M10 Socket Nuts (Hex Drive, Round Body) Dimensions

M10 Socket Nuts (Hex Drive, Round Body) dimensions to Trade series (round body socket nut): nut height 18 mm, coarse thread pitch 1.5 mm. Tighten to approximately 48 Nm at property class 8.8 in a dry, as-supplied condition.

Nut height

18 mm

Coarse thread pitch

1.5 mm

Tightening torque (class 8.8)

48 Nm

Figures are nominal values from the governing standard. Confirm against the tolerance class for your application before machining or ordering.



Dimensional data for M10 Socket Nuts (Hex Drive, Round Body) to Trade series (round body socket nut), with the drive and the installation notes for this type.

> *Values are taken from the governing standard rather than from a general machine-thread table, because this type is not selected on one.*

M10 Dimensional Row (Trade series (round body socket nut))

Thread size	Outer diameter (mm)	Nut height m (mm)	Hex socket s (mm)	Socket dep
M10	18.0	18.0	10.0	9.0

Spanner & Drive for M10 Socket Nuts (Hex Drive, Round Body)

The hex socket for M10 Socket Nuts (Hex Drive, Round Body) is shown in the spec table — use the matching Allen / hex key (an ISO 2936 hex key set covers the full range). For a one-off, a T-handle key and a calibrated arm will do. For a batch, the only way to get the same preload twice is a torque-controlled driver.

Tightening Torque for M10

Class 8.8 (dry, ~μ 0.125)	≈ 48 Nm
Class 10.9 (dry, ~μ 0.125)	≈ 71 Nm
Class 12.9 (dry, ~μ 0.125)	≈ 83 Nm

Indicative dry-joint values. Lubrication can lower the required torque by 15–25%. Always confirm against the joint design, especially when going up a strength class.

Proof Load & Strength for M10

Nuts are graded to ISO 898-2 by the proof load the nut itself will hold (classes 04, 05, 5, 6, 8, 10 and 12), not by the 8.8 / 10.9 / 12.9 scale used for bolts. A class-8 nut is the correct mate for a class-8.8 bolt, and the joint is designed on the bolt, so no bolt-tension figure is quoted here.

Installation Tips for M10 Socket Nuts (Hex Drive, Round Body)

- Use a quality Allen key fully seated in the socket — partial engagement is the most common cause of stripped sockets at this size.
- For countersunk and button-head variants, chamfer the through-hole to seat the head flush without preloading the head/shank fillet.

Mating Parts for M10

Pair M10 with the matching M10 bolt or screw, plus a M10 flat washer where required to distribute load on softer materials.

Custom manufacturing · Made to drawing

Need socket nuts (hex drive, round body) in a size this table does not list?

This page covers M10 socket nuts (hex drive, round body). Height and across-flats are the two most often changed — a thinner nut for clearance, a larger hex for a tool that is already on the line. Made by cold heading or tapping.

Minimum order from 2,000 pieces; samples within 7 days of drawing approval.

Custom nut manufacturing (https://engineeringhardware.com/custom/nuts/)

Send a drawing (https://engineeringhardware.com/custom/nuts/#rfq)

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.

Dimensioned line drawing of M10 Socket Nuts (Hex Drive, Round Body) to Trade series (round body socket nut). Side view and top view, drawn to the dimensions in the table below and redrawn for any size selected.

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 (Trade series (round body socket nut))

Thread size	Outer diameter (mm)	Nut height m (mm)	Hex socket s (mm)	Socket dep
M4	8.0	8.0	4.0	3.5
M5	10.0	10.0	5.0	4.5
M6	12.0	12.0	6.0	5.5
M8	15.0	15.0	8.0	7.0
M10	18.0	18.0	10.0	9.0

Product catalog

Related Socket & Split Nuts products



(https://engineeringhardware.com/product/air-condition-and-refrigeration-fittings-short-flare-brass-nut-manufacturer/)

Hex & Other Standard Nuts

Air Condition and Refrigeration Fittings Short Flare Brass Nut Manufacturer (https://engineeringhardware.com/product/air-condition-and-refrigeration-fittings-short-flare-brass-nut-manufacturer/)

Brass Flare Nuts · DIN, ANSI, ASME, Ifi, ISO

US$0.0012 – 0.006 MOQ 1,000 pieces



(https://engineeringhardware.com/product/mining-equipmen-spares-parts-pt292721-nut-for-gp-series-gp300-stone-cone-crusher/)

Hex & Other Standard Nuts

Mining Equipmen Spares Parts PT292721 Nut for Gp Series Gp300 Stone Cone Crusher (https://engineeringhardware.com/product/mining-equipmen-spares-parts-pt292721-nut-for-gp-series-gp300-stone-cone-crusher/)

Round Head · GB

US$600.00 MOQ 1 piece



(https://engineeringhardware.com/product/heavy-duty-zinc-structural-grade-hex-nuts/)

Hex & Other Standard Nuts

Heavy Duty Zinc Structural Grade Hex Nuts

(https://engineeringhardware.com/product/heavy-duty-zinc-structural-grade-hex-nuts/)

Steel · Zinc Plated

US$0.12MOQ 1,000 pieces



(https://engineeringhardware.com/product/hydraulic-nut-splitter-yd-24-nut-cutter-tool-14-36mm-integral-nut-cutter-cutting/)

Hex & Other Standard Nuts

Hydraulic Nut Splitter Yd-24 Nut Cutter Tool 14-36mm Integral Nut Cutter Cutting Range M8-M24

(https://engineeringhardware.com/product/hydraulic-nut-splitter-yd-24-nut-cutter-tool-14-36mm-integral-nut-cutter-cutting/)

Hydraulic Crimping Tools · ISO, CE

US$48.00 MOQ 5 pieces



(https://engineeringhardware.com/product/molybdenum-nut-99-95-purity-with-polishing-surface/)

Hex & Other Standard Nuts

Molybdenum Nut 99.95% Purity with Polishing Surface

(https://engineeringhardware.com/product/molybdenum-nut-99-95-purity-with-polishing-surface/)

Moly Nut · GB, ASTM

US$2.40 – 84.00 MOQ 10 pieces



(https://engineeringhardware.com/product/manufacturer-standard-fasteners-round-stainless-steel-self-cinching-nuts/)

(https://engineeringhardware.com/product/manufacturer-standard-fasteners-round-stainless-steel-self-cinching-nuts/)

Hex & Other Standard Nuts

Manufacturer Standard Fasteners Round Stainless Steel Self Cinching Nuts (https://engineeringhardware.com/product/manufacturer-standard-fasteners-round-stainless-steel-self-cinching-nuts/)

Round Head · GB

US$0.0132 – 0.14 MOQ 10,000 pieces

View all Hex & Other Standard Nuts → (https://engineeringhardware.com/fastener-products/nuts/hex-other-standard-nuts/)

Full product catalog (https://engineeringhardware.com/products/)

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.

Stainless Steel

Carbon Steel 66

Alloy Steel 41

Bearing Steel 5

Spring Steel 25

Aluminum and Aluminum Alloys 21

Brass 17

Bronze 11

Copper 8

Titanium and Titanium Alloys 18

Nickel and Nickel Alloys 22

Iron-Nickel and High-Temperature Alloys 10

Tool Steel and Specialty Hardened Steel 9

Structural and Construction Steel 9

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

Applications & Industries for M10 Socket Nuts

The sectors that buy Socket Nuts, and the duty each one buys them for. Stocked from M4 to M10.

Industries that specify Socket Nuts

Steel fabrication **Bolted structural and frame connections.**

Automotive & transport **Vibration-prone joints where the locking type is specified on the drawing.**

Maintenance & MRO **Replacements matched to the existing bolt class, thread and finish.**

Building services **Threaded rod, channel and suspension assemblies.**

Machine building & OEM **The clamping counter-face on studs and bolts throughout an assembly.**

Typical applications

- **locking an adjustment so it cannot drift**
- **joints re-torqued at a service interval**
- **completing a bolted joint on a stud, rod or bolt**

Service conditions to specify against

Marine and coastal

Available in A4 (316) stainless for chloride exposure — coastal structures, pool halls, water treatment and deck hardware, where A2 will eventually pit.

High load

Supplied in ISO 898-1 property classes, so the joint can be designed to a stated proof load and tightened to a calculated torque rather than by feel.

Match the class

A nut below the bolt property class strips before the bolt reaches its own limit — pair class 8 nuts with 8.8 bolts, class 10 with 10.9.

Full application guide: where Socket Nuts are used, how to specify them, and the cases they are wrong for (https://engineeringhardware.com/applications/socket-nuts-hex-drive/)

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.



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.



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.



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.



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

How do I avoid stripping the socket on M10 Socket Nuts (Hex Drive, Round Body)?

Fully seat the key in the socket, choose ball-end keys only for low-torque finishing work, and prefer a T-handle key when feel matters. For production use a torque-controlled driver.

What is the coarse-thread pitch of M10 for Socket Nuts (Hex Drive, Round Body)?

For M10 the standard coarse pitch is 1.5 mm — this is the value used for Socket Nuts (Hex Drive, Round Body).

What clearance and tapping drill suit M10?

Use a 11 mm clearance hole (ISO 273 medium) for through-fixing, or a 8.5 mm tapping drill for a coarse M10 thread.

What is the height of an M10 nut?

The nominal height of a style-1 ISO 4032 M10 nut is in the spec table on this page. Style-2 (thick) is approximately 1.1× this height; thin (ISO 4035 / DIN 439) is approximately 0.5×.

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 Socket Nuts (Hex Drive, Round Body) page (https://engineeringhardware.com/fastener/socket-nuts-hex-drive/)

More Socket Nuts (Hex Drive, Round Body) Guides

- **M4 Socket Nuts (Hex Drive, Round Body)** (https://engineeringhardware.com/guide/size/m4-socket-nuts-hex-drive/)
- **M5 Socket Nuts (Hex Drive, Round Body)** (https://engineeringhardware.com/guide/size/m5-socket-nuts-hex-drive/)
- **M6 Socket Nuts (Hex Drive, Round Body)** (https://engineeringhardware.com/guide/size/m6-socket-nuts-hex-drive/)
- **M8 Socket Nuts (Hex Drive, Round Body)** (https://engineeringhardware.com/guide/size/m8-socket-nuts-hex-drive/)