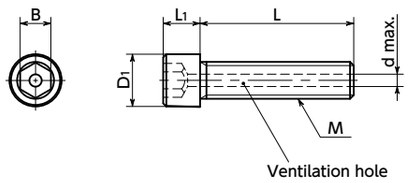
SVST-SD Vented Socket Head Cap Screws with Small Head - Titanium

Vacuum | Cleanroom wash & packaging | Chemical-proof | Non-Magnetic | Lightweight | Small Head



- Small head screws with ventilation holes. Because the head diameter is small, spot facing diameters can be reduced compared to standard hex socket head cap screws.
- The ventilation hole easily releases gas trapped in the screw holes of equipment and machines, and supports vacuum drawing of vacuum devices.
- The specific gravity is approximately 60% that of stainless steel.
- Non-magnetic.
- Excellent chemical resistance / seawater resistance.
- Special chemical polishing and brightening treatment improve the quality of the surface. Additionally, products have been cleanroom washed and packed. Cleanroom specification prevents oil and dirt from adhering.
- For the properties of titanium materials, see "Properties of Titanium."

● Material/Finish

RoHS

	SVST-SD
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})	8.4×10^{-6}
Electric Resistance ($\mu\Omega$・m)	0.55
Magnetic Permeability (μ)	1.0001 (Nonmagnetic)

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● Application

Vacuum devices / Vacuum chambers / FPD production equipment / Semiconductor manufacturing equipment / Electron microscopes

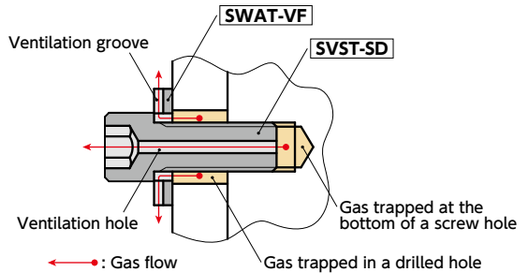
Unit : mm

Part Number [1]	M (Coarse)		L [2]								D1	L1	B	d	Mass (g)
	Nominal of Thread	Pitch													
SVST-M3-SD	M3	0.5	5	6	8	10	12	16	20		4.5	3	2.5	1.2	0.27 - 0.66
SVST-M4-SD	M4	0.7			8	10	12	16			5.5	4	3	1.5	0.67 - 1
SVST-M5-SD	M5	0.8				10	12	16	20	25	7	4.5	4	1.5	1.1 - 2.3

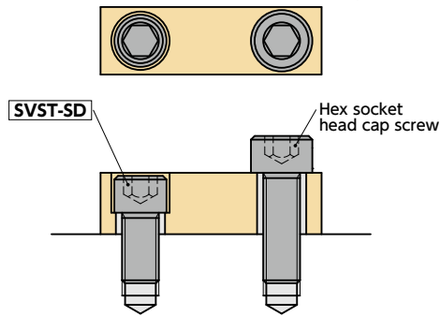
[1] Individual Sales	Cleanroom Wash & Packaging	Screw Length Adjustment	Vibration Resistant	Modification process for captive use
1 piece in 1 pack	Cleanroom washed and packed	Available / Add'l charge	Not Available	Not Available

● Usage Example

Gas trapped at the bottom of the screw hole is released through **SVST-SD**, and gas trapped in the drilled hole is released through **SWAT-VF**.



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.



● Related Products

For ventilation of drilled holes, please use **SWAT-VF**.

⚠ Precautions for Use

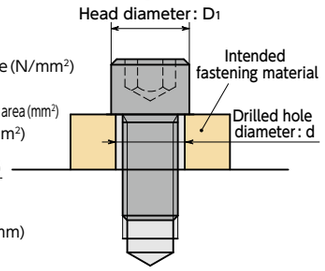
- Since the head bearing surface area is small, the bearing surface pressure increases.
- Using the following formula as a reference, ensure that the bearing surface pressure due to screw tightening does not exceed the permitted surface pressure of the intended fastening material.

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

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

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

D1 : 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)
SVST-M3-SD	4.5	5.03
SVST-M4-SD	5.5	8.78
SVST-M5-SD	7	14.2

● Part Number Specification

SVST-M5 - 16 - SD
[1] [2] [1]

Batch cleanroom packing is provided for orders containing multiple items of the same size.