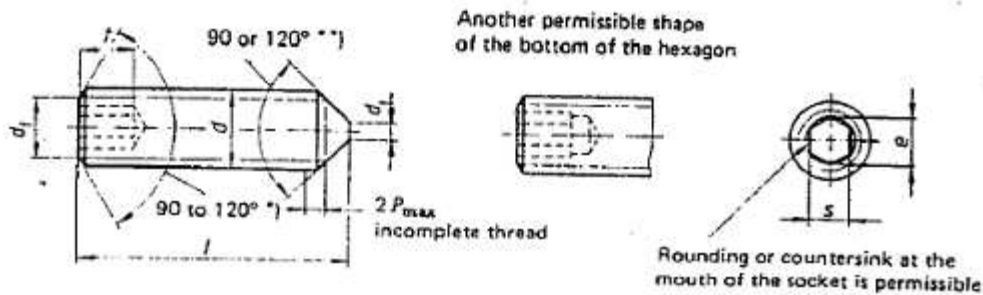


# Hexagon socket set screws with cone point

ISO 4027 modified

## 2 Dimensions and designation



Thread size <i>d</i>		M 1,4	M 1,6	(M 1,8)	M 2	M 2,5	M 3	M 4	M 5	M 6
<i>P</i> <sup>1)</sup>		0,3	0,35	0,35	0,4	0,45	0,5	0,7	0,8	1
<i>d</i> <sub>2</sub>		Lower limit of minor thread diameter								
<i>d</i> <sub>1</sub>	max.	—	—	—	—	—	—	—	—	1,5
	min.	—	—	—	—	—	—	—	—	0,9
<i>e</i>	min. 2)	0,803	0,803	0,803	1,003	1,427	1,73	2,30	2,87	3,44
<i>s</i>	Nominal size	0,7	0,7	0,7	0,8	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
<i>l</i>	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
<i>l</i>		Weight (7,85 kg/dm <sup>3</sup> ) kg per 1000 pieces ≈								
Nominal size	min.									
	max.									
2	1,80									
2,5	2,30	0,018	0,023	0,030						
3	2,80	0,022	0,029	0,036	0,044					
(3,5)	3,26									
4	3,76	0,029	0,037	0,048	0,059	0,100	0,130			
5	4,76	0,036	0,046	0,060	0,074	0,125	0,170	0,250		
6	5,76	0,049	0,066	0,072	0,089	0,150	0,210	0,340	0,490	
8	7,71				0,119	0,199	0,300	0,490	0,730	1,04
10	9,71				0,148	0,249	0,390	0,640	0,970	1,39
12	11,65							0,480	0,790	1,21
(14)	13,65									1,74
16	15,65							0,660	1,09	1,69
(18)	17,65									2,44
20	19,58							0,840	1,39	2,17
(22)	21,58									3,14
25	24,58									
(28)	27,58									2,77
30	29,58									4,02
35	34,5									4,90
										5,78

For 1) to 4) see page 3

<sup>1)</sup> The 120° angle is mandatory for short-length set screws above the dotted stepped line.  
<sup>2)</sup> The cone angle applies only to the portion between the minor thread diameter and the flattening *d*<sub>1</sub>. It shall be 120° for set screws with lengths above the dotted stepped line and 90° below the dotted stepped line.

Thread size <i>d</i>		M 8	M 10	M 12	(M 14)	M 16	(M 18)	M 20	(M 22)	M 24
<i>P</i> 1)		1,25	1,5	1,75	2	2	2,5	2,5	2,5	3
<i>d</i> <sub>1</sub>		Lower limit of minor thread diameter								
<i>d</i> <sub>2</sub>	max.	2	2,5	3	4	4	5	5	6	6
	min.	1,4	1,9	2,4	3,25	3,25	4,25	4,25	5,25	5,25
<i>e</i>	max. 2)	4,58	5,72	6,86	8,88	9,15	11,43	11,43	13,72	13,72
	Nominal size	4	5	6	6	8	10	10	12	12
<i>g</i>	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
<i>l</i>	3)	3	4	4,5	5,6	6,4	7,2	8	9	10
	max. 4)	5	6	8	9	10	11	12	13,5	15
<i>l</i>		Weight (7,85 kg/dm <sup>3</sup> ) kg per 1000 pieces ≈								
Nominal size	min.	max.								
6	5,76	6,24								
8	7,71	8,29								
10	9,71	10,29	2,35							
12	11,65	12,35	2,98	4,42						
(14)	13,65	14,35								
16	15,65	16,35	4,24	6,42	8,90					
(18)	17,58	18,42								
20	19,58	20,42	5,50	8,40	11,7		20,1			
(22)	21,58	22,42								
25	24,58	25,42	7,09	10,8	15,3		26,6	40,7		
(28)	27,58	28,42								
30	29,58	30,42	8,68	13,3	18,9		33,2	51,0		68,7
35	34,5	35,5	10,3	15,8	22,5		39,7	61,3		83,2
40	39,5	40,5	11,9	18,3	26,1		46,3	71,6		98,2
45	44,5	45,5						81,9		113
50	49,5	50,5						92,2		128
55	54,4	55,6								143
60	59,4	60,6								158

1) *P* = Pitch of the thread (normal thread)  
2) *e*<sub>min</sub> = 1,14 *s*<sub>max</sub>; except for sizes M 1,4 to M 2,5  
3) Minimum depth of key engagement for set screws with nominal sizes *l* above the dotted stepped line.  
4) Minimum depth of key engagement for set screws with nominal sizes *l* below the dotted stepped line.

The commercial sizes are marked with the weight.

Bracketed thread sizes *d* and bracketed nominal sizes *l* should be avoided wherever possible.

*Note:* In ISO 4027 the range of the commercial nominal sizes *l* is in some cases defined somewhat differently. In ISO 4027 weights are not indicated. The sizes listed in the above table marked with the weight are those customary in Germany and are generally in stock.

Material		Steel	Stainless steel	Non-ferrous metal
General requirements		according to DIN 267 Part 1		
Thread	Tolerance	5g 6g for strength category 45H 6g for all the other strength categories and materials		
	Standard	DIN 13 Part 12 and Part 15		
Mechanical properties	Strength category	45H	up to M 20: A2-70 over M 20: A2-50 <sup>A4, C3</sup>	... 2)
	Standard	DIN ISO 898 Part 5	DIN 267 Part 11 <sup>1)</sup>	DIN 267 Part 18
Permissible dimensional deviations and deviations of form	Product grade	A 3)		
	Standard	DIN ISO 4759 Part 1		
Surface		black oxide (thermal or chemical)	plain	plain
For the peak-to-valley heights of the surfaces DIN 267 Part 2 (April 1968 edition), subclause 2.1 applies. Requirements for electroplated surface protection according to DIN 267 Part 9				
Acceptance test	For the acceptance test DIN 267 Part 5 applies.			
<p>1) In ISO 4027 ISO Standard 3506 is referred to. This standard is included in DIN 267 Part 11.</p> <p>2) Standard DIN 267 Part 18 comprises a selection of non-ferrous metals (light and heavy metals) for fasteners. The first edition was published in 1980. A choice of materials for set screws could still not be made.</p> <p>3) See clause 2</p>				