

Hex Socket Head Cap Screws

Full Thread / High Strength Stainless Steel / Configurable Length

SUS316L Hex Socket Head Cap Screws / Hex Screws / Nuts / Washers

Hex Socket Head Cap Screws Full Thread

Type	Material	Surface Treatment	Hardness	Strength Class
ACB	SCM435	Black Oxide Coating	32~44HRC	12.9(M3-M20)10.9(M24)
ASCB	SUS304 Equivalent	-	-	A2-70

RoHS

Hex Socket Head Cap Screws High Strength Stainless Steel

Material: SUS316L
JIS B 1176
* Strength Class: A4-100 (10.9 Equivalent)

RoHS

Part Number	ACB		Part Number	ACB	
	Unit Price	Volume Discount Rate		Unit Price	Volume Discount Rate
Type M-L	1 ~ 99 pcs.	100 ~ 500 pcs.	Type M-L	1 ~ 99 pcs.	100 ~ 500 pcs.
3-25			12-50		
30			55		
35			60		
40			65		
45			70		
50			75		
4-30			80		
35			85		
40			90		
45			100		
50			110		
55			120		
60			16-60		
5-30			65		
35			70		
40			75		
45			80		
50			85		
55			90		
60			100		
65			110		
70			120		
75			20-70		
80			75		
85			80		
90			85		
95			90		
100			100		
105			110		
110			120		
115			24-100		
120			110		
125			115		
130			120		
135					
140					
145					
150					
155					
160					
165					
170					
175					
180					
185					
190					
195					
200					
205					
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230					
235					
240					
245					
250					
255					
260					
265					
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275					
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300					
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310					
315					
320					
325					
330					
335					
340					
345					
350					
355					
360					
365					
370					
375					
380					
385					
390					
395					
400					
405					
410					
415					
420					
425					
430					
435					
440					
445					
450					
455					
460					
465					
470					
475					
480					
485					
490					
495					
500					

Part Number	Unit Price	Volume Discount Rate		
		1 ~ 4 pc(s).	5 ~ 49 pcs.	50 ~ 99 pcs. 100 ~ 500 pcs.
Type M-L				
3-5				
6				
8				
10				
12				
15				
20				
4-6				
8				
10				
12				
15				
20				
5-8				
10				
12				
15				
20				
25				
6-10				
12				
15				
20				
25				
30				

Mechanical Properties (Reference)

Type	Material	Strength Class	Tensile Strength (N/mm ²)	0.2% Proof Stress (N/mm ²)	Corrosion Resistance	Nonmagnetic
SCB	SUSXM7	A2-70	700	450	○	○
SSCB	SUS316L	A4-70	700	450	○	○
SCBF	SUS316L	A4-100 (10.9 Equivalent)	1000	900	○	○

⊕ SCB P.174 SSCB P.180 ⊙: Excellent / ○: Good

MxP	A	E	B
3x0.5	5.5	3	2.5
4x0.7	7	4	3
5x0.8	8.5	5	4
6x1.0	10	6	5
8x1.25	13	8	6
10x1.5	16	10	8
12x1.75	18	12	10
16x2.0	24	16	14
20x2.5	30	20	17
24x3.0	36	24	19

Material: SUS316L
Strength Class: SSCB A4-70
RSSCB A4-50 Equivalent

RoHS

SUS316L Hex Socket Head Cap Screws

Part Number	Type	M-L	MxP	A	E	B	Unit Price	Volume Discount Rate
							1 ~ 49 pc(s).	50 ~ 200 pcs.
SSCB	3-6	6	3x0.5	5.5	3	2.5		
SSCB	4-8	8	4x0.7	7	4	3		
SSCB	5-8	8	5x0.8	8.5	5	4		
SSCB	6-10	10	6x1.0	10	6	5		
SSCB	8-15	15	8x1.25	13	8	6		
SSCB	10-20	20	10x1.5	16	10	8		
SSCB	12-20	20	12x1.75	18	12	10		

SUS316L Nuts

Part Number	Type	M	B	(e)	T	Unit Price	Volume Discount Rate
						1 ~ 49 pc(s).	50 ~ 200 pcs.
SSLBNR	3	3	5.5	6.4	2.4		
SSLBNR	4	4	7	8.1	3.2		
SSLBNR	5	5	8	9.2	4		
SSLBNR	6	6	10	11.5	5		
SSLBNR	8	8	13	15	6.5		
SSLBNR	10	10	17	19.6	8		
SSLBNR	12	12	19	21.9	10		

SUS316L Spring Washers

Part Number	Type	No.	d	D	t	Unit Price	Volume Discount Rate
						1 ~ 49 pc(s).	50 ~ 200 pcs.
SSSLW	3	3	3.1	5.9	0.7		
SSSLW	4	4	4.1	7.6	1.0		
SSSLW	5	5	5.1	9.2	1.3		
SSSLW	6	6	6.1	12.2	1.5		
SSSLW	8	8	8.2	15.4	2.0		
SSSLW	10	10	10.2	18.4	2.5		
SSSLW	12	12	12.2	21.5	3.0		

SUS316L Washers

Part Number	Type	No.	D	d	t	Unit Price	Volume Discount Rate
						1 ~ 49 pc(s).	50 ~ 200 pcs.
SSPW	3	3	7	3.2	0.5		
SSPW	4	4	9	4.3	0.8		
SSPW	5	5	10	5.3	1.0		
SSPW	6	6	12.5	6.4	1.5		
SSPW	8	8	17	8.4	1.5		
SSPW	10	10	21	10.5	2.0		
SSPW	12	12	24	13.0	2.5		

Ordering Example

Part Number: SSCB5-12 SSSLW8

SUS316L Hex Screws

Part Number	Type	M-L	MxP	A	E	Unit Price	Volume Discount Rate
						1 ~ 49 pc(s).	50 ~ 200 pcs.
RSSCB	4-10	10	4x0.7	7	2.8		
RSSCB	5-10	10	5x0.8	8	3.5		
RSSCB	6-10	10	6x1.0	10	4.0		
RSSCB	8-15	15	8x1.25	13	5.5		
RSSCB	10-20	20	10x1.5	17	7.0		

Properties of SUS316L

- SUS316L is composed of SUS304 with Molybdenum added, having high corrosion resistance.

<Reference: Corrosion Resistance of Stainless Steel>

Testing Method	SUS440C	SUS304	SUS316L
Before Test			
48hr			
168hr			

Conforms to the cycle test method in JIS H 8502 for a complex corrosion test.

Test Conditions

- ① (1) Salt Water Spray Test (5%NaCl, 35°C) 2hr
- ② Dry (60°C) 4hr
- ③ Wet (95%RH, 35°C) 2hr

One cycle takes 8 hrs.

Hex Socket Head Cap Screws Configurable Length

Type	Material	Surface Treatment	Hardness	Strength Class
FBAB	SCM435	Black Oxide	38~43HRC	12.9
FBAM	SUS304 Equivalent	Electroless Nickel Plating	-	A2-70
FBAS	SUS304 Equivalent	-	-	A2-70

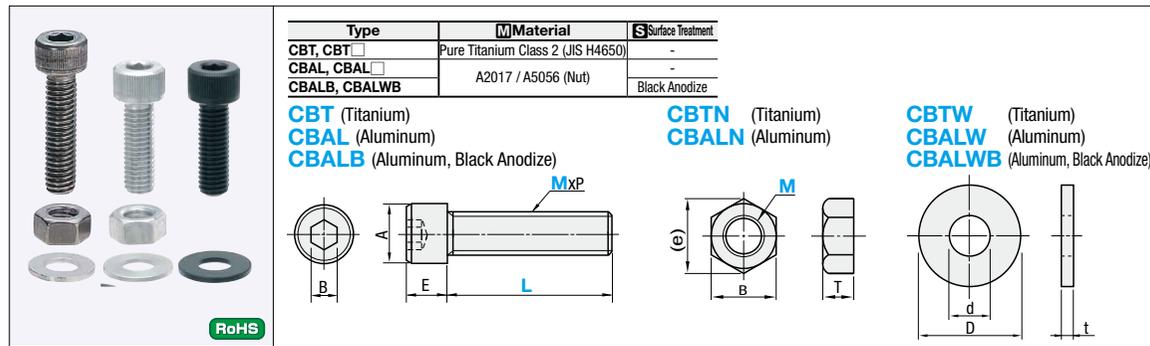
RoHS

Part Number	Type	M (Coarse)	L 1mm Increment	l 1mm Increment	Unit Price					
					FBAB	FBAM	FBAS	FBAS		
					Min. L - 100	L101~	Min. L - 100	L101~	Min. L - 100	L101~
FBAB	4	4	30~100	10~40						
FBAM	5	5	30~100	⊕						
FBAS	6	6	35~150	⊕						
	8	8	40~150	⊕						
	10	10	45~210	⊕						

⊕ For l=L, there will be incomplete threads (2 pitches Max.) below the screw head

Hex Socket Head Cap Screws / Nuts / Washers

Titanium, Aluminum



Hex Socket Head Cap Screws

Part Number	M x P	A	E	B	CBT		CBAL		CBALB		Quantity
					Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	
3-6	3 x 0.5	5.5	3	2.5	-	-	-	-	-	-	100
8					-	-	-	-	-	-	
10					-	-	-	-	-	-	
12					-	-	-	-	-	-	
15					-	-	-	-	-	-	
20	4 x 0.7	7	4	3	-	-	-	-	-	100	
8					-	-	-	-	-		-
10					-	-	-	-	-		-
12					-	-	-	-	-		-
15					-	-	-	-	-		-
20	5 x 0.8	8.5	5	4	-	-	-	-	-	100	
8					-	-	-	-	-		-
10					-	-	-	-	-		-
12					-	-	-	-	-		-
15					-	-	-	-	-		-
20	6 x 1.0	10	6	5	-	-	-	-	-	100	
8					-	-	-	-	-		-
10					-	-	-	-	-		-
12					-	-	-	-	-		-
15					-	-	-	-	-		-
20	8 x 1.25	13	8	6	-	-	-	-	-	50	
8					-	-	-	-	-		-
10					-	-	-	-	-		-
12					-	-	-	-	-		-
15					-	-	-	-	-		-
20	10 x 1.5	16	10	8	-	-	-	-	-	50	
8					-	-	-	-	-		-
10					-	-	-	-	-		-
12					-	-	-	-	-		-
15					-	-	-	-	-		-

⊕ Sizes with no price listings are not available.

Characteristics of Titanium (JIS H4650 Pure Titanium Class 2)

- Strength of titanium is comparable to low-carbon steel, yet the specific gravity is 60% of steel.
- It can be used in low to high temperatures.
- It has better chemical resistance than that of stainless steel.

Typical Physical Properties of Titanium

Item	Unit	Data
Purity	%	99.5 or More
Tensile Strength	N/mm ²	340~510
Yield Stress	N/mm ²	215 or More
Operating Temp.	°C	-200~350

Chemical Resistance of Titanium

Chemical Solution	Concentration (%)	Temperature (°C)	Titanium	SUS316
Hydrochloric Acid	10	30	○	×
Sulfuric Acid	20	30	○	×
Sodium Hydroxide	50	120	○	○

○: Corrosion resistant enough for use.

○: Corrosive but usable depending on conditions.

×: Unusable due to insufficient corrosion resistance.

Changes in Mechanical Characteristics of Titanium by Temperature

Item	Unit	Data		
		-200°C	Ambient Temperature	350°C
Tensile Strength	N/mm ²	994	421	167
Elongation	%	25.7	46	54

Nuts

Part Number	M	B	(e)	T	CBTN		CBALN		Quantity
					Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	
3	3	5.5	6.4	2.4	-	-	-	-	100
4	4	7	8.1	3.2	-	-	-	-	
5	5	8	9.2	4	-	-	-	-	
6	6	10	11.5	5	-	-	-	-	
8	8	13	15	6.5	-	-	-	-	
10	10	17	19.6	8	-	-	-	-	50

Washers

Part Number	No.	D	d	t	CBTW		CBALW		CBALWB		Quantity
					Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	
3	3	7	3.2	0.5	-	-	-	-	-	-	100
4	4	10	4.3	0.8	-	-	-	-	-	-	
5	5	12	5.5	0.8	-	-	-	-	-	-	
6	6	13	6.5	1.0	-	-	-	-	-	-	
8	8	18	8.5	1.5	-	-	-	-	-	-	
10	10	22	10.5	1.5	-	-	-	-	-	-	50



Ordering Example
 Part Number
CBT5-12
CBTN8
CBTW10

Comparison by Metals

Item	Unit	Titanium	Aluminum	Steel
Specific Gravity	g/cm ³	4.5	2.7	7.9
Tensile Strength	N/mm ²	377	78	315
Thermal Conductivity	cal/cm · sec · °C	0.041	0.487	0.145
Young's Modulus	kN/mm ²	106	69	205

Mechanical Characteristics of Hex Socket Cap Screws (Reference)

	Tensile Breaking Load N		Torsional Breaking Torque N·m	
	Titanium	Aluminum	Titanium	Aluminum
	M3	3210	1650	2.4
M4	5610	2890	4.7	2.5
M5	9080	4680	9.8	6.7
M6	12800	6630	11.3	11.0
M8	23400	12000	22.8	30.0
M10	37100	23560	61.5	48.0

- Shown above are reference values and not guaranteed.
- Recommended tightening torque is torsional shear torque x50%.
- Use torque driver or torque wrench for tightening.
- Values of black anodized products are approx. 80% of values above.

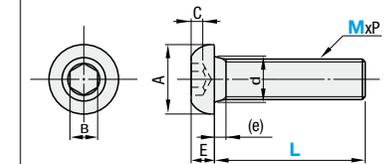
Note that, for some of the types shown here, order might be unable to be received by the MISUMI Thailand, Malaysia, Indonesia, and/or India offices.

Hex Socket Button Head Cap Screws

Box



Type	Material	Hardness	Surface Treatment
BOX-BCB	SCM435	34~44HRC	Black Oxide
BOX-SBCB	SUS304 Equivalent	-	-



MxP (Coarse)	A	E	B	C (Min.)	d	(e)
3x0.5	5.7	1.65	2	1.04	3.6	1
4x0.7	7.6	2.2	2.5	1.3	4.7	1.4
5x0.8	9.5	2.75	3	1.56	5.7	1.6
6x1.0	10.5	3.3	4	2.08	6.8	2

⊕ Can be ordered as a separate item P.185

⊕ Please specify in box quantity when ordering. One box is shipped for an order of 1.



Ordering Example
 Part Number
BOX-BCB5-10
BOX-SBCB5-10

Box package is cost-saving for in-house stock or when large quantities are needed.

Type	M-L	Unit Price 1 to 10 boxes		Pcs./ Box	
		Price per pkg.	1 Box		
BOX-BCB	3-5			1,000 pcs./box	
	6				
	8				
	10				
	12				
	15				
	20				
	25				
	4-6				500 pcs./box
	8				
	10				
	12				
	15				
	20				
	25				200 pcs./box
30					
5-8			500 pcs./box		
10					
12					
15					
20					
25			200 pcs./box		
30					
6-10				500 pcs./box	
12					
15					
20					
25					
30			200 pcs./box		

Type	M-L	Unit Price 1 to 10 boxes		Pcs./ Box	
		Price per pkg.	1 Box		
BOX-SBCB (Stainless Steel)	3-5			1,000 pcs./box	
	6				
	8				
	10				
	12				
	15				
	20				
	25				
	30				500 pcs./box
	4-6				
	8				
	10				
	12				
	15				
	20				200 pcs./box
25					
30					
5-8			500 pcs./box		
10					
12					
15					
20					
25			200 pcs./box		
30					
6-10				500 pcs./box	
12					
15					
20					
25					
30			200 pcs./box		

Note that, for some of the types shown here, order might be unable to be received by the MISUMI Thailand, Malaysia, Indonesia, and/or India offices.

Nuts JIS Class 1 / JIS Class 3

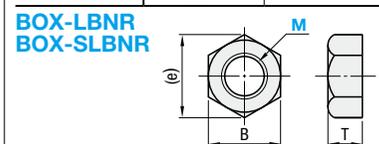
Available in Box



RoHS

Nuts - JIS Class 1

Type	Material	Surface Treatment
BOX-LBNR	SAE1008 (SWRCH Equivalent)	Trivalent Chromate
BOX-SLBNR	SUS304	-



MxP (Coarse)	B	(e)	T
2 x0.4	4	4.6	1.6
2.5x0.45	5	5.8	2
2.6x0.45	5	5.8	2
3 x0.5	5.5	6.4	2.4
4 x0.7	7	8.1	3.2
5 x0.8	8	9.2	4
6 x1.0	10	11.5	5
8 x1.25	13	15	6.5
10 x1.5	17	19.6	8

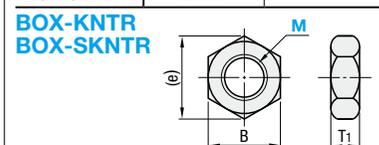
Can be ordered as a separate item. P.240



RoHS

Nuts - JIS Class 3

Type	Material	Surface Treatment
BOX-KNTR	SAE1008 (SWRCH Equivalent)	Trivalent Chromate
BOX-SKNTR	SUS304	-



MxP (Coarse)	B	(e)	T ₁
3x0.5	5.5	6.4	1.8
4x0.7	7	8.1	2.4
5x0.8	8	9.2	3.2
6x1.0	10	11.5	3.6
8x1.25	13	15	5
10x1.5	17	19.6	6

Can be ordered as a separate item. P.240

Please specify in box quantity when ordering. One box is shipped for an order of 1.

Ordering Example
Part Number
BOX-LBNR2.5
BOX-SKNTR10

Box package is cost-saving for in-house stock or when large quantities are needed.

Part Number	Unit Price 1 to 10 boxes		Pcs./Box
	Type	M	
BOX-LBNR	2		1,000 pcs./box
	2.5		
	2.6		
	3		
	4		
	5		
	6		
	8		
	10		
			200 pcs./box

For orders larger than indicated quantity, please check with WOS.

Part Number	Unit Price 1 to 10 boxes		Pcs./Box
	Type	M	
BOX-SLBNR (Stainless Steel)	2		1,000 pcs./box
	2.5		
	2.6		
	3		
	4		
	5		
	6		
	8		
	10		
			200 pcs./box

For orders larger than indicated quantity, please check with WOS.

Part Number	Unit Price 1 to 10 boxes		Pcs./Box		
	Type	M			
BOX-KNTR	3		1,000 pcs./box		
	4				
	5				
	6				
	8				
	10				
					500 pcs./box
					200 pcs./box

For orders larger than indicated quantity, please check with WOS.

Part Number	Unit Price 1 to 10 boxes		Pcs./Box
	Type	M	
BOX-SKNTR (Stainless Steel)	3		1,000 pcs./box
	4		
	5		
	6		
	8		
	10		
			500 pcs./box
			200 pcs./box

For orders larger than indicated quantity, please check with WOS.

Nuts Single Item Sale

Nuts (LBNR, SLBNR, KNTR, SKNTR) can be ordered by cost saving boxes. P.239

Nuts

(JIS Class 1) LBNR (Right-Hand Thread) SLBNR (SUS Right-Hand Thread) LBNL (Left-Hand Thread) SLBLN (SUS Left-Hand Thread)	(JIS Class 3) KNTR (Right-Hand Thread) SKNTR (SUS Right-Hand Thread) KNTL (Left-Hand Thread)	ANN (Right-Hand Fine Thread) SANN (SUS Right-Hand Fine Thread) TNTR (Thin Right-Hand Fine Thread) STNTR (SUS Thin Right-Hand Fine Thread)
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ANN Material: SS400 Surface Treatment: Trivalent Chromate Plating
LBNR, LBNL, KNTR, KNTL, TNTR Material: SWCH Equivalent Surface Treatment: Trivalent Chromate Plating
SLBNR, SLBNL, SANN, SKNTR, STNTR Material: SUS304 Equivalent

M	(Coarse) Pitch	B	(e)	T	T ₁
2	0.4	4	4.6	1.6	1.2
2.5	0.45	5	5.8	2	1.6
2.6	0.45	5	5.8	2	1.6
3	0.5	5.5	6.4	2.4	1.8
4	0.7	7	8.1	3.2	2.4
5	0.8	8	9.2	4	3.2
6	1.0	10	11.5	5	3.6
8	1.25	13	15	6.5	5
10	1.5	17	19.6	8	6
12	1.75	19	21.9	10	7
16	2.0	24	27.7	13	10
20	2.5	30	34.6	16	12
24	3.0	36	41.6	19	14

Part Number	LBNR		KNTR		SLBNR		SKNTR		LBNL		KNTL		SLBNL	
	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate
Type	M	1 - 9 pc(s), 10 - 49 pcs, 50 - 200 pcs.	1 - 9 pc(s), 10 - 49 pcs, 50 - 200 pcs.	1 - 9 pc(s), 10 - 49 pcs, 50 - 200 pcs.	1 - 9 pc(s), 10 - 49 pcs, 50 - 200 pcs.	1 - 9 pc(s), 10 - 49 pcs, 50 - 200 pcs.	1 - 9 pc(s), 10 - 49 pcs, 50 - 200 pcs.	1 - 9 pc(s), 10 - 49 pcs, 50 - 200 pcs.	1 - 9 pc(s), 10 - 49 pcs, 50 - 200 pcs.	1 - 9 pc(s), 10 - 49 pcs, 50 - 200 pcs.	1 - 9 pc(s), 10 - 49 pcs, 50 - 200 pcs.	1 - 9 pc(s), 10 - 49 pcs, 50 - 200 pcs.	1 - 9 pc(s), 10 - 49 pcs, 50 - 200 pcs.	1 - 9 pc(s), 10 - 49 pcs, 50 - 200 pcs.
LBNR	2													
LBNL (M3-M16)	2.5													
SLBNR	2.6													
SLBNL (M2-M20)	3													
KNTR	4													
KNTL (M3-M20)	5													
SKNTR	6													
	8													
	10													
	12													
	16													
	20													
	24													

No specifications available for sizes with no prices shown.

Part Number	B	(e)	T	ANN		SANN		Part Number	B	(e)	TNTR		STNTR	
				Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate				Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate
Type	M (Fine)			1 - 99 pc(s), 100 - 200 pcs.	1 - 99 pc(s), 100 - 200 pcs.	1 - 99 pc(s), 100 - 200 pcs.	1 - 99 pc(s), 100 - 200 pcs.	Type	M-P-T ₂		1 - 99 pc(s), 100 - 200 pcs.	1 - 99 pc(s), 100 - 200 pcs.	1 - 99 pc(s), 100 - 200 pcs.	1 - 99 pc(s), 100 - 200 pcs.
ANN SANN	4-0.5	7	8.1					TNTR STNTR	6-0.75-1.5	8	9.2			
	5-0.5	8	9.2	4					6-0.75-2	9	10.4			
	6-0.75	10	11.5						8-0.75-2	10	11.5			
	8-0.75	13	15	5					10-0.75-2	14	16.2			
	8-1.0			6					10-1.0-2	14	16.2			
	10-1.0			6					10-1.0-3	14	16.2			
	10-1.25	17	19.6	8					10-1.0-4	14	16.2			
	12-1.0			6					12-1.0-2	14	16.2			
	12-1.25			6					12-1.0-3	17	19.6			
	12-1.5	19	21.9	10					12-1.0-4	17	19.6			
	14-1.5	22	25.0	11					16-1.0-2.5	19	21.9			
	16-1.5	24	27.7	8										
	20-1.5	30	34.6	10										

Ordering Example
Part Number
SLBNR10
ANN10-1.25
TNTR10-1.0-4

Note that, for some of the types shown here, order might be unable to be received by the MISUMI Malaysia, Indonesia, and/or India offices.

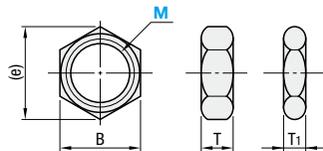
Nuts

U-Nuts® / Double Locking Nuts Hard Lock Nuts®

These nuts are designed with smaller hex envelope and thickness than JIS standard to be used in limited spaces.

Compact Nuts

SNTRC
SNTRCS (Thin)
PACK-SNTRC
PACK-SNTRCS (Thin)



Material: SUS304
Strength Class SNTRCS: 5T Equivalent
SNTRCS: 4T Equivalent

PACK - contains 10 pcs.

RoHS

Part Number	Type	M	Coarse Pitch	B	(e)	T	T ₁	SNTRC		SNTRCS			
								Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate		
SNTRC SNTRCS	4	0.7	6	6.9	2.4	2		1 - 4 pc(s)	5 - 99 pc(s)	100 - 500 pcs	1 - 4 pc(s)	5 - 99 pc(s)	100 - 500 pcs
	5	0.8	7	8.1	3.2	2.5							
	6	1	8	9.2	3.6	3							
	8	1.25	10	11.5	5	4							
	10	1.5	13	15	6	4.5							
	12	1.75	17	19.6	7	5.5							

For orders larger than indicated quantity, please check with WOS.

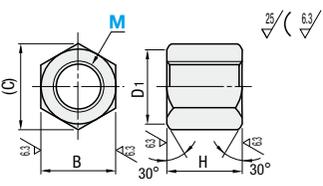
Part Number	Type	M	Coarse Pitch	B	(e)	T	T ₁	Qty.	PACK-SNTRC		PACK-SNTRCS	
									Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate
PACK-SNTRC PACK-SNTRCS	4	0.7	6	6.9	2.4	2	10					
	5	0.8	7	8.1	3.2	2.5	10					
	6	1	8	9.2	3.6	3	10					
	8	1.25	10	11.5	5	4	10					
	10	1.5	13	15	6	4.5	10					
	12	1.75	17	19.6	7	5.5	10					

For orders larger than indicated quantity, please check with WOS.

Ordering Example
Part Number
SNTRCS
PACK-SNTRC4

Tall Nuts

Type	Material	Surface Treatment	Hardness
NT	S45C	Trivalent Bright Chromate Plating	25-30HRC
SNT	SUS304	-	-



Material: SUS304

RoHS

Part Number	Type	M (Coarse)	H	B	(C)	D ₁	NT		SNT	
							Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate
NT SNT	6	9	10	11.5	9.8		1 - 49 pc(s)	50 - 500 pcs	1 - 49 pc(s)	50 - 500 pcs
	8	12	13	15	12.5					
	10	15	17	19.6	16.5					
	12	18	19	21.9	18					
	16	24	24	27.7	23					
	20	30	30	34.6	29					
	24	36	36	41.6	34					

For orders larger than indicated quantity, please check with WOS.

Ordering Example
Part Number
NT6

Configurable Length Nuts

Type	Material	Surface Treatment
NTFL	SS400	Electroless Nickel Plating
NTFLS	SUS304	-



Material: SUS304

RoHS

Part Number	Type	M	L
NTFL6	-	-	10

L Dimension Selectable

Part Number	Type	M (Coarse)	L	B	(C)	D ₁	NTFL		NTFLS	
							Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate
NTFL NTFLS	3	4	5	6	6.9	5.3	1 - 19 pc(s)	20 - 49 pc(s)	50 - 99 pc(s)	100 - 200 pcs
	4	5	6	8	10	7	8.1	6.8		
			10	12	15					
			20							
	5	6	8	10	12	8	9.2	7.8		
			15	20						
	6	10	12	15	20	10	11.5	9.8		
			25	30						
	8	10	15	20	25	13	15	12.5		
			30							
10	10	20	25	30	17	19.6	16.5			
		40								

Ordering Example
Part Number
NTFL6 - 10

L Dimension Configurable

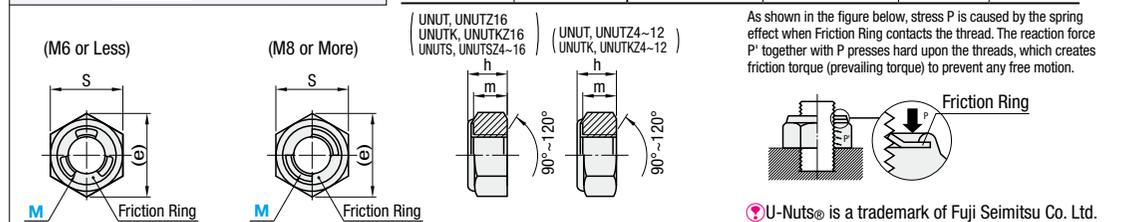
Part Number	Type	M (Coarse)	L	B	(C)	D ₁	Unit Price	
							NTFL	NTFLS
NTFL NTFLS	3	3-10	6	6.9	5.3			
	4	4-15	7	8.1	6.8			
	5	5-20	8	9.2	7.8			
	6	6-25	10	11.5	9.8			
	8	8-30	13	15	12.5			
	10	10-40	17	19.6	16.5			
	12	10-50	19	21.9	18			
16	10-50	24	27.7	23				

U-Nuts®



Part Numbers in [] are not RoHS compliant. RoHS

Type	Pkg.	Body Material	Friction Ring Material	Surface Treatment	Screw Precision
UNUTZ	PACK-UNUT	SS400 or Equivalent	SUS301	Bright Chromate Plating	JIS6H (Class 2)
UNUTKZ	PACK-UNUTK	SS400 or Equivalent	SUS301	Trivalent Chromate	JIS6H (Class 2)
UNUTSZ	PACK-UNUTS	SUS304 or Equivalent	SUS301	-	JIS6H (Class 2)



As shown in the figure below, stress P is caused by the spring effect when Friction Ring contacts the thread. The reaction force P' together with P presses hard upon the threads, which creates friction torque (prevailing torque) to prevent any free motion.

U-Nuts® is a trademark of Fuji Seimitsu Co. Ltd.

Part Number	Type	M	UNUTZ		UNUTKZ		UNUTSZ	
			Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate
UNUTZ UNUTKZ UNUTSZ	4	1 - 9 pc(s)	10 - 500 pcs	1 - 9 pc(s)	10 - 500 pcs	1 - 9 pc(s)	10 - 500 pcs	
	5							
	6							
	8							
	10							
	16							

Part Number	Type	M	Qty. /1 pkg.	PACK-UNUT		PACK-UNUTK		PACK-UNUTS	
				Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate
PACK-UNUT PACK-UNUTK PACK-UNUTS	4	100	10	10	10	10	10	10	10
	5	100							
	6	100							
	8	100							
	10	50							
	16	50							

For orders larger than indicated quantity, please check with WOS.

100 pcs./pkg. for M4 - 8; 50 pcs./pkg. for M10 - 16.

For orders larger than indicated quantity, please check with WOS.

M	Pitch	S		h		m	(e)	Tightening Torque N·m (kg·cm)		
		Reference Dim.	Tolerance	Reference Dim.	Tolerance			UNUT, UNUTK	UNUTS	
4	0.7	7	0	3.8	±0.3	3	8.1	2.2(22)	1.9(19)	
5	0.8	8	-0.2	4.6	±0.3	3.9	9.2	4.4(45)	3.8(39)	
6	1.0	10		5.1	±0.3	4.2	11.5	7.4(75)	6.5(66)	
8	1.25	13	0	7.3	±0.4	6.1	15	18(180)	16(160)	
10	1.5	17	-0.25	8.3	±0.4	7.1	19.6	36(370)	31(320)	
12	1.75	19	0	10.5	±0.5	9	21.9	62(630)	55(560)	
16	2.0	24	-0.35	14.5	±0.5	13	27.7	155(1600)	135(1400)	

Ordering Example
Part Number
UNUTZ4
PACK-UNUT12

Features of U-Nuts®

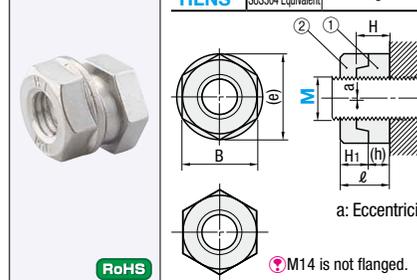
- Capable of stable anti-loosening effect. Prevents screws from falling off even when declines in axial tension.
- Being a solid metal product, the nuts are highly resistant to heat and cold.
- Simplified fastening task makes work management easier.
- Easy parts management prevents inappropriate installation.
- Reusable.

Cautions

- Make 2 or more pitches of the thread protrude from the friction ring.
- When tightening the nut, refer to the Tightening Torque Chart.
- Use chamfered tipped screws of JIS6g (Class 2) in thread precision.
- Use appropriate lubricant if seizure or scuffing occurs when screwing or unscrewing the nut onto threads.
- Cannot be screwed in from the friction ring side.
- Discontinue the use if abnormal deformation occurs in the friction ring or the clamp.

Double Locking Nuts

Type	Material	Surface Treatment
HLN	SS400 Equivalent	Trivalent Chromate
HLNS	SUS304 Equivalent	-



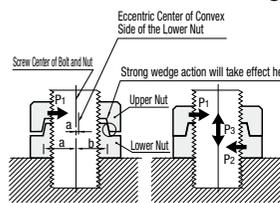
M14 is not flanged.

Part Number	Type	M	MxPitch	B	(e)	Lower Nut		Upper Nut		Pair Height (h)	Weight per Set (g)	Unit Price	
						H	Tolerance	H ₁	Tolerance			HLN	HLNS
HLN HLNS (Stainless Steel)	6	6x1.0	10	11.5	5	±0.3	5	-0.3	8	3	4		
	8	8x1.25	13	15	6.5	0	6.5	0	10.6	4.1	8.9		
	10	10x1.5	17	19.6	8	-0.58	8	0	13.2	5.2	18		
	12	12x1.75	19	21.9	10	0	9.3	-0.58	16	7.0	26		
	14	14x2.0	22	25.4	11	0	11	0	18.5	7.5	39		
16	16x2.0	24	27.7	13	-0.7	11	-0.7	20	9	46			

Tightening Torque Chart (Reference Value)

M	By Material: Tightening Torque Reference Value Chart (N·m)					All Materials
	SS400 or Equivalent	S45C or Equivalent	SCM435 or Equivalent	SUS304, 316 or Equivalent	70(450N/mm ²)	
6	2.3-6	-	1.5-4	3.3-9	4-5	
8	5.6-15	11.2-30	15.8-42	3.7-10	7.9-21	
10	11-30	22-59	31-84	7-20	16-42	
12	19-52	39-104	55-146	13-34	27-73	
14	31-82	62-165	87-232	20-54	44-116	
16	48-129	97-257	136-362	32-84	68-181	

Structure and Function of Hard Lock Nuts®



Hard Lock Nuts® is a registered trademark of Hard Lock Industry Co., Ltd.

Cautions

Screws or shafts should be machined in accordance with JIS6g (Class 2) for thread precision. Nuts may not fit well due to different thread precision. Although O.D. of the upper nut and the lower nut may become eccentric or clearance may occur during assembling caused by its structure, it does not affect the operation.

Fig-1: When upper nut is tightened, stress is automatically applied in P1 arrow direction. Horizontal stress continues to increase with tightening until upper nut closely contacts lower nut as shown in Fig-2. The nuts are fully locked by the wedge effect.
Fig-2: After nuts are tightened, internal stress remains distributed as composite stress of P1+P2+P3 to resist external impact.

Ordering Example
Part Number
HLNS