

# GB/T 68 Slotted Countersunk Head Screw Specification

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Fasteners/Screws/Slotted Countersunk Head Screw — GB/T 68 / ISO 2009 (Series 039) GB/T 68 Slotted Countersunk Head Screw Specification  
Screws: GB/T 68 / ISO 2009  
Dimensional table, tolerance classes and the DIN / ISO / ASME parts that supersede or match this standard.

GB/T 68 specifies the dimensions and tolerances for slotted countersunk head screw. The full dimensional table is reproduced below, followed by the DIN, ISO and ASME parts that match or supersede it.

## Standard

GB/T 68

## Product

Slotted Countersunk Head Screw — GB/T 68 / ISO 2009 (Series 039)

## Governing standards

GB/T 68 / ISO 2009

Equivalence between national standards is dimensional, not always metallurgical. Check the property class separately when substituting.



GB/T 68 covers the dimensional requirements for slotted countersunk head screw. Reproduced below: the complete size table, the tolerance grades, and the companion and equivalent standards referenced when ordering to this document.

## GB/T 68 — Scope

GB/T 68 specifies the dimensions and tolerances of slotted countersunk head screw — gb/t 68 / iso 2009 (series 039). Material, property class, surface finish and packaging are governed by separate documents in the same standards family (for example ISO 898-1 for the mechanical property classes of bolts and screws).

## Tolerance & Product Grades

GB/T 68, alongside the related GB/T 68 / ISO 2009 entries on this site, specifies product grades (typically A or B for fine work and C for general engineering) and tolerance classes for the controlling dimensions. Choose the grade against the precision your application requires.

## Dimensions Specified by GB/T 68

| Size | Pitch<br>(mm) | Length L<br>(mm) | Head diameter<br>dk (mm) | Head height k<br>(mm) | Cross<br>recess | Countersink angle<br>(deg) | Reference<br>standard |
|------|---------------|------------------|--------------------------|-----------------------|-----------------|----------------------------|-----------------------|
| M3   | 0.5           | 20               | 5.6                      | 1.65                  | PH1             | 90                         | ISO 7046 / GB/T 819   |
| M4   | 0.7           | 25               | 7.5                      | 2.2                   | PH2             | 90                         | ISO 7046 / GB/T 819   |
| M5   | 0.8           | 30               | 9.2                      | 2.5                   | PH2             | 90                         | ISO 7046 / GB/T 819   |
| M6   | 1.0           | 40               | 11.0                     | 3.0                   | PH3             | 90                         | ISO 7046 / GB/T 819   |
| M8   | 1.25          | 50               | 14.5                     | 4.0                   | PH3             | 90                         | ISO 7046 / GB/T 819   |
| M10  | 1.5           | 60               | 18.0                     | 5.0                   | PH4             | 90                         | ISO 7046 / GB/T 819   |
| M12  | 1.75          | 80               | 22.0                     | 6.0                   | PH4             | 90                         | ISO 7046 / GB/T 819   |
| M14  | 2.0           | 80               | 25.0                     | 7.0                   | PH4             | 90                         | ISO 7046 / GB/T 819   |
| M16  | 2.0           | 100              | 29.0                     | 8.0                   | PH4             | 90                         | ISO 7046 / GB/T 819   |
| M18  | 2.5           | 100              | 33.0                     | 9.0                   | PH4             | 90                         | ISO 7046 / GB/T 819   |
| M20  | 2.5           | 120              | 36.5                     | 10.0                  | PH4             | 90                         | ISO 7046 / GB/T 819   |
| M24  | 3.0           | 150              | 43.5                     | 12.0                  | PH4             | 90                         | ISO 7046 / GB/T 819   |

## Companion Standards

GB/T 68 controls only the geometry of slotted countersunk head screw — gb/t 68 / iso 2009 (series 039). The mechanical strength is set by ISO 898-1 (bolts and screws) or ISO 898-2 (nuts); the surface finish is governed by separate finish standards (e.g. ISO 4042 for electroplating). For corrosion testing, the relevant document is ISO 9227 (neutral salt spray).

## When to Specify GB/T 68

Choose GB/T 68 for international engineering work and OEM supply where ISO standards are the contractual reference. It is the default modern specification for slotted countersunk head screw — gb/t 68 / iso 2009 (series 039).

## Technical Drawing

Customize the parameters below — every spec field is editable, and the drawing redraws to match the values you choose. Changing the size will snap the other fields to that size's standard values; you can then override any individual value.

Sends the selected values to the quote form below.

## Request a Quote

The form below follows the current technical drawing configuration. Change the drawing values above and the request details update automatically.

## Dimensions & Specifications (GB/T 68 / ISO 2009)

| Size | Pitch (mm) | Length L (mm) | Head diameter dk (mm) | Head height k (mm) | Cross recess | Countersink angle (deg) | Reference standard  |
|------|------------|---------------|-----------------------|--------------------|--------------|-------------------------|---------------------|
| M3   | 0.5        | 20            | 5.6                   | 1.65               | PH1          | 90                      | ISO 7046 / GB/T 819 |
| M4   | 0.7        | 25            | 7.5                   | 2.2                | PH2          | 90                      | ISO 7046 / GB/T 819 |
| M5   | 0.8        | 30            | 9.2                   | 2.5                | PH2          | 90                      | ISO 7046 / GB/T 819 |
| M6   | 1.0        | 40            | 11.0                  | 3.0                | PH3          | 90                      | ISO 7046 / GB/T 819 |
| M8   | 1.25       | 50            | 14.5                  | 4.0                | PH3          | 90                      | ISO 7046 / GB/T 819 |
| M10  | 1.5        | 60            | 18.0                  | 5.0                | PH4          | 90                      | ISO 7046 / GB/T 819 |
| M12  | 1.75       | 80            | 22.0                  | 6.0                | PH4          | 90                      | ISO 7046 / GB/T 819 |
| M14  | 2.0        | 80            | 25.0                  | 7.0                | PH4          | 90                      | ISO 7046 / GB/T 819 |
| M16  | 2.0        | 100           | 29.0                  | 8.0                | PH4          | 90                      | ISO 7046 / GB/T 819 |
| M18  | 2.5        | 100           | 33.0                  | 9.0                | PH4          | 90                      | ISO 7046 / GB/T 819 |
| M20  | 2.5        | 120           | 36.5                  | 10.0               | PH4          | 90                      | ISO 7046 / GB/T 819 |
| M24  | 3.0        | 150           | 43.5                  | 12.0               | PH4          | 90                      | ISO 7046 / GB/T 819 |

## Materials & Grades

Select a material class to see the grades we supply it in. Each designation is listed with its ISO/EN, AISI/SAE, JIS and GB equivalents.

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### Stainless Steel

#### Austenitic Stainless Steel

- A1 AISI 303 · SAE 303 · SUS303 · EN 1.4305 · X8CrNiS18-9
- A2 AISI 304 · SAE 304 · SUS304 · EN 1.4301 · X5CrNi18-10 · 06Cr19Ni10
- 304L AISI 304L · SUS304L · EN 1.4307 · X2CrNi18-9 · 022Cr19Ni10
- 302 AISI 302 · SUS302 · EN 1.4310
- 305 AISI 305 · SUS305 · EN 1.4303
- A4 AISI 316 · SAE 316 · SUS316 · EN 1.4401 · X5CrNiMo17-12-2 · 06Cr17Ni12Mo2
- 316L AISI 316L · SUS316L · EN 1.4404 · X2CrNiMo17-12-2 · 022Cr17Ni12Mo2
- 321 AISI 321 · SUS321 · EN 1.4541 · X6CrNiTi18-10
- 310 / 310S AISI 310 · AISI 310S · SUS310S · EN 1.4845
- 302HQ AISI 302HQ
- A3
- A5
- 347 AISI 347 · SUS347 · EN 1.4550 · X6CrNiNb18-10
- 309 / 309S AISI 309 · AISI 309S · SUS309S

#### Martensitic Stainless Steel

- AISI 410 SUS410 · EN 1.4006 · X12Cr13 · 12Cr13
- AISI 420 SUS420J1 · SUS420J2 · EN 1.4021 · EN 1.4028 · 20Cr13 · 30Cr13
- AISI 431 SUS431 · EN 1.4057 · X17CrNi16-2
- C1
- C3
- C4
- AISI 440A
- AISI 440B
- AISI 440C SUS440C · EN 1.4125

#### Ferritic Stainless Steel

- AISI 430 SUS430 · EN 1.4016 · X6Cr17 · 10Cr17
- F1
- AISI 434
- AISI 444

### **Precipitation-Hardening Stainless Steel**

- 17-4 PH AISI 630 · UNS S17400 · SUS630 · EN 1.4542 · X5CrNiCuNb16-4
- 15-5 PH UNS S15500
- 17-7 PH UNS S17700

### **Duplex and Super Duplex Stainless Steel**

- Duplex 2205 UNS S31803 · UNS S32205 · EN 1.4462
- Super Duplex 2507 UNS S32750 · EN 1.4410
- D2
- D4
- D6
- D8
- Lean Duplex 2101 UNS S32101
- Super Duplex S32760 UNS S32760 · EN 1.4501

### **Carbon Steel**

#### **Low-Carbon Steel**

- SAE 1006
- SAE 1008
- SAE 1010
- SAE 1018
- SAE 1020
- Q195
- Q235
- SAE 1012
- SAE 1015
- Q215
- ML08
- ML08Al
- ML10
- ML15
- ML20
- SWRCH6A
- SWRCH8A

- SWRCH10A
- SWRCH12A
- SWRCH15A
- SWRCH18A

### **Medium-Carbon Steel**

- SAE 1035
- SAE 1045
- S45C
- C45
- SAE 1030
- SAE 1040
- SAE 1050
- 30
- 35
- 40
- 45
- 50
- S35C
- S40C
- S50C
- C35
- C40

### **High-Carbon Steel**

- SAE 1060
- SAE 1070
- 65Mn
- SAE 1065
- SAE 1075
- SAE 1080
- SAE 1085
- SAE 1090
- SAE 1095
- 60
- 65



- 70
- 75
- 80
- 85

### **Cold-Heading Steel**

- SWRCH22A
- 10B21
- SWRCH22K
- SWRCH25K
- SWRCH30K
- SWRCH35K
- SWRCH40K
- ML20Mn
- ML25
- ML30
- ML35
- ML40
- 15B25

### **Alloy Steel**

#### **Chromium Steel**

- 40Cr
- 45Cr
- AISI 5140
- SAE 5140
- AISI 5120
- SAE 5120
- SCr420
- SCr440

#### **Chromium-Molybdenum Steel**

- 35CrMo
- 42CrMo
- AISI 4140

- SCM435
- SCM440
- 42CrMo4
- 30CrMo
- AISI 4130
- SAE 4130
- SAE 4140
- AISI 4142
- AISI 4145
- SCM415
- SCM420
- SCM445
- EN 1.7220
- EN 1.7225
- 25CrMo4
- 34CrMo4

#### **Nickel-Chromium-Molybdenum Steel**

- AISI 4340
- SAE 4340
- 40CrNiMo
- SNCM439
- EN 1.6511
- 36CrNiMo4

#### **Boron Alloy Steel**

- 10B22
- 10B21
- 15B21
- 15B25
- 20MnTiB
- 20Mn2B
- 35VB
- 40MnB

## Bearing Steel

### Bearing Steel

- GCr15
- AISI 52100 SAE 52100 · UNS G52986
- SUJ2
- 100Cr6 EN 1.3505
- GCr15SiMn

## Spring Steel

### Carbon Spring Steel

- SAE 1065
- SAE 1070
- SAE 1075
- SAE 1080
- SAE 1095
- 65
- 70
- 75
- 80
- 65Mn

### Silicon-Manganese Spring Steel

- 60Si2Mn
- 60Si2MnA
- SUP6
- SUP7

### Chromium-Vanadium Spring Steel

- 50CrVA
- SAE 6150
- AISI 6150
- SUP10

## **Stainless Spring Steel**

- AISI 301
- SUS301
- EN 1.4310
- AISI 302
- AISI 304
- AISI 316
- 17-7 PH

## **Aluminum and Aluminum Alloys**

### **Commercially Pure Aluminum**

- 1050
- 1060
- 1070
- 1100

### **2xxx Series Aluminum**

- 2024
- 2011
- 2014
- 2017

### **5xxx Series Aluminum**

- 5052
- 5083
- 5754

### **6xxx Series Aluminum**

- 6061
- 6061-T6
- 6063
- 6082
- 6082-T6

## 7xxx Series Aluminum

- 7075
- 7075-T6
- 7005
- 7050
- 7075-T73

## Brass

### Free-Cutting Brass

- C36000
- H62
- HPb59-1
- C3601
- C3602
- C3604
- CuZn36Pb3
- CuZn39Pb3
- EN CW614N
- EN CW617N
- H65

### Lead-Free Brass

- C69300
- C27450
- CW510L
- CW511L

### Naval Brass

- C46400
- CuZn39Sn1

## Bronze

### Silicon Bronze

- C65500
- C65100
- C65600

### Phosphor Bronze

- C51000
- C52100
- CuSn6
- CuSn8

### Aluminum Bronze

- C95400
- C95500
- C63000
- CuAl10Ni5Fe4

## Copper

### Copper

- C11000
- T2
- C10100
- C10200
- C12200
- T1
- TU1
- TU2

## Titanium and Titanium Alloys

### Commercially Pure Titanium

- Grade 2

- Grade 1
- Grade 3
- Grade 4
- TA1
- TA2
- TA3

### **Alpha-Beta Titanium Alloys**

- Grade 5
- Ti-6Al-4V
- TC4
- UNS R56400

### **Low-Interstitial Grade**

- Grade 23
- Ti-6Al-4V ELI
- UNS R56407

### **Other Titanium Fastener Alloys**

- Ti-6Al-6V-2Sn
- Ti-6Al-2Sn-4Zr-2Mo
- Beta-C titanium
- Ti-10V-2Fe-3Al

## **Nickel and Nickel Alloys**

### **Commercially Pure Nickel**

- Nickel 200
- UNS N02200
- Nickel 201
- UNS N02201

### **Inconel Alloys**

- Inconel 625 UNS N06625
- Inconel 718 UNS N07718
- Inconel 600 UNS N06600

- Inconel 601 UNS N06601
- Inconel 686 UNS N06686
- Inconel X-750 UNS N07750

### **Monel Alloys**

- Monel 400 UNS N04400
- Monel K-500 UNS N05500

### **Hastelloy Alloys**

- Hastelloy C-276 UNS N10276
- Hastelloy C-22 UNS N06022
- Hastelloy B-2 UNS N10665
- Hastelloy B-3 UNS N10675
- Hastelloy X UNS N06002

### **Other Nickel Alloys**

- Alloy 20 UNS N08020
- Alloy 625
- Alloy 718
- Alloy 825 UNS N08825
- Alloy 925 UNS N09925

## **Iron-Nickel and High-Temperature Alloys**

### **A286**

- A-286
- UNS S66286
- EN 1.4980

### **Invar**

- Invar 36
- Alloy 36
- UNS K93600
- FeNi36



## **Alloy 42**

- Alloy 42
- UNS K94100
- FeNi42

## **Tool Steel and Specialty Hardened Steel**

### **Tool Steel and Specialty Hardened Steel**

- AISI D2
- AISI H13
- SKD11
- Cr12MoV
- AISI O1
- AISI A2
- AISI S7
- SKD61
- 9CrSi

## **Structural and Construction Steel**

### **Structural and Construction Steel**

- ASTM A36
- Q235B
- Q355B
- S355JR
- Q235C
- Q355C
- S235JR
- S275JR
- S355J2

## Video: GB/T 68 Slotted Countersunk Head Screw Specification



► Watch video: <https://www.youtube.com/watch?v=NZ4Y4wdPEeM>

[Hot Forging fasteners Hex Bolts Nuts Rivets,cold heading Carbon steel/304 316 stainless threaded rod](#)

Third-party video, selected automatically for this topic. It is not produced by Engineering Hardware and is not a specification source — use the tables on this page for dimensional data.

Inside the plant

## Manufactured in our own plant

This part is cold-formed, threaded, heat-treated and finished in-house. The stages below are where its class and finish are actually decided.

1.



01

### **Cold heading**

Wire rod is drawn to size and cold-formed into blanks. Forming rather than cutting keeps the grain flow continuous around the head, which is where a bolt is most likely to fail.

Head dimensions and under-head radius checked at set-up and per shift.



2.

02

## Thread rolling

Threads are rolled between hardened dies rather than cut. Rolled threads are stronger in fatigue than cut threads and hold pitch and flank angle far more consistently across a batch.

Go / no-go ring gauges to ISO 965 tolerance class 6g.



3.



03

### Heat treatment

Quench-and-temper brings carbon and alloy steel to the property class ordered — 8.8, 10.9 or 12.9 — with the furnace charge tracked so a finished lot can be traced back to it.

Core hardness and tensile tested per lot to ISO 898-1.

4.



04

## Surface treatment

Zinc, zinc-nickel, hot-dip galvanizing, black oxide, phosphate and Dacromet, selected against the service environment rather than against the price list.

Coating thickness and neutral salt spray hours to ISO 9227.

## Frequently Asked Questions

Which edition of GB/T 68 does this table follow?

The table reproduces the dimensions we supply slotted countersunk head screw — gb/t 68 / iso 2009 (series 039) to. We do not publish an edition year against it, so where the edition is contractually significant, cite the edition you require on the enquiry and we will confirm it against the table before quoting.

What does GB/T 68 specify for Slotted Countersunk Head Screw — GB/T 68 / ISO 2009 (Series 039)?

GB/T 68 specifies the dimensions and tolerances of slotted countersunk head screw — gb/t 68 / iso 2009 (series 039). Material and property class are governed by separate standards in the same family.

What product grades does GB/T 68 define?

GB/T 68 typically distinguishes product grades for precision (A/B) and general engineering (C). The selection for Slotted Countersunk Head Screw — GB/T 68 / ISO 2009 (Series 039) depends on the precision your application requires.

Does GB/T 68 specify the mechanical strength?

No. GB/T 68 controls only the geometry of slotted countersunk head screw — gb/t 68 / iso 2009 (series 039). The mechanical strength is set by ISO 898-1 (bolts / screws) or ISO 898-2 (nuts), and the finish is governed by separate standards.

How do I request a quotation?

Use the technical drawing on this page to pick the exact configuration, then submit it with the quote form. We respond within one business day.

## Related Pages

[View the full Slotted Countersunk Head Screw — GB/T 68 / ISO 2009 \(Series 039\) page](#)

### More Slotted Countersunk Head Screw — GB/T 68 / ISO 2009 (Series 039) Guides

- [ISO 2009 Slotted Countersunk Head Screw — GB/T 68 / ISO 2009 \(Series 039\)](#)