

What Are Slotted Round Nut Used For?

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Fasteners/Nuts/Slotted Round Nut — GB/T 812 (Series 069)/Applications

Nuts - GB/T 812 - Application guide

Typical applications, the industries that specify slotted round nut, and how to choose the right size, material and finish for the joint.

Slotted Round Nuts are used for the clamped counter-face of a bolted joint. They are manufactured to GB/T 812, and the choice of size, property class and finish is driven by the load in the joint and the environment it sits in.

Primary duty

The clamped counter-face of a bolted joint

Governing standard

GB/T 812

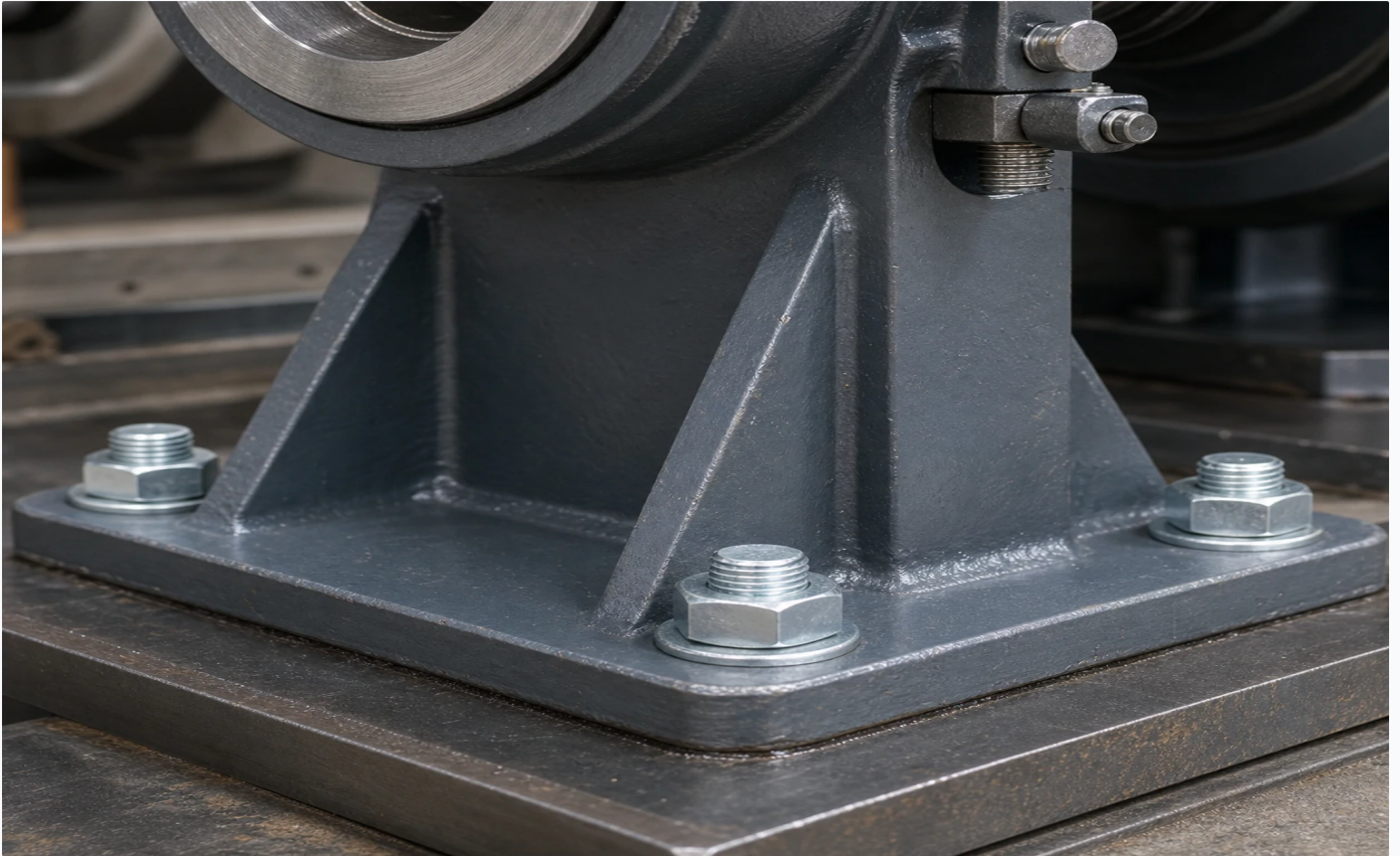
Thread size range

M101 to M1002

Category

Nuts

Application notes are general engineering guidance. Verify the property class and any approval requirement against your own design calculation.



Slotted Round Nuts (GB/T 812) are specified where the joint requires the clamped counter-face of a bolted joint. The sections below cover the typical end-uses by industry, the size and material decisions for each, assembly practice, and the applications this fastener type is not suited to. Stocked across roughly M101 to M1002, they cover heavy and structural work.

Typical Applications for Slotted Round Nut — GB/T 812 (Series 069)

The most common settings where these are specified:

- **Maintenance & repair (MRO):** a stocked size for servicing existing plant where the original fastener spec must be matched.
- **Fabrication & metalwork:** bench and on-site assembly of steel frames, enclosures and weldments.
- **Bolted joints:** the clamping counter-face on studs and bolts across every assembly type.
- **Vibration-prone equipment:** where a locking or flanged style resists loosening.
- **Frames & weldments:** captive or welded options for repeatable assembly.

How to Specify Slotted Round Nut — GB/T 812 (Series 069) for Your Application

- **Size:** Match the nominal size to the mating thread or hole. This product spans M101-M1002; check the full table below for the exact dimensions of each size.

- **Locking & grade:** Match the strength grade to the bolt, and choose a locking style (nyloc, all-metal, serrated flange) if the joint sees vibration.
- **Environment:** For damp, coastal or chemical exposure prefer A4/316 stainless or a suitable coating; indoors, plated steel or A2 is usually sufficient.
- **Standard:** This product is supplied to GB/T 812. Quoting the standard on your order guarantees interchangeable dimensions between suppliers.

Installation & Assembly Practice

- Run the nut down by hand before applying the wrench to catch cross-threading early.
- Tighten the nut rather than the bolt head where access allows — the torque-to-preload relation is more consistent.
- For locking styles, note that nyloc inserts are single-use in critical joints and lose grip above roughly 120 °C.

Common Selection Mistakes with Slotted Round Nut — GB/T 812 (Series 069)

- Pairing a high-class bolt with a lower-class nut — the nut strips before the bolt reaches proof load; the nut class must meet or exceed the bolt class.
- Using a plain nut with a spring washer in severe vibration instead of a prevailing-torque locking nut.
- Re-using nyloc nuts in critical joints.

Where Slotted Round Nut — GB/T 812 (Series 069) Are Not the Right Choice

Not on their own — they need a matching bolt or stud — and a plain nut is not a substitute for a locking type under heavy vibration.

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 812)

Size	Pitch (mm)	Outer diameter D (mm)	Nut height m (mm)	Slot width (mm)	Slot depth (mm)	Reference standard
M10x1.0	1.0	18	8	3	2	GB/T 812 / DIN 1804
M12x1.25	1.25	22	8	3	2	GB/T 812 / DIN 1804
M16x1.5	1.5	28	8	4	2.5	GB/T 812 / DIN 1804
M20x1.5	1.5	34	10	4	2.5	GB/T 812 / DIN 1804
M24x1.5	1.5	40	10	5	3	GB/T 812 / DIN 1804
M30x1.5	1.5	48	12	5	3	GB/T 812 / DIN 1804
M36x1.5	1.5	58	12	6	3	GB/T 812 / DIN 1804
M48x1.5	1.5	72	15	6	4	GB/T 812 / DIN 1804
M60x2.0	2.0	90	18	7	4	GB/T 812 / DIN 1804
M80x2.0	2.0	115	20	8	5	GB/T 812 / DIN 1804
M100x2.0	2.0	140	22	10	5	GB/T 812 / DIN 1804

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 industries use Slotted Round Nut — GB/T 812 (Series 069)?

They are commonly specified in maintenance & repair (mro), fabrication & metalwork and bolted joints, among other sectors.

How do I choose the right size of Slotted Round Nut — GB/T 812 (Series 069)?

Match the nominal size to the mating thread or hole. This product is available from M101 to M1002; the full dimension table on this page lists each size.

Do Slotted Round Nut — GB/T 812 (Series 069) need a locking feature?

If the joint sees vibration or cyclic load, use a locking style (nyloc, all-metal lock, or serrated flange) or a thread-locking adhesive.

For static joints a standard nut tightened correctly is usually sufficient.

What material should Slotted Round Nut — GB/T 812 (Series 069) be for outdoor use?

For damp, coastal or chemical environments specify A4 (316) stainless or a suitably coated steel. For indoor or dry use, A2 (304) stainless or zinc-plated steel is normally adequate.

Can I get a quote for Slotted Round Nut — GB/T 812 (Series 069) in the size and material I need?

Yes. Use the technical drawing and quote form on this page to set the size and options, then send the exact configuration to our team for pricing and lead time.

Related Pages

Product page: [Slotted Round Nut — GB/T 812 \(Series 069\) — specifications & sizes](#)

Slotted Round Nut — GB/T 812 (Series 069) Specification Guides

- [M10X1.0 Slotted Round Nut — GB/T 812 \(Series 069\) size guide](#)
- [A4 stainless Slotted Round Nut — GB/T 812 \(Series 069\)](#)

Related Fastener Applications

- [All-Metal Lock Nuts applications](#)
- [All-Metal Prevailing Torque Hex Lock Nut \(Type 1\) — GB/T 6184 / ISO 7042 \(Series 047\) applications](#)
- [Cap \(Acorn\) Nuts applications](#)
- [Castellated Hex Nut — GB/T 6180 / ISO 7036 \(Series 048\) applications](#)
- [Custom Slotted Round Nut — GB/T 812 \(Series 070\) applications](#)
- [Hex Flange Nuts applications](#)