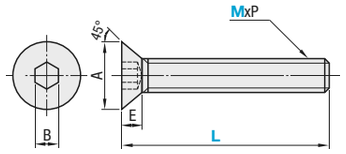
Hex Socket Flat Head Cap Screws
Stainless Steel (Available in Box)



Type	Material
BOX-SFB	EN 1.4301 Equiv.



MxP (Coarse)	A Min.	A Max.	E (Max.)	B
3x0.5	5.54	6.72	1.86	2
4x0.7	7.53	8.96	2.48	2.5
5x0.8	9.43	11.2	3.1	3
6x1.0	11.34	13.44	3.72	4

Available as a single item and in package. P.188

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

Ordering Example — Part Number: BOX-SFB5-10

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

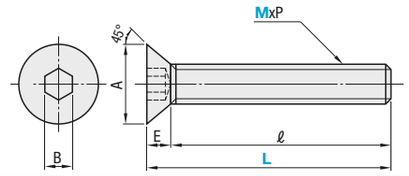
Part Number Type	Part Number M-L	Unit Price 1 to 10 boxes: Price per pkg.	Unit Price 1 to 10 boxes: 1 Box	Pcs./ Box
BOX-SFB (Stainless Steel)	3- 6			1,000 pcs./box
	8			
	10			
	12			
	15			
	4- 8			
	10			
	12			
	15			
	5-10			500 pcs./box
	12			
	15			
	20			
	6-10			
	12			
	15			
	20			
	25			300 pcs./box

Hex Socket Flat Head Cap Screws
Available in Stainless Steel (Available in Pkg./Single item)

■Hex Socket Flat Head Cap Screws - Stainless Steel



Type	Material	Surface Treatment	Strength Class
SFB PACK-SFB(Pkg.)	EN 1.4301 Equiv.	-	A2-50 Equiv.



MxP (Coarse)	A Min.	A Max.	E (Max.)	B (Nominal)
2x0.4	3.7	4.0	1.2	1.3
2.5x0.45	4.7	5.0	1.5	1.5
3x0.5	5.54	6.72	1.86	2.0
4x0.7	7.53	8.96	2.48	2.5
5x0.8	9.43	11.2	3.1	3.0
6x1.0	11.34	13.44	3.72	4.0
8x1.25	15.24	17.92	4.96	5.0
10x1.5	19.22	22.4	6.2	6.0

■SFB (Stainless Steel)

Part Number Type	Part Number M-L	ℓ	Unit Price 1 ~ 29 pcs.	Volume Discount Rate 30 ~ 49 pcs.	Volume Discount Rate 50 ~ 500 pcs.
SFB	3- 5	Studs - Fully Threaded			
	6				
	8				
	10				
	12				
	15				
	20				
	25				
	30				
	4- 8	Studs - Fully Threaded			
	10				
	12				
	15				
	20				
	25				
	30				
	5- 8	Studs - Fully Threaded			
	10				
	12				
	15				
	20				
	25				
	30				
	6-10	Studs - Fully Threaded			
	12				
	15				
	20				
	25				
	30				

■PACK-SFB (Pkg.)

Part Number Type	Part Number M-L	ℓ	Qty. / Pack	Unit Price 1 ~ 2 pkg(s).	Volume Discount Rate 3~10 pkgs.
PACK-SFB	2- 4	Studs - Fully Threaded	100 pcs./ pkg.		
	5				
	6				
	2.5- 5				
	6				
	8				
	3- 5				
	6				
	8				
	10				
	12				
	15				
	20				
	25				
	30				
	4- 6				
	8				
	10				
	12				
	15				
	20				
	25				
	30				
	5- 8				
	10				
	12				
	15				
	20				
	25				
	30				
	6-10				
	12				
	15				
	20				
	25				
	30				
	8-12		50 pcs./ pkg.		
	15				
	20				
	25				
	30				
	10-15		20 pcs./ pkg.		
	20				
	25				
	30				

When placing an order, please specify number of packages.

Ordering Example — Part Number:
FB6-10
SFB3-5
PACK-SFB2-6

* 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)

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

Available in Steel/Single item-Flanged

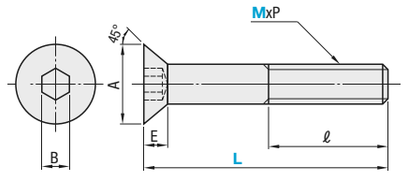
Hex Screws

■Hex Socket Flat Head Cap Screws



RoHS

Type	M Material	H Hardness	S Surface Treatment	Strength Class
FB	EN 1.7220 Equiv.	32~39HRC	Black Oxide	10.9 Equiv.



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)

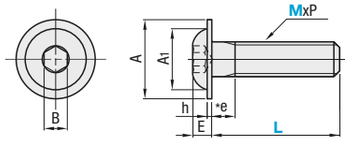
Part Number Type	Part Number M-L	ℓ	Unit Price 1 ~ 499 pcs.	Volume Discount Rate 500 ~ 1000 pcs.
FB	4-10 15 20 25	Studs - Fully Threaded		
	30 35	14		
	5-10 12 15 16 20	Studs - Fully Threaded		
	25 30			
	35 40	16		
	6-10 12 15 16 20	Studs - Fully Threaded		
	25 30 35 40			
	45	18		
	8-15 20 25 30	Studs - Fully Threaded		
	35 40			
	45 50	22		
	10-20	Studs - Fully Threaded		

■Hex Socket Button Head Cap Screws - Flanged



RoHS

Type	M Material	H Hardness	S Surface Treatment	Strength Class
BCBFB	EN 1.7220 Equiv.	32~39HRC	Black Oxide	10.9 Equiv.
BCBFS	EN 1.4301 Equiv.	-	-	A2-50 Equiv.



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

Ordering Example — Part Number: BCBFB6-15, BCBFS3-8

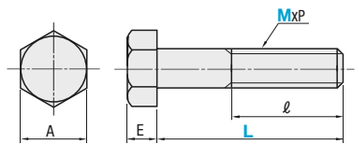
* The strength class signifies the screw's tensile strength.

(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	M Material	H Hardness	S Surface Treatment	Strength Class
RCB	EN 1.7220 Equiv.	32~39HRC	Black Oxide	10.9
RSCB	EN 1.4301 Equiv.	-	-	A2-50



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

■RCB (Black Oxide)

Part Number Type	Part Number M-L	ℓ	Unit Price 1 ~ 99 pc(s).	Volume Discount Rate 100 ~ 159 pcs.	160 ~ 199 pcs.	200 ~ 500 pcs.
RCB	5- 8	Studs - Fully Threaded				
	10 12 15 20 25 30 35 40	Studs - Fully Threaded				
	6-10 12 15 20 25 30 35 40 45 50 55 60 65 70 75	Studs - Fully Threaded				
	8-10 12 15 20 25 30 35 40 45 50 55 60 65 70 75 80 90 100	Studs - Fully Threaded				
	10-15 20 25 30	Studs - Fully Threaded				

Part Number Type	Part Number M-L	ℓ	Unit Price 1 ~ 99 pc(s).	Volume Discount Rate 100 ~ 159 pcs.	160 ~ 199 pcs.	200 ~ 500 pcs.
RCB	10-35 40 45 50 55 60 65 70 75 80 90 100	26				
	12-20 25 30 35 40 45 50 55 60 65 70 75 80 90 100 110 120 130	30				
	16-30 35 40 45 50 55 60 65 70 75 80 90 100 110 120 130	38				
	130	44				

■RSCB (Stainless Steel)

Part Number Type	Part Number M-L	ℓ	Unit Price 1 ~ 49 pc(s).	Volume Discount Rate 50 ~ 99 pcs.	100 ~ 199 pcs.	200 ~ 500 pcs.
RSCB	4- 8	Studs - Fully Threaded				
	10 12 15 20 25 30 35 40	Studs - Fully Threaded				
	5- 8	Studs - Fully Threaded				
	10 12 15 20 25 30 35 40 45 50	Studs - Fully Threaded				
	6-10 12 15 20 25 30 35 40 45 50 55 60 65 70 75	Studs - Fully Threaded				
	8-10 12 15 20 25 30 35 40 45 50 55 60 65 70 75	Studs - Fully Threaded				
	10-15 20 25 30 35 40 45 50 55	Studs - Fully Threaded				

Part Number Type	Part Number M-L	ℓ	Unit Price 1 ~ 49 pc(s).	Volume Discount Rate 50 ~ 99 pcs.	100 ~ 199 pcs.	200 ~ 500 pcs.
RSCB	8- 60 65 70 75 80 90 100	30				
	10- 15 20 25 30 35 40 45 50 55 60 65 70 75 80 90 100	26				
	12- 20 25 30 35 40 45 50 55 60 65 70 75 80 90 100	30				

Ordering Example — Part Number: RSCB12-100

* 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.

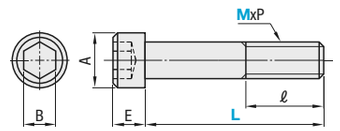
Hex Socket Head Cap Screws

Steel (Available in Box)



Type	Material	Surface Treatment	Hardness
BOX-CBF	EN 1.7220 Equiv.	Black Oxide	38~43HRC

Strength Class 12.9



MxP (Coarse)	A	E	B
2 x0.4	3.8	2	1.5
2.5x0.45	4.5	2.5	2
2.6x0.45	4.5	2.6	2
3 x0.5	5.5	3	2.5
4 x0.7	7	4	3
5 x0.8	8.5	5	4
6 x1.0	10	6	5
8 x1.25	13	8	6
10 x1.5	16	10	8

Can be ordered as a separate item. P.172

* The strength class signifies the screw's tensile strength.
(Ex.) 12.9
- 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 1220N/mm².

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

Ordering Example — Part Number: BOX-CBF3-6

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

ℓ	Part Number Type	Part Number M-L	Unit Price 1~50 boxes Price per pkg.	Unit Price 1~50 boxes 1 Box	Pcs./ Box
Studs - Fully Threaded	BOX-CBF	2- 5			1,000 pcs./box
		8			
		10			
		12			
		15			
		2.5- 5			
		8			
		10			
		2.6- 5			
		8			
		10			
		3- 5			
		6			
		8			
		10			
		12			
		15			
		20			
		25			
18		30			500 pcs./box
Studs - Fully Threaded		4- 5			1,000 pcs./box
		6			
		8			
		10			
		12			
		15			
		20			500 pcs./box
		25			
20		30			400 pcs./box
		35			
		40			
Studs - Fully Threaded		5- 8			1,000 pcs./box
		10			
		12			
		15			
		20			800 pcs./box
		25			
22		30			600 pcs./box
		35			
		40			
Studs - Fully Threaded		6- 8			1,000 pcs./box
		10			
		12			
		15			800 pcs./box
		20			
		25			600 pcs./box
		30			
24		35			400 pcs./box
		40			
Studs - Fully Threaded		8-12			500 pcs./box
		15			400 pcs./box
		20			
		25			300 pcs./box
		30			
		35			200 pcs./box
		40			
28		10-20			
Studs - Fully Threaded		25			
		30			
		35			150 pcs./box
		40			

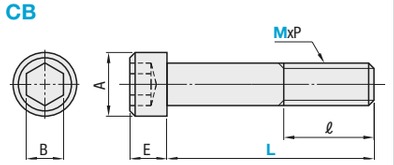
Hex Socket Head Cap Screws

Steel (Available in Single item)

When you need large quantities, box packaging is more economical. P.171



CB



M Material EN 1.7220 Equiv.(M2~M3) S Surface Treatment Black Oxide
H Hardness 38~43HRC(M2~M12) (Screw Precision JIS B 1176 Strength Class 12.9 (M3~M12))
Thread JIS B 0205 Class 2

RoHS

MxP	A	E	B
2x0.4	3.8	2	1.5
2.5x0.45	4.5	2.5	2
2.6x0.45	4.5	2.6	2
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

* The strength class signifies the screw's tensile strength.
(Ex.) 12.9
- 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 1220N/mm².

(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.

Reference: Dimensions of Counterbore and Cap Screw Hole for Hex Socket Head Cap Screws P.1891

Part Number Type	M- L	ℓ	Unit Price 1 ~ 1000 pcs.
CB	2- 4	Studs - Fully Threaded	
	5		
	6		
	8		
	10		
	12		
	15		
CB	2.5- 4	Studs - Fully Threaded	
	5		
	6		
	8		
	10		
	12		
	15		
CB	2.6- 4	Studs - Fully Threaded	
	5		
	6		
	8		
	10		
	12		
	15		
CB	3- 5	Studs - Fully Threaded	
	6		
	8		
	10		
	12		
	14		
	15		
	16		
	18		
	20		
	22	18	
	25		
	30		
	35		
	40		
	45		
	50		
	55		
CB	4- 5	Studs - Fully Threaded	
	6		
	8		
	10		
	12		
	14		
	15		
	16		
	18		
	20		
	22		
	25		
	30	20	
	35		
	40		
	45		
	50		
	55		
	60		

Part Number Type	M- L	ℓ	Unit Price 1 ~ 1000 pcs.
CB	5- 5	Studs - Fully Threaded	
	6		
	8		
	10		
	12		
	14		
	15		
	16		
	18		
	20		
	22		
	25		
	30	22	
	35		
	40		
	45		
	50		
	55		
	60		
	65		
	70		
	75		
	80		
CB	6- 6	Studs - Fully Threaded	
	8		
	10		
	12		
	14		
	15		
	16		
	18		
	20		
	22		
	25		
	30		
	35	24	
	40		
	45		
	50		
	55		
	60		
	65		
	70		
	75		
	80		
	85		
	90		
	95		

Part Number Type	M- L	ℓ	Unit Price 1 ~ 1000 pcs.
CB	8- 8	Studs - Fully Threaded	
	10		
	12		
	15		
	16		
	18		
	20		
	22		
	25		
	30		
	35		
	40	28	
	45		
	50		
	55		
	60		
	65		
	70		
	75		
CB	10- 10	Studs - Fully Threaded	
	12		
	15		
	20		
	25		
	30		
	35		
	40		
	45	32	
	50		
	55		
	60		
	65		
	70		
CB	12- 15	Studs - Fully Threaded	
	20		
	25		
	30		
	35		
	40		
	45		
	*50		

Screws larger and longer than M12 are listed on the catalog of Standard Components for Press Molds.

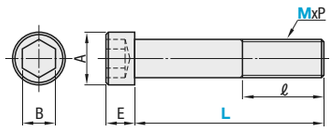
Ordering Example — Part Number: CB8-40

Hex Socket Head Cap Screws
Stainless Steel (Available in Box)



Type	Material
BOX-SCB	EN 1.4301 Equiv.

Strength Class A2–70



MxP (Coarse)	A	E	B
2 x0.4	3.8	2	1.5
2.5x0.45	4.5	2.5	2
2.6x0.45	4.5	2.6	2
3 x0.5	5.5	3	2.5
4 x0.7	7	4	3
5 x0.8	8.5	5	4
6 x1.0	10	6	5
8 x1.25	13	8	6
10 x1.5	16	10	8

Can be ordered as a separate item. P.174

* The strength class signifies the screw's tensile strength.
(Ex.) A2 - 70
- This indicates that the minimum value of tensile strength is 700N/mm².
- The steel class is A2 (Austenitic Stainless Steel)

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

Ordering Example — Part Number: BOX-SCB3-6

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

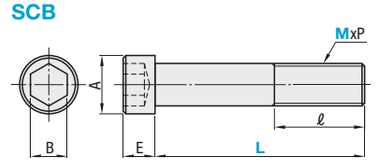
ℓ	Type	M-L	Price per pkg.	1 Box	Pcs./ Box
Studs - Fully Threaded	BOX-SCB (Stainless Steel)	2- 5			1,000 pcs./box
		8			
		10			
		12			
		15			
		2.5- 5			
		8			
		10			
		2.6- 5			
		8			
		10			
		3- 5			
		6			
		8			
		10			
		12			
		15			
		20			
18		25			500 pcs./box
		30			
Studs - Fully Threaded		4- 5			1,000 pcs./box
		6			
		8			
		10			
		12			
		15			
		20			500 pcs./box
		25			
20		30			400 pcs./box
		35			
		40			
Studs - Fully Threaded		5- 8			1,000 pcs./box
		10			
		12			
		15			
		20			800 pcs./box
		25			
22		30			600 pcs./box
		35			
		40			
Studs - Fully Threaded		6- 8			1,000 pcs./box
		10			
		12			
		15			800 pcs./box
		20			
		25			600 pcs./box
		30			
24		35			400 pcs./box
		40			
Studs - Fully Threaded		8-12			500 pcs./box
		15			400 pcs./box
		20			
		25			300 pcs./box
		30			
		35			200 pcs./box
		40			
28		10-20			
Studs - Fully Threaded		25			
		30			
		35			150 pcs./box
		40			

Hex Socket Head Cap Screws
Stainless Steel (Available in Single item)

When you need large quantities, box packaging is more economical. P.173



SCB



Material: EN 1.4301 Equiv.
JIS B 1176
* Strength Class: A2-70

RoHS

MxP	A	E	B
2x0.4	3.8	2	1.5
2.5x0.45	4.5	2.5	2
2.6x0.45	4.5	2.6	2
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

* The strength class signifies the screw's tensile strength.
(Ex.) A2 - 70
- This indicates that the minimum value of tensile strength is 700N/mm².
- The steel class is A2 (Austenitic Stainless Steel)

Reference: Dimensions of Counterbore and Cap Screw Hole for Hex Socket Head Cap Screws P.1891

Part Number Type	M-	L	ℓ	Unit Price 1 ~ 9 pc(s).	10 ~ 29 pcs.	30 ~ 99 pcs.	Volume Discount Rate 100 ~ 500 pcs.
SCB	2-	3	Studs - Fully Threaded				
		4					
		5					
		6					
		8					
		10					
		12					
		15					
SCB	2.5-	4	Studs - Fully Threaded				
		5					
		6					
		8					
		10					
		12					
		15					
SCB	2.6-	4	Studs - Fully Threaded				
		5					
		6					
		8					
		10					
		12					
		15					
SCB	3-	4	Studs - Fully Threaded				
		5					
		6					
		8					
		10					
		12					
		14					
		15					
		16					
		18					
		20					
		25	18				
		30					
		35					
		40					
SCB	4-	5	Studs - Fully Threaded				
		6					
		8					
		10					
		12					
		14					
		15					
		16					
		18					
		20					
		22					
		25					

Part Number Type	M-	L	ℓ	Unit Price 1 ~ 9 pc(s).	10 ~ 29 pcs.	30 ~ 99 pcs.	Volume Discount Rate 100 ~ 500 pcs.
SCB	4-	30	20				
		35					
		40					
		45					
		50					
SCB	5-	6	Studs - Fully Threaded				
		8					
		10					
		12					
		14					
		15					
		16					
		18					
		20					
		22					
		25	22				
		30					
		35					
		40					
		45					
		50					
SCB	6-	8	Studs - Fully Threaded				
		10					
		12					
		14					
		15					
		16					
		18					
		20					
		22					
		25					
		30					
		35					
		40					
		45					
		50					
		55					
		60					
		65					
		70	24				
SCB	8-	10	Studs - Fully Threaded				
		12					
		14					
		15					
		16					

Part Number Type	M-	L	ℓ	Unit Price 1 ~ 9 pc(s).	10 ~ 29 pcs.	30 ~ 99 pcs.	Volume Discount Rate 100 ~ 500 pcs.
SCB	8-	18	Studs - Fully Threaded				
		20					
		22					
		25					
		30					
		35					
		40					
		45					
		50					
		55					
		60	28				
		65					
		70					
		75					
		80					
SCB	10-	12	Studs - Fully Threaded				
		14					
		15					
		16					
		18					
		20					
		25					
		30					
		35					
		40					
		45					
		50					
		55					
		60	32				
		65					
		70					
		75					
SCB	12-	15	Studs - Fully Threaded				
		20					
		25					
		30					
		35					
		40					
		45					
		50					
		55	36				
		60					

Ordering Example — Part Number: SCB3-5

Hex Socket Head Cap Screws

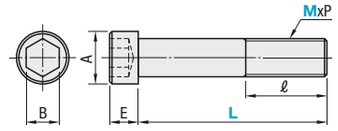
Trivalent Chromate

Hex Socket Head Cap Screws / Hex Socket Head Cap Screws

Trivalent Chromate (Available in Pkg.)- Bright Chromate Plating



CBE



M MaterialSCM435
S Surface Treatment Trivalent Chromate
H HardnessHRC32~39 * Strength Class: 10.9

RoHS

MxP	A	E	B
2x0.4	3.8	2	1.5
2.6x0.45	4.5	2.6	2
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

* 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.

Reference: Dimensions of Counterbore and Cap Screw Hole for Hex Socket Head Cap Screws ☞ P.1891

Part Number Type M- L	ℓ	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10 ~ 19 pcs.	20 ~ 49 pcs.	50 ~ 500 pcs.
CBE 2- 5	Studs - Fully Threaded				
6					
8					
10					
CBE 2.6- 5	Studs - Fully Threaded				
6					
8					
10					
CBE 3- 4	Studs - Fully Threaded				
5					
6					
8					
10					
12					
15					
18					
20					
25	18				
30					
35					
CBE 4- 5	Studs - Fully Threaded				
6					
8					
10					
12					
15					
18					
20					
25					
30	20				
35					
40					
45					
50					
CBE 5- 6	Studs - Fully Threaded				
8					
10					
12					

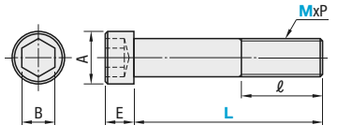
Part Number Type M- L	ℓ	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10 ~ 19 pcs.	20 ~ 49 pcs.	50 ~ 500 pcs.
CBE 5- 15	Studs - Fully Threaded				
18					
20					
25					
30					
35					
40	22				
45					
50					
CBE 6- 8	Studs - Fully Threaded				
10					
12					
15					
18					
20					
25					
30					
35					
40	24				
45					
50					
55					
60					
65					
70					
75					
CBE 8- 10	Studs - Fully Threaded				
12					
15					
18					
20					
25					
30					
35					
40	28				
45					
50					
55					

Part Number Type M- L	ℓ	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10 ~ 19 pcs.	20 ~ 49 pcs.	50 ~ 500 pcs.
CBE 8- 60	Studs - Fully Threaded				
65					
70	28				
75					
80					
CBE 10- 15	Studs - Fully Threaded				
20					
25					
30					
35					
40					
45					
50					
55					
60	32				
65					
70					
75					
CBE 12- 15	Studs - Fully Threaded				
20					
25					
30					
35					
40					
45					
50					
55					
60	36				

Ordering Example — Part Number: CBE4-10



PACK-SCBE



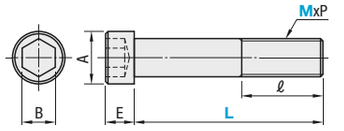
M MaterialSCM435
S Surface Treatment Trivalent Chromate
H Hardness HRC32~39 * Strength Class: 10.9

RoHS



CBM

CBM is not RoHS compliant.



M Material EN 1.7220 Equiv.
S Surface Treatment Bright Chromate Plating
H Hardness HRC32~39 * Strength Class: 10.9

Part Number Type M-L	ℓ	PACK-SCBE Pcs. per Pkg.	PACK-SCBE Unit Price 1 - 4 pkg(s).	PACK-SCBE Volume Discount Rate 5 - 20 pkg.
PACK-SCBE 2-5	Studs - Fully Threaded	PACK-SCBE 50 pcs./pkg.		
6				
8				
10				
PACK-SCBE 2.6-5	Studs - Fully Threaded			
6				
8				
10				
PACK-SCBE 3-5	Studs - Fully Threaded			
6				
8				
10				
12				
15				
20				
25	18			
30				
35				
PACK-SCBE 4-6	Studs - Fully Threaded			
8				
10				
12				
15				
20				
25				
30	20			
35				
40				
45				
PACK-SCBE 5-8	Studs - Fully Threaded			
10				
12				
15				
20				
25				
30				
35				
40	22			
45				
50				

Part Number Type M-L	ℓ	PACK-SCBE Pcs. per Pkg.	PACK-SCBE Unit Price 1 - 4 pkg(s).	PACK-SCBE Volume Discount Rate 5 - 20 pkg.
PACK-SCBE 6-8	Studs - Fully Threaded	PACK-SCBE 50 pcs./pkg.		
10				
12				
15				
20				
25				
30	24			
35				
40				
45				
50				
60				
PACK-SCBE 8-12	Studs - Fully Threaded			
15				
20				
25				
30				
35				
40	28			
45				
50				
55				
60				
PACK-SCBE 10-15	Studs - Fully Threaded	PACK-SCBE 20 pcs./pkg.		
20				
25				
30				
35				
40				
45				
50	32			
55				
60				
PACK-SCBE 12-15	Studs - Fully Threaded			
20				
25				
30				
35				
40				
45				
*50				
55				
60	36			

*The (ℓ) part is based on JIS B 1176 (2000).

Part Number Type M-L	ℓ	Unit Price 1 ~ 99 pcs.	Volume Discount Rate 100 ~ 200 pcs.
CBM 3-6	Studs - Fully Threaded		
8			
10			
12			
15			
20			
25			
30	18		
35			
CBM 4-6	Studs - Fully Threaded		
8			
10			
12			
15			
20			
25			
30	20		
35			
40			
45			
CBM 5-8	Studs - Fully Threaded		
10			
12			
15			
20			
25			
30	22		
35			
40			
45			
50			
CBM 6-8	Studs - Fully Threaded		
10			
12			
15			
20			
25			
30			
35	24		
40			
45			
50			
60			

Part Number Type M-L	ℓ	Unit Price 1 ~ 99 pcs.	Volume Discount Rate 100 ~ 200 pcs.
CBM 8-12	Studs - Fully Threaded		
15			
20			
25			
30			
35			
40			
45			
50	28		
55			
60			
CBM 10-15	Studs - Fully Threaded		
20			
25			
30			
35			
40			
45			
*50	32		
55			
60			
CBM 12-15	Studs - Fully Threaded		
20			
25			
30			
35			
40			
45			
*50	36		
55			
60			

*The (ℓ) part is based on JIS B 1176

Ordering Example — Part Number: PACK-SCBE6-10, CBM8-20

PACK-SCBE is sold by the package, and CBM is sold as a single item.
For package sales, minimum order is 1 pack.

Hex Socket Head Cap Screws

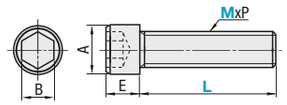
Full Thread / High Strength Stainless Steel / Configurable Length

EN 1.4404 Equiv. Hex Socket Head Cap Screws / Hex Screws / Nuts / Washers

■Hex Socket Head Cap Screws Full Thread



Type	M Material	S Surface Treatment	H Hardness	Strength Class
ACB	EN 1.7220 Equiv.	Black Oxide Coating	32~44HRC	12.9(M3~M20)10.9(M24)
ASCB	EN 1.4301 Equiv.	-	-	A2-70



Part Number		ACB	
		Unit Price	Volume Discount Rate
Type	M-L	1 ~ 99 pcs.	100 ~ 500 pcs.
ACB	3-25		
	30		
	35		
	40		
	45		
	50		
	4-30		
	35		
	40		
	45		
	50		
	55		
	60		
	5-30		
	35		
	40		
	45		
	50		
	55		
	60		
	65		
	70		
	75		
	80		
	90		
	6-35		
	40		
	45		
	50		
	55		
	60		
	65		
	70		
	75		
	80		
	85		
	90		
	100		
	8-40		
	45		
	50		
	55		
	60		
	65		
	70		
	75		
	80		
	85		
	90		
	100		
	110		
	10-45		
	50		
	55		
	60		
	65		
	70		
	75		
	80		
	85		
	90		
	100		
	110		
	120		

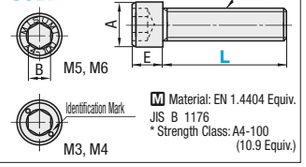
Part Number		ACB	
		Unit Price	Volume Discount Rate
Type	M-L	1 ~ 99 pcs.	100 ~ 500 pcs.
ACB	12-50		
	55		
	60		
	65		
	70		
	75		
	80		
	85		
	90		
	100		
	110		
	120		
	16-60		
	65		
	70		
	75		
	80		
	85		
	90		
	100		
	110		
	120		
	20-70		
	75		
	80		
	85		
	90		
	100		
	110		
	120		
	24-100		
	110		
	120		

Part Number		ASCB	
		Unit Price	Volume Discount Rate
Type	M-L	1 ~ 99 pcs.	100 ~ 500 pcs.
ASCB	5-30		
	35		
	6-35		
	40		
	8-40		
	45		
	50		
	10-45		
	50		

No specifications available for sizes with no prices shown.

■Hex Socket Head Cap Screws High Strength Stainless Steel





M Material: EN 1.4404 Equiv.
JIS B 1176
* Strength Class: A4-100 (10.9 Equiv.)

Part Number		Unit Price	Volume Discount Rate		
Type	M-L	1 ~ 4 pc(s).	5 ~ 49 pcs.	50 ~ 99 pcs.	100 ~ 500 pcs.
SCBF	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	M Material	Strength Class	Tensile Strength (N/mm²)	0.2% Proof Stress (N/mm²)	Corrosion Resistance	Nonmagnetic
SCB	EN 1.4567 Equiv.	A2-70	700	450	○	○
SSCB	EN 1.4404 Equiv.	A4-70	700	450	◎	◎
SCBF	EN 1.4404 Equiv.	A4-100 (10.9 Equiv.)	1000	900	◎	◎

SCB P.174 SSCB P.180 ◎: Excellent / ○: Good

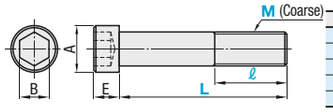
MxP	A	E	B
3x0.5	5.5	3	2.5
4x0.7	7	4	3
5x0.8	8.5	5	4
6x1.0	10	6	5
8x1.25	13	8	6
10x1.5	16	10	8
12x1.75	18	12	10
16x2.0	24	16	14
20x2.5	30	20	17
24x3.0	36	24	19

Ordering Example — Part Number
SCBF4-8
ACB8-40
ASCB6-35

■Hex Socket Head Cap Screws Configurable Length



Type	M Material	S Surface Treatment	H Hardness	Strength Class
FBAB	EN 1.7220 Equiv.	Black Oxide	38~43HRC	12.9
FBAM		Electroless Nickel Plating		
FBAS	EN 1.4301 Equiv.	-	-	A2-70



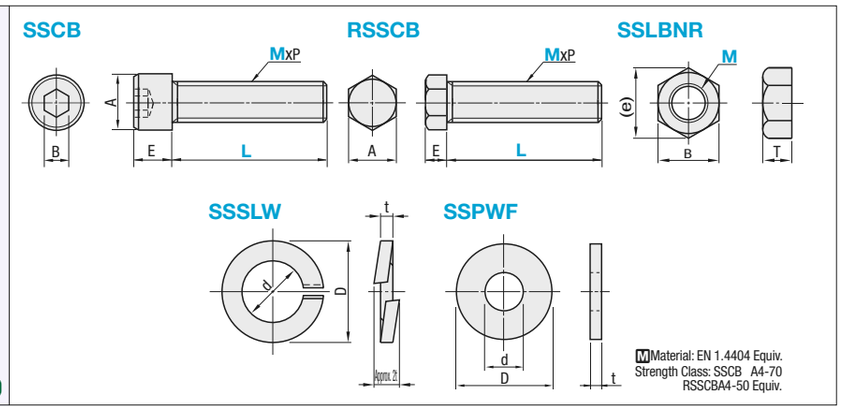
MxP	A	E	B
4x0.7	7	4	3
5x0.8	8.5	5	4
6x1.0	10	6	5
8x1.25	13	8	6
10x1.5	16	10	8

Part Number - L - ℓ
FBAS6 - 100 - 22

Part Number		L 1mm Increment	ℓ1mm Increment	Unit Price					
				FBAB		FBAM		FBAS	
Type	M (Coarse)			Min. L ~ 100	L101~	Min. L ~ 100	L101~	Min. L ~ 100	L101~
FBAB FBAM FBAS	4	30~100	10~40 ℓ≤L		-		-		-
	5	30~100			-		-		-
	6	35~150							
	8	40~150							
	10	45~210				-	-		

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





M Material: EN 1.4404 Equiv.
Strength Class: SSCB A4-70
RSSCBA4-50 Equiv.

■SUS316L Hex Socket Head Cap Screws

Part Number		MxP	A	E	B	Unit Price	Volume Discount Rate
Type	M-L					1 ~ 49 pc(s).	50 ~ 200 pcs.
SSCB	3- 6	3×0.5	5.5	3	2.5		
	8						
	10						
	12						
	15						
	20						
SSCB	4- 8	4×0.7	7	4	3		
	10						
	12						
	15						
	20						
SSCB	5- 8	5×0.8	8.5	5	4		
	10						
	12						
	15						
	20						
	25						
SSCB	6- 10	6×1.0	10	6	5		
	12						
	15						
	20						
	25						
SSCB	8- 15	8×1.25	13	8	6		
	20						
	25						
	30						
SSCB	10- 20	10×1.5	16	10	8		
	25						
	30						
	35						
SSCB	12- 20	12×1.75	18	12	10		
	25						
	30						
	35						
	40						

■SUS316L Hex Screws

Part Number		MxP	A	E	Unit Price	Volume Discount Rate
Type	M-L				1 ~ 49 pc(s).	50 ~ 200 pcs.
RSSCB	4-10	4×0.7	7	2.8		
	12					
	15					
	20					
RSSCB	5-10	5×0.8	8	3.5		
	12					
	15					
	20					
	25					
RSSCB	6-10	6×1.0	10	4.0		
	12					
	15					
	20					
	25					
RSSCB	8-15	8×1.25	13	5.5		
	20					
	25					
	30					
RSSCB	10-20	10×1.5	17	7.0		
	25					
	30					
	35					

■SUS316L Nuts

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

■SUS316L Spring Washers

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

■SUS316L Washers

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

Ordering Example — Part Number
SSCB5-12
SSSLW8

Properties of EN 1.4404 Equiv.

· EN 1.4404 Equiv. is composed of EN 1.4301 Equiv. with Molybdenum added, having high corrosion resistance.

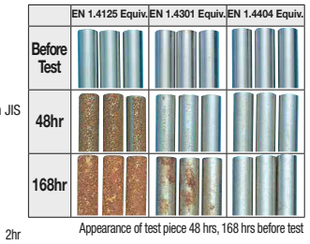
<Reference: Corrosion Resistance of Stainless Steel>

Testing Method

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
②Dry (60°C) 4hr
③Wet (95%RH. 35°C) 2hr
One cycle takes 8 hrs.



Appearance of test piece 48 hrs, 168 hrs before test

Hex Socket Head Cap Screws / Hex Socket Head Cap Screws with Hole

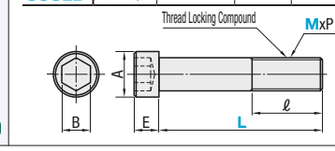
With Threadlocker Adhesive

Hex Socket Head Cap Screws - With Threadlocker Adhesive



RoHS

Type	M Material	S Surface Treatment	H Hardness	Strength Class
LB	EN 1.7220 Equiv.	Black Oxide	38~43HRC	12.9
SUSLB	EN 1.4301 Equiv.	-	-	A2-70



MxP	A	E	B
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

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

(Ex.) 12.9
- 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 1220N/mm².

(Ex.) A2 - 70
- This indicates that the minimum value of tensile strength is 700N/mm².
- The steel class is A2 (Austenitic Stainless Steel)

<Loosening Prevention Treatment>
This treatment applies the special plastic excellent in elasticity, abrasion resistance and oil resistance to the thread grooves. It shows maximum effect in the initial use and gradually loses the effect after the fourth use.

Part Number Type	M-L	ℓ	LB Unit Price	SUSLB Unit Price 1 ~ 99 pc(s).	SUSLB Volume Discount Rate 100~200
LB SUSLB	4-8	Studs - Fully Threaded			
	10				
	12				
	15				
	20				
	25				
	30	20		-	-
LB SUSLB	5-10	Studs - Fully Threaded			
	12				
	15				
	20				
	25				
	30	22			
	35				
LB SUSLB	6-10	Studs - Fully Threaded		-	-
	15				
	20				
	25				
	30				
	35	24			
	40				
	45				
	50				

No specifications available for sizes with no prices shown. For orders larger than indicated quantity, please check with WOS.

Part Number Type	M-L	ℓ	LB Unit Price	SUSLB Unit Price 1 ~ 99 pc(s).	SUSLB Volume Discount Rate 100~200
LB SUSLB	8-15	Studs - Fully Threaded			
	20				
	25				
	30				
	35				
	40				
	45	28			
	50				
	55				
	60				
LB SUSLB	10-20	Studs - Fully Threaded		-	-
	25				
	30				
	35				
	40				
	45	32			
	50				
	55				
	60				
LB SUSLB	12-25	Studs - Fully Threaded		-	-
	30				
	35				
	40				
	45				
	50				
	55	36			
	60				

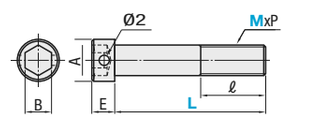
No specifications available for sizes with no prices shown. For orders larger than indicated quantity, please check with WOS.

Ordering Example — Part Number: LB8-40

Hex Socket Head Cap Screws with Hole

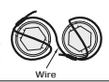


Type	M Material	S Surface Treatment	H Hardness	Strength Class	MxP	A	E	B
CBLH	EN 1.7220 Equiv.	Black Oxide	22~32HRC	8.8 Equiv.	6×1.0	10	6	5
SCBLH	EN 1.4301 Equiv.	-	-	A2-70 Equiv.	8×1.25	13	8	6
					10×1.5	16	10	8
					12×1.75	18	12	10



Example

Put wire through the hole in the screw head to prevent the screw from loosening or falling off.



RoHS

Part Number Type	M-L	ℓ	CBLH Unit Price 1 ~ 49 pc(s).	CBLH Volume Discount Rate 50~100	SCBLH Unit Price 1 ~ 49 pc(s).	SCBLH Volume Discount Rate 50~100
CBLH SCBLH	6-10	Studs - Fully Threaded				
	12					
	15					
	20					
	25					
	30					
	35	24	-	-		
	40					
	45					
	50				-	-
CBLH SCBLH	8-12	Studs - Fully Threaded			-	-
	15					
	20					
	25					
	30					
	35				-	-
	40	28	-	-		
	45					
CBLH SCBLH	10-20	Studs - Fully Threaded				
	25					
	30				-	-
	35					
	40					
	45	32			-	-
CBLH SCBLH	12-25	Studs - Fully Threaded				
	30					
	35					
	40				-	-
	45					
	50					

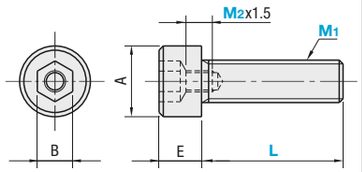
No specifications available for sizes with no prices shown. For orders larger than indicated quantity, please check with WOS.

Tapped Socket Head Screws

RoHS



Type	M Material	S Surface Treatment	Strength Class
TSCB	EN 1.4301 Equiv.	-	A2-50 Equiv.



Cap Screws with Tapped Hole are Coarse Full thread.

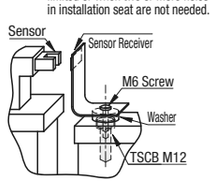
Part Number Type	M1 (Coarse)-L	M2 (Coarse) (Tap Size)	A	E	B	TSCB Unit Price 1 ~ 9 pc(s).	TSCB Volume Discount Rate 10 ~ 50 pcs.
TSCB	6-10	3	10	6	5		
	12						
	16						
	20						
	25						
	8- 10	4	13	8	6		
	16						
	25						
	30						
	10- 16	4	16	10	8		
	20	5					
	25						
	12- 20	6	18	12	10		
	16- 30	8	24	16	14		
	35						

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

Ordering Example — Part Number: CBLH8-12 / SCBLH8-40 / TSCB10-20 - M2: - 5

Example

Space Saving
It can be used when space is limited or when two or more holes in installation seat are not needed.



Hex Socket Head Cap Screws / Cover Caps

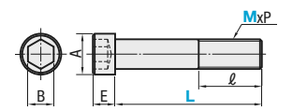
Fine Thread / Left-Hand Thread

Hex Socket Head Cap Screws Fine Thread



RoHS

Type	M Material	S Surface Treatment	H Hardness	Strength Class
CBPK	EN 1.7220 Equiv.	Black Oxide	39~44HRC	12.9
SCBPK	EN 1.4301 Equiv.	-	-	A2-70



Part Number Type	M-L	MxP	ℓ	A	E	B	CBPK Unit Price 1 ~ 9 pc(s).	CBPK Volume Discount Rate 10 ~ 100 pcs.	SCBPK Unit Price 1 ~ 9 pc(s).	SCBPK Volume Discount Rate 10 ~ 100 pcs.
CBPK SCBPK	6-10	6 x 0.75	Studs - Fully Threaded	10	6	5				
	12									
	15									
	20									
	25									
CBPK SCBPK	8-12	8 x 1.0	Studs - Fully Threaded	13	8	6				
	15									
	20									
	25									
	30									
CBPK SCBPK	10-15	10 x 1.25	Studs - Fully Threaded	16	10	8				
	20									
	25									
	30									
	35									
	40									
	45		*32							
	50									
CBPK SCBPK	12-20	12 x 1.25	Studs - Fully Threaded	18	12	10				
	25									
	30									
	35									
	40									
	50									

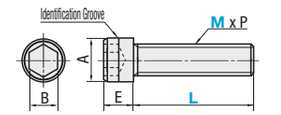
* SCBPK is Full Thread Type.

Hex Socket Head Cap Screws Left-Hand Thread



RoHS

Type	M Material	S Surface Treatment	H Hardness	Strength Class
BCBL	EN 1.7220 Equiv.	Black Oxide	38~43HRC	12.9 Equiv.
SCBL	EN 1.4301 Equiv.	-	-	A2-70 Equiv.



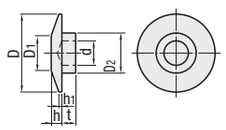
Part Number Type	M-L	MxP	A	E	B	BCBL Unit Price 1 ~ 9 pc(s).	BCBL Volume Discount Rate 10 ~ 100 pcs.	SCBL Unit Price 1 ~ 9 pc(s).	SCBL Volume Discount Rate 10 ~ 100 pcs.
BCBL SCBL	4-10	4 x 0.7	7	4	3				
	12								
	15								
	20								
BCBL SCBL	5-10	5 x 0.8	8.5	5	4				
	12								
	15								
	20								
BCBL SCBL	6-10	6 x 1.0	10	6	5				
	12								
	15								
	20								
	25								
BCBL SCBL	8-15	8 x 1.25	13	8	6				
	20								
	25								
	30								
BCBL SCBL	10-20	10 x 1.5	16	10	8				
	25								
	30								
	40								
BCBL SCBL	12-20	12 x 1.75	18	12	10			-	-
	25							-	-
	30							-	-
	40							-	-

No specifications available for sizes with no prices shown.

Ordering Example — Part Number: CBPK6-15 / SCBL8-20

For Hex Socket Cap Screws

BTCSW (White)
BTCSB (Black)



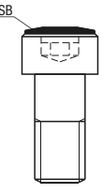
RoHS

M Material: Polyacetal (White / Black)

Part Number Type	No.	Applicable Screw	D	D1	D2	D2 Tolerance	d	h	h1	t	Unit Price
BTCSW BTCSB	3	M3	4.5	1.5	2.5	+0.10 +0.05	1.5	1	0.3	1	
	4	M4	6	2	3	+0.20 +0.10	2	1.1			
	5	M5	7.5	3	4		3	1.3	0.4	1.5	
	6	M6	9	4	5		4	1.5		1.8	
	8	M8	12	5	6	+0.25 +0.15	4.5	1.8	0.5	2.3	
	10	M10	15	6	8		6.5	2		2.9	
	12	M12	17	8	10		8.5	2.2	0.6	3.5	

Example

- It covers the hex hole of a Hex socket head cap screw and prevents dust accumulation.
- Available in white and black for identification.
- Please note that repetitive screwing and unscrewing causes gradual loosening.



Ordering Example — Part Number: BTCSW8 / MTCSW6

Cover Caps for Counterbore Holes

MTCSW (White)
MTCSB (Black)
MTCSC (Transparent)

M	D2 Tolerance	R
M3	+0.3 +0.1	0.2
M4, 5	+0.4 +0.2	
M6~12	+0.5 +0.3	0.5



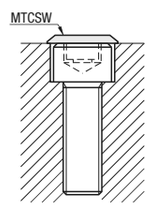
RoHS

M Material: Ether Type Urethane Shore A90

Part Number Type	No.	Applicable Screw	D	D1	D2	d	h	h1	t	Unit Price
MTCSW MTCSB MTCSC	3	M3	9	7	2.5	1	1	0.2	1.2	
	4	M4	10	8	3	1.5	1	0.2	1.7	
	5	M5	12	9.5	4	2.5	1	0.2	2.2	
	6	M6	14	11	5	3.5	1.3	0.3	2.7	
	8	M8	17	13.5	6	4.8	1.5	0.3	3.5	
	10	M10	21	16	8	6.5	2	0.4	4	
	12	M12	23	17	10	8.5	2.5	0.5	5	

Example

- It is excellent in hydrolysis-proof.
- Ether type urethane is applicable to following test methods.
  - Japanese Food Sanitation Law, Standard for Foods and Additives (Ministry of Health and Welfare Notification No.370, 1959)
  - Rubber Apparatus or Container and Package (Except nursing apparatus) (No.85 Notification of the Ministry of Health and Welfare, Japan 1986)



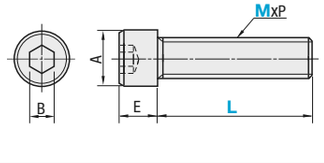
Hex Socket Head Cap Screws / Nuts / Washers

Titanium, Aluminum

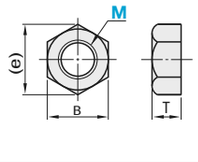


Type	Material	Surface Treatment
CBT, CBT□	Pure Titanium Class 2 (JIS H4650)	-
CBAL, CBAL□	EN AW-2017 Equiv. / EN AW-5056 Equiv. (Nut)	-
CBALB, CBALWB		Black Anodize

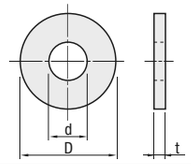
CBT (Titanium)
CBAL (Aluminum)
CBALB (Aluminum, Black Anodize)



CBTN (Titanium)
CBALN (Aluminum)



CBTW (Titanium)
CBALW (Aluminum)
CBALWB (Aluminum, Black Anodize)



RoHS

■Hex Socket Head Cap Screws

Part Number Type	M-L	M×P	A	E	B	CBT Unit Price * Less than	CBT Volume Discount Rate * or More	CBAL Unit Price * Less than	CBAL Volume Discount Rate * or More	CBALB Unit Price * Less than	CBALB Volume Discount Rate * or More	* Quantity
CBT CBAL CBALB	3- 6	3×0.5	5.5	3	2.5					-	-	100
	8											
	10											
	12											
	15											
	20											
	4- 6	4×0.7	7	4	3	-	-			-	-	
	8									-	-	
	10											
	12											
	15											
	20											
	5- 8	5×0.8	8.5	5	4					-	-	
	10											
	12											
	15											
	20											
	25											
	6- 8	6×1.0	10	6	5	-	-			-	-	
	10											
	12											
	15											
	20											
	25											
	8- 15	8×1.25	13	8	6							50
	20											
	25											
	30											
	10- 20	10×1.5	16	10	8					-	-	
	25									-	-	
	30									-	-	
	35									-	-	

Sizes with no price listings are not available.

■Nuts

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

■Washers

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

Ordering Example — Part Number: CBT5-12, CBTN8, CBTW10

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/mm²	340~510
Yield Stress	N/mm²	215 or More
Operating Temp.	°C	-200~350

■Chemical Resistance of Titanium

Chemical Solution	Concentration (%)	Temperature (°C)	Titanium	EN 1.4401 Equiv.
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	Data Ambient Temperature	Data 350°C
Tensile Strength	N/mm²	994	421	167
Elongation	%	25.7	46	54

■Comparison by Metals

Item	Unit	Titanium	Aluminum	Steel
Specific Gravity	g/cm³	4.5	2.7	7.9
Tensile Strength	N/mm²	377	78	315
Thermal Conductivity	cal/cm · sec · °C	0.041	0.487	0.145
Young's Modulus	kN/mm²	106	69	205

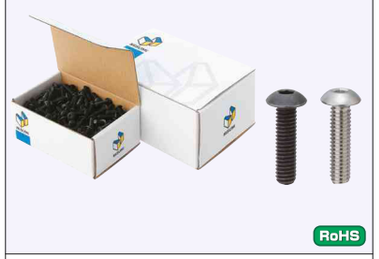
■Mechanical Characteristics of Hex Socket Cap Screws (Reference)

	Tensile Breaking Load N		Torsional Breaking Torque N•m	
	Titanium	Aluminum	Titanium	Aluminum
M3	3210	1650	2.4	1.0
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.

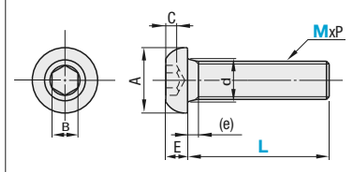
Hex Socket Button Head Cap Screws

Box



RoHS

Type	Material	Hardness	Surface Treatment
BOX-BCB	EN 1.7220 Equiv.	34~44HRC	Black Oxide
BOX-SBCB	EN 1.4301 Equiv.	-	-



MxP (Coarse)	A	E	B	C (Min.)	d	(e)
3×0.5	5.7	1.65	2	1.04	3.6	1
4×0.7	7.6	2.2	2.5	1.3	4.7	1.4
5×0.8	9.5	2.75	3	1.56	5.7	1.6
6×1.0	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.

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

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

Hex Socket Button Head Cap Screws

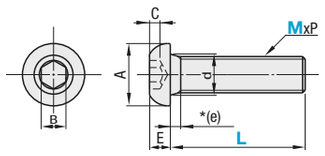
Steel (Available in Single item)

When you need large quantities, box packaging is more economical.☞P.184

■Hex Socket Button Head Cap Screws



Type	Material	Hardness	Surface Treatment	Strength Class
BCB	EN 1.7220 Equiv.	34~44HRC	Black Oxide	10.9



JIS B 1174

RoHS

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

MxP (Coarse)	A	E	B	C (Min.)	d	(e)
2×0.4	3.5	1.3	1.3	0.6	2.4	0.6
2.5×0.45	4.5	1.5	1.5	0.8	3	0.8
3×0.5	5.7	1.65	2	1.04	3.6	1
4×0.7	7.6	2.2	2.5	1.3	4.7	1.4
5×0.8	9.5	2.75	3	1.56	5.7	1.6
6×1.0	10.5	3.3	4	2.08	6.8	2
8×1.25	14.0	4.4	5	2.6	9.2	2.5
10×1.5	17.5	5.5	6	3.12	11.2	3.0

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

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

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

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

Ordering Example — Part Number: BCB4-10

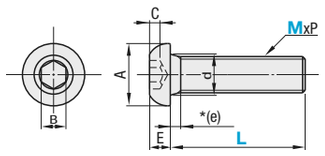
Hex Socket Button Head Cap Screws

Stainless Steel (Available in Single item)

■Hex Socket Button Head Cap Screws Stainless Steel



Type	Material	Hardness	Surface Treatment	Strength Class
SBCB	EN 1.4301 Equiv.	-	-	A2-50



JIS B 1174

RoHS

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

MxP (Coarse)	A	E	B	C (Min.)	d	(e)
2×0.4	3.5	1.3	1.3	0.6	2.4	0.6
2.5×0.45	4.5	1.5	1.5	0.8	3	0.8
3×0.5	5.7	1.65	2	1.04	3.6	1
4×0.7	7.6	2.2	2.5	1.3	4.7	1.4
5×0.8	9.5	2.75	3	1.56	5.7	1.6
6×1.0	10.5	3.3	4	2.08	6.8	2
8×1.25	14.0	4.4	5	2.6	9.2	2.5

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

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

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

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

Ordering Example — Part Number: SBCB5-10