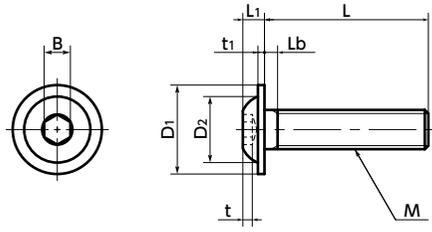


SFB/SFBS Socket Button Head Cap Screws with Flange New Variation Added

WEB Selection Tool
 WEB CAD Download
 SUS Stainless steel
 Protrusion



- Socket button head cap screws with wide bearing surface and are resistant to looseness.
- Intended for reducing the size of devices and applications with limited overhead space.
- Compared to **SFB** (Ferrosoferic Oxide Coating), **SFB-EL** (Electroless nickel plating) has excellent corrosion resistance.
- Application
Reducing the size of equipment and devices

● Material/Finish

RoHS Compliant

	SFB	SFBS	SFB-EL
Main Body	SCM435AD Ferrosoferic Oxide Coating (Black)	SUSXM7 (S.S. grade : A2)	SCM435AD Electroless nickel plating
Strength Class	10.9	A2-50	10.9

SFB Steel - Ferrosoferic Oxide Coating

Unit : mm

Part Number	M	L								D1	D2	L1	t1	B	t	Lb	Max. Torque (N·m)	Mass (g)
SFB-M3	M3	6	8	10	12					7	5.2	1.65	0.6	2	1.05	1	1	0.52 - 0.78
SFB-M4	M4	6	8	10	12	16	20			9.2	6.8	2.2	0.7	2.5	1.3	1.4	2	1 - 2
SFB-M5	M5		8	10	12	16	20	25		11.4	8.5	2.75	0.9	3	1.6	1.6	4	2 - 4
SFB-M6	M6		8	10	12	16	20	25		13.6	10.1	3.3	1	4	2.1	2	8	3 - 5.9
SFB-M8	M8			10	12	16	20	25		17	12.6	4.4	1.4	5	2.6	2.5	12	6.8 - 11

Part Number	Qty*1 per pack
SFB-M3	50
SFB-M4	50
SFB-M5	20
SFB-M6	20
SFB-M8	20

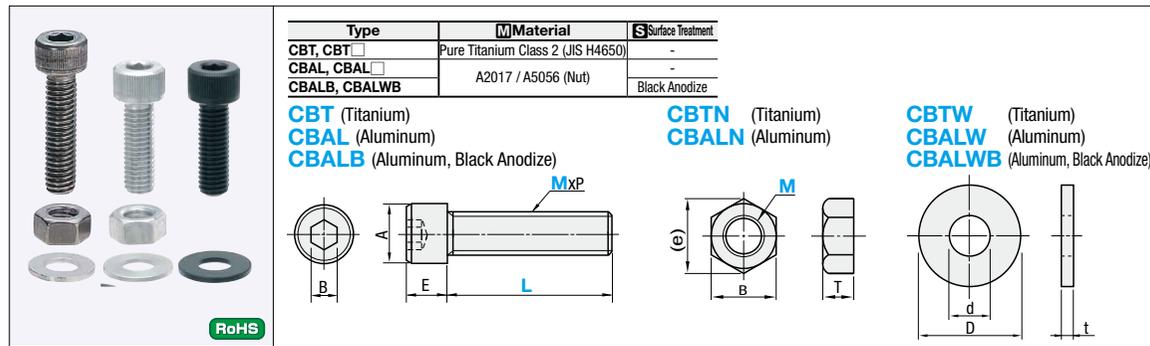
*1 1 The minimum order quantity is 1 piece. → P.794

Individual Sales → P.794
 Cleanroom Wash & Packaging → P.792
 Screw Length Adjustment → P.796
 Vibration Resistant → P.795
 Modification process for captive use → P.791

Available / Add'l charge Available / Add'l charge Available / Add'l charge Available / Add'l charge Please feel free to contact us

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)

Item	Tensile Breaking Load N				Torsional Breaking Torque N·m			
	Titanium		Aluminum		Titanium		Aluminum	
	M3	M4	M5	M6	M8	M10	M3	M4
M3	3210	1650	2.4	1.0	2.4	1.0	1.0	1.0
M4	5610	2890	4.7	2.5	4.7	2.5	2.5	2.5
M5	9080	4680	9.8	6.7	9.8	6.7	6.7	6.7
M6	12800	6630	11.3	11.0	11.3	11.0	11.0	11.0
M8	23400	12000	22.8	30.0	22.8	30.0	30.0	30.0
M10	37100	23560	61.5	48.0	61.5	48.0	48.0	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.

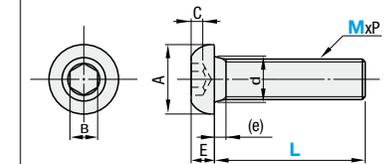
Note that, for some of the types shown here, order might be unable to be received by the MISUMI Thailand, Malaysia, Indonesia, and/or India offices.

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					

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					
30			200 pcs./box		
6-10					
12					
15					
20					
25					
30					

Hex Socket Button Head Cap Screws

Steel (Available in Single item)

Hex Socket Button Head Cap Screws

Stainless Steel (Available in Single item)

When you need large quantities, box packaging is more economical. P184

Hex Socket Button Head Cap Screws

Type	Material	Hardness	Surface Treatment	Strength Class
BCB	SCM435	34~44HRC	Black Oxide	10.9

JIS B 1174

* e (Incomplete Threaded Portion) = Max. 2 Pitch

RoHS

MxP (Coarse)	A	E	B	C (Min.)	d	(e)
2x0.4	3.5	1.3	1.3	0.6	2.4	0.6
2.5x0.45	4.5	1.5	1.5	0.8	3	0.8
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
8x1.25	14.0	4.4	5	2.6	9.2	2.5
10x1.5	17.5	5.5	6	3.12	11.2	3.0

* The strength class signifies the screw's tensile strength.

(Ex.) 10.9
 This indicates that the minimum value for yielding point or proof stress is 90% of tensile strength.
 This indicates that the minimum value of tensile strength is 1040N/mm².

Part Number	Unit Price	Volume Discount Rate					
		1 ~ 199 pc(s)	200 ~ 299 pcs	300 ~ 499 pcs	500 ~ 1000 pcs		
BCB	2- 3						
		4					
	5						
	6						
	8						
	10						
	2.5- 4	5					
		6					
		8					
		10					
	3- 4	5					
		6					
		8					
		10					
		12					
		15					
	4- 6	8					
		10					
		12					
		15					
		20					
		25					
		5- 6	8				
			10				
	12						
	15						
	20						
	25						
	30						
	35						
40							
45							

Part Number	Unit Price	Volume Discount Rate				
		1 ~ 199 pc(s)	200 ~ 299 pcs	300 ~ 499 pcs	500 ~ 1000 pcs	
BCB	5- 12					
		15				
		20				
		25				
		30				
		6- 8	10			
	12					
	15					
	20					
	8- 10	25				
		30				
		35				
		40				
		45				
		50				
	10- 15	20				
		25				
		30				
		35				
		40				
		45				
		50				
		55				

Hex Socket Button Head Cap Screws Stainless Steel

Type	Material	Hardness	Surface Treatment	Strength Class
SBCB	SUS304 Equivalent	-	-	A2-50

JIS B 1174

* e (Incomplete Threaded Portion) = Max. 2 Pitch

RoHS

MxP (Coarse)	A	E	B	C (Min.)	d	(e)
2x0.4	3.5	1.3	1.3	0.6	2.4	0.6
2.5x0.45	4.5	1.5	1.5	0.8	3	0.8
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
8x1.25	14.0	4.4	5	2.6	9.2	2.5

* The strength class signifies the screw's tensile strength.

(Ex.) A2 - 50
 This indicates that the minimum value of tensile strength is 500N/mm².
 The steel class is A2 (Austenitic Stainless Steel)

Part Number	Unit Price	Volume Discount Rate					
		1 ~ 199 pc(s)	200 ~ 299 pcs	300 ~ 499 pcs	500 ~ 1000 pcs		
SBCB	2- 3						
		4					
		5					
		6					
		2.5- 4	5				
			6				
	8						
	10						
	3- 4	5					
		6					
		8					
		10					
		12					
		15					
	4- 6	20					
		25					
		30					
		35					
		40					
		45					
		50					
		55					
	5- 6	6					
		8					
		10					
		12					
		15					
		20					
		25					
		30					
35							
40							

Part Number	Unit Price	Volume Discount Rate				
		1 ~ 199 pc(s)	200 ~ 299 pcs	300 ~ 499 pcs	500 ~ 1000 pcs	
SBCB	5- 8					
		10				
		12				
		15				
		20				
		25				
	6- 8	30				
		10				
		12				
		15				
	8- 10	20				
		25				
		30				
		35				
		40				
		45				
	8- 10	50				
		12				
		15				
		20				
		25				
		30				
		35				
		40				

Ordering Example Part Number BCB4-10

Ordering Example Part Number SBCB5-10

Hex Socket Flat Head Cap Screws / Hex Socket Button Head Cap Screws

Available in Steel/Single item-Flanged

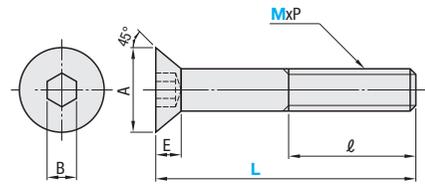
Hex Screws

Hex Socket Flat Head Cap Screws



RoHS

Type	Material	Hardness	Surface Treatment	Strength Class
FB	SCM435	32-39HRC	Black Oxide	10.9 Equivalent



MxP (Coarse)	A	E	B
4x0.7	8	2.3	2.5
5x0.8	10	2.8	3.0
6x1.0	12	3.3	4.0
8x1.25	16	4.4	5.0
10x1.5	20	5.5	6.0

FB (Black Oxide)

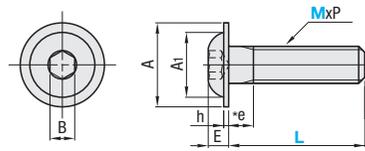
Part Number	M-L	ℓ	Unit Price	Volume
			1 ~ 499 pcs.	500 ~ 1000 pcs.
4-10	15	Studs - Fully Threaded		
	20			
	25			
	30			
	35			
5-10	12	Studs - Fully Threaded		
	16			
	20			
	25			
	30			
6-10	12	Studs - Fully Threaded		
	15			
	16			
	20			
	25			
8-15	20	Studs - Fully Threaded		
	25			
	30			
	35			
	40			
10-20	20	Studs - Fully Threaded		
	25			
	30			
	35			
	40			

Hex Socket Button Head Cap Screws - Flanged



RoHS

Type	Material	Hardness	Surface Treatment	Strength Class
BCBFB	SCM435	32-39HRC	Black Oxide	10.9 Equivalent
BCBFS	SUS304 Equivalent	-	-	A2-50 Equivalent



* e (Incomplete Threaded Portion) = Max. 2 Pitch

MxP (Coarse)	A	A1	E	h (Min.)	B
3x0.5	7	5.2	1.65	0.6	2
4x0.7	9.2	6.8	2.2	0.7	2.5
5x0.8	11.4	8.5	2.75	0.9	3
6x1.0	13.6	10.1	3.3	1	4

Part Number	Type	M-L	BCBFB		BCBFS	
			Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate
			1 ~ 10 pc(s).	11~100 pcs.	1 ~ 10 pc(s).	11~100 pcs.
BCBFB	3- 5	6				
		8				
		10				
		12				
		15				
	4- 6	8				
		10				
		12				
		15				
		20				
	5- 8	10				
		12				
		15				
		20				
		25				
6- 8	10					
	12					
	15					
	20					
	25					

Ordering Example
Part Number
BCBFB6-15
BCBFS3-8

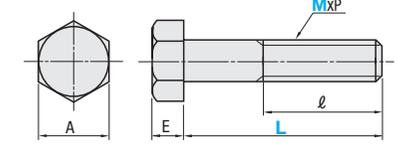
* The strength class signifies the screw's tensile strength.

(Ex.) 10.9
This indicates that the minimum value for yielding point or proof stress is 90% of tensile strength.
This indicates that the minimum value of tensile strength is 1040N/mm².



RoHS

Type	Material	Hardness	Surface Treatment	Strength Class
RCB	SCM435	32-39HRC	Black Oxide	10.9
RSCB	SUS304 Equivalent	-	-	A2-50



RCB (Black Oxide)

Part Number	Type	M-L	ℓ	Unit Price	Volume	
				1 ~ 99 pc(s).	100 ~ 199 pcs.	160 ~ 199 pcs.
RCB	5- 8	10				
		12				
		15				
		20				
		25				
		30				
		35				
		40				
		6-10	12			
			15			
	20					
	25					
	30					
	35					
	40					
	8-10		12			
			15			
			20			
		25				
		30				
35						
40						
10-15		20				
		25				
		30				
	35					
	40					
	45					
	50					
	12-20	25				
		30				
		35				
40						
45						
50						
55						
60						
65						
70						
16-30	35					
	40					
	45					
	50					
	55					
	60					
	65					
	70					
	75					
	80					

RSCB (Stainless Steel)

Part Number	Type	M-L	ℓ	Unit Price	Volume
				1 ~ 49 pc(s).	50 ~ 99 pcs.
RSCB	4- 8	10			
		12			
		15			
		20			
		25			
	5- 8	10			
		12			
		15			
		20			
		25			
6-10	12				
	15				
	20				
	25				
	30				
	35				
	40				
	8-10	12			
		15			
		20			
25					
30					
35					
40					
10-15		20			
		25			
		30			
	35				
	40				
	45				
	50				
	12-20	25			
		30			
		35			
40					
45					
50					
55					
60					
65					
70					

MxP	A	E
4x0.7	7.0	2.8
5x0.8	8.0	3.5
6x1.0	10	4.0
8x1.25	13	5.5
10x1.5	17	7.0
12x1.75	19	8.0
16x2.0	24	10

Part Number	Type	M-L	ℓ	Unit Price	Volume
				1 ~ 49 pc(s).	50 ~ 99 pcs.
RSCB	8-60	65			
		70			
		75			
		80			
		90			
	10-15	20			
		25			
		30			
		35			
		40			
12-20	25				
	30				
	35				
	40				
	45				
	50				
	55				
	60				
	65				
	70				
16-30	35				
	40				
	45				
	50				
	55				
	60				
	65				
	70				
	75				
	80				

* The strength class signifies the screw's tensile strength.

(Ex.) 10.9
This indicates that the minimum value for yielding point or proof stress is 90% of tensile strength.
This indicates that the minimum value of tensile strength is 1040N/mm².

Ordering Example
Part Number
RSCB12-100