



Standard Internally Gaged Hex Head Cap Screws, SXS Series

Steel Alloy (SAE Grade 9)

*To measure accurate
preload, service load
and overload of bolted
assemblies*

*For maximum uniformity,
efficiency and reliability
in bolted assemblies*

*For effective research,
testing and manufacturing
of bolted assemblies*



U.S. Patent No. 2,873,341

MECHANICAL SPECIFICATIONS

Material	SAE 4140 or equivalent
Hardness	Rockwell C38 to C42
Ultimate Tensile Strength	180,000 psi Minimum; (SAE Grade 9)
Threads	Class 2A, rolled
Thread Length	2-diameters + 1/4 inch full threads + 3/16 inch maximum imperfect threads.
Finish	Zinc Dichromate plated. Corrosion Protection per Federal Spec. QQ P-416 Type II, Class 3

ELECTRICAL SPECIFICATIONS

ITEM	CHARACTERISTIC
Gages Type	Metal Foil
Gage Factor	2.00
Service Temperature	150°F or 300°F
Non-Linearity	±1% of Allowable Load
Non-Repetition	±0.1% F.S.
Bridge Resistance	350 or 120 Ohms (Nominal)
Configuration	Quarter-Bridge (QB) or Full-Bridge (FB)
Output Signal	FB: 3.5 to 4 mv/V
(nominal, at allowable load)	QB: 1.3 to 1.5 mv/V
Excitation	350-ohm FB: 12V (Maximum) 350-ohm QB: 6V (Maximum) 120-ohm FB: 3V (Maximum)

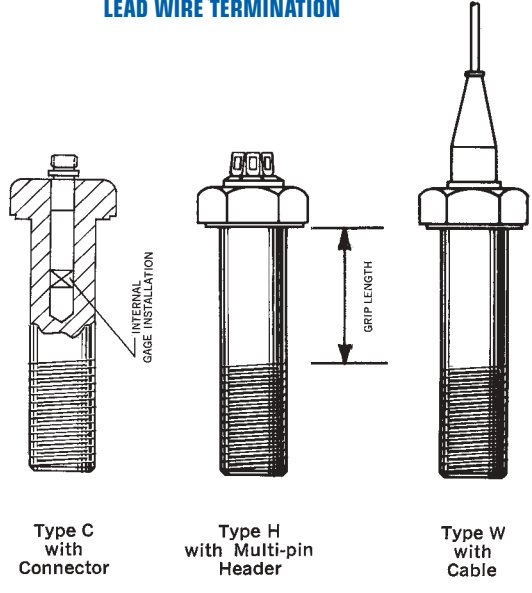
ALLOWABLE LOADS

Allowable loads for Strainert Hex Head Cap Screws, as tabulated below, are based on approximately 70% Yield Strength of the threads, in pounds.

SCREW DIA.	LOAD CAPACITY LBS.	
	FINE THREADS	COARSE THREADS
1/4	2,800	2,800
5/16	5,400	5,000
3/8	7,800	7,500
7/16	11,000	10,000
1/2	15,000	14,000
9/16	20,000	18,000
5/8	26,000	23,000
3/4	38,000	33,500
7/8	52,500	46,000
1	70,000	62,000
1-1/8	88,000	78,000
1-1/4	110,000	97,000
1-1/2	160,000	144,000

Each cap screw is proof-loaded to above indicated load as part of quality control procedure. Both the value of proof-load and mv/V signal obtained are furnished to customer on a no-charge basis. See calibration section for additional calibration certification.

LEAD WIRE TERMINATION



Type C – screw type miniature connector, requires mating cable assembly.
 Type H – a multi-pin header for soldered lead wire connections
 Type W – factory installed cable
 Over 190 different STRAINERT Hex Head Cap Screws are stocked, ready for gaging.

U.S. patent #2,873,341

ORDERING INFORMATION

SXS - FB 1/2-13NCx4 (350Ω / 300°F) C T3 K(LO) So

S = Signal Trimmed to Specific Endpoint
So = No Signal Trim

K(LO) = Load Only Calibration
K(LU) = Load & Unload Calibration
Ko = No Calibration, Proof Load Only

To = No Temperature Compensation
T1 = Temperature Compensation to 150°F
T3 = Temperature Compensation to 300°F

C = Connector
W = Permanently Attached Cable
H = Header Style

150°F or 300°F Service Temperature (Max.)

350Ω or 120Ω

Bolt Thread Size (Diameter - Threads per Inch X Length)

FB = Full Bridge Strain Gage Circuit
QB = Quarter Bridge Strain Gage Circuit

SXS = Steel Alloy, Hex Head

* See Strainert Calibration Services (Page 94)

† Not Available for Quarter-Bridge Bolts.