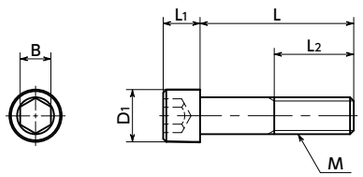
# SNST-SD-UT Socket Head Cap Screws with Small Head - Titanium

Chemical-proof Non-Magnetic Lightweight Small Head




- Hex socket head cap screws with small head diameter. Able to reduce the spot facing diameters compared to standard hex socket head cap screws.
- The specific gravity is approximately 60% that of stainless steel.
- Non-magnetic.
- Excellent chemical resistance / seawater resistance.
- For the properties of titanium materials, see "Properties of Titanium."

## ● Material/Finish

RoHS

| | SNST-SD-UT |
|---|---|
| Main Body | TW340 (Grade 2 Titanium) |

## ● Mechanical Properties

| | TW340 (Grade 2 Titanium) |
|---|---|
| Tensile Strength (N/mm²) | 340 - 510 |
| 0.2% Proof Load (N/mm²) | 215 or Higher |
| Elongation (%) | 23 or Higher |

- Values in chart are for reference only. They are not guaranteed values.

## ● Physical Properties

| | TW340 (Grade 2 Titanium) |
|---|---|
| Specific Gravity | 4.51 |
| Melting Point (℃) | 1668 |
| Longitudinal Elastic Modulus (GPa) | 106 |
| Thermal Conductivity (W/(m・K)) | 17.16 |
| Linear Expansion Coefficient ($K^{-1}$) | $8.4 \times 10^{-6}$ |
| Electric Resistance ($\mu\Omega$・m) | 0.55 |
| Magnetic Permeability ($\mu$) | 1.0001 (Nonmagnetic) |

- Values in chart are for reference only. They are not guaranteed values.

## ● Application

Lighter-weight automobiles, aircrafts/aerospace equipment, robots, etc. FPD production equipment / Semiconductor manufacturing equipment / Electrical and electronic equipment / Offshore instruments / Plating facilities

Unit : mm

| Part Number 1 | M (Coarse) | | L 2 | | | | | | | | | | | D1 | L1 | B | L2*1 | Mass (g) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Nominal of Thread | Pitch | | | | | | | | | | | | | | | | |
| **SNST-M3-SD-UT** | M3 | 0.5 | 5 | 6 | 8 | 10 | 12 | 16 | 20 | | | | | 4.5 | 3 | 2.5 | Full Thread | 0.27 - 0.66 |
| **SNST-M4-SD-UT** | M4 | 0.7 | | | 8 | 10 | 12 | 16 | 20 | 25 | 30 | | | 5.5 | 4 | 3 | 20(L=30) | 0.83 - 2 |
| **SNST-M5-SD-UT** | M5 | 0.8 | | | | 10 | 12 | 16 | 20 | 25 | 30 | 35 | | 7 | 4.5 | 4 | 22(L≧30) | 1.1 - 3.2 |
| **SNST-M6-SD-UT** | M6 | 1 | | | | 10 | 12 | 16 | 20 | 25 | 30 | 35 | 40 | 8.5 | 5.5 | 5 | 24(L≧35) | 2.2 - 5.7 |

*1 : If the "L" value is not in parentheses, the screw is full thread.

| 1 Individual Sales | Cleanroom Wash & Packaging | Screw Length Adjustment | Vibration Resistant | Modification process for captive use |
|---|---|---|---|---|
| 1 piece in 1 pack | Available / Add'l charge | Available / Add'l charge | Available / Add'l charge | Please feel free to contact us |



## ⚠ Precautions for Use

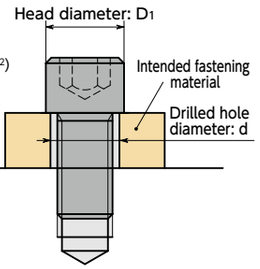
- Since the head bearing surface area is small, the bearing surface pressure increases.
- Using the following formula as a reference, ensure that the bearing surface pressure due to screw tightening does not exceed the permitted surface pressure of the intended fastening material.

$$P = \sigma \frac{As}{A}$$

P: Bearing surface pressure (N/mm²)
σ: Bolt stress (N/mm²)
As: Screw effective cross-sectional area (mm²)
A: Bearing surface area (mm²)

$$\text{Bearing surface area } A = \pi \frac{(D_1^2 - d^2)}{4}$$

$D_1$: Head diameter (mm)
d: Drilled hole diameter (mm)

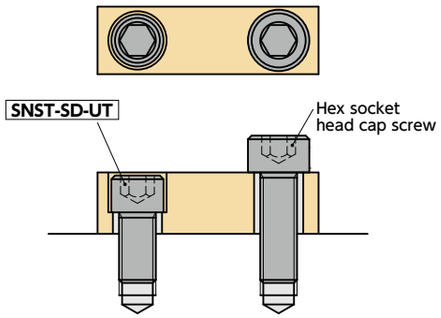



## ● Head Diameter and Screw Effective Cross-Sectional Area

| Part Number | Head Diameter (mm) | Screw Effective Cross-Sectional Area (mm²) |
|---|---|---|
| **SNST-M3-SD-UT** | 4.5 | 5.03 |
| **SNST-M4-SD-UT** | 5.5 | 8.78 |
| **SNST-M5-SD-UT** | 7 | 14.2 |
| **SNST-M6-SD-UT** | 8.5 | 20.1 |

## ● Usage Example

It is possible to perform spot facing and hide the head in locations where spot facing is not possible with standard hex socket head cap screws.




## ● Part Number Specification

**SNST-M3 - 10 - SD-UT**
1 2 1