UDC 621.882.215.3.091.2

July 1986

# Cross recessed raised cheese head screws

DIN 7985

Linsenschrauben mit Kreuzschlitz

Supersedes December 1984 edition.

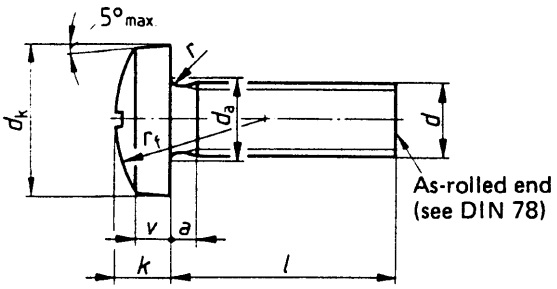
*In keeping with current practice in standards published by the International Organization for Standardization (ISO), a comma has been used throughout as the decimal marker.*

See Explanatory notes for connection with the international standards published by the International Organization for Standardization (ISO).

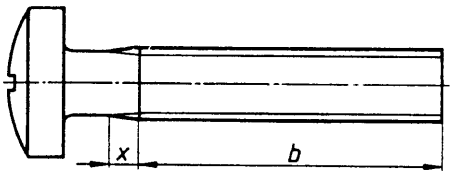
Dimensions in mm

## 1 Dimensions

**Raised cheese head screw, threaded up to the head**
(above the stepped line in the table)



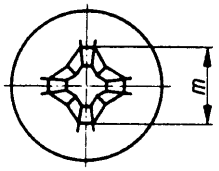

**Raised cheese head screw, with unthreaded portion of shank** [1]
(below the stepped line in the table)



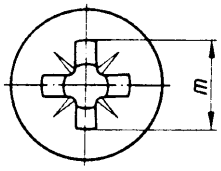

Other dimensions and details as in left-hand illustration.

The shank diameter may be equal to the thread diameter (major diameter) (normal shank) or approximately equal to the pitch diameter (reduced shank), at the manufacturer's discretion.

**Cross recess type H**




**Cross recess type Z**




[1]) If raised cheese head screws are to be supplied with lengths as given below the stepped line and threaded up to the head, i.e. deviating from the standard design, then symbol A is to be incorporated in the designation in accordance with DIN 962, or the deviating thread length is to be included in the designation, again in accordance with DIN962 (the tolerance on the thread length being normally $^{+\frac{2}{0}}P$).

Continued on pages 2 to 5

| Thread size $d$ | | | M 1,6 | M 2 | M 2,5 | M 3 | (M 3,5) | M 4 | M 5 | M 6 | M 8 | M 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $P$ [1] | | | 0,35 | 0,4 | 0,45 | 0,5 | 0,6 | 0,7 | 0,8 | 1 | 1,25 | 1,5 |
| $a$ | | max. | 0,7 | 0,8 | 0,9 | 1 | 1,2 | 1,4 | 1,6 | 2 | 2,5 | 3 |
| $b$ | | $^{+2}_{0}\,P$ | 15 | 16 | 18 | 19 | 20 | 22 | 25 | 28 | 34 | 40 |
| $d_a$ | | max. | 2,1 | 2,6 | 3,1 | 3,6 | 4,1 | 4,7 | 5,7 | 6,8 | 9,2 | 11,2 |
| $d_k$ | | max. = nominal dimension | 3,2 | 4 | 5 | 6 | 7 | 8 | 10 | 12 | 16 | 20 |
| | | min. | 2,9 | 3,7 | 4,7 | 5,7 | 6,64 | 7,64 | 9,64 | 11,57 | 15,57 | 19,48 |
| $k$ | | Nominal dimension | 1,3 | 1,6 | 2 | 2,4 | 2,7 | 3,1 | 3,8 | 4,6 | 6 | 7,5 |
| | | max. | 1,42 | 1,72 | 2,12 | 2,52 | 2,82 | 3,25 | 3,95 | 4,75 | 6,15 | 7,68 |
| | | min. | 1,18 | 1,48 | 1,88 | 2,28 | 2,58 | 2,95 | 3,65 | 4,45 | 5,85 | 7,32 |
| $r$ | | min. | 0,1 | 0,1 | 0,1 | 0,1 | 0,2 | 0,2 | 0,2 | 0,25 | 0,4 | 0,4 |
| $r_f$ | | ≈ | 3 | 4 | 5 | 6 | 7 | 8 | 10 | 12 | 16 | 20 |
| $v$ | | ≈ | 0,8 | 1,1 | 1,3 | 1,6 | 1,9 | 2 | 2,5 | 3 | 3,7 | 4,8 |
| $x$ | | max. | 0,9 | 1 | 1,1 | 1,25 | 1,5 | 1,75 | 2 | 2,5 | 3,2 | 3,8 |
| Cross recess | No. | | 0 | | 1 | | | 2 | | 3 | 4 | |
| | type H | $m$ ≈ | 1,8 | 2,5 | 2,7 | 3,1 | 4,2 | 4,6 | 5,3 | 6,8 | 9 | 10,2 |
| | | penetration depth min. | 0,72 | 1,1 | 1,3 | 1,7 | 1,74 | 2,04 | 2,77 | 3,03 | 4,18 | 5,38 |
| | | penetration depth max. | 1,02 | 1,4 | 1,6 | 2 | 2,24 | 2,54 | 3,27 | 3,53 | 4,68 | 5,88 |
| | type Z | $m$ ≈ | 1,8 | 2,4 | 2,6 | 3 | 4 | 4,3 | 5 | 6,7 | 8,8 | 9,9 |
| | | penetration depth min. | 0,92 | 1,1 | 1,27 | 1,68 | 1,65 | 1,9 | 2,64 | 3,02 | 4,06 | 5,23 |
| | | penetration depth max. | 1,17 | 1,35 | 1,52 | 1,93 | 2,11 | 2,36 | 3,1 | 3,48 | 4,52 | 5,69 |

| Nominal dimension | $l$ Minimum | $l$ Maximum | Mass (7,85 kg/dm³), in kg per 1000 units, approximately | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1,8 | 2,2 | | | | | | | | | | |
| 3 | 2,8 | 3,2 | | | 0,34 | | | | | | | |
| 4 | 3,75 | 4,25 | | | 0,37 | 0,62 | | | | | | |
| 5 | 4,75 | 5,25 | | | 0,4 | 0,67 | 0,99 | 1,4 | | | | |
| 6 | 5,75 | 6,25 | | | 0,43 | 0,71 | 1,05 | 1,48 | 2,66 | | | |
| 8 | 7,7 | 8,3 | | | 0,49 | 0,8 | 1,17 | 1,63 | 2,91 | | | |
| 10 | 9,7 | 10,3 | | | 0,55 | 0,88 | 1,29 | 1,79 | 3,16 | 6,14 | 10,9 | |
| 12 | 11,65 | 12,35 | | | 0,61 | 0,95 | 1,42 | 1,94 | 3,41 | 5,49 | 11,5 | 21,2 |
| (14) | 13,65 | 14,35 | | | 0,67 | 1,03 | 1,54 | 2,1 | 3,66 | 5,84 | 12,2 | 22,2 |
| 16 | 15,65 | 16,35 | | | 0,73 | 1,11 | 1,67 | 2,25 | 3,91 | 6,29 | 12,8 | 23,2 |
| (18) | 17,65 | 18,35 | | | 0,79 | 1,19 | 1,8 | 2,41 | 4,16 | 6,64 | 13,5 | 24,2 |
| 20 | 19,6 | 20,4 | | | 0,85 | 1,27 | 1,92 | 2,56 | 4,41 | 7 | 14,2 | 25,2 |
| (22) | 21,6 | 22,4 | | | 0,91 | 1,35 | 2,05 | 2,72 | 4,66 | 7,35 | 14,8 | 26,2 |
| 25 | 24,6 | 25,4 | | | 1 | 1,47 | 2,25 | 2,94 | 5,03 | 7,87 | 15,8 | 27,7 |
| (28) | 27,6 | 28,4 | | | 1,09 | 1,59 | 2,50 | 3,24 | 5,4 | 8,4 | 16,8 | 29,2 |
| 30 | 29,6 | 30,4 | | | 1,18 | 1,71 | 2,63 | 3,44 | 5,7 | 8,75 | 17,5 | 30,2 |
| 35 | 34,5 | 35,5 | | | | | 3,4 | 3,94 | 6,5 | 9,6 | 19,1 | 32,7 |
| 40 | 39,5 | 40,5 | | | | | | 4,44 | 7,3 | 10,5 | 20,7 | 35,7 |
| 45 | 44,5 | 45,5 | | | | | | | 8 | 11,4 | 22,3 | 37,7 |
| 50 | 49,5 | 50,5 | | | | | | | 8,7 | 12,3 | 23,9 | 41,2 |
| 55 | 54 | 56 | | | | | | | | | 25,4 | 43,7 |
| 60 | 59 | 61 | | | | | | | | | 27 | 46,2 |

The screws are, as a general rule, manufactured in the sizes for which the mass has been given (for guidance only).
Bracketed sizes should be avoided as far as possible.
Lengths exceeding 60 mm shall be graded in steps of 10 mm.
[1] $P$ = pitch of thread.