

SPIROL[®]

PRECISION MACHINED NUTS





Brass, Stainless Steel and Aluminum Nuts are manufactured in an efficient 15,000 square foot facility.

SPIROL is a specialist in the manufacture of precision machined nuts. Innovative engineering, purpose-modified automatic screw machines, and CNC machines yield production rates that permit us to offer quality parts at pricing comparable to less precise manufacturing methods.

SPIROL is ISO 9001:2000 Certified.

We are committed to continuous improvement in all functional and operational areas with the objective of consistently exceeding our customers' expectations.

Ascutney Metal Products, Inc., a manufacturer of precision machined nuts since 1979, became part of the **SPIROL International Corporation** family of companies in 2000.

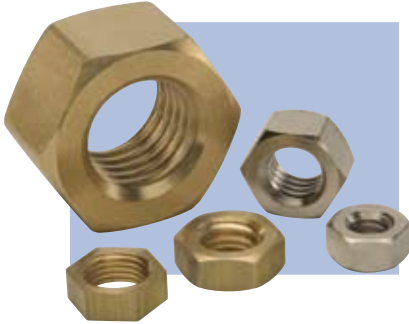
SPIROL offers engineering resources as well as stocking locations throughout North America, and the world, to better serve your critical delivery needs.

Process features and benefits

- Machined nuts are tapped 100% square to the face of the part. They are superior to cold formed and punched nuts.
- Threads roll freely with no "tight" spots.
- Threads are manufactured to strict standards with specific gages.
- We provide strict lot control and traceability.
- Thread pitch diameter allowances ease assembly after plating.
- Our products are clean, burr free, and ready to use.



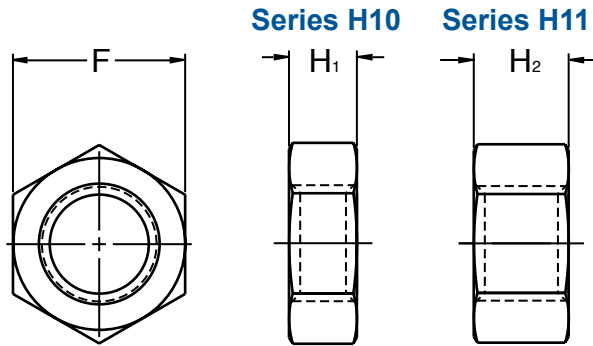
SERIES H10 FINISHED HEX NUTS SERIES H11 HEAVY HEX NUTS



Hex nuts are the most versatile and widely used nut design. Finished hex nuts are generally used with bolts to lock jam nuts against finished surfaces.

Heavy hex nuts are thicker across the flats than comparable finished hex nuts. They are the strongest hex nuts because of their greater length of thread engagement, and they are resistant to stretching and widening. Our standard finished and heavy hex nuts are double chamfered but can be made with a single chamfer and a washer face.

A finished hex nut is often used in conjunction with a jam nut. For high stress applications, the finished nut “jams” a jam nut against the application bearing surface. This compressive force exerted by the finished nut helps lock the fasteners in place and insures against “back out.”



HEX NUTS, H10 AND H11

Nominal or Basic Major Diameter of Thread and Threads Per Inch	H10 Finished Hex		H11 Heavy Hex	
	F	H ₁	F	H ₂
	Wrench Size	Thickness	Wrench Size	Thickness
1/4 – 20	7/16	7/32	1/2	15/64
5/16 – 18	1/2	17/64	9/16	19/64
3/8 – 16	9/16	21/64	11/16	23/64
7/16 – 14	11/16	3/8	3/4	27/64
1/2 – 13	3/4	7/16	7/8	31/64
9/16 – 12	7/8	31/64	15/16	35/64
5/8 – 11	15/16	35/64	1-1/16	39/64
3/4 – 10	1-1/8	41/64	1-1/4	47/64
7/8 – 9	1-5/16	3/4	1-7/16	55/64
1 – 8	1-1/2	55/64	1-5/8	63/64
1-1/8 – 7	1-11/16	31/32	1-13/16	1-7/64
1-1/4 – 7	1-7/8	1-1/16	2	1-7/32

MATERIALS: Brass, 303 Stainless Steel, and Aluminum.

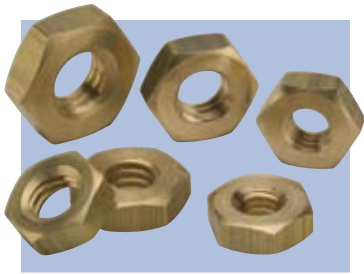
FINISHES: Plain, Bright Nickel, Passivated, and Zinc with Chromate. Other finishes available upon request.

TO ORDER: Provide Series, thread size - pitch, material and finish.

EXAMPLE: H10, 3/4 – 10, Brass, Nickel

SERIES H20 HEX JAM NUTS

SERIES H21 HEAVY HEX JAM NUTS



A jam nut is typically 2/3 the thickness of its respective hex nut series counterpart.

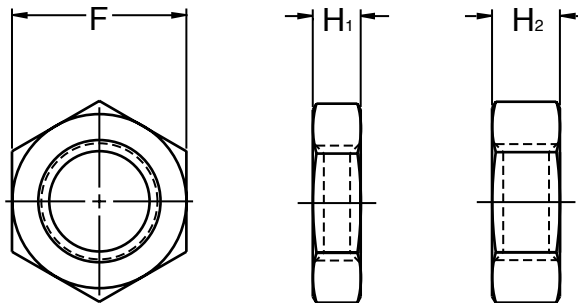
Jam nuts are tightened against the work surface and a heavy hex or finished hex nut is secured against the jam nut to ensure that the nut does not become loose.

Series H20 hex jam nuts are for use with Series H10 finished hex nuts.

Series H21 heavy hex jam nuts are for use with Series H11 heavy hex nuts.



Series H20 Series H21



HEX JAM NUTS, H20 AND H21

Nominal or Basic Major Diameter of Thread and Threads Per Inch	H20 Hex Jam		H21 Heavy Hex Jam	
	F	H ₁	F	H ₂
	Wrench Size	Thickness	Wrench Size	Thickness
1/4 – 20	7/16	5/32	1/2	11/64
5/16 – 18	1/2	3/16	9/16	13/64
3/8 – 16	9/16	7/32	11/16	15/64
7/16 – 14	11/16	1/4	3/4	17/64
1/2 – 13	3/4	5/16	7/8	19/64
9/16 – 12	7/8	5/16	15/16	21/64
5/8 – 11	15/16	3/8	1-1/16	23/64
3/4 – 10	1-1/8	27/64	1-1/4	27/64
7/8 – 9	1-5/16	31/64	1-7/16	31/64
1 – 8	1-1/2	35/64	1-5/8	35/64
1-1/8 – 7	1-11/16	39/64	1-13/16	39/64
1-1/4 – 7	1-7/8	23/32	2	23/32

MATERIALS: Brass, 303 Stainless Steel, and Aluminum.

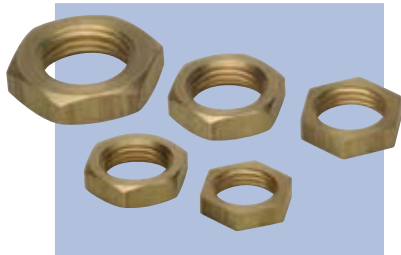
FINISHES: Plain, Bright Nickel, Passivated, and Zinc with Chromate. Other finishes available upon request.

TO ORDER: Provide Series, thread size - pitch, material and finish.

EXAMPLE: H20, 3/4 – 10, Brass, Nickel



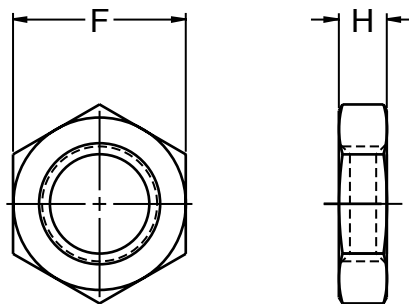
SERIES H30 HEX MACHINE SCREW NUTS



These general-purpose hex nuts are designed to be used specifically with machine screws in light to moderate load assemblies.



Series H30



HEX MACHINE SCREW NUTS, H30

Nominal or Basic Major Diameter of Thread and Threads Per Inch		F	H
		Wrench Size	Thickness
No. 2 – 56	0.0860 – 56	3/16	1/16
No. 3 – 48	0.0990 – 48	3/16	1/16
No. 4 – 40	0.1120 – 40	1/4	3/32
No. 5 – 40	0.1250 – 40	5/16	7/64
No. 6 – 32	0.1380 – 32	5/16	7/64
No. 8 – 32	0.1640 – 32	11/32	1/8
No. 10 – 24	0.1900 – 24	3/8	1/8
No. 10 – 32	0.1900 – 32	3/8	1/8
No. 12 – 24	0.2160 – 24	7/16	5/32
1/4 – 20	0.2500 – 20	7/16	3/16
5/16 – 18	0.3125 – 18	9/16	7/32
3/8 – 16	0.3750 – 16	5/8	1/4

MATERIALS: Brass, 303 Stainless Steel, and Aluminum.

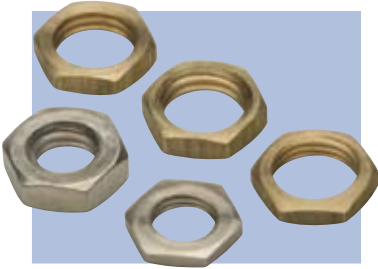
FINISHES: Plain, Bright Nickel, Passivated, and Zinc with Chromate. Other finishes available upon request.

TO ORDER: Provide Series, thread size - pitch, material and finish.

EXAMPLE: H30, 1/4 – 20, Brass, Nickel



SERIES H31 SMALL PATTERN HEX MACHINE SCREW NUTS

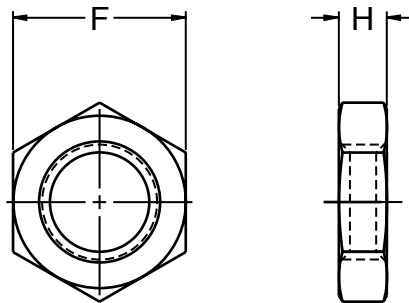


Small pattern hex machine screw nuts are designed to be used with machine screws in applications where there is limited room for wrenching.

Virtually any thread can be made into a small pattern machine screw nut. As long as there is enough clearance between the wrench size distance and the thread, nominal thread sizes are available in any nut pattern. This allows a number of unique combinations that can be made to order in addition to our standard offering.



Series H31



SMALL PATTERN HEX MACHINE SCREW NUTS, H31

Nominal or Basic Major Diameter of Thread and Threads Per Inch		F	H
		Wrench Size	Thickness
No. 4 – 40	0.1120 – 40	3/16	1/16
No. 5 – 40	0.1250 – 40	1/4	3/32
No. 6 – 32	0.1380 – 32	1/4	3/32
No. 8 – 32	0.1640 – 32	1/4	3/32
No. 10 – 24	0.1900 – 24	5/16	7/64
No. 10 – 32	0.1900 – 32	5/16	7/64

MATERIALS: Brass, 303 Stainless Steel, and Aluminum.

FINISHES: Plain, Bright Nickel, Passivated, and Zinc with Chromate. Other finishes available upon request.

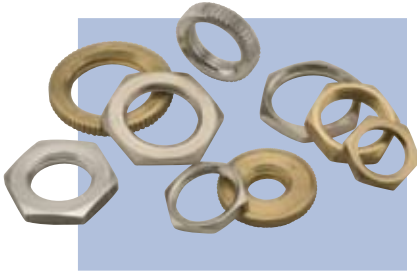
TO ORDER: Provide Series, thread size - pitch, material and finish.

EXAMPLE: H31, 10 – 24, Brass, Nickel



SERIES H40 HEX PANEL NUTS

SERIES R10 ROUND PANEL NUTS



Panel nuts are often used wherever a light duty precision fastener is needed. Typically panel nuts are designed to be thin and have width dimensions (F) close to the diameter of the fastener they secure. This creates a low profile used in light duty applications because they have low thread counts.

Applications for panel nuts include switch hardware, potentiometer controls, cable gland fasteners and lightweight lock nuts.

Series H40 — Hexagon Panel Nuts

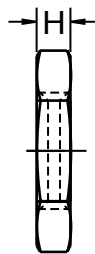
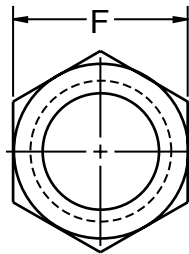
- Chamfered on all surfaces
- No thickness variations
- No cutoff burrs

Series R10 — Knurled Round Panel Nuts

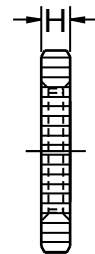
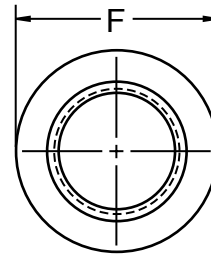
- Chamfered on all surfaces
- Clean full formed knurls free of slivers and flakes



Series H40



Series R10



PANEL NUTS, H40 AND R10

Thread Size and Threads Per Inch	H40 Hex		R10 Round	
	F	H	F	H
	Wrench Size	Thickness	Diameter	Thickness
1/8 – 27	1/2	1/8	9/16	3/32
10 – 48	9/32	3/64	—	—
1/4 – 32	5/16	1/16	—	—
1/4 – 32	3/8	1/16	—	—
1/4 – 40	5/16	1/16	3/8	3/32
5/16 – 32	7/16	7/64	—	—
3/8 – 32	1/2	3/32	1/2	3/32
15/32 – 32	9/16	5/64	9/16	5/64
15/32 – 32	9/16	3/32	5/8	3/32
1/2 – 28	5/8	1/8	—	—
5/8 – 27	3/4	3/32	3/4	1/8

MATERIALS: Brass, 303 Stainless Steel, and Aluminum.

FINISHES: Plain, Bright Nickel, Passivated, and Zinc with Chromate. Other finishes available upon request.

TO ORDER: Provide Series, thread size - pitch, wrench size/diameter, material and finish.

EXAMPLE: H40, 1/4 – 32, 5/16, Brass, Nickel



SERIES C10 CLOSED CAP NUTS

SERIES C20 OPEN CAP NUTS



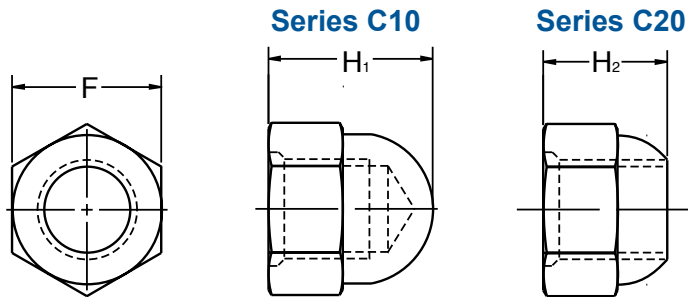
Cap nuts (acorn nuts) are available in two basic configurations, open and closed. **SPIROL** cap nuts are precision machined to withstand substantially higher tightening torque without stripping or having a bolt break through the dome, as can happen with two piece equivalent cap nuts.

Series C10 — Closed Cap Nuts

Closed cap nuts decoratively finish the exposed ends of bolts. They also offer protection from the sharp edges of bolts. Completely machined dome surfaces ensure safe handling and good finishing.

Series C20 — Open Cap Nuts

Open cap nuts are used for assembly of bolts whose lengths are imprecise and intended to go all the way through the fastener. Clean machining provides a superior surface for plating and offers a quality appearance. Generous counter bores allow for easy assembly.



CAP NUTS, C10 AND C20

Nominal or Basic Major Diameter of Thread and Threads Per Inch	F Wrench Size	C10 Closed	C20 Open	Nominal or Basic Major Diameter of Thread and Threads Per Inch	F Wrench Size	C10 Closed	C20 Open
		H ₁	H ₂			H ₁	H ₂
		Height	Height			Height	Height
No. 4 – 36	1/4	1/4	15/64	3/8 – 16	5/8	1/2	27/64
No. 4 – 40	1/4	1/4	15/64	3/8 – 24	5/8	1/2	27/64
No. 6 – 32	5/16	9/32	1/4	7/16 – 14	3/4	9/16	1/2
No. 8 – 32	5/16	9/32	1/4	7/16 – 20	3/4	9/16	1/2
No. 10 – 24	3/8	11/32	9/32	1/2 – 13	3/4	9/16	1/2
No. 10 – 32	3/8	11/32	9/32	1/2 – 20	3/4	9/16	1/2
No. 12 – 24	3/8	11/32	9/32	9/16 – 12	7/8	3/4	5/8
1/4 – 20	7/16	3/8	21/64	9/16 – 18	7/8	3/4	5/8
1/4 – 20	1/2	13/32	3/8	5/8 – 11	1	3/4	3/4
1/4 – 28	7/16	3/8	21/64	5/8 – 18	1	3/4	3/4
5/16 – 18	1/2	13/32	3/8	3/4 – 10	1-1/16	7/8	3/4
5/16 – 18	9/16	7/16	3/8	3/4 – 16	1-1/16	7/8	3/4
5/16 – 24	1/2	13/32	3/8	1 – 8	1-7/16	1-1/4	1
5/16 – 24	9/16	7/16	3/8				

MATERIALS: Brass, 303 Stainless Steel, and Aluminum.

FINISHES: Plain, Bright Nickel, Passivated, and Zinc with Chromate. Other finishes available upon request.

TO ORDER: Provide Series, thread size - pitch, material and finish.

EXAMPLE: C10, 10 – 32, Brass, Nickel



SERIES T10 KNURLED THUMB NUTS



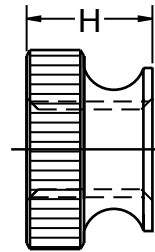
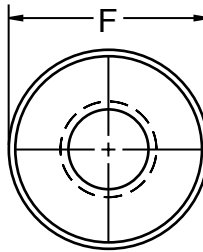
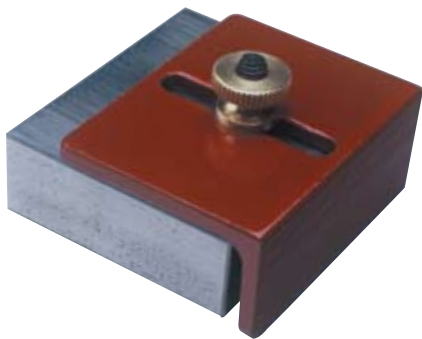
Optional "face" knurls

Thumb nuts are used in applications where a fastener needs to be adjusted and secured to a finger tight degree. Precise knurls are clearly formed and optional "face" knurls help lock the parts in place.

Popular applications for thumb nuts include panel mounts, home hardware, tension adjustment hardware and electrical applications.

Our precise machining process ensures that Series T10 thumb nuts are machined with no thickness variations or burrs. Heavy countersinks permit tightening over the shank portion of bolts that can extend slightly above the surface.

Series T10



RADIUS STEM, SINGLE KNURL THUMB NUTS, T10

Nominal or Basic Major Diameter of Thread and Threads Per Inch		F	H
		Diameter	Height
No. 2 – 56	0.0860 – 56	1/4	1/4
No. 4 – 40	0.1120 – 40	3/8	1/4
No. 6 – 32	0.1380 – 32	3/8	1/4
No. 8 – 32	0.1640 – 32	7/16	5/16
No. 10 – 24	0.1900 – 24	1/2	21/64
No. 10 – 32	0.1900 – 32	1/2	21/64
1/4 – 20	0.2500 – 20	5/8	3/8
5/16 – 18	0.3125 – 18	11/16	13/32

MATERIALS: Brass, 303 Stainless Steel, and Aluminum.

FINISHES: Plain, Bright Nickel, Passivated, and Zinc with Chromate. Other finishes available upon request.

TO ORDER: Provide Series, thread size - pitch, material and finish.

EXAMPLE: T10, 10 – 24, Brass, Nickel



Special Sizes

Our standard line of nuts can be easily altered to include metric sizes, specially designed non-standard threads, and non-standard thread pitch configurations. Should your requirement call for round, hex, square, or other external configuration, oversized threads for plating, finely controlled internal diameters or even special machined features, we can accommodate your request.

Special Materials

Our production machinery allows us to produce nuts in low carbon steel in addition to our standard aluminum, brass and 303 stainless steel materials.

Special Finishes

While our standard finishes include bright nickel, passivated and zinc with chromate, we can provide many other alternatives: black oxide, chromate in yellow, clear, olive or black, plain, cadmium, cadmium with yellow chromate, burnish and lacquer, bright acid tin, antique brass, dacromet, phosphate coated, and zinc without chromate.

Special Products

SPIROL can produce special variations to all of our standard lines of nuts. In addition, we produce hexagon coupling nuts, tamperproof nuts, boot nuts, railroad nuts, lamp and lighting parts, pipe couplings, compression nuts, metric nuts and more.

CNC Capabilities

We have made a significant investment in CNC machinery with capabilities to give you the option of using **SPIROL** for all of your short run, prototype and unique part requirements.

Features of these new CNC machines include:

- 4-axis turn/mill, including Swiss
- Machined diameters of up to 60mm
- Polygon turning
- Off center, side and end milling or drilling
- Highly precise flat surfaces
- Low-volume production
- Material options including, but not limited to brass, aluminum, steel or stainless steel.

SPIROL is committed to offering the highest quality, American made, precision fasteners.

Engineered solutions, rapid prototyping, and customized production processes will solve your assembly challenges quickly and economically.

CHALLENGE US!



QUALITY CONTROL

Dedicated to doing it right the first and every time.

**FRIENDLY,
PERSONALIZED
SERVICE**



GUARANTEED ON-TIME DELIVERY

We have earned our reputation by meeting demanding quality requirements and critical delivery needs at competitive prices.

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ISO 9001:2000 Certified