UDC 621.882.215.1.091.4 September 1986

Slotted pan head screws with small head

DIN 920

Flachkopfschrauben mit Schlitz und kleinem Kopf

Supersedes August 1972 edition.

In keeping with current practice in standards published by the International Organization for Standardization (ISO), a comma has been used throughout as the decimal marker.

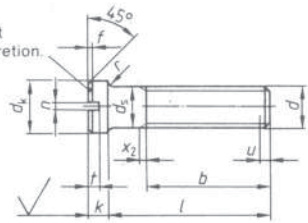
1 Dimensions

Dimensions in mm

Radiusing instead of chamfering permitted, at the manufacturer's discretion.

$\sqrt{} = \sqrt{R_z\ 16}$ for sizes up to M 3

$\sqrt{R_z\ 25}$ for sizes exceeding M 3



DIN 78-K or DIN 78-L thread ends, at the manufacturer's discretion.

u (incomplete thread): 1,5 P maximum.

x_2 as specified in DIN 76 Part 1.

Thread size d		M 1	M 1,2	M 1,4	M 1,6	M 2	M 2,5
P [1]		0,25	0,25	0,3	0,35	0,4	0,45
b	$^{+2}_{-0}\,P$	[2]	[2]	[2]	5	6	7,5
d_k	max. = nominal size	1,6	1,8	2	2,3	2,8	3,5
	min.	1,46	1,66	1,86	2,16	2,66	3,32
d_s	max. = nominal size	1	1,2	1,4	1,6	2	2,5
	min.	0,86	1,06	1,26	1,46	1,86	2,36
f	≈	0,2	0,2	0,25	0,25	0,3	0,4
k	Nominal size	0,7	0,8	0,9	1	1,2	1,5
	max.	0,82	0,92	1,02	1,12	1,32	1,62
	min.	0,58	0,68	0,78	0,88	1,08	1,38
n	Nominal size	0,2	0,25	0,25	0,3	0,3	0,4
	min.	0,26	0,31	0,31	0,36	0,36	0,46
	max.	0,4	0,45	0,45	0,5	0,5	0,6
r	max.	0,1	0,1	0,1	0,1	0,1	0,1
t	min.	0,35	0,4	0,45	0,5	0,6	0,75
	max.	0,5	0,55	0,6	0,7	0,8	0,95

Nominal size	l min.	l max.
1,5	1,4	1,6
2	1,9	2,1
(2,5)	2,4	2,6
3	2,9	3,1
(3,5)	3,3	3,7
4	3,8	4,2
5	4,8	5,2
6	5,8	6,2
8	7,8	8,2
10	9,8	10,2

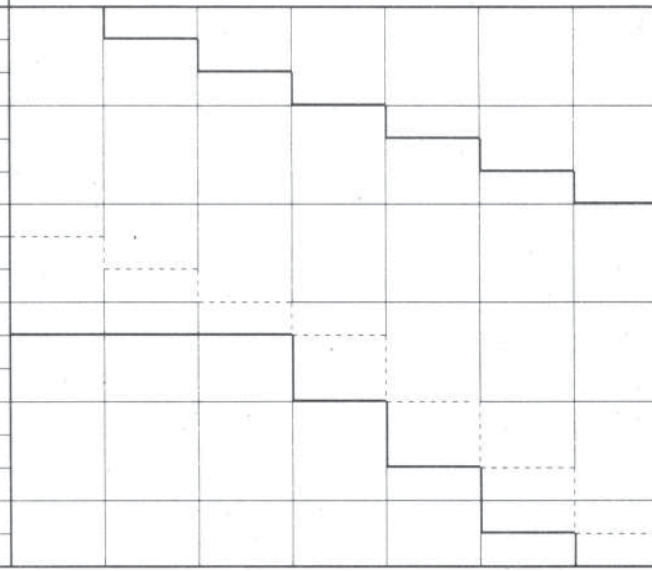
[1] P = pitch of thread (coarse pitch thread).
[2] Only threaded up to the head ($a_2 = 2\,P$, as specified in DIN 76 Part 1).

Continued on pages 2 to 4

Table (concluded)

Thread size d		M 3	(M 3,5)	M 4	M 5	M 6	M 8	M 10
P[1]		0,5	0,6	0,7	0,8	1	1,25	1,5
b	$^{+2}_{-0}P$	9	10	12	15	18	24	30
d_k	max. = nominal size	4	4,5	5,5	6,5	8	10	13
	min.	3,82	4,32	5,32	6,28	7,78	9,78	12,73
d_s	max. = nominal size	3	3,5	4	5	6	8	10
	min.	2,86	3,32	3,82	4,82	5,8	7,78	9,78
f	≈	0,45	0,5	0,6	0,7	0,8	0,9	1,1
k	Nominal size	1,8	2	2,4	2,7	3,1	3,8	4,6
	max.	1,92	2,12	2,52	2,82	3,25	3,95	4,75
	min.	1,68	1,88	2,28	2,58	2,95	3,65	4,45
n	Nominal size	0,5	0,5	0,6	0,8	1	1,2	1,6
	min.	0,56	0,56	0,66	0,86	1,06	1,26	1,66
	max.	0,7	0,7	0,8	1	1,2	1,51	1,91
r	max.	0,1	0,1	0,2	0,2	0,25	0,4	0,4
t	min.	0,9	1	1,2	1,3	1,5	1,9	2,3
	max.	1,15	1,3	1,5	1,6	1,9	2,4	2,8

Nominal size	l min.	l max.
3	2,9	3,1
(3,5)	3,3	3,7
4	3,8	4,2
5	4,8	5,2
6	5,8	6,2
8	7,8	8,2
10	9,8	10,2
12	11,7	12,3
(14)	13,7	14,3
16	15,7	16,3
(18)	17,7	18,3
20	19,7	20,3
(22)	21,7	22,3
25	24,7	25,3
(28)	27,7	28,3
30	29,7	30,3
35	34,6	35,4



Lengths above 35 mm shall be graded in 5 mm steps.

Thread sizes and intermediate lengths in brackets should be avoided if possible.

Slotted pan head screws are normally manufactured in the range indicated by ——— stepped lines.

$b \approx l - a_2$ ($a_2 = 2P$, as specified in DIN 76 Part 1) shall apply for screws with lengths above the - - - - - stepped line.

[1]) P = pitch of thread (coarse pitch thread).

2 Technical delivery conditions

Material		Steel	Stainless steel	Non-ferrous metal
General requirements		As specified in DIN 267 Part 1.		
Thread	Tolerance class	For sizes up to and including M 1,4: 4h; from size M 1,6: 6g.		
	Standard	DIN 13 Part 15		
Mechanical properties [3]	Property class (material)	5.8 [1]	A1–50 C4–50	CuZn = copper-zinc alloy [2]
	Standard	ISO 898 Part 1 (test programme B)	DIN 267 Part 11	DIN 267 Part 18
Permissible dimensional deviations and deviations of form	Product grade	For sizes up to and including M 1,4: F; from size M 1,6: A.		
	Standard	DIN 267 Part 6; ISO 4759 Part 1		
Types and finishes with additional information to be stated on ordering		As specified in DIN 962.		
Surface finish		As processed.	Bright.	Bright.
		DIN 267 Part 2 shall apply with regard to surface roughness. DIN 267 Part 19 shall apply with regard to permissible surface discontinuities. DIN 267 Part 9 shall apply with regard to electroplating.		
Acceptance inspection		DIN 267 Part 5 shall apply with regard to acceptance inspection.		

[1] Where cold drawn steels as specified in DIN 1651 are used, the following values of elongation at break, A_5, are permissible:
for sizes not exceeding M 4, 5 %;
for sizes larger than M 4 up to and including sizes not exceeding M 8, 6 %;
for size M 10, 7 %.

[2] CuZn = CU2 or CU3 (as specified in DIN 267 Part 18), at the manufacturer's discretion.

[3] Other property classes or materials shall be subject to agreement.

3 Designation

Designation of an M 5 slotted pan head screw with small head, of nominal length $l = 10$ mm, assigned to property class 5.8 [1]:

Pan head screw DIN 920 – M 5 × 10 – 5.8

The DIN 4000 – 2 – 1 tabular layout of article characteristics shall apply to screws conforming to this standard.

[1] Where no property class or type of material is given in existing documentation, property class 5.8 shall apply.

Standards referred to

DIN 13 Part 15	ISO metric screw threads; fundamental deviations and tolerances for screw threads of 1 mm and larger
DIN 76 Part 1	Thread run-outs and thread undercuts for ISO metric threads as specified in DIN 13
DIN 78	Thread ends; lengths of projection of thread ends for ISO metric screw threads as defined in DIN 13
DIN 267 Part 1	Fasteners; technical delivery conditions; general requirements
DIN 267 Part 2	Fasteners; technical delivery conditions; types of finish and dimensional accuracy
DIN 267 Part 5	Fasteners; technical delivery conditions; acceptance inspection (modified version of ISO 3269, 1984 edition)
DIN 267 Part 6	Fasteners; technical delivery conditions; types of finish and dimensional accuracy for product grade F
DIN 267 Part 9	Fasteners; technical delivery conditions; components with electroplated coatings
DIN 267 Part 11	Fasteners; technical delivery conditions (with additions to ISO 3506); corrosion-resistant stainless steel fasteners
DIN 267 Part 18	Fasteners; technical delivery conditions; components made of non-ferrous metals
DIN 267 Part 19	Fasteners; technical delivery conditions; surface discontinuities on bolts and screws
DIN 962	Screws, bolts, studs and nuts; designations, types and finishes
DIN 1651	Free cutting steels; technical delivery conditions
DIN 4000 Part 2	Tabular layouts of article characteristics for bolts, studs and nuts
ISO 898 Part 1	Mechanical properties of fasteners; bolts, screws and studs
ISO 4759 Part 1	Tolerances for fasteners; bolts, screws and nuts with thread diameters between 1,6 (inclusive) and 150 mm (inclusive) and product grades A, B and C

Previous editions

01.43, 08.53, 08.72.

Amendments

The following amendments have been made in comparison with the August 1972 edition.

a) Size M 1,8 has been deleted because there is no demand for it.

b) The previous design m as specified in DIN 267 Part 2, April 1968 edition, has been replaced by product grade F as specified in DIN 267 Part 6 and product grade A as specified in ISO 4759 Part 1.

c) Limiting dimensions calculated from the permissible tolerances have been included.

d) Length $l = 1$ mm has been deleted since it has proved impracticable.

e) The technical delivery conditions have been amended.

f) The content of the standard has been editorially revised.

g) The example of designation has been amended.

International Patent Classification

F 16 B 23/00
F 16 B 35/00