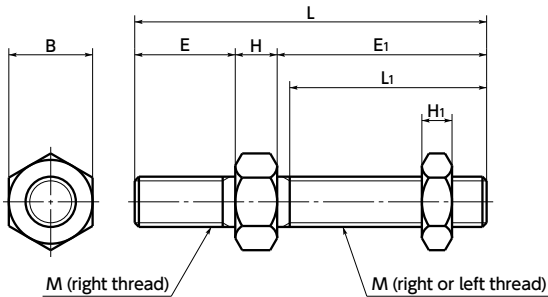


# SHS Hexagon Stud Bolt



WEB Selection Tool    WEB CAD Download



- For rod end shaft bearing height adjustment, etc.
- Right thread or left thread can be selected according to the end symbol of the part number.

**SHS-R** — Right thread

**SHS-L** — Left thread

- All products are provided with hexagon nuts (3 types).

- Material/Finish

RoHS Compliant

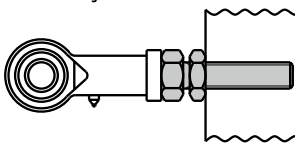
SHS	
Main body	S45C (hardness: 35 - 40 HRC) Ferrosoferric Oxide Film (Black)
Nut	SS400 Ferrosoferric Oxide Film (Black)

**SHS-R** Right thread    **SHS-L** Left thread

Unit : mm

Part Number	M (coarse) 	L <sub>1</sub>	E <sub>1</sub>	E	H	H <sub>1</sub>	L	B	Mass (g)
<b>SHS-M4-R</b>	M4	16.5	18	8	3.2	2.4	29.2	7	4
<b>SHS-M6-R</b>	M6	23.5	25	12	5	3.6	42	10	10
<b>SHS-M8-R</b>	M8	31	33	16	6.5	5	55.5	13	25
<b>SHS-M10-R</b>	M10	39	41	20	8	6	69	17	45
<b>SHS-M12-R</b>	M12	47	49	24	10	7	83	19	80
<b>SHS-M16-R</b>	M16	57	60	32	13	10	105	24	170
<b>SHS-M4-L</b>	M4	16.5	18	8	3.2	2.4	29.2	7	4
<b>SHS-M6-L</b>	M6	23.5	25	12	5	3.6	42	10	10
<b>SHS-M8-L</b>	M8	31	33	16	6.5	5	55.5	13	25
<b>SHS-M10-L</b>	M10	39	41	20	8	6	69	17	45
<b>SHS-M12-L</b>	M12	47	49	24	10	7	83	19	80
<b>SHS-M16-L</b>	M16	57	60	32	13	10	105	24	170

- Usage example  
For adjustment of rod end shaft bearing.



- Part number specification

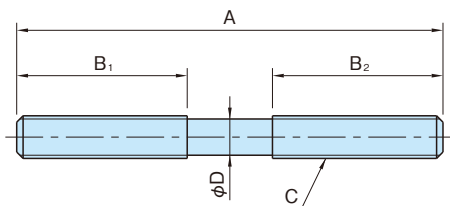
**SHS-M10-R**

Product Code

Cleanroom Wash & Packaging → P.792	Screw Length Adjustment → P.796	Vibration Resistant → P.795	Laser Marking → P.806
Not Available	Available / Add'l charge	Available / Add'l charge	Not Available

# BJ745

# STUDS

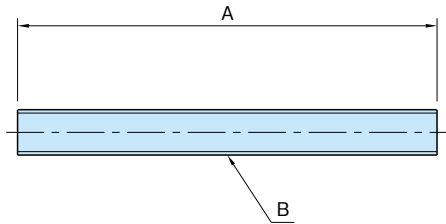
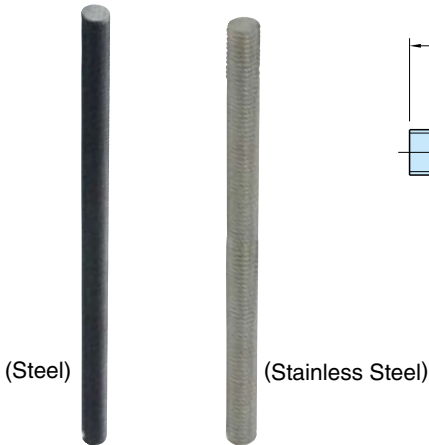


Type	Body
BJ745-08~20	Steel (SCM435) Quenched and tempered (HRC33 - 39) Black oxide finish
BJ745-24	Steel (SCM435) Quenched and tempered (HRC23 - 34) Black oxide finish

Part Number	A	B <sub>1</sub>	B <sub>2</sub>	C	D	Weight (g)
BJ745-08050	50	20	20	M 8×1.25	7.1	20
BJ745-08063	63	25	25			25
BJ745-08080	80	32	32			35
BJ745-08100	100					40
BJ745-08125	125					45
BJ745-08160	160					55
BJ745-10050	50	20	20	M10×1.5	8.9	30
BJ745-10063	63	25	25			40
BJ745-10080	80	32	32			45
BJ745-10100	100	40	40			55
BJ745-10125	125					70
BJ745-10160	160					90
BJ745-10200	200					110
BJ745-12050	50	20	20	M12×1.75	10.7	40
BJ745-12063	63	25	25			50
BJ745-12080	80	32	32			65
BJ745-12100	100	40	40			80
BJ745-12125	125					100
BJ745-12160	160					125
BJ745-12200	200					160

※Some items are not RoHS-compliant. Contact us at [info@imao.jp](mailto:info@imao.jp) for the updated information.

Part Number	A	B <sub>1</sub>	B <sub>2</sub>	C	D	Weight (g)
BJ745-16063	63	25	25	M16×2	14.5	90
BJ745-16080	80	32	32			125
BJ745-16100	100	40	40			145
BJ745-16125	125					180
BJ745-16160	160	50	50			230
BJ745-16200	200					290
BJ745-16250	250	63	63			360
BJ745-16315	315					450
BJ745-16400	400					570
BJ745-16500	500					710
BJ745-20080	80					32
BJ745-20100	100	40	40	230		
BJ745-20125	125			280		
BJ745-20160	160	50	50	360		
BJ745-20200	200			460		
BJ745-20250	250	63	63	550		
BJ745-20315	315			690		
BJ745-20400	400			880		
BJ745-20500	500			1,100		
BJ745-24100	100			35	45	M24×3
BJ745-24125	125	63	380			
BJ745-24160	160	100	470			
BJ745-24200	200	125	580			
BJ745-24250	250	160	730			
BJ745-24315	315	200	920			
BJ745-24400	400	250	1,160			
BJ745-24500	500	315	1,460			

**BJ830****FULLY-THREADED BARS**

Type	Body
<b>BJ830</b>	Steel (SNB7) Quenched and tempered Black oxide finish
<b>BJ830-SUS</b>	Stainless steel (SUS304)

Steel	Stainless Steel	A	B	Weight (g)
Part Number	Part Number			
	<b>BJ830-08230-SUS</b>	230	M 8×1.25	90
	<b>BJ830-08320-SUS</b>	320		125
	<b>BJ830-08490-SUS</b>	490		190
<b>BJ830-10320</b>	<b>BJ830-10320-SUS</b>	320	M10×1.5	145
<b>BJ830-10490</b>	<b>BJ830-10490-SUS</b>	490		225
<b>BJ830-10010</b>	<b>BJ830-10010-SUS</b>	1,000		450
<b>BJ830-12320</b>	<b>BJ830-12320-SUS</b>	320	M12×1.75	210
<b>BJ830-12490</b>	<b>BJ830-12490-SUS</b>	490		320
<b>BJ830-12010</b>	<b>BJ830-12010-SUS</b>	1,000		660
<b>BJ830-16320</b>		320	M16×2	390
<b>BJ830-16490</b>		490		600
<b>BJ830-16010</b>		1,000		1,220
<b>BJ830-20320</b>		320	M20×2.5	620
<b>BJ830-20490</b>		490		940
<b>BJ830-20010</b>		1,000		1,900
<b>BJ830-24320</b>		320	M24×3	1,110
<b>BJ830-24490</b>		490		1,700
<b>BJ830-24010</b>		1,000		3,450

**Note:**  
Both ends of steel studs are not surface finished.

**Technical Information**  
Tensile Strength  
**BJ830** : 860N/mm<sup>2</sup>  
**BJ830-SUS**: 480N/mm<sup>2</sup> or more

# Configurable Length Screws with Hex Sockets

# Configurable Length Screws

Configurable Length Screws with Hex Sockets  
Length Selectable, Length Configurable

Type				M	Surface	Thread Pitch		B
Studs - Fully Threaded		Both Ends Right-Hand Screws				Coarse	Fine	
Thread gauge class 2 is used.				Thread gauge class 2 is used.				
Coarse	Fine	Coarse	Fine	Material	Treatment			
FABB	FABBP	FWBB	FWBBP			S45C	Black Oxide	
FABN	-	FWBBN	-	SUS304	Electroless Nickel Plating			
FABBS	FABBS	FWBBS	-	SUS304 Equivalent	-			

## Fully Threaded Screw: Length Selectable (FABB, FABBS)

Part Number	Type	M	L						Unit Price
(Coarse) FABB	5	30	35	50					
	6	30	35	40	50	60	100		
	8	30	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		
	16								

Ordering Example: Part Number - L  
FABB5 - 30

## Fully Threaded Screw: Length Configurable

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

## Both Ends Right-Hand Screws: Length Configurable

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

EsMx5 F5Mx5 When E=0(F=0), threads are not machined on the E (or F) dimension side.

Ordering Example: Part Number - L - E - F  
FABB6 - 75 - E10 - F10

Ordering Example: Part Number - L - (SWC - RAC)  
FABB8 - 100 - SWC

Alterations	Code	Spec.
Slit (Processing on right side or Standard F side)	SWC	W dimensions are as follows. M W 4-5 1 6-8 1.5 10 2 12-16 2.5 20 3 * Cannot use in combination with RAC.
Hex Socket Alteration (Processing on right side or Standard F side)	RAC	* The phase of hex sockets on both ends are arbitrary. * Not applicable to L=50. * Cannot use in combination with SWC.

Configurable Length Screws

Type				M	Surface	Thread Pitch		B
Studs - Fully Threaded		Both Ends Right-Hand Screws				Coarse	Fine	
Thread gauge class 2 is used.				Thread gauge class 2 is used.				
Coarse	Fine	Coarse	Fine	Material	Treatment			
FAB	FABP	FABM	FWB			S45C	Black Oxide	
FABN	-	-	FWBN	SUS304	Electroless Nickel Plating			
FABS	FABSP	FABMS	FWBSP	SUS304 Equivalent	-			

## Studs - Fully Threaded

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				FABSP	
(Class 3, Coarse) FABM FABMS	4	20~150															
	5	20~250															
	6																
	8	20~600															
	10	(400)															
	12																
	16	20~800															
	20																

## Both Ends Right-Hand Screws

Part Number	Type	M	L 1mm Increment	L	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	20~800																
	24																	

EsMx5 F5Mx5 When F=0, threads are not machined on the F dimension side.

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

EsMx5 F5Mx5 When F=0, threads are not machined on the F dimension side.

Ordering Example: Part Number - L - E - F  
FAB6 - 100 - E10 - F10

Alterations Example: Part Number - L - E - F - (SWC - SC)  
FAB10 - 200 - SWC

Alterations	Code	Spec.
Slit (Machined on left side or E dim. side)	SWC	W dimensions are as follows. M W 4-5 1 6-8 1.5 10 2 12-16 2.5 20 3 * Not applicable to M3/M24/M30.
Wrench Flats Machined (Machined on left side or E dim. side)	SC	SC=1mm Increment M W S M W S 4 3 12 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 Ordering Code SC12 * OS: SC-L-W * Not applicable to M3/M24/M30.

# Studs - Fully Threaded / Stud Bolts / Hex Head Stud Bolts

# Fully Threaded Studs with Scale / Flanged Brackets

**Studs - Fully Threaded**

Type	Material	Surface Treatment
ANE	Steel for general structure	Black Oxide
ANES	SUS304 Equivalent	-

Screw Precision: Thread gauge class 3 is used

Ordering Example  
**Part Number**  
 ANE10-300  
 ANES16-500

Part Number Type	M-L	MxP	ANE		ANES	
			Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate
6-100	200	6x1.0				
	300					
	500					
8-100	200	8x1.25				
	300					
	500					
10-100	200	10x1.5				
	300					
	500					
12-100	200	12x1.75				
	300					
	500					
16-100	200	16x2.0				
	300					
	500					

Part Number Type	M	L	F	E	B	Unit Price	Volume Discount Rate
						1 - 49 pc(s)	50 - 200 pcs.
STDN	16	75	30	8	13		
		100	40	10			
		125	40	15			
		150	40	15			
		175	40	20			
		200	40	20			
		225	60	20			
		250	60	25			
		300	60	25			
		STDN	20	100		40	10
125	40			15			
150	40			15			
175	40			20			
200	40			20			
225	60			20			
250	60			25			
300	60			25			

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

Ordering Example  
**Part Number** - L  
 STDN10 - 100

**Stud Bolts**

STDN (Both Ends Right-Hand Screws)

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

Material: S45C  
 Hardness: 32 to 38HRC  
 Surface Treatment: Black Oxide

Part Number Type	M	L	F	E	B	Unit Price	Volume Discount Rate
						1 - 49 pc(s)	50 - 200 pcs.
8	8	50	20	6	6		
		75	30	6			
		100	40	10			
		125	40	15			
		150	40	15			
		175	40	20			
10	10	50	20	6	8		
		75	30	6			
		100	40	10			
		125	40	15			
		150	40	15			
		175	40	20			
12	12	50	20	6	10		
		75	30	6			
		100	40	10			
		125	40	15			
		150	40	15			
		175	40	20			

**Hex Head Stud Bolts**

Type	Material	Hardness	Surface Treatment
RSBB	S45C	35~40HRC	Black Oxide
RSBM			Electroless Nickel Plating

Ordering Example  
**Part Number**  
 RSBB8

Part Number Type	M	MxPitch	L	F	H	B	g	Unit Price
								RSBB, RSBM
RSBB RSBM	3	3x0.5	7.5	4	2	6	1	
RSBB RSBM	4	4x0.7	10	5	3	7	1.2	
RSBB RSBM	5	5x0.8	12.5	7	4	8	1.4	
RSBB RSBM	6	6x1.0	15	8	5	10	1.5	
RSBB RSBM	8	8x1.25	20	11	6	13	2	
RSBB RSBM	10	10x1.5	25	14	7	17	2	

Ordering Example  
**Part Number**  
 RSBB8

**Fully Threaded Studs with Scale**

Type	Material	Surface Treatment
ASSB	SCM435	Black Oxide
ASSS	SUS304	-

\*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 Rate	Unit Price	Volume Discount Rate
ASSB ASSS	Y (Horizontal) T (Vertical)	8	120	4	6.6	5				
				5	8.3	6				
				6	10	8				
				8	14	10				

**Round Flange**  
 BRBR  
 MRBR  
 SRBR

**Square Flange**  
 BRBS  
 MRBS  
 SRBS

**Compact Flange**  
 BRBC  
 MRBC  
 SRBC

Type	Material	Surface Treatment
BRBR, MRBR, SRBR	SS400	Black Oxide
BRBS, MRBS, SRBS	SS400	Electroless Nickel Plating
BRBC, MRBC, SRBC	SUS304	-

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

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

Ordering Example  
**Part Number**  
 SRBR10

Alterations  
**Part Number** - (MC)  
 SRBR16 - MC

**Additional Tapped Holes for Set Screws**

Alteration Code: MC

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

Spec. Adds 2 tapped holes for set screws.  
 Ordering Code: MC

Example