw threads.
 3. The shape of screw end shall be as-rolled end in the case of thread rolling, and be chamfered end in the case of screw thread cutting, and when other screw end is required, it shall be designated by the purchaser. However, the shape and dimensions of screw end shall generally be in accordance with JIS B 1003.
 4. This Table is in accordance with ISO 2009.

Attached Table 4. Shape and dimensions of slotted raised countersunk head screws



Unit : mm

Designation of threads $d(^{\circ})$			M1.6	M2	M2.5	M3	(M3.5)	M4	M5	M6	M8	M10			
Pitch (P)			0.35	0.4	0.45	0.5	0.6	0.7	0.8	1	1.25	1.5			
a	Max.		0.7	0.8	0.9	1	1.2	1.4	1.6	2	2.5	3			
b	Min.		25	25	25	25	38	38	38	38	38	38			
$d_k(^{\circ})$	Maximum theoretical dimension		3.6	4.4	5.5	6.3	8.2	9.4	10.4	12.6	17.3	20			
	Actual dimension	Nominal = Max.	3.0	3.8	4.7	5.5	7.30	8.40	9.30	11.30	15.80	18.30			
		Min.	2.7	3.5	4.4	5.2	6.94	8.04	8.94	10.87	15.37	17.78			
f	Approx.		0.4	0.5	0.6	0.7	0.8	1	1.2	1.4	2	2.3			
k (^{\circ})	Nominal = Max.		1	1.2	1.5	1.65	2.35	2.7	2.7	3.3	4.65	5			
n	Nominal		0.4	0.5	0.6	0.8	1	1.2	1.2	1.6	2	2.5			
	Max.		0.60	0.70	0.80	1.00	1.20	1.51	1.51	1.91	2.31	2.81			
	Min.		0.46	0.56	0.66	0.86	1.06	1.26	1.26	1.66	2.06	2.56			
r	Max.		0.4	0.5	0.6	0.8	0.9	1	1.3	1.5	2	2.5			
r _f	Approx.		3	4	5	6	8.5	9.5	9.5	12	16.5	19.5			
t	Max.		0.80	1.0	1.2	1.45	1.7	1.9	2.4	2.8	3.7	4.4			
	Min.		0.64	0.8	1.0	1.20	1.4	1.6	2.0	2.4	3.2	3.8			
x	Max.		0.9	1	1.1	1.25	1.5	1.75	2	2.5	3.2	3.8			
l (^{\circ})			(Informative reference) Approximate mass per 1000 pieces in kg (Density : 7.85 kg/dm ³)												
Nominal length (⁴)			Min.	Max.											
2.5			2.3	2.7	0.062										
3			2.8	3.2	0.067	0.119									
4			3.76	4.24	0.078	0.138	0.242								
5			4.76	5.24	0.09	0.156	0.272	0.395							
6			5.76	6.24	0.102	0.175	0.302	0.439	0.729	1.07					
8			7.71	8.29	0.125	0.212	0.362	0.527	0.849	1.23	1.73	2.79			
10			9.71	10.29	0.145	0.249	0.422	0.615	0.969	1.39	1.97	3.14	6.89		
12			11.65	12.35	0.165	0.287	0.482	0.703	1.09	1.54	2.21	3.49	7.53	11.4	
(14)			13.65	14.35	0.185	0.325	0.543	0.791	1.21	1.7	2.45	3.84	8.17	12.5	
16			15.65	16.35	0.205	0.362	0.603	0.879	1.33	1.85	2.69	4.19	8.81	13.5	
20			19.58	20.42		0.436	0.723	1.06	1.57	2.17	3.17	4.89	10.1	15.5	
25			24.58	25.42			0.874	1.28	1.87	2.56	3.77	5.77	11.7	18	
30			29.58	30.42				1.5	2.17	2.95	4.37	6.64	13.3	20.6	
35			34.5	35.5					2.47	3.34	4.97	7.52	14.9	23.1	
40			39.5	40.5						3.73	5.57	8.39	16.5	25.6	
45			44.5	45.5							6.16	9.27	18.1	28.1	
50			49.5	50.5							6.76	10.1	19.7	30.7	
(55)			54.05	55.95								11	21.3	33.2	
60			59.05	60.95								11.9	22.9	35.7	
(65)			64.05	65.95									24.5	38.2	
70			69.05	70.95									26.1	40.8	
(75)			74.05	75.95										27.7	43.3
80			79.05	80.95										29.3	45.8

Remarks 1. The designation of n shall be used as the basic dimension when its minimum and maximum are determined.

2. The diameter of unthreaded part (body) shall generally be approximately

the pitch diameter of screw thread, or may also be the nominal diameter of screw threads approximately. However, its diameter shall not exceed the maximum value of major diameter of screw threads.

3. The shape of screw end shall be as-rolled end in the case of thread rolling, and be chamfered end in the case of screw thread cutting, and when other screw end is required, it shall be designated by the purchaser. However, the shape and dimensions of screw end shall generally be in accordance with JIS B 1003.
4. This Table is in accordance with ISO 2010.

Attached Table 5. Cited standards

JIS B 0101 Screw threads and fasteners – Vocabulary
JIS B 0205 Metric coarse screw threads
JIS B 0209 Limits of sizes and tolerances for metric coarse screw threads
JIS B 0251 Limit gauges for metric coarse screw threads
JIS B 1003 Ends of parts with external metric screw thread
JIS B 1013 Countersunk head screws – Head configuration and gauging
JIS B 1021 Tolerance system for threaded fasteners
JIS B 1041 Fasteners – Surface discontinuities – Part 1 : Bolts, screws and studs for general requirements
JIS B 1044 Threaded components – Electroplated coatings
JIS B 1051 Mechanical properties of steel bolts and screws
JIS B 1054 Specification for corrosion-resistant stainless steel fasteners
JIS B 1057 Mechanical properties of non-ferrous metal fasteners
JIS B 1058 Mechanical properties of fasteners Part 7 : Torsional test and minimum torques for bolts and screws with nominal diameters 1 mm to 10 mm
JIS B 1071 Method of verification for size and geometry of threaded fasteners
JIS B 1091 Fasteners – Acceptance inspection
JIS G 4315 Stainless steel wires for cold heading and cold forging
JIS H 3260 Copper and copper alloy wires

Attached Table 6. Corresponding International Standards

ISO 1207 : 1992 Slotted cheese head screws – Product grade A
ISO 1580 : 1994 Slotted pan head screws – Product grade A
ISO 2009 : 1994 Slotted countersunk flat head screws (common head style) – Product grade A
ISO 2010 : 1994 Countersunk slotted raised head screws (common head style) – Product grade A

Annex

Slotted head screws not in accordance with
ISO 1207, ISO 1580, ISO 2009 and ISO 2010

1. Scope This Annex specifies the steel slotted head screws (hereafter, referred to as "steel screws"), stainless steel slotted head screws (hereafter, referred to as "stainless steel screws") and brass slotted head screws (hereafter, referred to as "brass screws") for general use, and which are not in accordance with ISO 1207, ISO 1580, ISO 2009 and ISO 2010.

This Annex will be withdrawn in future. However, the strength class 4T of steel screws will be withdrawn on April 1st, 1999.

Remarks 1. In this Annex, when the steel screws, stainless steel screws, and brass screws are called generically, these are simply called "screws".

2. The shapes and dimensions of the screws specified in this Annex are those in accordance with JIS B 1101-1974.

2. Classification The screws shall be classified into 8 types of pan head screws, countersunk head screws, raised countersunk head screws, truss head screws, binding head screws, round head screws, flat fillister head screws and fillister head screws according to the shape of head. However, round head screws, flat fillister head screws and fillister head screws should not preferably be used.

3. Mechanical properties

3.1 Mechanical properties of steel screws The mechanical properties of the steel screws shall be in accordance with Annex Table 1. However, the mechanical properties relative to the steel screws of M1.4 or under in designation of thread shall be as agreed between the purchaser and the manufacturer.

Annex Table 1. Mechanical properties of steel screws

Screws to be applied	Mechanical properties		
	Strength class		Applicable standard
Steel screws	Column I	4.8	Text of JIS B 1051
		8.8	
	Column II	4T	Annex to JIS B 1051

3.2 Mechanical properties of stainless steel screws The mechanical properties of stainless steel screws shall be as agreed between the purchaser and the manufacturer. In this case, to those of M1.6 or over in designation of screw thread, unless particularly impedimental, the property class of JIS B 1054 should preferably be applied.

3.3 Mechanical properties of brass screws The mechanical properties of brass screws shall be as agreed between the purchaser and the manufacturer.

4. Shapes and dimensions The shapes and dimensions of screws shall be in accordance with Annex Table 2.

Annex Table 2. Shapes and dimensions

Type of screw	Shape and dimensions	Range of designation of thread
Pan head screw	According to Annex Attached Table 1	M1 to M8
Countersunk head screw	According to Annex Attached Table 2	
Raised countersunk head screw	According to Annex Attached Table 3	
Truss head screw	According to Annex Attached Table 4	M2 to M8
Binding head screw	According to Annex Attached Table 5	
Round head screw	According to Annex Attached Table 6	M1 to M8
Flat fillister head screw	According to Annex Attached Table 7	
Fillister head screw	According to Annex Attached Table 8	

5. Screw threads The screw threads of screws shall be the metric coarse screw threads of JIS B 0205, and the tolerance class shall be 6g of JIS B 0209.

6. Surface discontinuities The permissible limits relative to the surface discontinuities of screws, unless particularly designated, shall be in accordance with JIS B 1041.

7. Materials The materials of the screws shall be in accordance with the following:

- (1) The material of steel screws shall be the carbon steel or alloy steel, that the products satisfy the mechanical properties given in Annex Table 1. However, the material for steel screws of M1.4 or under in designation of threads shall be as agreed between the purchaser and the manufacturer.
- (2) The materials of stainless steel screws and brass screws shall generally be in accordance with Annex Table 3.

Annex Table 3. Materials

Division	Material
Stainless steel screws	JIS G 4315 (1)
Brass screws	C2700W of JIS H 3260

Note (1) When JIS B 1054 has been applied to the mechanical properties of stainless steel screws, the material also should preferably be in accordance with that standard.

8. Surface treatment The screws shall not generally be processed with surface treatment. Particularly, when the surface treatment of plating or the like is required, it shall be designated by the purchaser.

When the electroplating is processed, it shall be in accordance with JIS B 1044.

9. Inspections

9.1 Inspections on mechanical properties

9.1.1 Inspection on mechanical properties of steel screws The inspection on mechanical properties of steel screws (excluding those of M1.4 or under) shall be carried out in accordance with Annex Table 4 according to the strength class thereof, and the results shall conform to the mechanical properties of 3.1.

Annex Table 4. Mechanical properties of steel screws
to be inspected and test methods thereof

Strength class		Mechanical properties to be inspected	Test method
Column I	4.8	In accordance with the program B of Table 7 in the text of JIS B 1051.	
	8.8		
Column II	4T	Tensile strength ⁽²⁾	In accordance with 3.2.2 of Annex to JIS B 1051.
		Hardness ⁽³⁾	In accordance with 3.2.4 of Annex to JIS B 1051.

Notes ⁽²⁾ The inspection on the tensile strength of countersunk head screws and raised countersunk head screws shall be carried out by inserting into 90° countersink.

⁽³⁾ The hardness shall be the Rockwell hardness, and when any other hardness is applied, it shall be as agreed between the purchaser and the manufacturer.

Remarks 1. The inspection relating to strength class column II shall be in accordance with the inspection program of Annex to JIS B 1051; however, when the tension test is impossible due to the dimensional reason and the like, the acceptability shall be judged by the hardness.

Further, as to the screws of strength class column II, when the yield point (or proof stress) and elongation after fracture are required to examine, it shall be carried out in accordance with 4.2.1 of Annex to JIS B 1051.

2. The inspection on mechanical properties at the time of delivery, a part of the tests may be omitted by the method of confirming the test result sheets upon agreement between the purchaser and the manufacturer.

3. As to the strength class 8.8, those of under 3mm and 3 to 10 mm in nominal diameter of screw thread, and for those on which the tension test or wedge tension test is impossible due to shorter nominal length, the inspection may be carried out by the torsional strength test specified in JIS B 1058 instead of the inspection program B of the text of JIS B 1051.

9.1.2 Inspection on mechanical properties of stainless steel screws The inspection on mechanical properties of stainless steel screws shall be as agreed between the purchaser and the manufacturer.

When JIS B 1054 has been applied, inspect in accordance with that standard.

9.1.3 Inspection on mechanical properties of brass screws The inspection on mechanical properties of brass screws shall be as agreed between the purchaser and the manufacturer.

9.2 Inspection on shapes and dimensions The inspection on shapes and dimensions shall be carried out by the direct measurement, limit gauges or other methods, and the results shall conform to 4.

9.3 Inspection on screw threads The inspection on screw threads shall be carried out by the limit gauges for screw threads specified in JIS B 0251 or screw-thread inspecting device instead of this, and the results shall conform to 5.

Further, as to the go ring gauge for the electroplated screw threads, that for 4h (6h for M1.4 or under) shall be used.

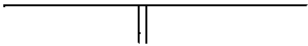
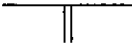
9.4. Inspection on surface discontinuities The inspection on surface discontinuities, unless particularly specified, shall be carried out in accordance with JIS B 1041, and the results shall conform to the permissible limits specified in JIS B 1041.

10. Designation The screws shall be designated by the Standard number ⁽⁴⁾, type ⁽⁵⁾, designation of thread (d) $\times$ nominal length (l), symbol of strength class of mechanical properties ⁽⁶⁾, material and designated matter ⁽⁷⁾. However, for those which have applied JIS B 1051 and JIS B 1054, the material shall be omitted, and the symbol of strength class of mechanical properties shall be omitted for those other than these.

Further, when the thread length (b) has been made to the value other than given in Annex Attached Table 9 by designation, the value of b shall be appended by attaching parentheses after l .

- Notes
- (⁴) The Standard number, unless particularly required, may be omitted.
 - (⁵) When the Standard number has been omitted, "slotted" shall be attached before the type.
 - (⁶) When the property class of JIS B 1054 has been applied to the stainless steel screws, it shall be treated similarly to the strength class.
 - (⁷) As to the designated matter, the thread length, surface treatment, shape of screw end, etc. shall be indicated as required.

Examples :

(In the case of steel screw of M1.6 or more)	JIS B 1101	Countersunk head screw	M5 $\times$ 25	- 4.8	A2K (⁸)
(In the case of stainless steel screw)	JIS B 1101	Pan head screw	M6 $\times$ 50 (40)	SUS 305	
(In the case of brass screw)		Slotted countersunk head screw	M2 $\times$ 10	C2700W	Flat point
					
	(Standard number)	(Type)	[$d \times l$ (b)]	(Strength class)	(Material)
					(Designated matter)

Note (⁸) A2K shall be in accordance with the symbol of Annex D to JIS B 1044.

11. Markings

11.1 Marking on products The marking on products shall be in accordance with the following :

- (1) The marking on products for those of strength class column I of steel screws shall be in accordance with 6.1 of the text of JIS B 1051.
- (2) The marking on products for those of strength class column II of steel screws shall be in accordance with 5. of Annex to JIS B 1051.
- (3) The marking on products of the stainless steel screws for which JIS B 1054 have been applied shall be in accordance with 8.1 of the text of JIS B 1054.
- (4) The marking shall not be indicated on the brass screws.

11.2 Marking on packages The packages shall be marked with the following information on the outer face.

- (1) Type (As to the type, it shall be marked that it is of slotted one.)
- (2) Designation of thread $\times l$
- (3) Symbol of strength class (in the case of steel screws to which JIS B 1051 has been applied) or the symbol of property class (in the case of stainless steel screws to which JIS B 1054 has been applied)
- (4) Material ⁽⁹⁾
- (5) Quantity and designated matter ⁽¹⁰⁾
- (6) Manufacturer's name or abbreviation

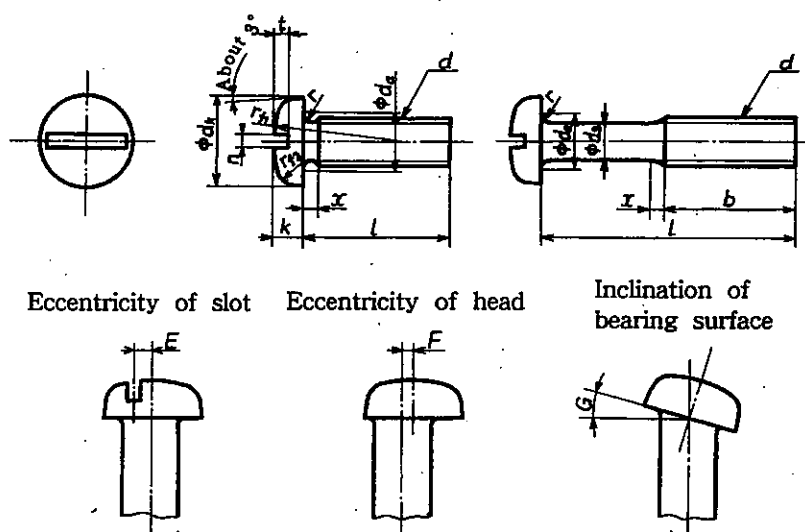
Notes ⁽⁹⁾ The marking of material shall be performed on the stainless steel screws, brass screws and steel screws of M1.4 or under. The material of stainless steel screws to which JIS B 1054 has been applied may be omitted.

In addition, the material of steel screws to which JIS B 1051 has been applied shall generally be omitted.

Furthermore, the marking of material may also be the general name of material.

- ⁽¹⁰⁾ When the thread length (b) has been made to the value other than given in Annex Attached Table 9 by designation, its value shall be indicated by attaching () after l of (2).

Annex Attached Table 1. Shape and dimensions of pan head screws



Unit : mm

Designation of thread d	Pitch (P)	d_s		k		r_f	r_n	n		t		r	d_a	$E^{(1)}$	$F^{(1)}$	G
		Basic size	**	Basic size	**	About	About	Basic size	**	Basic size	**	Min.	Max.	Max.	Max.	Max.
M1	0.25	2	0	0.65	± 0.1	3	0.3	0.32	$+0.1$	0.3	± 0.05	0.1	1.4	0.1	0.05	2°
M1.2	0.25	2.3	-0.3	0.8		3.5	0.4	0.32	0	0.4		0.1	1.6	0.1	0.05	
(M1.4)	0.3	2.6	0	0.9		3.7	0.5	0.32		0.5	± 0.1	0.1	1.8	0.15	0.1	
* M1.6	0.35	3	-0.4	1		4	0.5	0.4	$+0.15$	0.55		0.1	2	0.15	0.1	
* M2	0.4	3.5		1.3		4.5	0.7	0.6	0	0.7		0.1	2.6	0.15	0.1	
(M2.2)	0.45	4		1.5		5	0.8	0.6		0.8		0.1	2.8	0.2	0.15	
* M2.5	0.45	4.5		1.7		6	0.9	0.8		0.9	± 0.15	0.1	3.1	0.2	0.15	
* M3	0.5	5.5	0	2	± 0.15	7	1.1	0.8		1.1		0.1	3.6	0.25	0.2	
* (M3.5)	0.6	6	-0.5	2.3		8	1.3	1		1.25	± 0.2	0.1	4.1	0.25	0.2	
* M4	0.7	7		2.6		9	1.5	1		1.4		0.2	4.7	0.3	0.2	
(M4.5)	0.75	8	0	2.9		11	1.7	1		1.6	± 0.25	0.2	5.2	0.35	0.25	
* M5	0.8	9	-0.6	3.3		12	1.9	1.2	$+0.2$	1.8	± 0.3	0.2	5.7	0.35	0.25	
* M6	1	10.5	0	3.9	± 0.2	14	2.3	1.2	0	2.1		0.25	6.8	0.4	0.3	
			-0.7													
* M8	1.25	14	0	5.2		18	3	1.6		2.8	± 0.5	0.4	9.2	0.5	0.4	
			-0.8													

** Permissible deviation

Note (1) E and F shall be the eccentricity in respect to the shaft centre.

Remarks 1. In the table, the designation of thread given in parentheses should not preferably be used.

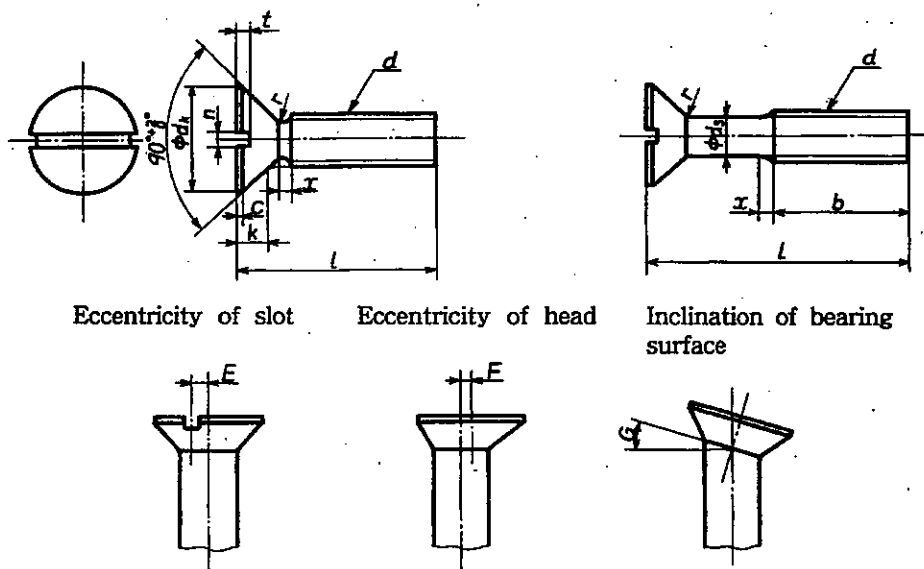
Further, the screws attached with * mark (except strength class 8.8) should preferably be in accordance with the slotted pan head screws of Attached Table 2 of the text for securing internationality.

2. Nominal length (l) and thread length (b) are in accordance with Annex Attached Table 9.
3. The depth of slot (t) shall be measured at the shallowest part and the value shall be within the permissible limits.
4. The value of diameter (d_s) of unthreaded part shall generally be approximately pitch diameter of screw thread.

Further, as required, the value of d_s may be made approximately equal to major diameter of screw thread. In this case, d_s shall not exceed the maximum value of the major diameter of screw thread.

5. x shall be about 2 threads.
6. The shape of screw end, unless designated, shall be as-rolled end, and in the case where chamfered end, flat point, etc. are required, the purchaser shall designate them. However, the shape and dimensions of screw end shall generally be in accordance with JIS B 1003.
7. The upper surface of head may not be rounded (r_{f1}).

Annex Attached Table 2. Shape and dimensions of countersunk head screws



Unit : mm

Designation of thread <i>d</i>	Pitch (<i>P</i>)	<i>d_k</i>		<i>k</i> ⁽¹²⁾		<i>c</i>		<i>n</i>		<i>t</i>		<i>r</i>	<i>E</i> ⁽¹¹⁾	<i>F</i> ⁽¹¹⁾	<i>G</i>
		Basic size	**	Basic size	**	About	Basic size	**	Basic size	**	About	Max.	Max.	Max.	Max.
M1	0.25	2	0	0.6	0	0.1	0.32	+0.1	0.25	±0.05	0.1	0.1	0.05	2'	
M1.2	0.25	2.4	-0.3	0.8	-0.1	0.1	0.32	0	0.3		0.12	0.1	0.05		
(M1.4)	0.3	2.8		0.85		0.15	0.32		0.3		0.14	0.15	0.1		
* M1.6	0.35	3.2	0	0.95		0.15	0.4	+0.15	0.35		0.16	0.15	0.1		
* M2	0.4	4	-0.4	1.2	0	0.2	0.6	0	0.5	±0.1	0.2	0.15	0.1		
(M2.2)	0.45	4.4		1.3	-0.2	0.2	0.6		0.5		0.22	0.2	0.15		
* M2.5	0.45	5		1.45		0.2	0.8		0.6		0.25	0.2	0.15		
* M3	0.5	6	0	1.75	0	0.25	0.8		0.7		0.3	0.25	0.2		
* (M3.5)	0.6	7	-0.5	2	-0.3	0.25	1		0.8	±0.15	0.35	0.25	0.2		
* M4	0.7	8		2.3		0.3	1		0.9		0.4	0.3	0.2		
(M4.5)	0.75	9	0	2.55		0.3	1		1	±0.2	0.45	0.35	0.25		
* M5	0.8	10	-0.6	2.8		0.3	1.2	+0.2	1.1		0.5	0.35	0.25		
* M6	1	12	0	3.4	0	0.4	1.2	0	1.4	±0.25	0.6	0.4	0.3		
			-0.7		-0.4										
* M8	1.25	16	0	4.4		0.4	1.6		1.8	±0.3	0.8	0.5	0.4		
			-0.8												

** Permissible deviation

Note ⁽¹²⁾ The height of head (k) is the value measured by taking the point where the extended line of nominal diameter of screw thread intersects with the countersunk surface or its extended line as the starting point.

Remarks 1. In the table, the designation of thread given in parentheses should not preferably be used.

Further, the screws attached with ※ mark (except strength class 8.8) should preferably be in accordance with the slotted countersunk head screws of Attached Table 3 of the text for securing internationality.

2. Nominal length (l) and thread length (b) are in accordance with Annex Attached Table 9.

3. The depth of slot (t) shall be measured at the shallowest part and the value shall be within the permissible limits.

4. The value of diameter (d_s) of unthreaded part shall generally be approximately pitch diameter of screw thread.

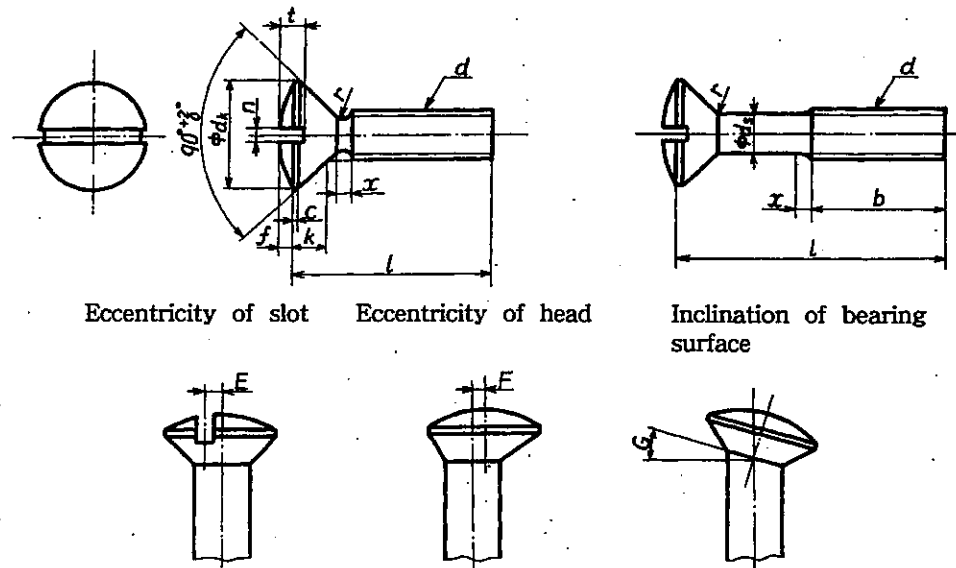
Further, as required, the value of d_s may be made approximately equal to major diameter of screw thread. In this case, d_s shall not exceed the maximum value of the major diameter of screw thread.

5. x shall be about 2 threads.

6. The shape of screw end, unless designated, shall be as-rolled end, and in the case where chamfered end, flat point, etc. are required, the purchaser shall designate them. However, the shape and dimensions of screw end shall generally be in accordance with JIS B 1003.

7. The corner of part c may be rounded.

Annex Attached Table 3. Shape and dimensions of raised countersunk head screws



Unit : mm

Designation of thread <i>d</i>	Pitch (<i>P</i>)	<i>d_k</i>		<i>k</i> ⁽¹²⁾		<i>c</i>		<i>f</i>		<i>k+f</i>		<i>n</i>		<i>t</i>		<i>r</i>	<i>E</i> ⁽¹¹⁾		<i>F</i> ⁽¹¹⁾		<i>G</i>
		Basic size	**	Basic size	**	About	About	Basic size	**	Basic size	**	Basic size	**	Basic size	**		About	Max.	Max.	Max.	
M1	0.25	2	0 -0.3	0.6	0 -0.1	0.1	0.2	0.8	0 -0.2	0.32	+0.1 0	0.35	±0.1	0.1	0.1	0.05	2'				
M1.2	0.25	2.4		0.7		0.1	0.3	1	0	0.32		0.45		0.12	0.1	0.05					
(M1.4)	0.3	2.8		0.85		0.15	0.3	1.15	-0.3	0.32		0.5		0.14	0.15	0.1					
* M1.6	0.35	3.2	0 -0.4	0.95		0.15	0.35	1.3		0.4	+0.15 0	0.55		0.16	0.15	0.1					
* M2	0.4	4		1.2	0 -0.2	0.2	0.4	1.6	0 -0.4	0.6		0.7	±0.15	0.2	0.15	0.1					
(M2.2)	0.45	4.4		1.3		0.2	0.5	1.8		0.6		0.8		0.22	0.2	0.15					
* M2.5	0.45	5		1.45		0.2	0.55	2		0.8		0.9		0.25	0.2	0.15					
* M3	0.5	6	0 -0.5	1.75	0 -0.3	0.25	0.7	2.45	0 -0.5	0.8		1.1	±0.2	0.3	0.25	0.2					
(M3.5)	0.6	7		2		0.25	0.8	2.8		1		1.2		0.35	0.25	0.2					
* M4	0.7	8		2.3		0.3	0.9	3.2		1		1.4	±0.25	0.4	0.3	0.2					
(M4.5)	0.75	9	0 -0.6	2.55		0.3	1	3.55		1		1.5	±0.3	0.45	0.35	0.25					
* M5	0.8	10		2.8		0.3	1.2	4		1.2	+0.2 0	1.7		0.5	0.35	0.25					
* M6	1	12	0 -0.7	3.4	0 -0.4	0.4	1.4	4.8	0 -0.6	1.2		2.1	±0.4	0.6	0.4	0.3					
* M8	1.25	16	0 -0.8	4.4		0.4	1.8	6.2		1.6		2.7	±0.5	0.8	0.5	0.4					

** Permissible deviation

Remarks 1. In the table, the designation of thread given in parentheses should not preferably be used.

Further, the screws attached with ※ mark (except strength class 8.8) should preferably be in accordance with the slotted raised countersunk head screws of Attached Table 4. of the text for securing internationality.

2. Nominal length (l) and thread length (b) are in accordance with Annex Attached Table 9.

3. The depth of slot (t) shall be measured at the shallowest part and the value shall be within the permissible limits.

4. The value of diameter (d_s) of unthreaded part shall generally be approximately pitch diameter of screw thread.

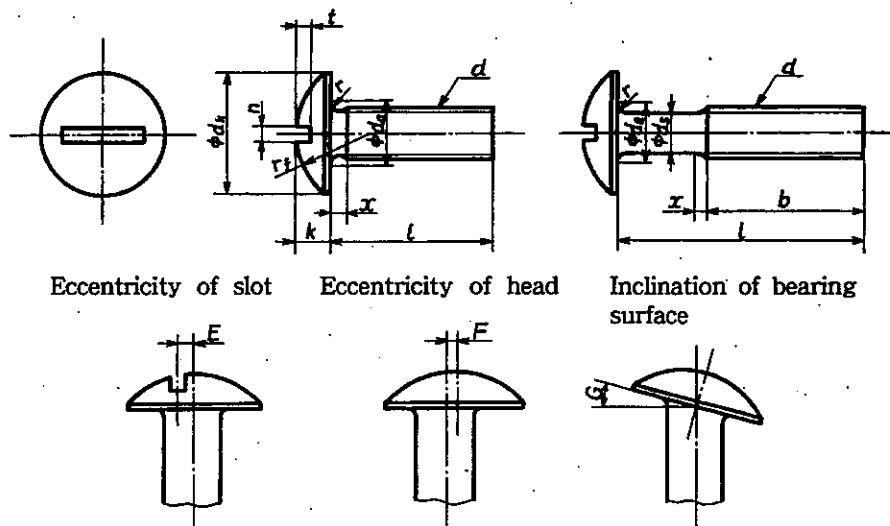
Further, as required, the value of d_s may be made approximately equal to major diameter of screw thread. In this case, d_s shall not exceed the maximum value of the major diameter of screw thread.

5. x shall be about 2 threads.

6. The shape of screw end, unless designated, shall be as-rolled end, and in the case where chamfered end, flat point, etc. are required, the purchaser shall designate them. However, the shape and dimensions of screw end shall generally be in accordance with JIS B 1003.

7. The corner of part c may be rounded.

Annex Attached Table 4. Shape and dimensions of truss head screws



Unit : mm

Designation of thread d	Pitch (P)	d_k		k		r_f	n		t		r	d_a	$E_{(11)}$	$F_{(11)}$	G
		Basic size	**	Basic size	**	About	Basic size	**	Basic size	**	Min.	Max.	Max.	Max.	Max.
M2	0.4	4.5	0	1.2	± 0.1	3	0.6	$+0.15$	0.6	± 0.1	0.1	2.6	0.15	0.1	2°
(M2.2)	0.45	5	-0.4	1.3		3.2	0.6	0	0.65		0.1	2.8	0.2	0.15	
M2.5	0.45	5.7		1.5		3.7	0.8		0.75		0.1	3.1	0.2	0.15	
M3	0.5	6.9	0	1.9	± 0.15	4.6	0.8		0.95	± 0.15	0.1	3.6	0.25	0.2	
(M3.5)	0.6	8.1	-0.5	2.2		5.4	1		1.1		0.1	4.1	0.25	0.2	
M4	0.7	9.4		2.5		6.1	1		1.25	± 0.2	0.2	4.7	0.3	0.2	
(M4.5)	0.75	10.6	0	2.8		6.9	1		1.4		0.2	5.2	0.35	0.25	
M5	0.8	11.8	-0.6	3.1		7.7	1.2	$+0.2$	1.6	± 0.25	0.2	5.7	0.35	0.25	
M6	1	14	0	3.7	± 0.2	9.1	1.2	0	1.9	± 0.3	0.25	6.8	0.4	0.3	
M8	1.25	17.8	0	4.8		11.7	1.6		2.4	± 0.4	0.4	9.2	0.5	0.4	

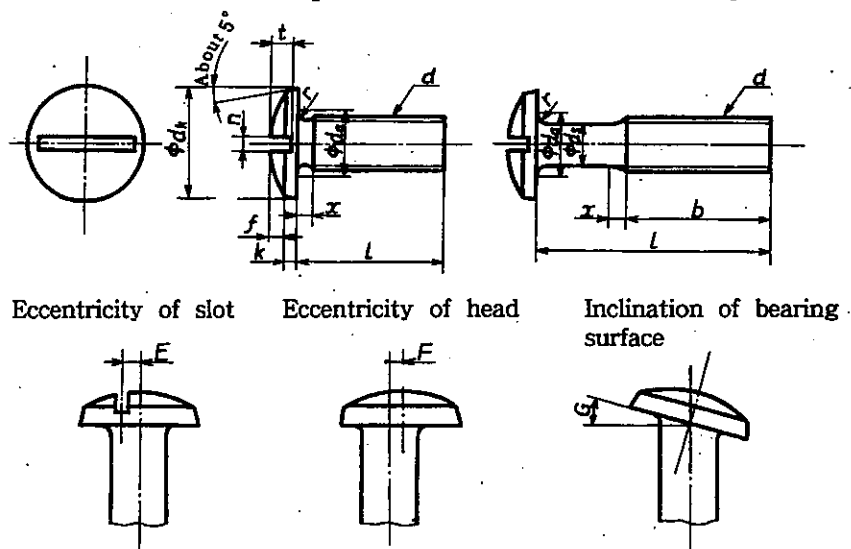
** Permissible deviation

- Remarks
1. In the table, the designation of thread given in parentheses should not preferably be used.
 2. Nominal length (l) and thread length (b) are in accordance with Annex Attached Table 9.
 3. The depth of slot (t) shall be measured at the shallowest part and the value shall be within the permissible limits.
 4. The value of diameter (d_s) of unthreaded part shall generally be approximately pitch diameter of screw thread.

Further, as required, the value of d_s may be made approximately equal to major diameter of screw thread. In this case, d_s shall not exceed the maximum value of the major diameter of screw thread.

5. x shall be about 2 threads.
6. The shape of screw end, unless designated, shall be as-rolled end, and in the case where chamfered end, flat point, etc. are required, the purchaser shall designate them. However, the shape and dimensions of screw end shall generally be in accordance with JIS B 1003.

Annex Attached Table 5. Shape and dimensions of binding head screws



Unit : mm

Designation of thread d	Pitch (P)	d_s		k	f		$k+f$		n		t		r	d_a	$E^{(1)}$	$F^{(1)}$	G
		Basic size	**		Basic size	**	Basic size	**	Basic size	**	Basic size	**					
M2	0.4	4.3	0	0.85	0.35	± 0.1	1.2	± 0.15	0.6	$+0.15$	0.65	± 0.1	0.1	2.6	0.15	0.1	2°
(M2.2)	0.45	4.7	-0.4	0.9	0.4		1.3		0.6	0	0.7		0.1	2.8	0.2	0.15	
M2.5	0.45	5.3		1	0.5		1.5		0.8		0.8		0.1	3.1	0.2	0.15	
M3	0.5	6.3	0	1.3	0.6		1.9		0.8		1	± 0.15	0.1	3.6	0.25	0.2	
(M3.5)	0.6	7.3	-0.5	1.5	0.7	± 0.15	2.2	± 0.2	1		1.15	± 0.2	0.1	4.1	0.25	0.2	
M4	0.7	8.3		1.7	0.8		2.5		1		1.3		0.2	4.7	0.3	0.2	
(M4.5)	0.75	9.3	0	1.9	0.9		2.8		1		1.5	± 0.25	0.2	5.2	0.35	0.25	
M5	0.8	10.3	-0.6	2.1	1		3.1		1.2	$+0.2$	1.7		0.2	5.7	0.35	0.25	
M6	1	12.4	0	2.4	1.3		3.7		1.2	0	2	± 0.3	0.25	6.8	0.4	0.3	
			-0.7														
M8	1.25	16.4	0	3.1	1.7	± 0.2	4.8	± 0.3	1.6		2.8	± 0.5	0.4	9.2	0.5	0.4	
			-0.8														

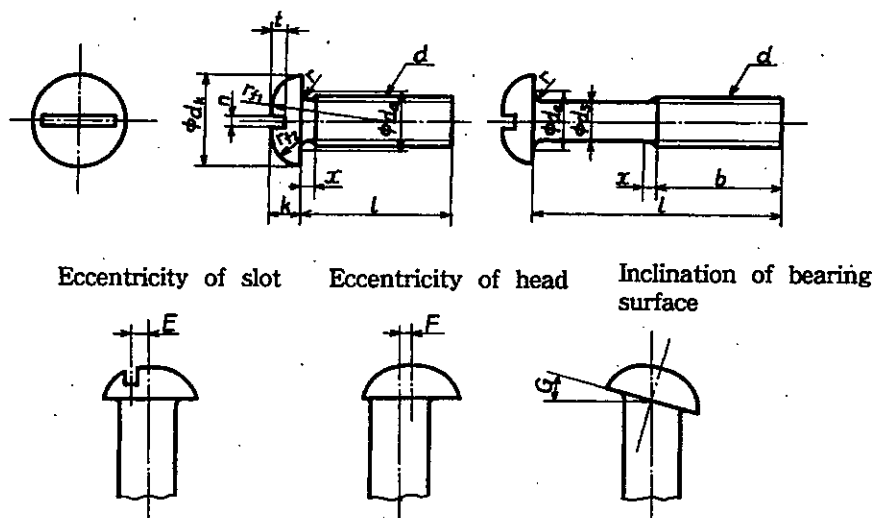
** Permissible deviation

- Remarks
1. In the table, the designation of thread given in parentheses should not preferably be used.
 2. Nominal length (l) and thread length (b) are in accordance with Annex Attached Table 9.
 3. The depth of slot (t) shall be measured at the shallowest part and the value shall be within the permissible limits.
 4. The value of diameter (d_s) of unthreaded part shall generally be approximately pitch diameter of screw thread.

Further, as required, the value of d_s may be made approximately equal to major diameter of screw thread. In this case, d_s shall not exceed the maximum value of the major diameter of screw thread.

5. x shall be about 2 threads.
6. The shape of screw end, unless designated, shall be as-rolled end, and in the case where chamfered end, flat point, etc. are required, the purchaser shall designate them. However, the shape and dimensions of screw end shall generally be in accordance with JIS B 1003.

Annex Attached Table 6. Shape and dimensions of round head screws



Unit : mm

Designation of thread d	Pitch (P)	d_k		k		r_f	r_n	n		t		r	d_a	$E^{(1)}$	$F^{(1)}$	G
		Basic size	**	Basic size	**	About	About	Basic size	**	Basic size	**	Min.	Max.	Max.	Max.	Max.
M1	0.25	2	0	0.8	± 0.1	1.2	0.7	0.32	$+0.1$	0.45	± 0.1	0.1	1.4	0.1	0.05	2°
M1.2	0.25	2.3	-0.3	0.9		1.4	0.8	0.32	0	0.5		0.1	1.6	0.1	0.05	
(M1.4)	0.3	2.6	0	1		1.6	0.9	0.32		0.6		0.1	1.8	0.15	0.1	
M1.6	0.35	3	-0.4	1.1		1.8	1	0.4	$+0.15$	0.65		0.1	2	0.15	0.1	
M2	0.4	3.5		1.3		2.1	1.2	0.6	0	0.8		0.1	2.6	0.15	0.1	
(M2.2)	0.45	4		1.5		2.4	1.3	0.6		0.9	± 0.15	0.1	2.8	0.2	0.15	
M2.5	0.45	4.5		1.7		2.7	1.5	0.8		1		0.1	3.1	0.2	0.15	
M3	0.5	5.5	0	2	± 0.15	3.3	1.8	0.8		1.2	± 0.2	0.1	3.6	0.25	0.2	
(M3.5)	0.6	6	-0.5	2.3		3.6	2	1		1.4		0.1	4.1	0.25	0.2	
M4	0.7	7		2.6		4.2	2.3	1		1.6	± 0.25	0.2	4.7	0.3	0.2	
(M4.5)	0.75	8	0	3		4.8	2.7	1		1.9	± 0.3	0.2	5.2	0.35	0.25	
M5	0.8	9	-0.6	3.4		5.4	3	1.2	$+0.2$	2.1		0.2	5.7	0.35	0.25	
M6	1	10.5	0	4	± 0.2	6.3	3.5	1.2	0	2.5	± 0.4	0.25	6.8	0.4	0.3	
			-0.7													
M8	1.25	14	0	5.4		8.4	4.6	1.6		3.3	± 0.5	0.4	9.2	0.5	0.4	
			-0.8													

** Permissible deviation

Remarks 1. In the table, the designation of thread given in parentheses should not preferably be used.

2. Nominal length (l) and thread length (b) are in accordance with Annex Attached Table 9.

3. The depth of slot (t) shall be measured at the shallowest part and the value shall be within the permissible limits.

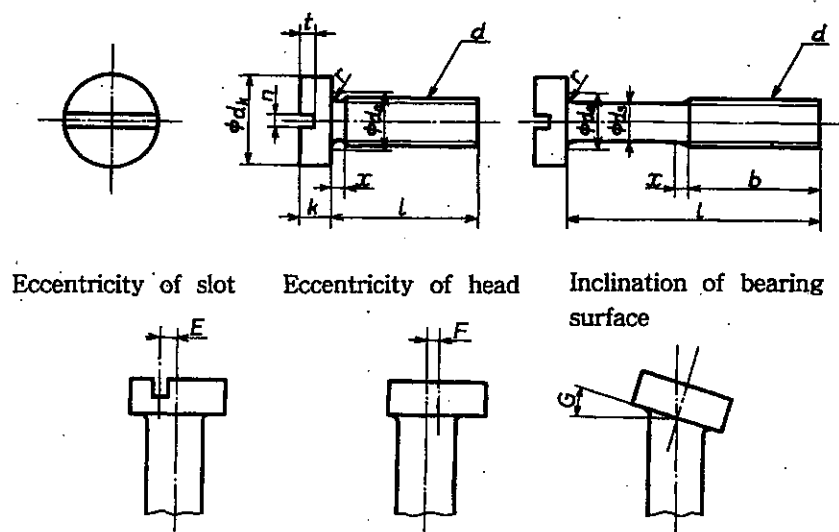
4. The value of diameter (d_s) of unthreaded part shall generally be approximately pitch diameter of screw thread.

Further, as required, the value of d_s may be made approximately equal to major diameter of screw thread. In this case, d_s shall not exceed the maximum value of the major diameter of screw thread.

5. x shall be about 2 threads.

6. The shape of screw end, unless designated, shall be as-rolled end, and in the case where chamfered end, flat point, etc. are required, the purchaser shall designate them. However, the shape and dimensions of screw end shall generally be in accordance with JIS B 1003.

Annex Attached Table 7. Shape and dimensions of flat fillister head screws



Unit : mm

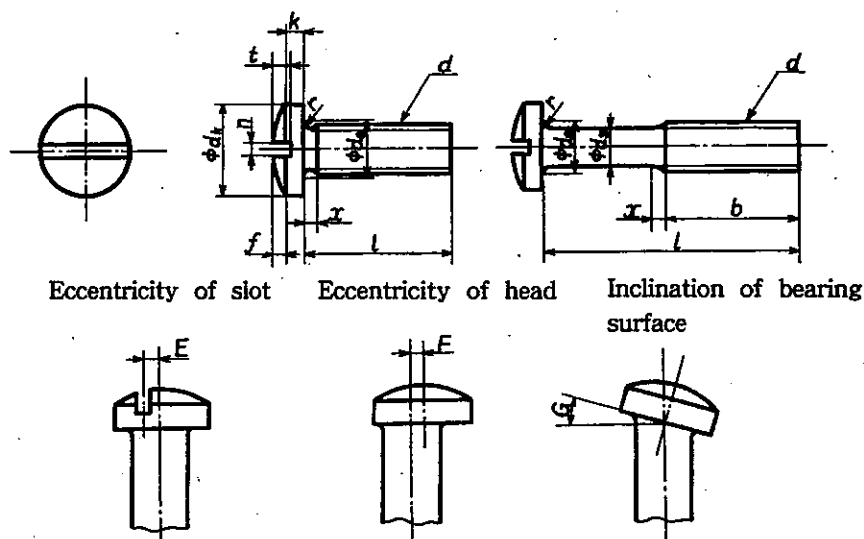
Designation of thread d	Pitch (P)	d_k		k		n		t		r	d_a	$E^{(1)}$	$F^{(1)}$	G
		Basic size	**	Basic size	**	Basic size	**	Basic size	**	Min.	Max.	Max.	Max.	Max.
M1	0.25	2	0	0.65	± 0.1	0.32	$+0.1$	0.3	± 0.05	0.1	1.4	0.1	0.05	2°
M1.2	0.25	2.3	-0.3	0.8		0.32	0	0.4		0.1	1.6	0.1	0.05	
(M1.4)	0.3	2.6	0	0.9		0.32		0.5	± 0.1	0.1	1.8	0.15	0.1	
M1.6	0.35	3	-0.4	1		0.4	$+0.15$	0.55		0.1	2	0.15	0.1	
M2	0.4	3.5		1.3		0.6	0	0.7		0.1	2.6	0.15	0.1	
(M2.2)	0.45	4		1.5		0.6		0.8		0.1	2.8	0.2	0.15	
M2.5	0.45	4.5		1.7		0.8		0.9	± 0.15	0.1	3.1	0.2	0.15	
M3	0.5	5.5	0	2	± 0.15	0.8		1.1		0.1	3.6	0.25	0.2	
(M3.5)	0.6	6	-0.5	2.3		1		1.25	± 0.2	0.1	4.1	0.25	0.2	
M4	0.7	7		2.6		1		1.4		0.2	4.7	0.3	0.2	
(M4.5)	0.75	8	0	2.9		1		1.6	± 0.25	0.2	5.2	0.35	0.25	
M5	0.8	9	-0.6	3.3		1.2	$+0.2$	1.8	± 0.3	0.2	5.7	0.35	0.25	
M6	1	10.5	0	3.9	± 0.2	1.2	0	2.1		0.25	6.8	0.4	0.3	
			-0.7											
M8	1.25	14	0	5.2		1.6		2.8	± 0.5	0.4	9.2	0.5	0.4	
			-0.8											

** Permissible deviation

- Remarks
1. In the table, the designation of thread given in parentheses should not preferably be used.
 2. Nominal length (l) and thread length (b) are in accordance with Annex Attached Table 9.
 3. The depth of slot (t) shall be measured at the shallowest part and the value shall be within the permissible limits.
 4. The value of diameter (d_s) of unthreaded part shall generally be approximately pitch diameter of screw thread.

Further, as required, the value of d_s may be made approximately equal to major diameter of screw thread. In this case, d_s shall not exceed the maximum value of the major diameter of screw thread.
 5. x shall be about 2 threads.
 6. The shape of screw end, unless designated, shall be as-rolled end, and in the case where chamfered end, flat point, etc. are required, the purchaser shall designate them. However, the shape and dimensions of screw end shall generally be in accordance with JIS B 1003.

Annex Attached Table 8. Shape and dimensions of fillister head screws



Unit : mm

Designation of thread d	Pitch (P)	d_k		k		f	$k+f$		n		t		r	d_a	$E^{(1)}$	$F^{(1)}$	G
		Basic size	**	Basic size	**	About	Basic size	**	Basic size	**	Basic size	**	Min.	Max.	Max.	Max.	Max.
M1	0.25	2	0	0.55	± 0.1	0.2	0.75	± 0.15	0.32	$+0.1$	0.4	± 0.05	0.1	1.4	0.1	0.05	2'
M1.2	0.25	2.3	-0.3	0.65		0.25	0.9		0.32	0	0.5	± 0.1	0.1	1.6	0.1	0.05	
(M1.4)	0.3	2.6	0	0.7		0.3	1		0.32		0.55		0.1	1.8	0.15	0.1	
M1.6	0.35	3	-0.4	0.8		0.35	1.15		0.4	$+0.15$	0.65		0.1	2	0.15	0.1	
M2	0.4	3.5		1		0.45	1.45		0.6	0	0.8		0.1	2.6	0.15	0.1	
(M2.2)	0.45	4		1.15		0.5	1.65		0.6		0.9	± 0.15	0.1	2.8	0.2	0.15	
M2.5	0.45	4.5		1.3		0.6	1.9		0.8		1		0.1	3.1	0.2	0.15	
M3	0.5	5.5	0	1.5		0.7	2.2	± 0.2	0.8		1.2	± 0.2	0.1	3.6	0.25	0.2	
(M3.5)	0.6	6	-0.5	1.75	± 0.15	0.8	2.55		1		1.4		0.1	4.1	0.25	0.2	
M4	0.7	7		1.9		1	2.9		1		1.55	± 0.25	0.2	4.7	0.3	0.2	
(M4.5)	0.75	8	0	2.1		1.1	3.2		1		1.7		0.2	5.2	0.35	0.25	
M5	0.8	9	-0.6	2.4		1.2	3.6	± 0.3	1.2	$+0.2$	1.9	± 0.3	0.2	5.7	0.35	0.25	
M6	1	10.5	0	2.8		1.5	4.3		1.2	0	2.3	± 0.4	0.25	6.8	0.4	0.3	
			-0.7														
M8	1.25	14	0	3.7	± 0.2	2	5.7		1.6		3	± 0.5	0.4	9.2	0.5	0.4	
			-0.8														

** Permissible deviation

Remarks 1. In the table, the designation of thread given in parentheses should not preferably be used.

2. Nominal length (l) and thread length (b) are in accordance with Annex Attached Table 9.

3. The depth of slot (t) shall be measured at the shallowest part and the value shall be within the permissible limits.

4. The value of diameter (d_s) of unthreaded part shall generally be approximately pitch diameter of screw thread.

Further, as required, the value of d_s may be made approximately equal to major diameter of screw thread. In this case, d_s shall not exceed the maximum value of the major diameter of screw thread.

5. x shall be about 2 threads.

6. The shape of screw end, unless designated, shall be as-rolled end, and in the case where chamfered end, flat point, etc. are required, the purchaser shall designate them. However, the shape and dimensions of screw end shall generally be in accordance with JIS B 1003.

Annex Attached Table 9. *l* and *b* of screws

Unit : mm

Designation of thread	M1	M1.2	M1.4	M1.6	M2	M2.2	M2.5	M3	M3.5	M4	M4.5	M5	M6	M8
<i>b</i>	6	6	8	8	8	10	12	12	14	16	20	20	25	30
<i>l</i>	3	○*	○*	○*	○*									
	4	○	○	○	○*	○*	○*							
	5	○	○	○	○	○*	○*	○*	○*					
	6	○	○	○	○	○	○	○	○*	○*				
	8	○	○	○	○	○	○	○	○	○*	○*	○*	○*	
	10	○	○	○	○	○	○	○	○	○	○	○	○*	○*
	12		○	○	○	○	○	○	○	○	○	○	○	○*
	14			○	○	○	○	○	○	○	○	○	○	○
	16			○	○	○	○	○	○	○	○	○	○	○
	20				○	○	○	○	○	○	○	○	○	○
	25						○	○	○	○	○	○	○	○
	30						○	○	○	○	○	○	○	○
	35							○	○	○	○	○	○	○
	40							○	○	○	○	○	○	○
	45								○	○	○	○	○	○
	50									○	○	○	○	○
	55												○	○
	60												○	○

Remarks 1. In the frame of bold line, the preferable nominal length (*l*) relative to the designation of each screw thread is shown, and those attached with * mark shall not apply to countersunk head screws and raised countersunk head screws.

Further, the nominal length (*l*) other than that shown in the above table may be used as required, but in the case where the nominal length (*l*) exceeding 60 mm is required, it should preferably be in accordance with the following. However, those given in parentheses should not preferably be used.

Unit : mm

65	70	75	80	85	90	(95)	100	(105)	110	(115)	120	(125)	130	140	150	160	170	180	190	200
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2. The permissible deviations on nominal length (l) shall be as shown in the following table.

Unit : mm

Division of designation of threads Division of l	M2.5 max.	Over M2.5 up to M4.5 incl.	Over M4.5
4 max.	0 - 0.3	-	-
Over 4 to 10 incl.	0 - 0.4	0 - 0.6	0 - 0.8
Over 10 to 20 incl.	0 - 0.6	0 - 0.6	0 - 1
Over 20 to 40 incl.	0 - 0.8	0 - 0.8	0 - 1
Over 40	-	0 - 1	0 - 1

3. For thread length (b), the value other than those shown in the above table may be used upon agreement between the purchaser and the manufacturer.
4. The permissible deviations of thread length (b), unless particularly specified, shall be $^{+3P}_0$. However, P shall be the pitch of screw thread.

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