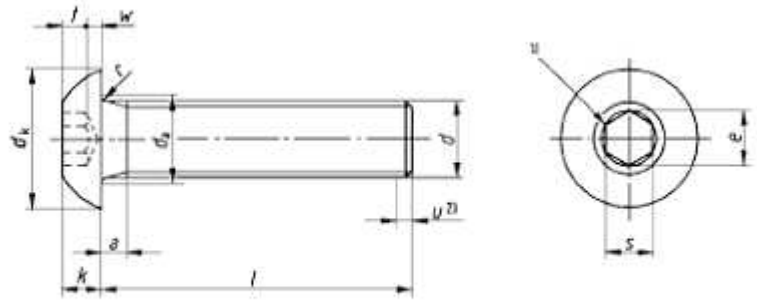
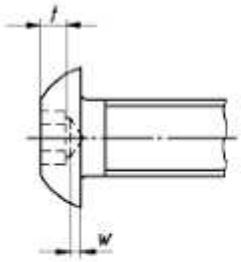
ISO7380

Hexagon socket button head screws



Alternative form of socket permissible



NOTE — For broached sockets which are at the maximum limit of size the overcut resulting from drilling shall not exceed 20 % of the length of any flat of the socket.

1) A slight rounding or countersink at the mouth of the socket is permissible.
2) Incomplete thread $u \leq 2P$.

Figure 1

Table 1 — Dimensions

Dimensions in millimetres

Thread (d)		M3	M4	M5	M6	M8	M10	M12	M16
P[1]		0,5	0,7	0,8	1	1,25	1,5	1,75	2
a	max.	1,0	1,4	1,6	2	2,50	3,0	3,50	4
	min.	0,5	0,7	0,8	1	1,25	1,5	1,75	2
d_s	max.	3,6	4,7	5,7	6,8	9,2	11,2	14,2	18,2
d_k	max.	5,7	7,60	9,50	10,50	14,00	17,50	21,00	28,00
	min.	5,4	7,24	9,14	10,07	13,57	17,07	20,48	27,48
e[2]	min.	2,3	2,87	3,44	4,58	5,72	6,86	9,15	11,43
k	max.	1,65	2,20	2,75	3,3	4,4	5,5	6,60	8,80
	min.	1,40	1,95	2,50	3,0	4,1	5,2	6,24	8,44
r	min.	0,1	0,2	0,2	0,25	0,4	0,4	0,6	0,6
s[3]	nom.	2	2,5	3	4	5	6	8	10
	max.	2,045	2,56	3,071	4,084	5,084	6,095	8,115	10,115
	min.	2,020	2,52	3,020	4,020	5,020	6,020	8,025	10,025
t	min.	1,04	1,3	1,56	2,08	2,6	3,12	4,16	5,2
w	min.	0,2	0,3	0,38	0,74	1,05	1,45	1,63	2,25
l[4]									
nom.	min.	max.							
6	5,76	6,24							
8	7,71	8,29							
10	9,71	10,29							
12	11,65	12,35							
16	15,65	16,35			Range				
20	19,58	20,42				of			
25	24,58	25,42					commercial		
30	29,58	30,42						lengths	
35	34,5	35,5							
40	39,5	40,5							
45	44,5	45,5							
50	49,5	50,5							

1) P is the pitch of the thread.
2) $e_{min} = 1{,}14\, s_{min}$.
3) s shall be gauged by attribute methods, see annex A for gauges.
4) For nominal lengths below the bottom stepped line, the thread lengths, at the discretion of the manufacturer, may be between a minimum of $2d + 12$ mm and a maximum which is within $2P$ of the head. Intermediate nominal lengths according to ISO 888 are permissible.

Table 2 — Requirements and reference International Standards

Material		Steel
General requirements	International Standard	ISO 8992
Thread	Tolerance	5g6g
	International Standards	ISO 261, ISO 965-2, ISO 965-3
Mechanical properties	Property class[1)]	12.9
	International Standard	ISO 898-1
Tolerances	Product grade	A
	International Standard	ISO 4759-1
Finish		Black oxide (thermal or chemical) Requirements for electroplating are given in ISO 4042 If different electroplating requirements are desired or if requirements are needed for other finishes, they should be negotiated between customer and supplier. Limits for surface discontinuities are given in ISO 6157-3.
Acceptability		Acceptance procedure is dealt with ISO 3269.

1) Because of their head configurations, these screws may not meet the minimum ultimate tensile load for property class 12.9, specified in ISO 898-1, when tested in accordance with test programme B. They shall nevertheless meet the other material and property requirements for property class 12.9 specified in ISO 898-1.
In addition, when full-size screws are loaded using the type of testing fixture illustrated in ISO 898-1, they shall withstand, without fracture, the minimum ultimate tensile loads given in table 3.
If tested to failure, the fracture may occur in the threaded section, the head, the shank or at the head/shank junction.