

**ISO**



INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

**ISO RECOMMENDATION**  
**R 861**

**HEXAGON SOCKET HEAD CAP SCREWS**

**METRIC SERIES**

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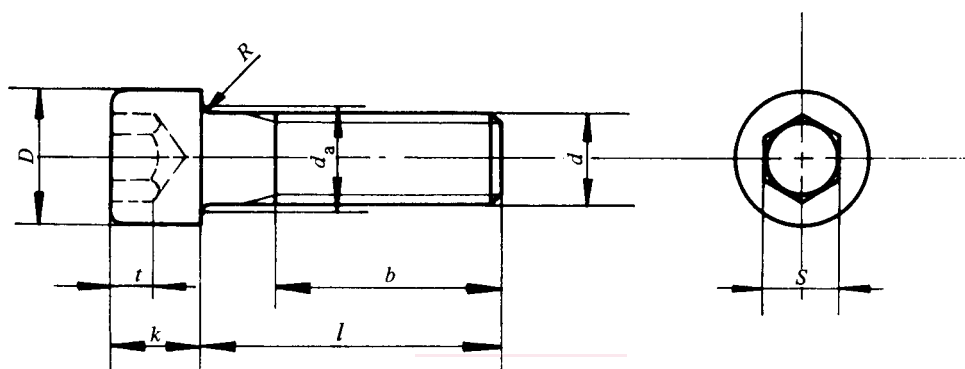
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## HEXAGON SOCKET HEAD CAP SCREWS

## METRIC SERIES



Dimensions in millimetres

Thread diameter $d$			3	4	5	6	8	10	12
$D$	h13*	max.	5.5	7	8.5	10	13	16	18
		min.	5.32	6.78	8.28	9.78	12.73	15.73	17.73
$k$	h13	max.	3	4	5	6	8	10	12
		min.	2.86	3.82	4.82	5.82	7.78	9.78	11.73
$S$	D12	Nominal value	2.5	3	4	5	6	8	10
		min.	2.52	3.02	4.03	5.03	6.03	8.04	10.04
		max.	2.62	3.12	4.15	5.15	6.15	8.19	10.19
$t$		min.	1.3	2	2.7	3.3	4.3	5.5	6.6
		max.	1.7	2.4	3.1	3.78	4.78	6.25	7.5
$R$		min.	0.1	0.2	0.2	0.25	0.4	0.4	0.6
$d_a$		max.	3.6	4.7	5.7	6.8	9.2	11.2	14.2
$b$		$l \leq 125$	12	14	16	18	22	26	30
		$125 < l \leq 200$	—	—	—	—	28	32	36
		$l > 200$	—	—	—	—	—	—	—

\* Tolerance field h14 for knurled heads.

Dimensions in millimetres

Thread diameter $d$			14	16	18	20	22	24	27
$D$	h13*	max.	21	24	27	30	33	36	40
		min.	20.67	23.67	26.67	29.67	32.61	35.61	39.61
$k$	h13	max.	14	16	18	20	22	24	27
		min.	13.73	15.73	17.73	19.67	21.67	23.67	26.67
$S$	D12	Nominal value	12	14	14	17	17	19	19
		min.	12.05	14.05	14.05	17.05	17.05	19.065	19.065
		max.	12.23	14.23	14.23	17.23	17.23	19.275	19.275
$t$		min.	7.8	8.8	9.8	10.7	11.3	12.9	15.1
		max.	8.7	9.7	10.7	11.8	12.4	14	16.2
$R$		min.	0.6	0.6	0.6	0.8	0.8	0.8	1
$d_a$		max.	16.2	18.2	20.2	22.4	24.4	26.4	30.4
$b$		$l \leq 125$	34	38	42	46	50	54	60
		$125 < l \leq 200$	40	44	48	52	56	60	66
		$l > 200$	—	57	61	65	69	73	79

Thread diameter $d$			30	33	36	39	42	45	48	52
$D$	h13*	max.	45	50	54	58	63	68	72	78
		min.	44.61	49.61	53.54	57.54	62.54	67.54	71.54	77.54
$k$	h13	max.	30	33	36	39	42	45	48	52
		min.	29.67	32.61	35.61	38.61	41.61	44.61	47.61	51.54
$S$	D12	Nominal value	22	24	27	27	32	32	36	36
		min.	22.065	24.065	27.065	27.065	32.08	32.08	36.08	36.08
		max.	22.275	24.275	27.275	27.275	32.33	32.33	36.33	36.33
$t$		min.	17.1	18.8	20.8	22.9	25.0	27.1	29.1	31.9
		max.	18.2	20.1	22.1	24.2	26.3	28.4	30.4	33.5
$R$		min.	1	1	1	1	1.2	1.2	1.6	1.6
$d_a$		max.	33.4	36.4	39.4	42.4	45.6	48.6	52.6	56.6
$b$		$l \leq 125$	66	72	78	84	90	96	102	—
		$125 < l \leq 200$	72	78	84	90	96	102	108	116
		$l > 200$	85	91	97	103	109	115	121	129

Nominal lengths  $l$ 

$l$	4	5	6	(7)	8	(9)	10	(11)	12	14	16	(18)	20	(22)	25	(28)
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$l$	30	(32)	35	(38)	40	45	50	55	60	65	70	75	80	85	90	(95)
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$l$	100	(105)	110	(115)	120	(125)	130	140	150	160	170	180	190	200	220	240	260	280	300
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Nominal lengths  $l$  and thread lengths  $b$  conform to ISO Recommendation R . . . ,\*\* *Nominal lengths for bolts, screws and studs – Thread lengths for general purpose bolts.* Lengths in brackets should be avoided if possible.

Radii under the head conform to ISO Recommendation R 885, *Bolts and screws – Radii under the head for general purpose bolts and screws – Metric series.*

The transition diameter  $d_a$  is the diameter of the circle formed at the transition between the radius  $R$  and the bearing surface of the head.

The depth  $t$  is the depth of engagement.

\* Tolerance field h14 for knurled heads.

\*\* At present Draft ISO Recommendation No. 950.