



# Hexagon Socket Set Screws (Box)

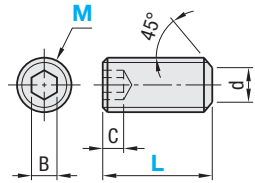
-Flat End-

CAD Data



RoHS

Type	Material	Hardness	Surface Treatment
BOX-MSSF	1.7220/ 34CrMo4	45HRC~	Black Oxide
BOX-MSSFs	1.4301/ X5CrNi18-10	-	-



MxP (Coarse)	B	C (Min.)	d (Max.)
2 x0.4	0.9	0.8	1
2.5x0.45	1.3	1.2	1.5
2.6x0.45	1.3	1.2	1.5
3 x0.5	1.5	1.2	2
4 x0.7	2	1.5	2.5
5 x0.8	2.5	2	3.5

Can be ordered as single item. P.205

When you order it, please specify by box. Minimum order is 1 box.

Order Example  **BOX-MSSF3-10**  
**BOX-MSSFs2.5-5**

Days to Ship **6 Days** P.87

Box package is cost-saving for in-house stock or when you need in large quantities.

Type	M-L	€ Unit Price		Pcs. / box
		Price per pc.	1 box	
BOX-MSSF	2-	2		1,000 pcs. / box
		3		
	2.5-	3		
		4		
		5		
		6		
	2.6-	3		
		4		
		5		
		6		
3-	3			
	4			
	5			
	6			
	8			
	10			
4-	4			
	5			
	6			
	8			
5-	5			
	6			
	8			
	10			

Type	M-L	€ Unit Price		Pcs. / box
		Price per pc.	1 box	
BOX-MSSFs (Stainless Steel)	2-	2		1,000 pcs. / box
		3		
	2.5-	3		
		4		
		5		
		6		
	2.6-	3		
		4		
		5		
		6		
3-	3			
	4			
	5			
	6			
	8			
	10			
4-	4			
	5			
	6			
	8			
5-	5			
	6			
	8			
	10			



# Hexagon Socket Set Screws (Box)

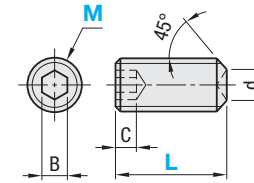
-Cup Point-

CAD Data



RoHS

Type	Material	Hardness	Surface Treatment
BOX-MSSK	1.7220/ 34CrMo4	45HRC~	Black Oxide
BOX-MSSU	1.4301/ X5CrNi18-10	-	-



MxP (Coarse)	B	C (Min.)	d (Max.)
2 x0.4	0.9	0.8	1
2.5x0.45	1.3	1.2	1.2
2.6x0.45	1.3	1.2	1.2
3 x0.5	1.5	1.2	1.4
4 x0.7	2	1.5	2
5 x0.8	2.5	2	2.5

Can be ordered as single item. P.205

When you order it, please specify by box. Minimum order is 1 box.

Order Example  **BOX-MSSK5-5**  
**BOX-MSSU2-3**

Days to Ship **6 Days** P.87

Box package is cost-saving for in-house stock or when you need in large quantities.

Type	M-L	€ Unit Price		Pcs. / box
		Price per pc.	1 box	
BOX-MSSK	2-	2		1,000 pcs. / box
		3		
	2.5-	3		
		4		
		5		
		6		
	2.6-	3		
		4		
		5		
		6		
3-	3			
	4			
	5			
	6			
	8			
	10			
4-	4			
	5			
	6			
	8			
5-	5			
	6			
	8			
	10			

Type	M-L	€ Unit Price		Pcs. / box
		Price per pc.	1 box	
BOX-MSSU (Stainless Steel)	2-	2		1,000 pcs. / box
		3		
	2.5-	3		
		4		
		5		
		6		
	2.6-	3		
		4		
		5		
		6		
3-	3			
	4			
	5			
	6			
	8			
	10			
4-	4			
	5			
	6			
	8			
5-	5			
	6			
	8			
	10			



# Box set Nuts - JIS Class 1 / JIS Class 3

Price Reduction  
22% on average

CAD Data

# Spring Washers / Flat Washers (Box)

Price Reduction  
25% on average

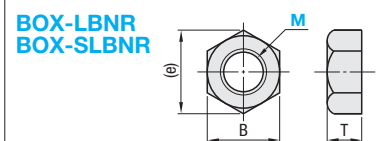
CAD Data



RoHS

## Nuts - JIS Class 1

Type	Material	Surface Treatment
BOX-LBNR	1.0303/C4C (1.0303/C4C equivalent)	Trivalent Chromate
BOX-SLBNR	1.4301/X5CrNi18-10	-

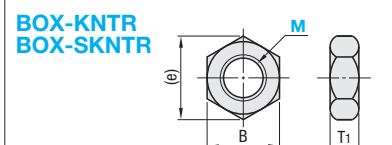


MxP (Coarse)	B	(e)	T
2 x0.4	4	4.6	1.6
2.5x0.45	5	5.8	2
2.6x0.45	5	5.8	2
3 x0.5	5.5	6.4	2.4
4 x0.7	7	8.1	3.2
5 x0.8	8	9.2	4
6 x1.0	10	11.5	5
8 x1.25	13	15	6.5
10 x1.5	17	19.6	8

Can be ordered as single item. P227

## Nuts - JIS Class 3

Type	Material	Surface Treatment
BOX-KNTR	1.0303/C4C (1.0303/C4C equivalent)	Trivalent Chromate
BOX-SKNTR	1.4301/X5CrNi18-10	-



MxP (Coarse)	B	(e)	T1
3x0.5	5.5	6.4	1.8
4x0.7	7	8.1	2.4
5x0.8	8	9.2	3.2
6x1.0	10	11.5	3.6
8x1.25	13	15	5
10x1.5	17	19.6	6

Can be ordered as single item. P227

When you order it, please specify by box. Minimum order is 1 box.

Order Example  
Part Number  
BOX-LBNR2.5  
BOX-SKNTR10

Days to Ship  
6 Days P.87

Box package is cost-saving for in-house stock or when you need in large quantities.

Part Number		€ Unit Price		Pcs. / box
Type	No.	Price per pc.	1 box	
BOX-LBNR	2			1,000 pcs. / box
	2.5			
	2.6			
	3			
	4			
	5			
	6			
	8			
	10			
				200 pcs. / box

Part Number		€ Unit Price		Pcs. / box
Type	No.	Price per pc.	1 box	
BOX-SLBNR (Stainless Steel)	2			1,000 pcs. / box
	2.5			
	2.6			
	3			
	4			
	5			
	6			
	8			
	10			
				200 pcs. / box

Part Number		€ Unit Price		Pcs. / box
Type	No.	Price per pc.	1 box	
BOX-KNTR	3			1,000 pcs. / box
	4			
	5			
	6			
	8			
	10			
				500 pcs. / box
				200 pcs. / box

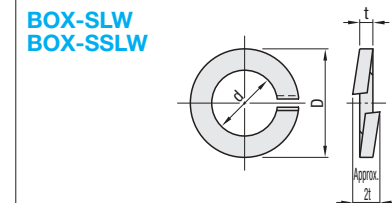
Part Number		€ Unit Price		Pcs. / box
Type	No.	Price per pc.	1 box	
BOX-SKNTR (Stainless Steel)	3			1,000 pcs. / box
	4			
	5			
	6			
	8			
	10			
				500 pcs. / box
				200 pcs. / box



RoHS

## Spring Washers

Type	Material	Surface Treatment
BOX-SLW	JIS SWHR57-C43	Trivalent Chromate
BOX-SSLW	1.4301/X5CrNi18-10	-

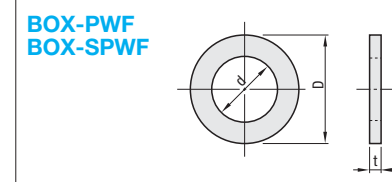


No.	d	D	t
3	3.1	5.9	0.7
4	4.1	7.6	1
5	5.1	9.2	1.3
6	6.1	12.2	1.5
8	8.2	15.4	2
10	10.2	18.4	2.5
12	12.2	21.5	3

Can be ordered as single item. P232

## Flat Washers

Type	Material	Surface Treatment
BOX-PWF	1.0330/DC01 equivalent	Trivalent Chromate
BOX-SPWF	1.4301/X5CrNi18-10	-



No.	d	D		t
		BOX-PWF	BOX-SPWF	
3	3.2	6	7	0.5
4	4.3	8	9	0.8
5	5.3	10	10	1
6	6.4	12.5	12.5	1.6
8	8.4	15.5	17	1.6
10	10.5	18	21	2
12	13.0	21	24	2.5

Can be ordered as single item. P232

When you order it, please specify by box. Minimum order is 1 box.

Order Example  
Part Number  
BOX-SSLW8  
BOX-PWF3

Days to Ship  
6 Days P.87

Box package is cost-saving for in-house stock or when you need in large quantities.

Part Number		€ Unit Price		Pcs. / box
Type	No.	Price per pc.	1 box	
BOX-SLW	3			2,000 pcs. / box
	4			
	5			
	6			
	8			
	10			
				1,000 pcs. / box
				700 pcs. / box

Part Number		€ Unit Price		Pcs. / box
Type	No.	Price per pc.	1 box	
BOX-SSLW (Stainless Steel)	3			2,000 pcs. / box
	4			
	5			
	6			
	8			
	10			
				1,000 pcs. / box
				700 pcs. / box

Part Number		€ Unit Price		Pcs. / box
Type	No.	Price per pc.	1 box	
BOX-PWF	3			2,000 pcs. / box
	4			
	5			
	6			
	8			
	10			
				1,000 pcs. / box
				700 pcs. / box

Part Number		€ Unit Price		Pcs. / box
Type	No.	Price per pc.	1 box	
BOX-SPWF (Stainless Steel)	3			2,000 pcs. / box
	4			
	5			
	6			
	8			
	10			
				1,000 pcs. / box
				700 pcs. / box



# Retaining Ring C Type (for Shaft) / Retaining Ring E Type (Box)

CAD Data

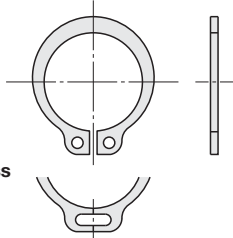


RoHS

## Retaining Ring C Type (for Shaft)

Type	Material	Hardness
BOX-STWN	Spring Steel	44~53HRC
BOX-STWS	1.4301-CSP	36~44HRC

BOX-STWN  
BOX-STWS (Stainless Steel)



No.8 or less

Confirm detailed dimensions. P253  
Can be ordered as single item. P253

## Retaining Ring E Type

Type	Material	Hardness	Surface Treatment
BOX-NETW	Spring Steel	44~53HRC	Trivalent Chromate
BOX-NETWS	1.4301-CSP	37~46HRC	-

BOX-NETW  
BOX-NETWS (Stainless Steel)



Confirm detailed dimensions. P253  
Can be ordered as single item. P253

When you order it, please specify by box.  
Minimum order is 1 box.

Order Example  
Part Number  
BOX-STWN10  
BOX-NETWS3

Days to Ship  
6 Days P87

Box package is cost-saving for in-house stock or when you need in large quantities.

Type	No.	€ Unit Price		Pcs. / box
		Price per pc.	1 box	
BOX-STWN	3			2,000 pcs. / box
	4			
	5			
	6			
	8			1,000 pcs. / box
	10			
	12			
	15			500 pcs. / box
	20			
	25			

Type	No.	€ Unit Price		Pcs. / box
		Price per pc.	1 box	
BOX-STWS (Stainless Steel)	4			2,000 pcs. / box
	5			
	6			
	8			
	10			1,000 pcs. / box
	12			
	15			
	20			500 pcs. / box
	25			

Type	No.	€ Unit Price		Pcs. / box
		Price per pc.	1 box	
BOX-NETW	1.2			2,000 pcs. / box
	1.5			
	2			
	2.5			
	3			1,000 pcs. / box
	4			
	5			
	6			
	7			
	8			

Type	No.	€ Unit Price		Pcs. / box
		Price per pc.	1 box	
BOX-NETWS (Stainless Steel)	1.2			2,000 pcs. / box
	1.5			
	2			
	2.5			
	3			1,000 pcs. / box
	4			
	5			
	6			
	7			
	8			



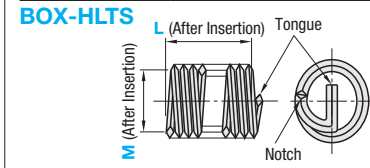
# Thread Inserts / Tangless Inserts (Box)



RoHS

## Thread Inserts

Type	Material
BOX-HLTS	1.4301/X5CrNi18-10

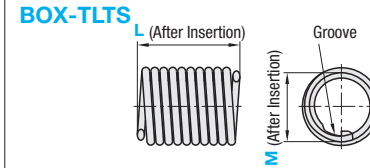


M (Coarse)	Tap Pilot Hole Diameter (Reference)
3	3.11~3.20
4	4.16~4.29
5	5.18~5.33
6	6.22~6.40
8	8.28~8.48

\* M and L are sizes when inserted into tapped holes.  
L dimension before insertion is shorter than that after insertion.  
See special wrenches and how to use. P255  
Can be ordered as single item. P255

## Tangless Inserts

Type	Material
BOX-TLTS	1.4301/X5CrNi18-10



M (Coarse)	Tap Pilot Hole Diameter (Reference)
2.5	2.60~2.65
3	3.12~3.20
4	4.17~4.30
5	5.16~5.33
6	6.25~6.42
8	8.31~8.52

\* M and L are sizes when inserted into tapped holes.  
L dimension before insertion is shorter than that after insertion.  
See special wrenches and how to use. P256  
Can be ordered as single item. P256

When you order it, please specify by box.  
Minimum order is 1 box.

Order Example  
Part Number  
BOX-HLTS5-10  
BOX-TLTS2.5-3.8

Days to Ship  
6 Days P87

Box package is cost-saving for in-house stock or when you need in large quantities.

Type	*M- L	€ Unit Price		Pcs. / box
		Price per pc.	1 box	
BOX-HLTS (Stainless Steel)	3- 3			100 pcs. / box
	4.5			
	6			
	4- 4			
	6			
	8			
	5- 5			
	7.5			
	10			
	6- 6			
	9			
	12			
	8- 8			
	12			
	16			

Type	*M- L	€ Unit Price		Pcs. / box
		Price per pc.	1 box	
BOX-TLTS (Stainless Steel)	2.5- 2.5			100 pcs. / box
	3.8			
	5			
	3- 3			
	4.5			
	6			
	4- 4			
	6			
	8			
	5- 5			
	7.5			
	10			
	6- 6			
	9			
	12			
	8- 8			
12				
16				

















# Hexagon Socket Button Head Cap Screws



CAD Data

When you need in large quantity, box packaging offers more cost-savings. P.161

**Hexagon Socket Button Head Cap Screws**

RoHS

Type	Material	Hardness	Surface Treatment	Strength Class
BCB	1.7220/ 34CrMo4	34-44HRC	Black Oxide	10.9

JIS B 1174

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

**BCB**

Part Number	€ Unit Price				Volume Discount			
	Type	M-L	1~199 pcs.	200~299 pcs.	300~499 pcs.	500 pcs. or more		
BCB	2-	3						
		4						
	5	6						
		8						
	10	10						
		2.5-	4					
	5	6						
		8						
	3-	4						
		5						
6	6							
	8							
10	12							
	15							
20	20							
	25							
4-	6							
	8							
10	10							
	12							
15	15							
	20							
25	25							
	30							
5-	6							
	8							
10	10							

Part Number	€ Unit Price				Volume Discount			
	Type	M-L	1~199 pcs.	200~299 pcs.	300~499 pcs.	500 pcs. or more		
BCB	5-	12						
		15						
	20	20						
		25						
	30	30						
		6-	8					
	10	10						
		12						
	15	15						
		20						
25	25							
	30							
35	35							
	8-	10						
12	12							
	15							
20	20							
	25							
30	30							
	35							
40	40							
	45							
50	50							
	10-	15						
20	20							
	25							
30	30							
	35							
40	40							

**Hexagon Socket Button Head Cap Screws -Stainless Steel-**

RoHS

Type	Material	Hardness	Surface Treatment	Strength Class
SBCB	1.4567/ X3CrNiCu18-9-4	-	-	A2-50

JIS B 1174

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

**SBCB**

Part Number	€ Unit Price				Volume Discount			
	Type	M-L	1~199 pcs.	200~299 pcs.	300~499 pcs.	500 pcs. or more		
SBCB	2-	3						
		4						
	5	6						
		8						
	10	10						
		2.5-	4					
	5	6						
		8						
	3-	4						
		5						
6	6							
	8							
10	10							
	12							
15	15							
	20							
25	25							
	4-	6						
8	8							
	10							
12	12							
	15							
20	20							
	25							
30	30							
	5-	6						

Part Number	€ Unit Price				Volume Discount			
	Type	M-L	1~199 pcs.	200~299 pcs.	300~499 pcs.	500 pcs. or more		
SBCB	5-	8						
		10						
	12	12						
		15						
	20	20						
		25						
	30	30						
		6-	8					
	10	10						
		12						
15	15							
	20							
25	25							
	30							
35	35							
	8-	10						
12	12							
	15							
20	20							
	25							
30	30							
	40							
45	45							
	50							

Order Example

Part Number

BCB4-10

SBCB5-10

Days to Ship

6 Days

P.88



# Hexagon Socket Button Head Cap Screws / Hexagon Socket Flat Head Cap Screws -Flanged-

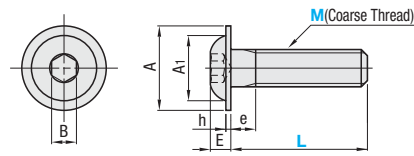
CAD Data

## Hexagon Socket Button Head Cap Screws -Flanged-

RoHS



Type	Material	Hardness	Surface Treatment	Strength Class
BCBFB	1.7220/34CrMo4	32~39HRC	Black Oxide	10.9 equivalent
BCBFS	1.4567/X3CrNiCu18-9-4	-	-	A2-50 equivalent



\* e (Incomplete Male Thread 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	BCBFB		BCBFS		
	€ Unit Price	Volume Discount	€ Unit Price	Volume Discount	
Type	M-L	1~10 pcs.	11 pcs. or more	1~10 pcs.	11 pcs. or more
BCBFB BCBFS	3-5				
	6				
	8				
	4-6				
	8				
	10				
	12				
	5-8				
	10				
	12				
	15				
	6-8				
	10				
	12				
	15				

Order Example: Part Number BCBFB6-15, BCBFS3-8

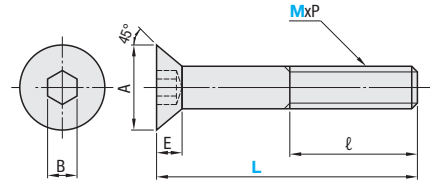
Days to Ship: 6 Days P.87

## Hexagon Socket Flat Head Cap Screws

RoHS



Type	Material	Hardness	Surface Treatment	Strength Class
FB	1.7220/34CrMo4	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

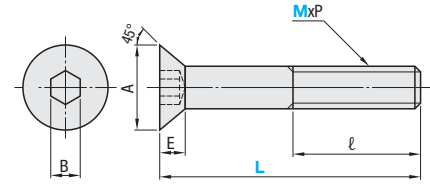
Part Number	Type	M-L	ℓ	€ Unit Price	Volume Discount
				1~499 pcs.	500 pcs. or more
FB	4-10	Full Thread Screws	14		
	5-10	Full Thread Screws	16		
	6-10	Full Thread Screws	18		
8-15	Full Thread Screws	22			
10-20	Full Thread Screws				

## Hexagon Socket Flat Head Cap Screws -Stainless Steel-

RoHS



Type	Material	Hardness	Surface Treatment	Strength Class
SFB PACK-SFB (Pack)	1.4567/ X3CrNiCu18-9-4	-	-	A2-50 equivalent



MxP (Coarse)	A		E (Max.)	B (Nominal)
	Min.	Max.		
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

Part Number	Type	M-L	ℓ	Volume Discount		
				1~29 pcs.	30~49 pcs.	50 pcs. or more
SFB	3-5	Full Thread Screws	14			
	4-8	Full Thread Screws	16			
	5-8	Full Thread Screws	18			
6-10	Full Thread Screws	22				

Part Number	Type	M-L	ℓ	Qty per Pkg.	€ Unit Price	Volume Discount					
					1~2 Pkgs.	3 Pkgs. or more					
PACK-SFB (Pack)	Full Thread Screws	3-5	14	100 pcs./pack							
					4-6	Full Thread Screws	16	14	100 pcs./pack		
					5-8	Full Thread Screws	18	14	100 pcs./pack		
					6-10	Full Thread Screws	22	14	100 pcs./pack		
					8-12	Full Thread Screws	28	14	50 pcs./pack		
					10-15	Full Thread Screws	35	14	20 pcs./pack		

When placing an order, please specify number of packages.

Order Example: Part Number FB6-10, SFB3-5, PACK-SFB2-6

Days to Ship: 6 Days P.87










# Cover Screws

-Hexagon Socket Head / Knurled-

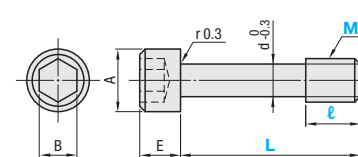
CAD Data

GUTB can be ordered by a cost-saving box. P.160

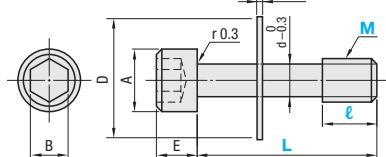
**Hexagon Socket Head** RoHS



**GUTB**



**GUTBN (With Nylon Washer)**



The screw will not drop off from the cover when the cover is removed from the frame. (The cover requires tap machining to prevent screws from falling off.)

Strength Class A2-70 equivalent  
Material: 1.4567/X3CrNiCu18-9-4


M	A	E	B	d	D
2	3.8	2	1.5	1.5	-
2.6	4.5	2.5	2	1.8	-
3	5.5	3	2.5	2.2	7
4	7	4	3	3	10
5	8.5	5	4	3.9	12
6	10	6	5	4.5	12
8	13	8	6	6.3	14

Part Number		ℓ	L	GUTB	
Type	M (Coarse)			Unit Price 1-29 pcs.	Volume Discount 30 pcs. or more
GUTB	2	2.5	4 6 8 10 12 15		
	2.6	3	6 8 10 12 15		
		2	4 6 8 10 12 15		
	3	3.5	6 8 10 12 15		
		4	8 10 12 15 20		
	4	3	6 8 10 12 15		
		5	10 12 15 20		
	5	3	8 10 12 15 20		
		6	12 15 20 25		
	6	4	8 10 12 15 20		
		8	12 15 20 25 30		
	8	5	8 10 12 15 20		
		10	12 15 20 25 30 40		

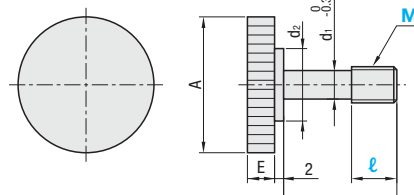
  

Part Number		ℓ	L	GUTBN	
Type	M (Coarse)			Unit Price 1-29 pcs.	Volume Discount 30 pcs. or more
GUTBN	3	2	4 8 12 15		
	3.5	6 8 10 12 15			
		4	8 10 12 15 20		
	4	3	6 8 10 12 15		
		5	10 12 15 20		
	5	3	8 10 12 15 20		
		6	12 15 20 25		
	6	4	8 10 12 15 20		
		8	12 15 20 30		
	8	5	8 10 12 20		
10		15 20 30 40			

**Knurled** RoHS



**RNCB**



Material: 1.4305/X10CrNiS18-9

Part Number		ℓ	L	A	d1	d2	E	€ Unit Price 1-29 pcs.	Volume Discount 30 pcs. or more
Type	M								
RNCB	3	2	4 6 8 10	12	2.2	6	2.5		
		3.5	6 8 10 12 15						
	4	3	8 10 12 15 20						
		6	8 10 12 15						
	5	3	10 12 15 20						
		6	12 15 20 25						
	6	3	8 10 12 15						
		6	12 15 20 25						
	8	3	12 15 20 25						
		8	15 20						

Order Example

Part Number - ℓ - L

GUTB5 - 6 - 12

GUTBN3 - 4 - 12

RNCB4 - 5 - 15

Alterations

Part Number - MC

GUTB5 - MC5-LC10

8 Days

Applicable to GUTB only.


Alteration	Code	Spec.	Price Adder																													
MC	LC	Thread length and L dimension can be specified in 1 mm increments.	3,00																													
		Ordering Code MC3-LC10																														
		<table border="1"> <thead> <tr> <th>M</th> <th>MC</th> <th>LC</th> <th>M</th> <th>MC</th> <th>LC</th> </tr> </thead> <tbody> <tr><td>2</td><td>2-6</td><td>4-15</td><td>5</td><td>3-15</td><td>8-25</td></tr> <tr><td>2.6</td><td>2-8</td><td>6-15</td><td>6</td><td>4-18</td><td>8-30</td></tr> <tr><td>3</td><td>2-9</td><td>4-20</td><td>8</td><td>5-24</td><td>8-40</td></tr> <tr><td>4</td><td>3-12</td><td>6-20</td><td></td><td></td><td></td></tr> </tbody> </table>	M	MC	LC	M	MC	LC	2	2-6	4-15	5	3-15	8-25	2.6	2-8	6-15	6	4-18	8-30	3	2-9	4-20	8	5-24	8-40	4	3-12	6-20			
M	MC	LC	M	MC	LC																											
2	2-6	4-15	5	3-15	8-25																											
2.6	2-8	6-15	6	4-18	8-30																											
3	2-9	4-20	8	5-24	8-40																											
4	3-12	6-20																														

# Cover Screws

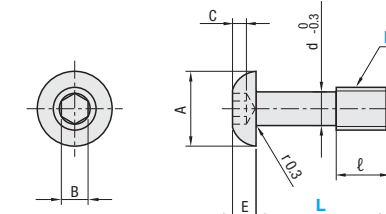
-Button Head Cap Screws / Configurable Length-

CAD Data

**Button Head Cap Screw** RoHS



**CBBT**




Strength Class A2-50 equivalent  
Material: 1.4567/X3CrNiCu18-9-4

Part Number		ℓ	L	ℓ	A	E (Max.)	B	C (Min.)	d	€ Unit Price 1-29 pcs.	Volume Discount 30 pcs. or more
Type	M										
CBBT	3	8	10 12 15 20	4	5.5	1.6	2	1.04	2.2		
	4	10	12 15 20	5	7.5	2.2	2.5	1.3	3		
	5		12 15 20 25	6	9.5	2.7	3	1.56	3.9		
	6		12 15 20 25	8	10.5	3.3	4	2.08	4.5		
	8		12 15 20 25	10	14	4.4	5	2.6	6.3		

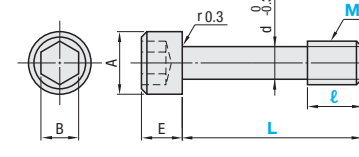
Order Example: Part Number - L - Days to Ship

CBBT5 - 20 - 6 Days P.87


**Configurable Length Hexagon Socket Head** RoHS



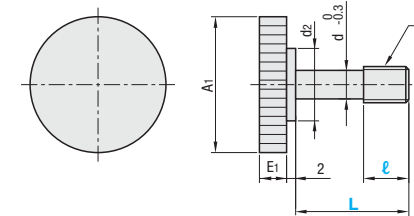
Type	Material	Surface Treatment	Strength Class
FGUTM	1.7220/34CrMo4	Electroless Nickel Plating	8.8 equivalent
FGUTS	1.4567/X3CrNiCu18-9-4	-	A2-70 equivalent




**Configurable Length Knurled** RoHS



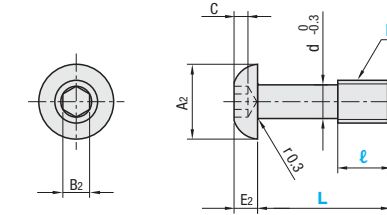
Type	Material
FRNCS	1.4305/X10CrNiS18-9



**Configurable Length Button Head Cap Screw** RoHS



Type	Material	Strength Class
FCBBS	1.4567/X3CrNiCu18-9-4	A2-50 equivalent



Part Number		1mm Increment						ℓ / L Machining Conditions	€ Unit Price			
Type	M	ℓ		L		ℓ / L	FGUTM		FGUTS	FRNCS	FCBBS	
FGUTM FGUTS FRNCS FCBBS	3	2-18	5-16	5-20	4-20	6-20	6-25	ℓ ≤ L				
	4	3-18	5-16	5-25	6-20	6-20	6-30					
	5	3-23	5-20	5-25	8-25	8-25	8-30					
	6	4-28	8-20	8-30	8-30	8-25	8-35					
	8	5-38	10-20	10-45	8-40	8-25	8-50					

M	A	A1	A2	E	E1	E2 (Max.)	B	B2	C (Min.)	d	d2
3	5.5	12	5.5	3	2.5	1.6	2.5	2	1.04	2.2	6
4	7	16	7.5	4	3.5	2.2	3	2.5	1.3	3	8
5	8.5	20	9.5	5	4	2.7	4	3	1.56	3.9	10
6	10	24	10.5	6	5	3.3	5	4	2.08	4.5	12
8	13	30	14	8	6	4.4	6	5	2.6	6.3	16

Order Example: Part Number - ℓ - L - Days to Ship - Price

FRNCS6 - 8 - 20 - 8 Days - 10 Days

Volume Discount (Round down to one Cent.) P.87

Qty.	1-19	20-24	25-29	30-49
Discount Rate	5%	10%	10%	18%

For orders larger than indicated quantity, please request a quotation.

# Cover Screws

-Extra Low Head / Low Head-

CAD Data

**Extra Low Head** RoHS **GUTBG**

Reference		Tensile Breaking Load (N)	
M3		1160	
M5		2520	

\*The above data are for reference, not guaranteed.

Material: 1.4567/X3CrNiCu18-9-4

Part Number Type	M	ℓ	L	A	E	B	d	t max.	€ Unit Price 1~29 pcs.	Volume Discount 30 pcs. or more
GUTBG	3	2	5 6 8 10	6	1.3	1.5	2.2	2		
		3.5	6 8 10							
		4	8 10							
	4	3	6 8 10 12	8	2	3	2.5			
		5	10 12							
	5	3	8 10 12 16	9	1.5	3	3.9	3		
		6	12 16							
	6	4	8 10 12 16 20	10	3	4.5	4			
		8	12 16 20 25							
	8	5	10 12 16 20	13	4	6.3	5			
		10	12 16 20 25							

Order Example: Part Number **GUTBG5** - ℓ **3** - L **16** Days to Ship **6 Days** P.87

**Low Head** RoHS **GUTBT**

Reference		Tensile Breaking Load (N)	
M3		1390	
M5		4300	

\*The above data are for reference, not guaranteed.

Material: 1.4567/X3CrNiCu18-9-4

Part Number Type	M	ℓ	L	A	E	B	d	t max.	€ Unit Price 1~29 pcs.	Volume Discount 30 pcs. or more
GUTBT	3	2	6 8	5.5	2	2	2.2	1.5		
		3.5	6 8 10 12							
		4	8 10 12 16							
	4	3	6 8 10 12 16	7	2.8	2.5	3	2.3		
		5	10 12 16 20							
	5	6	12 16 20 25	8.5	3.5	3	3.9	2.7		
		4	12 16							
	6	8	12 20 25 30	10	4	4	4.5	3		
		4	12 16							
	8	5	10 12 16	13	5	5	6.3	3.8		
		10	20 30 40							

Order Example: Part Number **GUTBT8** - ℓ **10** - L **20** Days to Ship **6 Days** P.87

# Cover Screws / Hexagon Socket Head Cap Screws with Retaining Ring Groove

-Cross Recessed / Long Knurled-

CAD Data

**Cross Recessed** RoHS **GUTBJ**

Reference		Tensile Breaking Load (N)	
M3		1390	
M5		4300	

\*The above data are for reference, not guaranteed.

Material: 1.4567/X3CrNiCu18-9-4

Part Number Type	M	ℓ	L	A	E	d	€ Unit Price 1~29 pcs.	Volume Discount 30 pcs. or more
GUTBJ	3	2	5 8 10	6.9	1.9	2.2		
		3.5	6 8 10					
		4	8 10 12					
	4	3	6 8 10 12 16	9.4	2.5	3		
		5	10 16					
	5	3	8 10 12	11.8	3.1	3.9		
		6	12 16 20					
	6	4	10 12 16 20	14	3.7	4.5		
		8	12 16 20 25 30					
	8	5	16	17.8	4.8	6.3		
		10	40					

**Long Knurled** RoHS **GUTBR**

Material: 1.4305/X10CrNiS18-9

Part Number Type	M	ℓ	L	d	A	d	€ Unit Price 1~29 pcs.	Volume Discount 30 pcs. or more
GUTBR	3	2	6 8 10 12	5.5	10	2.2		
		3.5	6 8 10 12					
		4	8 10 12					
	4	3	6 8 10 12 16	7	16	3		
		5	10 12 16					
	5	3	8 10 12 16 20	8.5	20	3.9		
		6	12 16 20					
	6	4	8 10 12 16 20	10	30	4.5		
		8	12 16 20 25					
	8	5	10 12 16 20	13	36	6.3		
		10	20 25 30					

Order Example: Part Number **GUTBJ3** - ℓ **4** - L **8** Days to Ship **6 Days** P.87  
**GUTBR4** - ℓ **5** - L **16**

**Retaining Ring Groove Length Configurable Hexagon Socket Head Cap Screws** RoHS **ERSCB**

Material: 1.4567/X3CrNiCu18-9-4  
 Accessory: E Type Retaining Rings 1.4301/X5CrNi18-10

Part Number Type	M (Coarse)	1mm Increment F	L	L-F Machining Conditions	A	E	B	d	W	Applicable E Type Retaining Ring (Nominal Dia.) (For details, refer to P.253)	€ Unit Price
ERSCB	3	2~19	10~20	L-F≥8	5.5	3	2.5	2	0.5	2	
	4	3~19	10~20	L-F≥7	7	4	3	3	0.7	3	
	5	3~24	10~25	L-F≥7	8.5	5	4	4	0.7	4	
	6	3~29	10~30	L-F≥7	10	6	5	4	0.7	4	
	8	4~34	10~35	L-F≥6	13	8	6	6	0.9	6	

Order Example: Part Number **ERSCB6** - F **5** - L **25** Price **€**

Qty.	1~19	20~24	25~29	30~49
Discount Rate	5%	10%	10%	18%

Days to Ship **8 Days**

\*For orders larger than indicated quantity, please request a quotation.



# Stepped Screws

-Extra Low Head · Low Head · Button Head Cap Screw · Cross Recessed-

CAD Data

RoHS

Extra Low Head	Low Head Type	Button Head Cap Screw	Cross Recessed	Material	Surface Treatment
DBGB	DBTB	DBBB	DBJB	1.1191/C45E	Black Oxide
DBGM	DBTM	DBBM	DBJM	1.4305/X10CrNiS18-9	Electroless Nickel Plating
DBGS	DBTS	DBBS	DBJS		

Extra Low Head Type

Low Head Type

Button Head Cap Screw Type

Cross Recessed Type

Part Number		1mm Increment		E	D	A	B	ℓ	h1	€ Unit Price		
Type	M (Coarse)	L	F							DBGB	DBGM	DBGS
DBGB DBGM DBGS	3	5-20	3-6	1.5	5	8	1.5	1	1.5			
	4		4-8		6	10	2	1.2	2			
	5		5-10		8	12	3	1.4	3			
	6		6-12		10	16	3					
	8		8-12		12	18	4	1.5	3.5			
	10		10-15		15	20	5		4			

Part Number		1mm Increment		E	D	A	B	ℓ	h1	€ Unit Price		
Type	M (Coarse)	L	F							DBTB	DBTM	DBTS
DBTB DBTM DBTS	3	3-20	3-6	2	5	8	2	1	2			
	4		4-8		6	10	2.5	1.2	2.5			
	5		5-10		8	12	3	1.4	3			
	6		6-12		10	16	4					
	8		8-12		12	18	5	1.5	4			
	10		10-15		6	15	6		4.5			

Part Number		1mm Increment		E	D	A	B	ℓ	h1	€ Unit Price		
Type	M (Coarse)	L	F							DBBB	DBBM	DBBS
DBBB DBBM DBBS	3	5-20	3-6	2.8	5	8	2	1	2			
	4		4-8		6	10	2.5	1.2	2.5			
	5		5-10		8	12	3	1.4	3			
	6		6-12		10	16	4					
	8		8-12		12	18	5	1.5	4			
	10		10-15		6.9	15	20	6	4.5			

Part Number		1mm Increment		E	D	A	ℓ	€ Unit Price		
Type	M (Coarse)	L	F					DBJB	DBJM	DBJS
DBJB DBJM DBJS	3	1-20	3-6	2.8	5	8	1			
	4		4-8		6	10	1.2			
	5		5-10		8	12	1.4			
	6		6-12		10	16				
	8		8-12		12	18	1.5			
	10		10-15		6.9	15	20			

Order Example: Part Number - L - F - (LTC · PC)  
DBTS6 - 3 - 10

Alterations: Part Number - L - F - (LTC · PC)  
DBJM6 - 3.4 - 10 - LTC

Alterations	Code	Spec.	Price Adder																												
	LTC	L Dimension Increment LTC=0.1 mm Increment	3,00																												
	PC	Adds a relief on M. <table border="1"> <thead> <tr> <th>D</th> <th>MxPitch</th> <th>g</th> <th>f</th> </tr> </thead> <tbody> <tr><td>5</td><td>M3 x 0.5</td><td>1</td><td>2.3</td></tr> <tr><td>6</td><td>M4 x 0.7</td><td>1.2</td><td>3.2</td></tr> <tr><td>8</td><td>M5 x 0.8</td><td>1.4</td><td>4.0</td></tr> <tr><td>10</td><td>M6 x 1.0</td><td>1.7</td><td>4.8</td></tr> <tr><td>12</td><td>M8 x 1.25</td><td>1.7</td><td>6.5</td></tr> <tr><td>15</td><td>M10 x 1.5</td><td>2</td><td>8.2</td></tr> </tbody> </table>	D	MxPitch	g	f	5	M3 x 0.5	1	2.3	6	M4 x 0.7	1.2	3.2	8	M5 x 0.8	1.4	4.0	10	M6 x 1.0	1.7	4.8	12	M8 x 1.25	1.7	6.5	15	M10 x 1.5	2	8.2	2,00
D	MxPitch	g	f																												
5	M3 x 0.5	1	2.3																												
6	M4 x 0.7	1.2	3.2																												
8	M5 x 0.8	1.4	4.0																												
10	M6 x 1.0	1.7	4.8																												
12	M8 x 1.25	1.7	6.5																												
15	M10 x 1.5	2	8.2																												

Days to Ship: **8 Days**

Price: **Volume Discount** (Round down to one Cent.) P87

Qty.	1-19	20-24	25-29	30-49
Discount Rate	€ Unit Price	5%	10%	18%

For orders larger than indicated quantity, please request a quotation.

# Studs -Fully Male Thread- / Stud Bolts / Hexagon Head Stud Bolts

CAD Data

Full Thread Screws

RoHS

Type	Material	Surface Treatment
ANE	1.0038/S235JR	Black Oxide
ANES	1.4301/X5CrNi18-10	

Screw Precision Thread gauge class 3 used

Order Example: Part Number ANE10-300 ANES16-500

Days to Ship: **6 Days** P87

Part Number	Type	M-L	MxP	ANE		ANES	
				€ Unit Price	Volume Discount	€ Unit Price	Volume Discount
				1-49 pcs.	50 pcs. or more	1-49 pcs.	50 pcs. or more
6-100	ANE	200	6x1.0				
		300					
		500					
8-100	ANE	200	8x1.25				
		300					
		500					
10-100	ANE	200	10x1.5				
		300					
		500					
12-100	ANE	200	12x1.75				
		300					
		500					
16-100	ANE	200	16x2.0				
		300					
		500					

Stud Bolts

RoHS

STDN (Both Ends Right-Hand Screws)

M	P
8	1.25
10	1.5
12	1.75
16	2.0
20	2.5

Material: 1.1191/C45E  
Hardness: 32-38HRC  
Surface Treatment: Black Oxide

Order Example: Part Number STDN10 - 100

Days to Ship: **6 Days** P87

Part Number	Type	M	L	F	E	B	€ Unit Price		
							1-49 pcs.	50 pcs. or more	
STDN	16	16	75	30	8	13			
			100	40	10				
			125	40	15				
			150	40	15				
			175	40	20				
	20	20	20	200	40	20	17		
				225	60	20			
				250	60	25			
				300	60	25			
				100	40	10			

When L=100 or less, no straight part exists.

Order Example: Part Number - L  
STDN10 - 100

Days to Ship: **6 Days** P87

Hexagon Head Stud Bolts

RoHS

Type	Material	Hardness	Surface Treatment
RSBB	1.1191/C45E	35-40HRC	Black Oxide
RSBM			Electroless Nickel Plating

Order Example: Part Number RSBB8

Days to Ship: **8 Days** Express A 2,00 EUR/ piece P88

Days to Ship: **2 Days**

Price: **Volume Discount** (Round down to one Cent.) P87

Qty.	1-19	20-29	30-49	50-99
Discount Rate	€ Unit Price	5%	10%	18%

For orders larger than indicated quantity, please request a quotation.



# Configurable Length Screws with Hexagon Sockets



CAD Data



# Configurable Length Screws



CAD Data

## Configurable Length Screws with Hexagon Sockets



Type				M	S	Material	Surface Treatment
Full Thread Screws		Both Ends Right-Hand Screws					
Thread gauge class 2 used		Thread gauge class 2 used					
Coarse	Fine	Coarse	Fine				
FABB	FABBP	FWBB	FWBBP	1.1191/C45E		Black Oxide	
FABBN		FWBBN		1.1191/C45E		Electroless Nickel Plating	
FABBS	FABSP	FWBBS		1.4301/X5CrNi18-10 equivalent			

M	Thread Pitch		B
	Coarse	Fine	
4	0.7	-	2
5	0.8	0.5	2.5
6	1	0.75	3
8	1.25	1	4
10	1.5	1.25	5
12	1.75	1.5	6
16	2	1.5	8
20	2.5	1.5	10

## Length Selectable Full Thread Screws

Part Number	Type	M	L								€ Unit Price
(Coarse) FABB	5	30	35	50							
	6	30	35	40	50	60	100				
	8	35	40	50	60	70	80	100			
	10	30	40	50	60	70	80	100	120		
	12	30	40	60	70	80	100	120	150		
	16			80	100	120	150				

Part Number	Type	M	L								€ Unit Price
(Coarse) FABBS	5	35	40	45	50	60					
	6	30	35	40	45	50	60	80			
	8				50	60	80				
	10				50	80	100				

Order Example: Part Number - L - Days to Ship **6 Days** P87

## Length Configurable Full Thread Screws

Part Number	Type	M	L 1mm Increment	€ Unit Price											
				L20~100				L101~200				L201~400			
(Coarse) FABB FABBN FABBS	4	20~45													
	5	20~250													
	6														
	8														
	10														
	12	20~400													

## Length Configurable Both Ends Right-Hand Screws

Part Number	Type	M	L 1mm Increment	E	F	€ Unit Price							
						L20~100		L101~200		L201~400			
(Coarse) FWBB FWBBN FWBBS (Fine) FWBBP	4	20~150											
	5	20~250											
	6												
	8												
	10			0~100	0~100								
	12	20~400											

⊙E≤Mx5 F≤Mx5 When E=0(F=0), threads are not machined on the dimension E(F) side.

Order Example: Part Number - L - E - F - Days to Ship **8 Days** Express A 2,00 EUR/ piece P88 Price

Volume Discount (Round down to one Cent.) P87

Qty.	1-19	20-24	25-29	30-49
Discount Rate	5%	10%	18%	

⊙For orders larger than indicated quantity, please request a quotation.

Alterations	Code	Spec.	Price Adder
Slit	SWC	W dimensions are as follows. M W 4,5 1 6,8 1,5 10 2 12,16 2,5 20 3	2,00

Alterations	Code	Spec.	Price Adder
Adds hexagonal sockets on the right end.	RAC	⊙The phase of hexagonal sockets on both ends are arbitrary. ⊙Not applicable to L≤50.	3,00

Order Example: Part Number - L - (JIS SWC - RAC) - Days to Ship **8 Days**

## Configurable Length Screws



Type				M	S	Material	Surface Treatment
Full Thread Screws		Both Ends Right-Hand Screws					
Thread gauge class 2 used		Thread gauge class 2 used					
Coarse	Fine	Coarse	Fine				
FAB	FABP	FABM	FWB	1.1191/C45E		Black Oxide	
FABN			FWBN	1.1191/C45E		Electroless Nickel Plating	
FABS	FABSP	FABMS	FWBS	1.4301/X5CrNi18-10 equivalent			

M	Thread Pitch		B
	Coarse	Fine	
3	0.5	-	
4	0.7	-	
5	0.8	0.5	
6	1	0.75	
8	1.25	1	
10	1.5	1.25	
12	1.75	1.25	
16	2	1.5	
20	2.5	1.5	

## Full Thread Screws

Part Number	Type	M	L 1mm Increment	€ Unit Price											
				FAB				FABN				FABS			
(Class 2, Coarse) FAB FABN FABS	3	20-150													
	4	20-150													
	5	20-250													
	6														
	8	20-600													
	10														
	12														
	16	20-800													
	20														

Part Number	Type	M	L 1mm Increment	€ Unit Price											
				FABM				FABMS				FABP			
(Class 3, Coarse) FABM FABMS	4	20-150													
	5	20-250													
	6														
	8	20-600													
	10	(400)													
	12														

## Both Ends Right-Hand Screws

Part Number	Type	M	L 1mm Increment	E	F	€ Unit Price											
						FWB				FWBN				FWBS			
(Class 2, Coarse) FWB FWBN FWBS	3	20-100	5~15	0~15													
	4	20-150															
	5	20-250															
	6																
	8	20-600															
	10		5~100	0~100													
	12																
	16	20-800															
	24																
	30																

⊙E≤Mx5 F≤Mx5 When F=0, threads are not machined on the dimension F side.

Part Number	Type	M	L 1mm Increment	E	F	€ Unit Price											
						FWBP				FWBSP							
(Class 2, Coarse) FWBP FWBSP	5	20-250															
	6																
	8	20-600															
	10		5~100	0~100													
	12																
	16	20-800															

⊙E≤Mx5 F≤Mx5 When F=0, threads are not machined on the dimension F side.

Order Example	Part Number	L	E	F	Alterations	Code	Spec.	Price Adder
FAB6	- 100	- E10	- F10		Slit	SWC	W dimensions are as follows. M W 4,5 1 6,8 1,5 10 2 12,16 2,5 20 3	2,00
FAB10	- 200	- E10	- F10		2-Flats Machined	SC	W dimensions are as follows. M W S 4 3 5 10 5 3,5 4 16 8 14 6 5 20 8,5 18 8 4 6 24 11 21 10 4,5 8 30 12 27	3,00

Ordering Code SC12

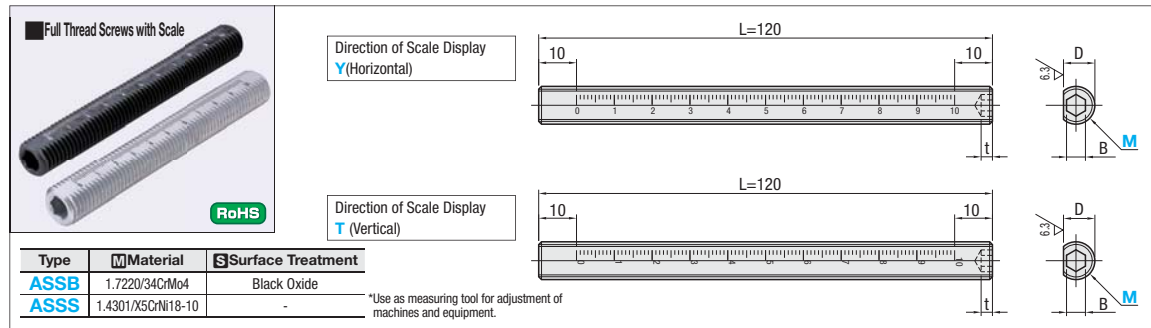
⊙S≤SC-L-W

⊙Not applicable to M3.

# Full Thread Screws with Scale / Flanged Brackets

-Bracket Type-

CAD Data



Type	Material	Surface Treatment
ASSB	1.7220/34CrMo4	Black Oxide
ASSS	1.4301/X5CrNi18-10	-

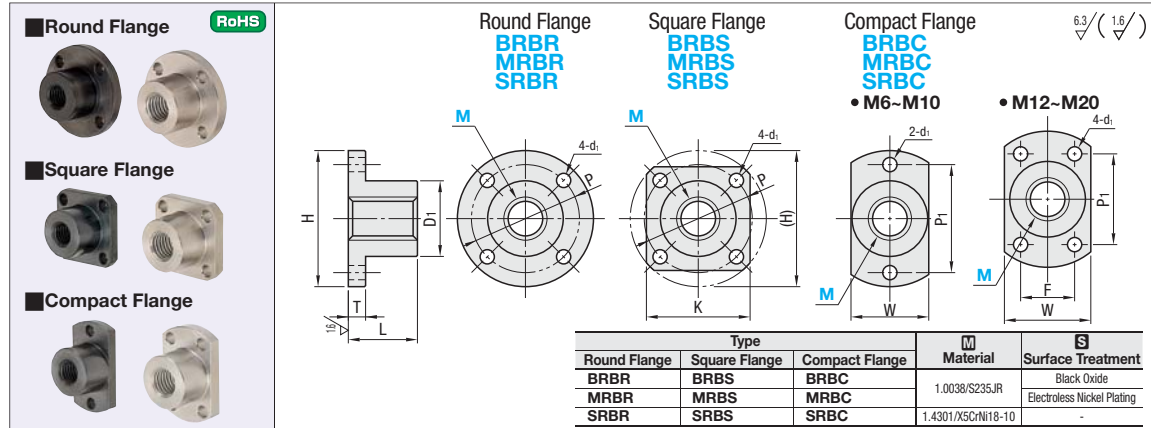
\*Use as measuring tool for adjustment of machines and equipment.

Part Number	Type	Direction of Scale Display	M (Coarse)	L	B	D	t	ASSB		ASSS	
								€ Unit Price	Volume Discount	€ Unit Price	Volume Discount
								1-4 pcs.	5 pcs. or more	1-4 pcs.	5 pcs. or more
ASSB	Y (Horizontal)		8	120	4	6.6	5				
ASSS	T (Vertical)		10		5	8.3	6				
			12		6	10	8				
			16		8	14	10				

Order Example: Part Number - M

Example: ASSS - T - 8

Days to Ship: 6 Days P87



Type	Material	Surface Treatment
Round Flange	1.0038/S235JR	Black Oxide
Square Flange	1.4301/X5CrNi18-10	Electroless Nickel Plating
Compact Flange	1.4301/X5CrNi18-10	-

Part Number	Type	M	MxPitch	L	D1	H	T	P	K	W	P1	F	d1	€ Unit Price					
														BRBR	MRBR	SRBR	BRBS	MRBS	SRBS
Round	BRBR	6	6x1.0	12	12	28	4	20	22	12	20	-	3.5						
Flange	MRBR	8	8x1.25	14	15	32	5	25	25	15	25	-							
	SRBR	10	10x1.5	18	20	38	5	30	30	20	30	-							
Square	BRBS	10A	10x1.25	18	20	38	5	30	30	20	30	-	4.5						
Flange	MRBS	12	12x1.75	20	22	40	6	32	32	25	28	16							
	SRBS	14A	14x1.5	22	26	50	6	40	39	32	33	22	5.5						
Compact	BRBC	16	16x2.0	26	28	50	6	40	39	32	33	22	5.5						
Flange	MRBC	18A	18x1.5	30	32	63	8	50	48	40	42	25	6.6						
	SRBC	20	20x2.5	32	35	63	8	50	48	40	42	25	6.6						

Thread pitches 10A - 14A and 18A are fine.

Order Example: Part Number - (MC)

Example: SRBR10 - MC

Days to Ship: 8 Days Express A 2,00 EUR/ piece P88

Volume Discount (Round down to one Cent.) P87

Qty.	1-14	15-19	20-50
Discount Rate	5%	5%	10%

For orders larger than indicated quantity, please request a quotation.

Alterations

Additional tapped holes for Set Screws

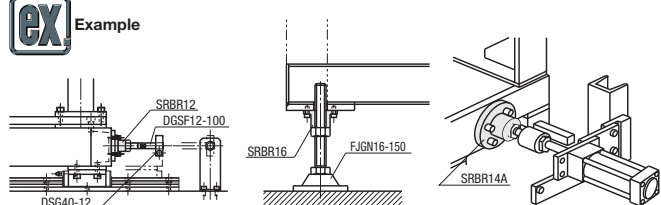
Code: MC

Spec. Adds 2 tapped holes for set screws.

M	MC	€
6		9
8	M3	10
10		13
10A		14
12	M4	15
14A		16
16	M5	20
18A		
20		

Ordering Code|MC

Price Adder: 6,00



# Configurable Length Screws with Hexagon Sockets

-Tip Shape Selectable-

CAD Data

Configurable Length Screws with Hexagon Sockets - Tip Shape Selectable - RoHS

Type	Material	Surface Treatment	Pad
FSSF FSST FSSG	1.1191/C45E	Black Oxide	-
FSSM	1.7220/34CrMo4	Black Oxide	White Polyacetal
FSSU			Free-cutting Brass (CW614N/CuZn39Pb3 BD Brass (JIS))
FSSFS FSSTS FSSGS	1.4567/		White Polyacetal
FSSMS	X3CrNiCu18-9-4		Free-cutting Brass (CW614N/CuZn39Pb3 BD Brass (JIS))
FSSUS			Free-cutting Brass (CW614N/CuZn39Pb3 BD Brass (JIS))

\* FSST - FSSTS (Cone Point) M=L size is 60°.

Part Number	Type	M	L 1mm Increment	B	C (Min.)	d (Max.)				S (Plastic Brass with Pad)	b (Dog Point)
						Flat End	Cone Point	Cup Point	Dog Point		
FSSF (Flat End)	5	20-250	2.5	3	3.5	1.25	2.5	4	3	1	4
FSSFS (Flat End - Stainless Steel)	6		3.0	3.5	4.0	1.5	3	4	4	1	4
FSST (Cone Point)	8		4.0	5	5.5	2.0	5	6	5	2	5
FSSTS (Cone Point - Stainless Steel)	10		5.0	6	7	2.5	6	8	6	2	6
FSSC (Cup Point)	12		6.0	8	8.5	3	8	8	8	2	7
FSSG (Dog Point)	16		8.0	10	12	4	10	10	10	3	9
FSSGS (Dog Point - Stainless Steel)	20		10.0	12	15	5	14	12	13	3	11
FSSM FSSMS (Plastic Pad)											
FSSU FSSUS (Brass Pad)											

Order Example: Part Number - L

Example: FSST6 - 100

Days to Ship: 8 Days

Price

Volume Discount (Round down to one Cent.) P87

Qty.	1-19	20-24	25-29	30-49
Discount Rate	5%	5%	10%	18%

For orders larger than indicated quantity, please request a quotation.

M	L	€ Unit Price										
		FSSF	FSST	FSSC	FSSG	FSSM	FSSU	FSSFS	FSSTS	FSSGS	FSSMS	FSSUS
5	20-100											
	101-200											
	201-250											
6	20-100											
	101-200											
	201-250											
8	20-100											
	101-200											
	201-400											
10	20-100											
	101-200											
	201-400											
12	20-100											
	101-200											
	201-400											
16	20-100											
	101-200											
	201-400											
20	20-100											
	101-200											
	201-400											

Alterations

Part Number - (SKH)

Example: FSST6 - 100 - SKH

Days to Ship: 13 Days

Tip Induction Hardening

Code: SKH

Spec. Induction hardening at 2-3mm away from the tip. Hardness: 40-45HRC (Ordering Code)SKH

Price Adder: 4,00



# Hexagon Socket Screws - Dog Point

-Hexagon Socket Set Screw / Hexagon Socket Head Cap Screw / Configurable-

CAD Data

**Hexagon Socket Screws - Dog Point** RoHS

**MSSG** (Hexagon Socket Set Screw Type)

Ⓞ These differ from JIS dog point set screws in dimension of nose portion.  
Ⓞ Use for rough locking of shafts, etc. where continuous load is not imparted to the nose portion.

**CBBG** (Hexagon Socket Head Cap Screw Type)  
**CBBGS** (Hexagon Socket Head Cap Screw Type, Stainless Steel)

Type	Material	Hardness	Surface Treatment
MSSG	1.7220/ 34CrMo4	45HRC~	Black Oxide
CBBG	1.4567	38-43HRC	-
CBBGS	1.4567	-	-

Part Number	Type	M (Coarse)	L					B1	B2	A	E	d			€ Unit Price					
			12	16	20	25	30					Reference Dim.	Tolerance	b	C	R	MSSG	CBBG	CBBGS	
MSSG CBBG CBBGS		4	12	16	20	25	30	2	3	7	4	3	-0.1	3	0.3	0.5				
		5	12	16	20	25	30	2.5	4	8.5	5	4	-0.2	4	0.3	0.5				
		6	12	16	20	25	30	35	40	3	5	10	6	6	-0.1	5	0.5			
		8	16	20	25	30	35	40	45	4	6	13	8	6	-0.1	5	0.5			
	10	20	25	30	35	40	45	50	5	8	16	10	8	-0.3	6	1				

**Hexagon Socket Screws - Dog Point - Configurable** RoHS

**FMSSG** (Hexagon Socket Set Screw Type)  
**FMSSGS** (Hexagon Socket Set Screw Type, Stainless Steel)

Ⓞ Use for rough locking of shafts, etc. where continuous load is not imparted to the nose portion.

**FCBBG** (Hexagon Socket Head Cap Screw Type)  
**FCBBGS** (Hexagon Socket Head Cap Screw Type, Stainless Steel)

Type	Material	Hardness	Surface Treatment
FMSSG	1.7220/ 34CrMo4	45HRC~	Black Oxide
FCBBG	1.4567	38-43HRC	-
FMSSGS FCBBGS	1.4567	-	-

Part Number	Type	M (Coarse)	L		F	B1	B2	A	E	d			€ Unit Price					
			1mm increment	F 1mm increment						Reference Dim.	Tolerance	C	R	FMSSG	FMSSGS	FCBBG	FCBBGS	
FMSSG FMSSGS FCBBG FCBBGS		4	12-25	26-50	2-30	-	3	7	4	3	-0.1	3	0.3	0.5				
		5	12-25	26-50	2-30	2.5	4	8.5	5	4	-0.2	4	0.3	0.5				
		6	12-40	12-30	2-30	3	5	10	6	6	-0.1	5	0.5	1				
		8	41-80	31-70	2-30	4	6	13	8	6	-0.1	5	0.5	1				
		8	12-50	12-35	2-30	4	6	13	8	6	-0.1	5	0.5	1				
		10	51-100	36-75	2-30	5	8	16	10	8	-0.3	6	1					
		10	12-50	12-40	2-30	5	8	16	10	8	-0.3	6	1					
		10	51-100	41-75	2-30	5	8	16	10	8	-0.3	6	1					

Order Example

Part Number - L - F

MSSG5 - 16 - 20

FMSSG6 - 50 - 20

Alterations

Part Number - L - (RS)

CBBG8 - 20 - RS

8 Days

Days to Ship

-MSSG · CBBG · CBBGS **6 Days** P87

-FMSSG · FMSSGS · FCBBG · FCBBGS **8 Days**

**2 Days** Express A 2,00 EUR/ piece P87

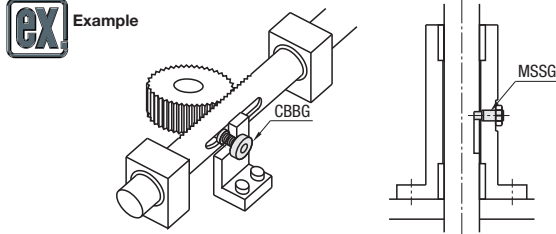
Ⓞ A Express Charge of 5,40 EUR for 3 or more identical pieces.

Price

Volume Discount (Round down to one Cent) P87

Qty.	1-19	20-24	25-29	30-49
Discount Rate	€ Unit Price	5%	10%	18%

Ⓞ For orders larger than indicated quantity, please request a quotation.



Alteration

**Undercut**

Code **RS**

Spec.

M	f	g	r
4	3.2	1.5	0.2-0.3
5	4.1	2	0.2-0.3
6	4.9	2	0.2-0.5
8	6.6	2.5	0.2-0.5
10	8.3	2.5	0.2-0.5

Price Adder **3,00**

# Lifting Eye Bolts / Plastic Hexagonal Spacers

-Both Ends Female Thread-

CAD Data

**Lifting Eye Bolts** RoHS

(Stainless Steel)

Bolt Precision JIS1168

A Type Vertical Lifting

B Type 45° Lifting

Material: 1.0038/S235JR  
Surface Treatment: Trivalent Chromate Plating  
Accessory: Nut 1 pcs.

Material: 1.4301/X5CrNi18-10 (Electrolytic Polishing)  
Accessory: Nut 1 pc. (1.4301/X5CrNi18-10)

Part Number	Type	MxP	a	b	C	D	H	ℓ	e	g	R	da	Nuts		A Type N/1P (kgf/1P)	B Type N/2P (kgf/2P)	€ Unit Price 1-19 pcs.	Volume Discount 20 pcs. or more	€ Unit Price 1-19 pcs.	Volume Discount 20 pcs. or more
													B	T						
8		8x1.25	32.6	20	6.3	16	33.3	15	3	6	1	9.2	13	6.5	785 (80)	785 (80)				
10		10x1.5	41	25	8	20	41.5	18	4	7.7	1.2	11.2	17	8	1471 (150)	1471 (150)				
12		12x1.75	50	30	10	25	51	22	5	9.4	1.4	14.2	19	10	2157 (220)	2157 (220)				
16		16x2.0	60	35	12.5	30	60	27	5	13	1.6	18.2	24	13	4413 (450)	4413 (450)				
20		20x2.5	72	40	16	35	71	30	6	16.4	2	22.4	30	16	6178 (630)	6178 (630)				

**Public Liability Policy**

- Maximum amount of compensation 100000,00 EUR for one person
- 400000,00 EUR for one accident
- 100000,00 EUR for property damage
- This public liability policy is only applicable to insurable contingency occurred in Japan.

**Caution**

Bad Example: Avoid the applications shown below.

Ⓞ When using a pair of eye bolts for lifting, mount them in alignment as shown.

Order Example

Part Number

Days to Ship **6 Days** P87

Ⓞ Piping U-Bolts UB and UBSU have moved to P1130

**Plastic Hexagonal Spacers** RoHS

**PEKP**

<Note>

- The surface color may change depending on production lot and other conditions.
- For material data, refer to P215
- Ⓞ The pilot hole for tapping goes through.

Material: PEEK (Polyetheretherketone)

Part Number	Type	B	L Selection					M (Coarse)	(C)	€ Unit Price									
			15	20	25	30	50			L15	L20	L25	L30	L50	L100	L150	L200		
PEKP		6	15	20	25	30	50	3	6.9										
		7	20	25	30	50	100	4	8.1										
		8	20	25	30	50	100	5	9.2										
		10	25	30	50	100	150	6	11.5										
	13	50	100	150	200	200	8	15.0											

Order Example

Part Number - L

PEKP6 - 20

Alterations

Part Number - LC

LC35

8 Days

Ⓞ Only applicable to PEKP.

Days to Ship **6 Days** P87

Price

Volume Discount (Round down to one Cent) P87

Qty.	1-29	30-39	40-49	50-99
Discount Rate	€ Unit Price	5%	10%	18%

Ⓞ For orders larger than indicated quantity, please request a quotation.

Alteration

Code **LC**

Spec.

Cuts L dimension in 1mm increment. The thread length does not change.

Ordering Code | LC55

LC Specification Range	B	LC
6	15<LC<50	
7	20<LC<150	
8	20<LC<150	
10	25<LC<200	
13	35<LC<200	

Price Adder **4,00**



# Shoulder Bolts

-Shaft Dia. Tolerance e9-

CAD Data

**Shoulder Bolts**  
-Shaft Dia. Tolerance e9-

**Standard Type**  
MSB  
SMSB

**Configurable Type**  
MSBMF  
SMSBF

**- Standard Type**

De9	A	B	C	E	MxP	T
4	6.5	7	2.5	1.6	3	2.5x0.45
4.5	7	2.5	1.6	3	3x0.5	5
5	-0.020	8	3	2.2	4	4x0.7
5.5	-0.050	9	3	2.2	4	4x0.7
6		9	3	2.2	4	4x0.7
6.5		10	4	2.5	5	5x0.8
8	-0.025	13	5	3	6	6x1.0
10	-0.061	16	6	4	8	8x1.25
12		17	6	4	8	8x1.25
13	-0.032	18	8	5	10	10x1.5
16	-0.075	24	10	7	14	12x1.75
20	-0.040	27	14	9	18	16x2.0
	-0.092					21

**Material** MSB 1.7220/34CrMo4 MSBMF 1.4567 SMSB - SMSBF 1.4567  
**Hardness** MSB 33-38HRC MSBMF 33-38HRC SMSB - SMSBF -  
**Surface Treatm.** MSB - Electroless Nickel Plating MSBMF - SMSBF -  
**Strength Class** MSB 10.9 MSBMF 10.9 SMSB - SMSBF A2-50

\*MSB For D12 and 13, 3max. For D16 and 20, 3.5max.  
 \*2.5max.  
 L Dimension Tolerance of Configurable Type is ±0.05.

**Standard Type**

Part Number Type	D	L(SMSB is only applicable to sizes marked with **.)										F	€ Unit Price		
													MSB	SMSB	
MSB	4	*10	45										5		
	4.5	*10	45 50										6		
	5	*10	45 50										7		
	5.5	*10	45 50 55										7		
	6	*10	45 50 55 60 65 70										7		
	6.5	*10	*45 *50 *55 *60 *65 *70 *75 *80										9		
	8	*10	*50 *55 *60 *65 *70 *75 *80 *85 *90										9		
				95 100 110 120											
SMSB	10	*10	*60 *65 *70 *75 *80 *85 *90 95 100 110 120										12		
	12	10	60 65 70 75 80 85 90 95 100										12		
	13	10	75 80 85 90 95 100										16		
	16	10	90 95 100 110 120 130 140 150										18		
	20	10	110 120 130 140 150										24		

**Configurable Type**

Part Number Type	De9	L 0.1mm Increment	F 0.5mm Increment	A	B	C	E	T	L+F Machining Conditions	€ Unit Price	
										MSBMF	SMSBF
MSBMF SMSBF	4	10-40	M≤F≤Mx3	7	2.5	1.6	3	4.5	L+F≤46		
	4.5	10-40							L+F≤46		
	5	10-40							L+F≤47		
	5.5	10-40							L+F≤47		
	6	10-50							L+F≤59		
	6.5	10-50							L+F≤59		
	8	10-60							L+F≤70		
	10	10-60							L+F≤72		

Order Example: Part Number - L - F  
MSB10 - 50  
SMSBF5.5 - L30 - F10

Alterations: Part Number - L(LC) - F - (FC / LKC)  
MSB10 - LC50.1 - F10 - LKC  
SMSBF5.5 - L30 - F10 - LKC

Days to Ship: MSB - SMSB 6 Days 2 Days P88  
SMSBF - MSBMF 8 Days 10 Days

Price: MSB Volume Discount (Round down to one Cent.) P87  
Qty. 1-49 50-99 100-199 200-500  
Discount Rate 5% 10% 18%

MSBMF - SMSBF Volume Discount (Round down to one Cent.) P87  
Qty. 1-19 20-29 30-49 50-99  
Discount Rate 5% 10% 18%

When alteration is ordered, small order charge will not be added even when ordering 1-19 pieces.

Alterations	Code	Spec.	Price Adder
	LC	Changes L dimension (machining) O.A.L. (LC) tolerance is ±0.05. Lmin≤LC≤Lmax 0.1mm Increment ⊗ This alteration does not change the F dimension. ⊗ To change the F dim., combine FC alteration. ⊗ Applicable to MSB only.	D4-10 3,00 D12-16 4,00 D20 5,00
	FC	Changes the thread part length. M≤FC≤Mx3, 0.5mm Increment ⊗ Only When D=4 3≤FC≤7.5 ⊗ Applicable only when LC is combined.	FC<F 0,00 FC>F 0,60
	LKC	Changes L Dimension Tolerance L dimension tolerance is from ±0.05 to 0.1. ⊗ Applicable to MSBMF, SMSBF only.	Free of Charge



# Shoulder Bolts

-Shaft Dia. Tolerance g6 · h7 · e9-

CAD Data

**Shoulder Bolts**  
Dim. Selectable  
-Shaft Dia. Tolerance g6 / h7-

**RoHS**

Type	D Tolerance	Material	Hardness	Strength Class
GMSB	g6	1.7220/34CrMo4	33-38HRC	10.9
SGMSB		1.4567/X3CrNiCu18-9-4	-	A2-50
MSBH	h7	1.7220/34CrMo4	33-38HRC	10.9
SHMSB		1.4567/X3CrNiCu18-9-4	-	A2-50

**D Tolerance**

D	g6	h7	A	B	C	E	F	MxP	T
4	-0.004	0	6.5	2.5	1.6	3	5	2.5x0.45	4.5
5	-0.012	-0.012	8	3	2.2	4	7	3x0.5	5.5
6			9	3	2.2	4	7	4x0.7	6.5
8	-0.005	0	13	5	3	6	9	6x1.0	8.7
10	-0.014	-0.015	16	6	4	8	12	8x1.25	10.8

Part Number Type	D	L Dimensions ( ) are only available for GMSB.										€ Unit Price		Part Number Type	D	L					€ Unit Price			
												GMSB	SGMSB			MSBH	SHMSB							
GMSB SGMSB	4	15	20	(25)	(30)									4	10	15	20							
	5	15	20	(25)	(30)									5	10	15	20							
	6	15	20	25	30	35	40							6	10	15	20	25						
	8	15	20	25	30	35	40	45	50					8	10	15	20	25	30					
	10	15	20	25	30	35	40	45	50	55	60			10	10	15	20	25	30	35				

Order Example: Part Number - L - F - M  
GMSB10 - 50  
SGMSB8 - 30

Days to Ship: 6 Days P87  
2 Days

Price: Volume Discount (Round down to one Cent.) P87  
Qty. 1-49 50-99 100-199 200-500  
Discount Rate 5% 10% 18%

**Shoulder Bolts**  
Configurable Type  
-Shaft Dia. Tolerance g6 / h7-

**RoHS**

Type	D Tol.	Material	Hardness	Strength Class
GDSMSB	g6	1.7220/34CrMo4	33-38HRC	10.9
GDSMSB		1.4567/X3CrNiCu18-9-4	-	A2-50
HDSMSB	h7	1.7220/34CrMo4	33-38HRC	10.9
HDSMSB		1.4567/X3CrNiCu18-9-4	-	A2-50

**D Tolerance**

D	g6	h7	A	B	C	E	T	L+F Machining Conditions
4			7	2.5	1.6	3	4.5	L+F≤46
4.5	-0.004	0						
5	-0.012	-0.012	9	3	2.2	4	5.5	L+F≤47
5.5			10	3	2	4	6.5	L+F≤59
6			13	5	3	6	8.7	L+F≤70
6.5	-0.005	0	16	6	4	8	10.8	L+F≤72
8	-0.014	-0.015						
10								

When M=D

\* M=D has no groove.

Part Number Type	D	L 0.1mm Increment	F 0.5mm Increment	M	€ Unit Price			
					GDSMSB	GDSMSB	HDSMSB	HDSMSB
GDSMSB GDSMSB HDSMSB HDSMSB	4	10-40	3-9	3 4				
	4.5	10-40	3-9	3 4				
	5	10-40	4-12	3 4 5				
	5.5	10-40	4-12	3 4 5				
	6	10-50	5-15	4 5 6				
	6.5	10-50	5-15	4 5 6				
	8	10-60	6-18	5 6 8				
	10	10-60	8-24	6 8 10				

Order Example: Part Number - L - F - M  
HDSMSB6.5 - 30 - F12 - M5

Days to Ship: 8 Days

Price: Volume Discount (Round down to one Cent.) P87  
Qty. 1-14 15-19 20-49  
Discount Rate 5% 10%

**Large Head Shoulder Screws**  
-Shaft Dia. Tolerance e9-

**MSBY**

**Material:** 1.1191/C45E  
**Hardness:** 40HRC-  
**Surface Treatment:** Knurled Head: Black Oxide

Part Number Type	De9	L Selection	MxP	A	E	F	€ Unit Price
MSBY	6	15 20	4x0.7	24	7	7	
	8	25 30 35 40	6x1.0	30	8	9	
	10	25 30 35 40	8x1.25	36	10	12	

⊗ It can be tightened by hand since A dimension is larger than that of MSB.

Order Example: Part Number - L  
MSBY6 - 20

Days to Ship: 6 Days P87

Price: Volume Discount (Round down to one Cent.) P87  
Qty. 1-49 50-99 100-199 200-500  
Discount Rate 5% 10% 18%



# Low Head Shoulder Screws

-Shaft Dia. Tolerance g6 · h7 · e9-

CAD Data

**Low Head Shoulder Screws**  
-Shaft Dia. Tolerance g6 · h7 · e9-

**RoHS**

Type	D Tolerance	Material	Hardness	Strength Class
LMSB	e9	1.7220/34CrMo4	28-37HRC	9.8 equivalent
LMSBSB		1.4567/X3CrNiCu18-9-4	-	A2-50
LMSBG	g6	1.7220/34CrMo4	28-37HRC	9.8 equivalent
LMSBSBG		1.4567/X3CrNiCu18-9-4	-	A2-50
LMSBH	h7	1.7220/34CrMo4	28-37HRC	9.8 equivalent
LMSBSBH		1.4567/X3CrNiCu18-9-4	-	A2-50

D Tolerance		A	B	C	E	F	MxP	T
D	e9 g6 h7	6.5	7	2.5	1.6	2	5	2.5x0.45
4		7	2.5	1.6	2	2	5	4.5
4.5		8	2	2	2	6	3x0.5	5.0
5	-0.020 -0.050	8	2	2	2	6	3x0.5	5.5
5.5		9	3	2.2	2.5	6	4x0.7	6.0
6		9	3	2	2.5	7	4x0.7	6.5
6.5		10	4	2.5	3	9	5x0.8	7.0
8	-0.025 -0.061	13	5	3	4	9	6x1.0	8.7
10		16	6	4	5	12	8x1.25	10.8

Part Number	Type	D	L	LMSB		LMSBSB		LMSBG		LMSBSBG		LMSBH		LMSBSBH	
				€ Unit Price	Volume Discount	€ Unit Price	Volume Discount	€ Unit Price	Volume Discount	€ Unit Price	Volume Discount	€ Unit Price	Volume Discount	€ Unit Price	Volume Discount
				1-9 pcs.	10-100 pcs.	1-9 pcs.	10-100 pcs.	1-9 pcs.	10-100 pcs.	1-9 pcs.	10-100 pcs.	1-9 pcs.	10-100 pcs.	1-9 pcs.	10-100 pcs.
LMSB		4	*10 *15 *20												
LMSBSB		4.5	*10 *15 *20 25 30 35 40												
LMSBG		5	*10 *15 *20 *25												
LMSBSBG		5.5	*10 *15 *20 *25 30 35 40												
LMSBH		6	*10 *15 *20 *25												
LMSBSBH		6.5	*10 *15 *20 *25 30 35 40												
		8	*10 *15 *20 *25 30 35 40												
		10	*10 *15 *20 *25 30 35 40												

Order Example: Part Number **LMSBSB6.5** - L **30**

Days to Ship: **6 Days** P87

Price: For larger quantity orders "Days to Ship" may differ from published catalog term. P87

**Low Head Shoulder Screws**  
-Shaft Dia. Tolerance g6 · h7 · e9-  
L · F Dimension Configurable Type

**RoHS**

Type	D Tolerance	Material	Hardness	Strength Class
FMSB	e9	1.7220/34CrMo4	28-37HRC	9.8 equivalent
FMSBSB		1.4567/X3CrNiCu18-9-4	-	A2-50
FMSBG	g6	1.7220/34CrMo4	28-37HRC	9.8 equivalent
FMSBSBG		1.4567/X3CrNiCu18-9-4	-	A2-50
FMSBH	h7	1.7220/34CrMo4	28-37HRC	9.8 equivalent
FMSBSBH		1.4567/X3CrNiCu18-9-4	-	A2-50

D Tolerance		A	B	C	E	MxP	T
D	e9 g6 h7	6.5	7	2.5	1.6	2	2.5x0.45
4		7	2.5	1.6	2	2	4.5
4.5		8	2	2	2	6	5.0
5	-0.020 -0.050	8	2	2	2	6	5.5
5.5		9	3	2.2	2.5	6	6.0
6		9	3	2	2.5	7	6.5
6.5		10	4	2.5	3	9	7.0
8	-0.025 -0.061	13	5	3	4	9	8.7
10		16	6	4	5	12	10.8

Part Number	Type	D	L	F	L+F Machining Conditions	€ Unit Price									
						FMSB	FMSBSB	FMSBG	FMSBSBG	FMSBH	FMSBSBH				
FMSB		4	10-40		L+F≤45										
FMSBSB		4.5	10-40		L+F≤46										
FMSBG		5	10-40		L+F≤46										
FMSBSBG		5.5	10-40	M≤F≤Mx3	L+F≤47										
FMSBH		6.5	10-50		L+F≤47										
FMSBSBH		8	10-60		L+F≤59										
		10	10-60		L+F≤70										

Order Example: Part Number **FMSB4.5** - L **30.5** - F **4**

Days to Ship: **8 Days**

Price: For larger quantity orders "Days to Ship" may differ from published catalog term. P87

Days to Ship: **8 Days**

# Reamer Bolts

CAD Data

**Reamer Bolts**

**RoHS**

**RMB SRMB** (Stainless Steel)

**RMBR SRMBR** (Stainless Steel)

Type	Material	Surface Treatment
RMB · SRMB	1.1191/C45E	Black Oxide
RMBR · SRMBR	1.4567/X3CrNiCu18-9-4	-

Part Number	Type	Dg6	L	M (Coarse)	ℓ	B	B1	(C)	A	h	t1 max	d	a	€ Unit Price			
														RMB	SRMB	RMBR	SRMBR
RMB (D5-16)		5	-0.004	23 26 29	M5	6	3	11.5	8.5	3.5	2.4	9.0	0.5				
SRMB (D5-10)		6	-0.012	23 26 29 32 35	M6	8	10	4	10	4.0	3	9.0	0.5				
		8	-0.005	32 35 36 38	M8	10	13	5	15.0	13	3.75	10.4	0.5				
RMBR (D5-8)		10	-0.014	36 38 39 42	M10	12	17	19.6	19.6	6.5	12.9	12.9	1.0				
SRMBR (D5-8)		12	-0.006	39 42 45 48 52 55	M12	16	19	21.9	21.9	8.0	15.4	15.4	1.0				
		16	-0.017	52 55 58	M16	20	22	25.4	25.4	10.0	19.4	19.4	1.0				

Order Example: Part Number **RMB10** - L **39**

Days to Ship: **6 Days** P87

Price: For larger quantity orders "Days to Ship" may differ from published catalog term. P87

Volume Discount (Round down to one Cent.) P87

Qty.	1-99	100-149	150-199	200-500
Discount Rate	€ Unit Price	5%	10%	18%

For orders larger than indicated quantity, please request a quotation.

Example: L dimension of reamer bolt is specified with the assumption of use as below.

**Hexagon Socket Head Reamer Bolts**  
-Configurable Length-

**RoHS**

**RMBF SRMBF** (D5-10) (Project Part Under Head)

**RMBFR SRMBFR** (D5-10) (No Project Part Under Head)

**RMBFR SRMBFR** (D5-8)

Type	Material	Surface Treatment
RMBF · RMBFR	1.1191/C45E	Black Oxide
SRMBF · SRMBFR	1.4567/X3CrNiCu18-9-4	-

The outer hexagon head (B) and the hexagon socket (B1) are not accurately aligned.

Part Number	Type	Dg6	L	F	M (Coarse)	B	B1	(C)	A	H	t1 max	t1	d	a	€ Unit Price			
															RMBF · RMBFR	SRMBF · SRMBFR	RMBFR	SRMBFR
RMBF (D5-10)		5	-0.004	20-29	M5	10	3	11.5	8.5	3.5	2.7	2.4	9.0	0.5				
SRMBF (D5-10)		6	-0.012	20-35	M6	10	4	11.5	10	4	3	3	9.0	0.5				
RMBFR (D5-10)		8	-0.005	20-38	M8	13	5	15.0	13	5	3.8	3.75	10.4	0.5				
SRMBFR (D5-10)		10	-0.014	20-42	M10	17	6	19.6	19.6	6.5	4.5	12.9	12.9	1.0				
RMBFR (D5-8)		12	-0.006	20-55	M12	19	8	21.9	21.9	8	5	15.4	15.4	1.0				
SRMBFR (D5-8)		16	-0.017	20-58	M16	22	10	25.4	25.4	10	6	19.4	19.4	1.0				

Order Example: Part Number **RMBF5** - L **28** - F **F10**

Days to Ship: **8 Days**

Price: For larger quantity orders "Days to Ship" may differ from published catalog term. P87

Days to Ship: **8 Days**









# Cross Recessed Pan Head Screws

CAD Data

**RoHS**

Type	Material	Surface Treatment
BKJ	JIS SWCH equivalent	Trivalent Chromate
NKJ	1.4301/X5CrNi18-10 equivalent	-

MxP (Coarse)	A	E	Cross Recess Number
2x0.4	3.5	1.3	1
2.5x0.45	4.5	1.7	1
2.6x0.45	4.5	1.7	1
3x0.5	5.5	2	2
4x0.7	7	2.6	2
5x0.8	9	3.3	2
6x1.0	10.5	3.9	3

BKJ (Trivalent Chromate)						
Part Number	€ Unit Price	Volume Discount				
Type	M - L	1-29 pcs.	30-99 pcs.	100-299 pcs.	300 pcs. or more	
BKJ	3 - 4					
	5					
	6					
	8					
	10					
	12					
	4 - 5					
	6					
	8					
	10					
	12					
	15					
5 - 8						
10						
12						
15						
6 - 10						
12						
15						
20						

NKJ (Stainless Steel)						
Part Number	€ Unit Price	Volume Discount				
Type	M - L	1-29 pcs.	30-99 pcs.	100-149 pcs.	150 pcs. or more	
NKJ	2 - 3					
	4					
	5					
	6					
	8					
	2.5- 3					
	4					
	5					
	6					
	8					
	10					
	2.6- 3					
4						
5						
6						
8						
10						
3 - 4						
5						
6						
8						
10						
12						
4 - 5						
6						
8						
10						
12						
15						
5 - 8						
10						
12						
15						
20						
6 - 10						
12						
15						
20						

Order Example: Part Number **NKJ3-6**

Days to Ship: **6 Days** P87



# Cross Recessed Flat Head Machine Screws

CAD Data

**RoHS**

Type	Material	Surface Treatment
BFBJ	JIS SWCH equivalent	Trivalent Chromate
SFBJ	1.4301/X5CrNi18-10 equivalent	-

MxP (Coarse)	A	E	Cross Recess Number
2x0.4	4	1.2	1
2.5x0.45	5	1.45	1
2.6x0.45	5.2	1.5	1
3x0.5	6	1.75	2
4x0.7	8	2.3	2
5x0.8	10	2.8	2
6x1.0	12	3.4	3

BFBJ (Trivalent Chromate)						
Part Number	€ Unit Price	Volume Discount				
Type	M - L	1-29 pcs.	30-99 pcs.	100-299 pcs.	300 pcs. or more	
BFBJ	3 - 5					
	6					
	8					
	10					
	12					
	15					
	4 - 6					
	8					
	10					
	12					
	15					
	5 - 8					
10						
12						
15						
20						
6 - 10						
12						
15						
20						

SFBJ (Stainless Steel)						
Part Number	€ Unit Price	Volume Discount				
Type	M - L	1-29 pcs.	30-99 pcs.	100-149 pcs.	150 pcs. or more	
SFBJ	2 - 3					
	4					
	5					
	6					
	8					
	2.5- 3					
	4					
	5					
	6					
	8					
	10					
	2.6- 3					
4						
5						
6						
8						
10						
3 - 5						
6						
8						
10						
12						
4 - 5						
6						
8						
10						
12						
15						
5 - 8						
10						
12						
15						
20						
6 - 10						
12						
15						
20						

Order Example: Part Number **SFBJ4-10**

Days to Ship: **6 Days** P87



# Cross Recessed Truss Machine Screws

CAD Data

**RoHS**

Type	Material	Surface Treatment
BTRSS	JIS SWCH equivalent	Trivalent Chromate
TRSS	1.4301/X5CrNi18-10 equivalent	-

MxP (Coarse)	A	E	Cross Recess Number
2x0.4	4.5	1.2	1
2.5x0.45	5.7	1.5	1
2.6x0.45	5.9	1.6	1
3x0.5	6.9	1.9	1
4x0.7	9.4	2.5	2
5x0.8	11.8	3.1	2
6x1.0	14	3.7	3

**BTRSS (Trivalent Chromate)**

Type	M - L	Volume Discount				
		1-29 pcs.	30-99	100-249	250~	
BTRSS	3 - 5					
	6					
	8					
	10					
	12					
	4 - 5	4 - 5				
		6				
		8				
		10				
		12				
	5 - 6	5 - 6				
		8				
10						
12						
15						
6 - 10	6 - 10					
	12					
	15					
	20					

**TRSS (Stainless Steel)**

Type	M - L	Volume Discount				
		1-29 pcs.	30-99	100-149	150~	
TRSS	2 - 3					
	4					
	5					
	6					
	8					
	2.5 - 3	2.5 - 3				
		4				
		5				
		6				
	2.6 - 3	2.6 - 3				
		4				
		5				
6						
3 - 5	3 - 5					
	6					
	8					
	10					
4 - 5	4 - 5					
	6					
	8					
	10					
	12					
5 - 8	5 - 8					
	10					
	12					
	15					
6 - 10	6 - 10					
	12					
	15					
	20					



# Cross Recessed Round Flat Head Machine Screws

CAD Data

**RoHS**

Type	Material	Surface Treatment
MSARA	JIS SWCH equivalent	Trivalent Chromate
MSARAS	1.4301/X5CrNi18-10 equivalent	-

MxP (Coarse)	A	(f)	E	Cross Recess Number
3x0.5	6	0.7	1.75	2
4x0.7	8	0.9	2.3	2
5x0.8	10	1.2	2.8	2
6x1.0	12	1.4	3.4	3

**MSARA (Trivalent Chromate)**

Type	M - L	Volume Discount				
		1-29 pcs.	30-99	100-299	300~	
MSARA	3 - 5					
	6					
	8					
	10					
	12					
	4 - 6	4 - 6				
		8				
		10				
		12				
	5 - 8	5 - 8				
		10				
		12				
15						
6 - 10	6 - 10					
	12					
	15					
	20					

**MSARAS (Stainless Steel)**

Type	M - L	Volume Discount				
		1-29 pcs.	30-99	100-299	300~	
MSARAS	3 - 5					
	6					
	8					
	10					
	12					
	4 - 6	4 - 6				
		8				
		10				
		12				
	5 - 8	5 - 8				
		10				
		12				
15						
6 - 10	6 - 10					
	12					
	15					
	20					

Order Example **Part Number** MSARAS4-8 **Days to Ship** 6 Days P87

Order Example **Part Number** TRSS5-10 **Days to Ship** 6 Days P87



# Cross Recessed Low Flat Head Machine Screws

CAD Data

RoHS

Type	Material	Surface Treatment
TSARA	JIS SWCH equivalent	Trivalent Chromate
TSARAS	1.4301/X5CrNi18-10 equivalent	-

MxP (Coarse)	A	E	Cross Recess Number
3x0.5	5	1.3	1
4x0.7	6	1.4	2
5x0.8	8	1.9	2
6x1.0	10	2.4	2

■ TSARA (Trivalent Chromate)					
Type	M - L	€ Unit Price			
		1~19 pcs.	20~99 pcs.	100~199 pcs.	200 pcs. or more
TSARA	3- 5				
	6				
	8				
	10				
	12				
	15				
	4- 6				
	8				
	10				
	12				
	15				
	20				
	25				
	30				
	5- 8				
10					
12					
15					
20					
25					
30					
6- 10					
12					
15					
20					
25					
30					

■ TSARAS (Stainless Steel)						
Type	M - L	€ Unit Price				
		1~19 pcs.	20~99 pcs.	100~199 pcs.	200 pcs. or more	
TSARAS	3- 5					
	6					
	8					
	10					
	12					
	15					
	4- 6					
	8					
	10					
	12					
	15					
	20					
	25					
	30					
	5- 8					
10						
12						
15						
20						
25						
30						
6- 10						
12						
15						
20						
25						
30						

Order Example **Part Number** TSARA5-10 **Days to Ship** 6 Days P87



# Cross Recessed Binding Head Screws

CAD Data

RoHS

Type	Material	Surface Treatment
BDJ	JIS SWCH equivalent	Trivalent Chromate
BDJS	1.4301/X5CrNi18-10 equivalent	-

MxP (Coarse)	A	E	Cross Recess Number
3x0.5	6.3	1.9	2
4x0.7	8.3	2.5	2
5x0.8	10.3	3.1	2
6x1.0	12.4	3.7	3

■ BDJ (Trivalent Chromate)						
Type	M - L	€ Unit Price				
		1~9 pcs.	10~29 pcs.	30~49 pcs.	50 pcs. or more	
BDJ	3- 5					
	6					
	8					
	10					
	12					
	15					
	20					
	4- 6					
	8					
	10					
	12					
	15					
	20					
	25					
	30					
5- 8						
10						
12						
15						
20						
25						
30						
6- 10						
12						
15						
20						
25						
30						

■ BDJS (Stainless Steel)						
Type	M - L	€ Unit Price				
		1~9 pcs.	10~29 pcs.	30~49 pcs.	50 pcs. or more	
BDJS	3- 5					
	6					
	8					
	10					
	12					
	15					
	20					
	4- 6					
	8					
	10					
	12					
	15					
	20					
	25					
	30					
5- 8						
10						
12						
15						
20						
25						
30						
6- 10						
12						
15						
20						
25						
30						

Order Example **Part Number** BDJ5-10 **Days to Ship** 6 Days P87



# Precision Machine Screws (Package) / Ornamental Screws · Washers for Ornamental Screw

CAD Data



# Self Tapping Screws

CAD Data

**Precision Machine Screws (Pack)** RoHS

**PACK-MIB**  
**PACK-SMIB**  
(Stainless Steel)

Type	M	Material	Surface Treatment
PACK-MIB	JIS SWCH16A	~C15	Trivalent Chromate
PACK-SMIB	1.4567/X3CrNiCu18-9-4	-	-

No. 0, Type 1 Pan Head Screw

Type	Part Number								MxP	D	E	r (Max.)	(e) (Max.)	pcs. per package	€ Unit Price		Vol. Discount
	M	L	1-2 Pkgs.	3 Pkgs. or more													
PACK-MIB PACK-SMIB	1.2	2 3 4 5 6 8	1.2x0.25	1.8	0.5	0.05	0.4	50 pcs.									
	1.4	2 3 4 5 6 8	1.4x0.3	2													
	1.6	2 3 4 5 6 8	1.6x0.35	2.4	0.55	0.6											
	1.7	2 3 4 5 6 8	1.7x0.35	2.5	0.5	0.6											
	2.0	2 3 4 5 6 8	2.0x0.4	3	0.6	0.6											

The sizes marked by \* are available for PACK-SMIB only.

Order Example **Part Number** **PACK - MIB1.6 - 5**

Days to Ship **6 Days** P87

When placing an order, please specify number of packages.  
1 pack will be delivered for an order for 1.

**Ornamental Screws** RoHS

**Ornamental Washer**

**VIS** (Brass)  
**VISS** (Stainless Steel)

**VISZ** (Brass)  
**VIZS** (Stainless Steel)

M (Coarse)	P (Pitch)	D
3	0.5	6
4	0.7	8
5	0.8	10
6	1.0	12

Type	M	Material	Surface Treatment
VIS	CW508L/CuZn37	-	Nickel Plating
VISS	1.4567/X3CrNiCu18-9-4	-	-
VISZ	CW508L/CuZn37	-	Nickel Plating
VIZS	1.4305/X10CrNiS18-9	-	-

Ornamental Screws			Ornamental Washer		
Part Number	€ Unit Price	Volume Discount	Part Number	€ Unit Price	Volume Discount
Type M-L	1-99 pcs.	100 pcs. or more	Type M-L	1-99 pcs.	100 pcs. or more
<b>VIS</b> 3-10 (Brass)			<b>VIS</b> 5-10 (Brass)		
15			15		
20			20		
25			25		
30			30		
35			35		
40			40		
45			45		
50			50		
55			60		
60					
<b>VIS</b> 4-10 (Brass)			<b>VIS</b> 6-10 (Brass)		
15			15		
20			20		
25			25		
30			30		
35			35		
40			40		
45			45		
50			50		
55			55		
60					
<b>VISS</b> 3-10 (Stainless Steel)			<b>VISS</b> 4-10 (Stainless Steel)		
15			15		
20			20		
25			25		
30			30		
<b>VISS</b> 5-10 (Stainless Steel)			<b>VISS</b> 6-10 (Stainless Steel)		
15			15		
20			20		
25			25		
30			30		

Order Example **Part Number** **VISS-30**  
**VISZ4**

Days to Ship **6 Days** P87

**2 Days**

**Self Tapping Screws - Pan Head** RoHS

**TANB**  
**TANBS**

Type	M	Material	Surface Treatment
TANB	JIS SWCH equivalent	-	Trivalent Chromate
TANBS	1.4301/X5CrNi18-10 eq.	-	-

M	A	E	Cross Recess Number
3	5.5	2.0	2
3.5	6.0	2.3	2
4	7.0	2.6	2
5	9.0	3.3	2
6	10.5	3.9	3

Part Number	Type	M-L	TANB				TANBS			
			€ Unit Price	Volume Discount	€ Unit Price	Volume Discount				
			1-29 pcs.	30-99	100-249	250-	1-29 pcs.	30-99	100-149	150-
TANB TANBS	3 - 5	6								
		8								
		10								
		12								
		16								
	3.5 - 6	8								
		10								
		12								
		16								
		20								
	4 - 6	8								
		10								
		12								
		16								
		20								

Order Example **Part Number** **TANBS4-10**

Days to Ship **6 Days** P87

**Self Tapping Screws - Flat Head** RoHS

**TASA**  
**TASAS**

Type	M	Material	Surface Treatment
TASA	JIS SWCH equivalent	-	Trivalent Chromate
TASAS	1.4301/X5CrNi18-10 eq.	-	-

M	A	E	Cross Recess Number
3.0	6.0	1.75	2
3.5	7.0	2.00	2
4.0	8.0	2.30	2
5.0	10.0	2.80	2
6.0	12.0	3.40	3

Part Number	Type	M-L	TASA				TASAS			
			€ Unit Price	Volume Discount	€ Unit Price	Volume Discount				
			1-29 pcs.	30-99	100-249	250-	1-29 pcs.	30-99	100-149	150-
TASA TASAS	3 - 6	8								
		10								
		12								
		16								
		20								
	3.5 - 8	10								
		12								
		16								
		20								
		25								
	4 - 10	10								
		12								
		16								
		20								
		25								

Order Example **Part Number** **TASAS4-10**

Days to Ship **6 Days** P87

**Self Tapping Screws - Truss Head** RoHS

**TATR**  
**TATRS**

Type	M	Material	Surface Treatment
TATR	JIS SWCH equivalent	-	Trivalent Chromate
TATRS	1.4301/X5CrNi18-10 eq.	-	-

M	A	E	Cross Recess Number
3.0	6.9	1.9	1
3.5	8.1	2.2	2
4.0	9.4	2.5	2
5.0	11.8	3.1	2
6.0	14.0	3.7	3

Part Number	Type	M-L	TATR				TATRS			
			€ Unit Price	Volume Discount	€ Unit Price	Volume Discount				
			1-29 pcs.	30-99	100-249	250-	1-29 pcs.	30-99	100-149	150-
TATR TATRS	3 - 6	8								
		10								
		12								
		16								
		20								
	3.5 - 6	8								
		10								
		12								
		16								
		20								
	4 - 6	8								
		10								
		12								
		16								
		20								

Order Example **Part Number** **TATR5-10**

Days to Ship **6 Days** P87



# Nuts

-Cylindrical Nuts / Cylindrical Nuts with Hexagon Socket / Knurled Thumb Nuts with Side Holes-

CAD Data

### Flanged Nuts

RoHS

Type	Material	Surface Treatment
FRNUT	JIS SWCH10R -C10	Trivalent Chromate
FRSNUT	1.4567/X3CrNiCu18-9-4	-

Not serrated

Part Number	Type	M (Coarse)	D	B	(e)	T	T1 (Min.)	FRNUT		FRSNUT		Order Example	Part Number
								€ Unit Price	Volume Discount	€ Unit Price	Volume Discount		
								1-49 pcs.	50 pcs. or more	1-49 pcs.	50 pcs. or more	FRNUT5	
												6 Days	
												Days to Ship	

### Cylindrical Nuts

RoHS

RBNT

Material: 1.4301/X5CrNi18-10

Part Number	Type	M	D	L	W	€ Unit Price	Order Example	Part Number	Days to Ship	Price	Volume Discount (Round down to one Cent.) P87			
											Qty.	Discount Rate	€ Unit Price	€ Unit Price
								RBNT10	6 Days		1-19	20-24	25-29	30-49
									2 Days		5%	10%	18%	18%

### Round Nuts with Hexagon Sockets

RoHS

Type	Material	Hardness	Surface Treatment
RNSB	1.1191/C45E	35-40HRC	Black Oxide
RNSM	1.1191/C45E	35-40HRC	Electroless Nickel Plating
RNLB	1.1191/C45E	35-40HRC	Black Oxide
RNLM	1.1191/C45E	35-40HRC	Electroless Nickel Plating

\*Since D dimensions are made to correspond to the head diameter of hexagon socket head cap screws, counterbore tools can be used for recess holes. (For one size larger diameters, for example M4>>M5; Ø8.5)

Part Number	Type	M (Coarse)	D	L	L1	B	b	b1	C	€ Unit Price	
										RNSB · RNSM	RNLB · RNLM

Order Example: RNSB6

Days to Ship: 8 Days

Express A: 2.00 EUR/ piece

Price

Volume Discount (Round down to one Cent.) P87

Qty.	Discount Rate	€ Unit Price	€ Unit Price
1-19	5%	10%	16%

\*A Express Charge of 5.40 EUR for 3 or more identical pieces.

### Round Nuts with Side Holes

RoHS

Type	Material	Surface Treatment
CRNT	1.1191/C45E	Black Oxide
CRNTS	1.1191/C45E	Black Oxide
SCRNT	1.4301/X5CrNi18-10	-
SCRNTS	1.4301/X5CrNi18-10	-

Knurling Crisscross

Features

- The nuts can be tightened with hex key wrenches using the holes, made to fit the wrenches, on the side.
- The tapped holes can be used for retaining set screws.
- Use in spaces where standard hexagon wrenches cannot reach.

Part Number	Type	M	MxPitch Coarse	MxPitch Fine	D	T	d	b	Applicable Hex Key Wrench Size	M1	C	€ Unit Price				Order Example	Part Number
												CRNT	CRNTS	SCRNT	SCRNTS		

# Quick-Lock Nuts / T-Nuts / Tapered Washers / Tapered Nuts

CAD Data

### Quick-Tight Nuts

RoHS

Type	Material	Surface Treatment
QCNS	1.1181/C35E	Black Oxide
QCN	1.4305	-
QHNS	1.1191/C45E	Black Oxide
QHNS	1.4305	-

Round Type: QCN, QCNS

Hexagon Type: QHN, QHNS

Part Number	Type	D	M (Coarse)	H	S	d	C	Reference Tightening Torque N (kgf/m)	€ Unit Price	
									QCN	QCNS
								4.8 (0.5)		
								9.0 (0.9)		
								17.5 (1.8)		
								17.5 (1.8)		

Part Number	Type	B	M (Coarse)	H	C	(e)	Reference Tightening Torque N (kgf/m)	€ Unit Price	
								QHN	QHNS
							4.9 (0.5)		
							9.8 (1.0)		
							15.6 (1.6)		
							19.6 (2.0)		

Features and Precautions for Use

- Long threaded screws can be tightened quickly.
- Use under the reference tightening torque, avoid over tightening.
- Move the nut to the tightening position after inserting screw into the straight hole. Then rotate the knob perpendicular to the screw and tighten.
- Tightening strength will not be adequate if the thread length of the screw (\*) is shorter than the nut's H dimension. Design the thread length of the screw (\*) to be larger than the H dimension.

Order Example: QCNS30, QHN19

Days to Ship: 6 Days

Price

Volume Discount (Round down to one Cent.) P87

Qty.	Discount Rate	€ Unit Price	€ Unit Price
1-19	5%	10%	18%

\*For orders larger than indicated quantity, please request a quotation.

### T-Nuts

RoHS

Type	Material	Surface Treatment
Standard Type	NTS	1.0038/S235JR
Configurable Type	NTSF	1.0038/S235JR

Standard Type: NTS

Configurable Type: NTSF

#### Standard Type

Part Number	Type	M (Coarse)	A	B	C	E	F	d1	€ Unit Price	
									1-49 pcs.	50 pcs. or more

#### Configurable Type

Part Number	Type	M (Coarse)	A	E	F	B	d1	€ Unit Price	
								1-9 pcs.	10 pcs. or more

Order Example: NTS8, NTSF12

Days to Ship: 6 Days

Price

Volume Discount (Round down to one Cent.) P87

Qty.	Discount Rate	€ Unit Price	€ Unit Price
1-19	5%	10%	16%

\*For orders larger than indicated quantity, please request a quotation.

### Tapered Washers

RoHS

Type	Material	Surface Treatment
ZTQ	1.0038/S235JR	Trivalent JIS STKM Bright Chromate Plating
ZTQM	1.1191/C45E	Trivalent Chromate

ZTQ (Square Type)

ZTQM (Round Type)

Part Number	Type	Angle α	d	D	ZTQ				ZTQM				€ Unit Price	Volume Discount
					€ Unit Price	Volume Discount	€ Unit Price	Volume Discount						
					1-49 pcs.	50 pcs. or more	1-49 pcs.	50 pcs. or more						

### Tapered Nuts

RoHS

ZTN

Material: 1.0038/S235JR

Surface Treatment: Trivalent JIS STKM Bright Chromate Plating

Part Number	Type	M (Coarse)	Angle α	D	Angle 3°		Angle 5°		Angle 8°		d	€ Unit Price	Volume Discount
					t1	t2	t1	t2	t1	t2			

Order Example: ZTQ6

Days to Ship: 6 Days

Price

Volume Discount (Round down to one Cent.) P87

Qty.	Discount Rate	€ Unit Price	€ Unit Price
1-19	5%	10%	18%

\*For orders larger than indicated quantity, please request a quotation.

















# Small Parts / Magnets

## Small Parts/ Magnets

					
Product Name Parallel Keys	-Configurable- 10% on average	-With Counterbore-	-With Female Thread Counterbore Hole-	-With Counterbores and Female Thread Hole-	
Page 237	238	239	239	240	
					
-With Pull-Out Female Thread Hole-	Parallel Keys -Blank Type-	Tapered Machine Keys with Gib Head	Dowel Pins / General Purpose Pins	Dowel Removal Jigs	Dual-Fit Dowel Pins
240	241	242	243-248	248	249
					
-Hollow, Female Thread-	Stepped Dowel Pins	Insulating Dowel Pins	Resin Dowel Pins	Spring Pins	Screw Plugs
249	250	250	250	251	252
					
Retaining Rings -C Type (External)-	Retaining Rings -E Type	Retaining Rings -C Type (Internal)-	Split Pins	Split Pins	Thread Inserts
253	253	254	254	254	255
					
Tools for Thread Inserts	Tangless Inserts	Hand Taps for Tangless Inserts / Tools	Self-Tapping Inserts		
255	256	256	256		
					
Hand Tools for Self-Tapping Inserts	Scale Plates and Pointer Plates	Angle Scales -Plate Type-	Double -Adhesive Tape-	Scale Tapes	
256	257-258	259	259	259	
					
Bubble Levels -Surface Mounting Type-	-Embedded Type-	Grease Fittings	Hardening Precision Balls	Loss-Proof Stainless Steel Chains	
260	260	260	260	261	

					
Loss-Proof Chains	Loss-Proof Wires	Metal Joints	Brackets	Connecting Parts -Double Ring-	Temperature Sensing Labels
261	262	262	262	262	263
					
Arrow Sign Stickers	Arrow Sign Plates	Open / Closed Sign Plates	Stickers		
264	264	264	265-266		
					
Magnets-Round-	-Ring-	-Square-	Rubber Magnets -Super Strong Type-	Rubber Magnets -Strong Type-	Rubber Magnets -Standard Type-
268	269	269	270	270	270
					
-With Countersink-	-Countersunk with Holder-	-Oval Holder-	Urethane Coated Magnets	Male Thread Magnets with Holders	
271	272	272	273	273	
					
Magnets with Holders	Magnets with Holder -Tolerance h7 Type-	Hex Head Bolts with Magnets (Regular)	Hex Head Bolts with Magnets -Low Small Head Type-	Magnet Blocks with Three-Side Attraction	
274-276	275	277	277	278	
					
Screw Stoppers with Magnet	Electromagnetic Holders -Standard Type / Thin Type / Female Thread Through Hole Type / Rectangular Type / Axial Cable Type-	Rectifiers for Electromagnetic Holders			
278	279	280			







# Parallel Keys

-Blank Type-

Price Reduction  
10% on average



# Tapered Machine Keys with Gib Head

CAD Data

**RoHS** **KET**

JIS B 1301-1996  
(New JIS Standard)

Type	Material	Tensile Strength
KET	1.1191/C45E	600N/mm <sup>2</sup> or more

Part Number Type	B	Tolerance (h9)	h	H Tolerance	C	€ Unit Price			
						Qty. 1-3	4-19	20-49	50-100
KET	3	0 -0.025	3	0 -0.025	0.16-0.25				
	4		4						
	5	0 -0.030	5	0 -0.030					
	6		6						
	7		7	0 -0.036	0.25-0.40				
	8	0 -0.036							
	10		10						
	12		12	0 -0.090					
	14		14						
	15	0 -0.043		15					
16		16							
18		18	0 -0.110						

Order Example  
Part Number  
**KET10**

Days to Ship  
**6 Days** P87

**RoHS** **KTH**

JIS B 1301 - 1996 (New JIS Standard)

Type	Material	Tensile Strength
KTH	1.1191/C45E	600N/mm <sup>2</sup> or more

Part Number Type	Bh9	h	L	h1	h2 / f	(e)	C	€ Unit Price			
								Qty. 1-4	5-9	10-29	30-49
KTH	4	4	30	7	4	4	0.16-0.25				
	5	0 -0.030	5	0 -0.030	40	8	5				
	6		6		45	6	6				
	7		7.2	0 -0.036	50	10	7	0.25-0.40			
	8	0 -0.036		7	60	11	7				
	10		10	0 -0.090	75	12	8				
	12		12		90	8	12				
	14		14		110	14	9	0.40-0.60			
	15	0 -0.043		15	110	15	10				
	16		16	0 -0.090	120	16	10				
	18		18		135	18	11				
	20		20	0 -0.110	150	20	12	0.60-0.80			
	22		22		170	22	14				
	24	0 -0.052		24	16.2	0 -0.070	16	24			
	25		25		200	22	14	25			
	28		28	0 -0.110	210	25	16	28			
	32		32		240	28	18	32			
	35	0 -0.062		35	22.3	0 -0.084	22	35			
36		36	0 -0.130	280	32	20	36	1.00-1.20			
38		38	0 -0.084	285	36	24	38				

Order Example  
Part Number  
**KTH12**

Days to Ship  
**8 Days**

Express A 2,00 EUR / piece P88

Express Charge of 5,40 EUR for 3 or more identical pieces.

**Stainless Steel** **RoHS** **KETS**

JIS B 1301-1996  
(New JIS Standard)

Type	Material	Tensile Strength
KETS	1.4401/X5CrNiMo17-12-2	600N/mm <sup>2</sup> or more

Part Number Type	B	h	C	€ Unit Price			
				Qty. 1-3	4-19	20-49	50-100
KETS	2		0.2				
	3		0.3				
	4		0.3				
	5		0.3				
	6		0.3				
	7	+0.015 -0.025	+0.015 -0.025	0.3			
	8		0.5				
	10		0.5				
	12		0.5				
	14		0.5				

Order Example  
Part Number - h  
**KETS8 - 7**

Days to Ship  
**6 Days** P87

Alterations Part Number - (LC)  
**KTH10 - LC60**

Alteration	Code	Spec.	Price Adder																				
L Dimension Change	LC	LC=1 mm Increment LC(Min.) ≤ LC ≤ L For LC(Min.), see below.	2,00																				
		<table border="1"> <thead> <tr> <th>B</th> <th>LC (Min.)</th> </tr> </thead> <tbody> <tr><td>4 - 5</td><td>10</td></tr> <tr><td>6 - 7 - 8</td><td>15</td></tr> <tr><td>10 - 12</td><td>20</td></tr> <tr><td>14 - 15 - 16</td><td>22</td></tr> <tr><td>18 - 20</td><td>25</td></tr> <tr><td>22 - 24 - 25</td><td>30</td></tr> <tr><td>28</td><td>35</td></tr> <tr><td>32 - 35 - 36</td><td>40</td></tr> <tr><td>38</td><td>45</td></tr> </tbody> </table>	B	LC (Min.)	4 - 5	10	6 - 7 - 8	15	10 - 12	20	14 - 15 - 16	22	18 - 20	25	22 - 24 - 25	30	28	35	32 - 35 - 36	40	38	45	
B	LC (Min.)																						
4 - 5	10																						
6 - 7 - 8	15																						
10 - 12	20																						
14 - 15 - 16	22																						
18 - 20	25																						
22 - 24 - 25	30																						
28	35																						
32 - 35 - 36	40																						
38	45																						



