

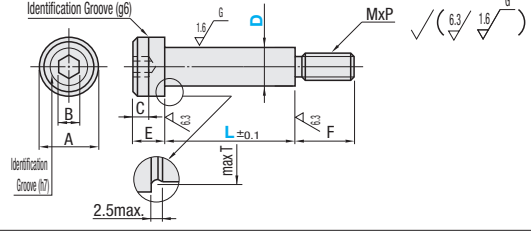
Shoulder Bolts

Shaft Dia. Tolerance g6/h7/e9

Shoulder Bolts: Dimension Selectable
- Shaft Dia. Tolerance g6/h7

RoHS10

Type	D Tolerance	Material	Hardness	Strength Class
GMSB	g6	SCM435	33~38HRC	10.9
SGMSB		SUS304 Equivalent	-	A2-50
MSBH	h7	SCM435	33~38HRC	10.9
SHMSB		SUS304 Equivalent	-	A2-50



D Tolerance		A	B	C	E	F	MxP	T
D	g6 h7							
4	-0.004 0	6.5	2.5	1.6	3	5	2.5x0.45	4.5
5	-0.012 0	8			3.5	6	3x0.5	5.5
6	-0.012 0	9	3	2	4	7	4x0.7	6.5
8	-0.005 0	13	5	3	6	9	6x1.0	8.7
10	-0.014 0	16	6	4	8	12	8x1.25	10.8

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

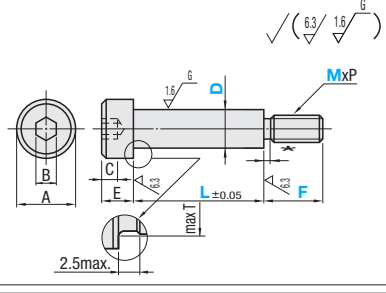
Part Number Type	D	L					Unit Price	
		15	20	25	30	35	MSBH	SHMSB
MSBH SHMSB	4	15	20				-	
	5	15	20					
	6	15	20	25				
	8	15	20	25	30			
	10	15	20	25	30	35		
	10	10						

Ordering Example: Part Number - L
GMSB10 - 50
SGMSB8 - 30

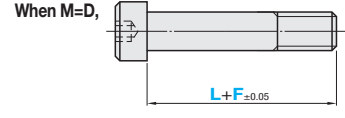
Shoulder Bolts: Configurable Type
- Shaft Dia. Tolerance g6/h7

RoHS10

Type	D Tolerance	Material	Hardness	Strength Class
GDMSB	g6	SCM435	33~38HRC	10.9
GDSMSB		SUS304 Equivalent	-	A2-50
HDSMB	h7	SCM435	33~38HRC	10.9
HDSMSB		SUS304 Equivalent	-	A2-50



D Tolerance		A	B	C	E	T	L+F Machining Conditions	
D	g6 h7							
4		7	2.5	1.6	3	4.5	L+F≤46	
MxP	4.5					5		
	3x0.5	-0.004 0	-0.012 0	9	3	2.2	3.5	5.5
5	-0.012 0					6		
4x0.7						7		
6		10	4	2.5	5	6.5	L+F≤59	
5x0.8						7		
6x1.0						8		
8	-0.005 0	13	5	3	6	8.7	L+F≤70	
8x1.25	-0.014 0					10.8	L+F≤72	
10x1.5		16	6	4	8			



* M=D has no groove and F is the effective thread. In Standard L, therefore, incomplete threaded portion of approximately 1 to 2 pitch long occurs.

Part Number Type	D	L 0.1mm Increment	F 0.5mm Increment	M	Unit Price			
					GDMSB	GDSMSB	HDSMB	HDSMSB
GDMSB GDSMSB HDSMB 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				

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

Large Head Shoulder Bolts
- Shaft Dia. Tolerance e9

RoHS10

MSBY

M Material: S45C
H Hardness: From 40 HRC
S Surface Treatment: Knurled Head Black Oxide

Part Number Type	Des	L Selection	MxP	A	E	F	Unit Price	
								MSBY
	8	-0.025		25 30 35 40	6x1.0	30	8	9
	10	-0.061		25 30 35 40	8x1.25	36	10	12

Ordering Example: Part Number - L
MSBY6 - 20

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