

DIN913

Hexagon socket set screws with cone point, modified to ISO 4026

Hexagon socket set screws with flat point This standard contains, in its German translation, all the provisions of the international standard ISO 4026:1977, supplemented by national additions. These additions are identified by shading. At the present time, it was not possible to adopt ISO 4026 unchanged as a DIN-ISO standard, because some ISO reference standards are not yet available, and national standards are used in their place. Furthermore, ISO 4026 does not include the sizes M 1.4, M 1.8, M 14, M 18 and M 22, as well as some intermediate lengths, which are required nationally.

Dimensions in mm

1 Scope of application

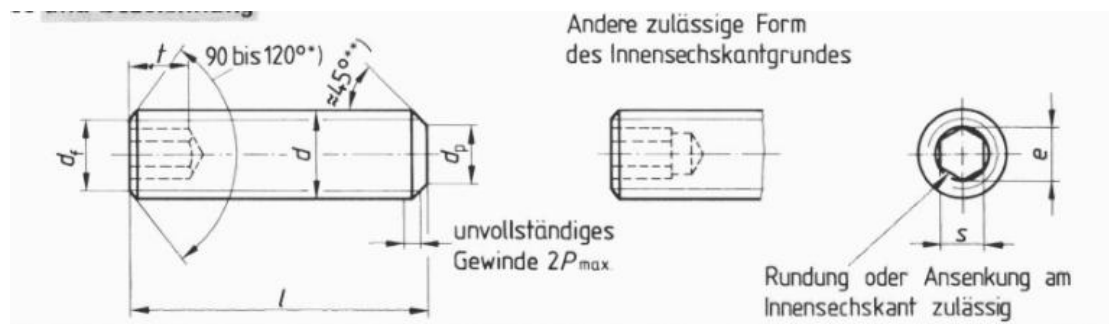
ISO 4026 specifies hexagon socket set screws with cone point, with metric dimensions and thread diameters from 1.6 to 24 mm in product class A. If requirements other than those listed are needed in special cases, these shall be selected in accordance with the relevant ISO standards, e.g. ISO 261, ISO 888, ISO 898, ISO 965, ISO 3506. In Germany, the following additional standards apply:

DIN 267 Part 1: Screws, nuts and similar threaded and formed parts, Technical delivery conditions, General information

DIN 267 Part 2: Screws, nuts and similar threaded and formed parts, Technical delivery conditions, Execution and dimensional accuracy

Screws, nuts and similar threaded and formed parts, Technical delivery conditions, Testing

2 Dimensions and designation



Designation of a hexagon socket set screw with a thread size

d=M6, nominal length =12mm

and property class 45H: Set screw DIN 913-M6 $\times$ 12-45H

Set screws up to size M2.5 may also be ordered to product class F in accordance with DIN 267

Part 6. For this purpose, the letter F shall be included in the designation, e.g.: Set screw DIN

913-M2 $\times$ 4-45H-F

If set screws with other property classes (hardness classes) in accordance with DIN ISO 898 Part 5 are required, the corresponding abbreviation shall be indicated in the designation, e.g.: Set screw DIN 913-M6 $\times$ 12-22H

Thread diameter d			M1.4	M1.6	M1.8	M2	M2.5	M3	M4	M5	M6
thread pitch P			0.3	0.35	0.35	0.4	0.45	0.5	0.7	0.8	1
df ≈			Minor diameter-minimum size								
dp	Max		0.7	0.8	0.9	1	1.5	2	2.5	3.5	4
	Min		0.45	0.55	0.65	0.75	1.25	1.75	2.25	3.2	3.7
e Min 2)			0.803	0.803	0.803	1.003	1.427	1.73	2.3	2.87	3.44
s	Nominal size		0.7	0.7	0.7	0.9	1.3	1.5	2	2.5	3
	Min		0.711	0.711	0.711	0.889	1.27	1.52	2.02	2.52	3.02
	Max		0.724	0.724	0.724	0.902	1.295	1.545	2.045	2.56	3.08
t Min	3)		0.6	0.7	0.8	0.8	1.2	1.2	1.5	2	2
	4)		1.4	1.5	1.6	1.7	2	2	2.5	3	3.5
Nominal size	Min	Max	Weight (17.85 kg/dm³) kg per 1000 pieces ≈								
2	1.8	2.2									
0.5	2.3	2.7	0.018	0.023	0.03						
3	2.8	3.2	0.022	0.059	0.036	0.044	0.075	0.1			
3.5	3.26	3.74									
4	3.76	4.24	0.029	0.037	0.048	0.059	0.1	0.14	0.22		
5	4.76	5.24	0.036	0.046	0.06	0.074	0.125	0.18	0.3	0.44	
6	5.76	6.24	0.043	0.056	0.072	0.089	0.15	0.22	0.38	0.56	0.76
8	7.71	8.29				0.119	0.199	0.31	0.53	0.8	1.11
10	9.71	10.29				0.148	0.249	0.4	0.68	1.04	1.46
12	11.65	12.35						0.49	0.83	1.28	1.81
14	13.65	14.35						0.67	1.13	1.76	2.51
16	15.65	16.35						0.85	1.43	2.24	3.21
18	17.65	18.35								2.84	4.09
20	19.58	20.42									4.97
22	21.58	22.42									5.85
25	24.58	25.42									
28	27.58	28.42									
30	29.58	30.42									
35	34.5	35.5									
1) to 4) see page 3											
*) For short set screws with lengths above the dashed step line, an angle of 120° applies.											
**) The angle ≈ 45° applies only to the area between the minor diameter of the thread and the point diameter											
d											
p											
Thread diameter d			M8	M10	M12	M14	M16	M18	M20	M22	M24
thread pitch P			1.25	1.5	1.75	2	2	2.5	2.5	2.5	3
df ≈			Minor diameter-minimum size								
dp	Max		5.5	7	8.5	10	12	13	15	17	18
	Min		5.2	6.64	8.14	9.64	11.57	12.57	14.57	16.57	17.57

e Min 2)			4.58	5.72	6.86	6.86	9.15	11.43	11.43	13.27	13.27
s	Nominal size		4	5	6	6	8	10	10	12	12
	Min		4.02	5.02	6.02	6.02	8.025	10.025	10.025	12.032	12.032
	Max		4.095	5.095	6.095	6.095	8.115	10.115	10.115	12.142	12.142
t Min	3)		3	4	4.8	5.6	6.4	7.2	8	9	10
	4)		5	6	8	9	10	11	12	13.5	15
Nominal size	Min	Max	Weight (17.85 kg/dm³) kg per 1000 pieces ≈								
6	5.76	6.24									
8	7.71	8.29	1.89								
10	9.71	10.29	2.52	3.78							
12	11.65	12.35	3.15	4.78							
14	13.65	14.35									
16	15.65	16.35	4.41	6.78	9.6						
18	17.65	18.35	5.67	8.76	12.4		21.5		32.3		
20	19.58	20.42									
22	21.58	22.42									
25	24.58	24.42	7.26	11.2	16		28		42.6		57
28	27.58	28.42									
30	29.58	30.42	8.85	13.7	19.6		34.6		52.9		72
35	34.5	35.5	10.4	16.2	23.2		41.1		63.2		87
40	39.5	40.5	12	18.7	26.8		47.7		73.5		102
45	44.5	45.5							83.8		117
50	49.5	50.5							94.1		132
55	54.4	55.6									147
60	59.4	60.6									162
1、P= Thread pitch (coarse pitch thread)e											
2、min=1.14s min; except for sizes M 1.4 to M 2.5											
3、Minimum engagement depth of the hex key for set screws with nominal size labove the dashed step line.											
4、Minimum engagement depth of the hex key for set screws with nominal size lbelow the dashed step line.											

The standard commercial sizes are identified by the weight indication. Thread sizes

d

in parentheses and nominal sizes

l

in parentheses should be avoided wherever possible.

Note: In ISO 4026, the range of standard commercial nominal sizes

l

is partially defined somewhat differently. Weights are not specified in ISO 4026. The sizes identified by the weight indication in the table above correspond to the typical requirements in Germany and are generally held in stock.

For short set screws, piercing through the base of the hexagon socket is not permitted..

Material		Steel	Stainless Steel	Non-ferrou s Metal
Material		Steel	Stainless Steel	Non-ferrou s Metal
General Requirements		in accordance with DIN 267 Part 1		
Thread	Tolerance	5g 6g for strength class 45H; 6g for all other strength classes and materials		
	Standard	Part 12 and Part 15		
Mechanical Properties	Strength Class	45H	Up to M 20: A2-70, A4, C3; over M 20: A2-50	 ²)
	Standard	DIN ISO 898 Part5	DIN267 Part11 1)	DIN267 Part18
Allowable Dimensional and Form deviations	Product class	A 3)		
	Standard		DIN ISO 4759 Part1	
Surface		blackened (thermal or chemical)	plain	plain
		DIN 267 Part 2 (April 1968 edition), Section 2.1 shall apply to the surface roughness depths. Requirements for electrolytic surface protection shall comply with DIN 267 Part 9.		
Acceptance inspection		DIN 267 Part 5 shall apply to the acceptance inspection.		
ISO 3506 is cited in ISO 4026. This standard is included in DIN 267 Part 11. DIN 267 Part 18 contains a selection of non-ferrous metals (light and heavy metals) for fasteners. It was first published in 1980. A material selection for threaded pins has not yet been determined. See Section 2				

4 Designation

Section 4, which covers the designation of set screws in accordance with ISO 4026, has not been adopted. This is because the present document is a national standard (not a DIN-ISO standard), and the DIN number must be specified for the designation of the parts (see Section 2 and the notes).

Explanations

The content of this standard has been aligned with the international standard ISO 4026:1977 Hexagon socket set screws with flat point

Vis sans tête à six pans creux, à bout plat

Gewindestifte mit Innensechskant und Kegelmutter, i.e., the ISO standard has been fully incorporated. All national provisions that go beyond the specifications of ISO 4026 have been identified by shading. The reasons for this method of adopting an international standard as a national standard are stated in the preamble.

By adopting ISO 4026, no changes that would impair interchangeability have been introduced compared to the January 1973 edition of DIN 913.

As before, set screws are designated in principle in accordance with DIN 913 (see Section 4). However, for the sake of international communication, a designation in accordance with ISO 4026 may also be used if required. In this case, only the features consistent with ISO (not shaded in this standard) apply.

Example: Set screws ISO 4026-M6 × 12-45H

In ISO 4026, only property class (hardness class) 45H from DIN ISO 898 Part 5 is specified.

Nationally, set screws are also required in other property classes, e.g. 22H, so this option is specified in the product range. This also applies to product class F (see DIN 267 Part 6), which is required for set screws up to M2.5 in precision engineering.

In the standard ISO 4026, the old ISO 3506 designation (non-staining) is still used for rust- and acid-resistant (non-staining) steels. In accordance with the agreement (see DIN 267 Part 11), this has been renamed A2-70 or A2-50.

For non-ferrous metals, reference is made to DIN 267 Part 18, as no corresponding

international standard exists. The minimum hexagon socket depths have been reduced for very short set screws located above the step line. In addition, a note has been added stating that the base of the hexagon socket must not be pierced for short set screws. During assembly, short set screws must be calculated with reduced tightening conditions.

The editorial design of the standard has been deliberately adopted as closely as possible from the ISO standard, so that a comparison between DIN and ISO is facilitated.