


Clamping Screws

Ball / Angle

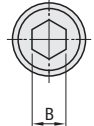
Clamping Screws – Ball / Angle Type



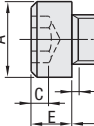
RoHS10

Type		Main Body		Ball	
Ball Type	Angle Type	Material	Surface Treatment	Material	Hardness
HRSM	HFSM	4137 Alloy Steel or Equivalent	Black Oxide	52100 Bearing Steel	55-60 HRC
HRSU	HFSU	304 Stainless Steel or Equivalent	—	440C Stainless Steel or Equivalent	55-60 HRC

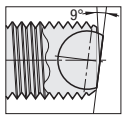
Ball Type



Angle Type



Maximum Slope



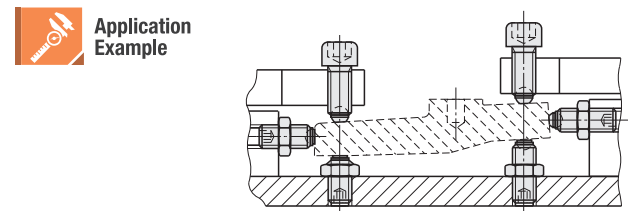
Screw grade is based on JISG6 equivalent.

Ball Type / Angle Type (Steel Ball / Stainless Ball)

Type	Part Number		L										Withstand Load (kN)													
	M	Nominal	HRSM	HFSM	L ₁	A	E	B	C	d ₁	d ₂	S		S ₁												
Ball	4	10	10.5	10	2.1	7	4	3	2	2.5	2	0.8	0.3	1.3												
		12	12.5	12																						
		16	16.5	16																						
		20	20.5	20																						
		25	25.5	25																						
Ball	5	12	12.6	12	2.4	8.5	5	4	2.5	3	2.5	1	0.4	1.4												
		16	16.6	16																						
		20	20.6	20																						
		25	25.6	25																						
		30	30.6	30																						
Ball	6	16	16.8	16	3	10	6	5	3	4	3.2	1.3	0.6	3.3												
		20	20.8	20																						
		25	25.8	25																						
		30	30.8	30																						
		40	40.8	40																						
Angle	8	20	21.2	20	3.5	13	8	6	4	5.5	4.5	1.8	0.8	3.9												
		30	31.2	30																						
		35	36.2	35																						
		40	41.2	40																						
		50	51.2	50																						
Angle	10	25	26.7	25	4.5	16	10	8	5	7	6	2.3	0.8	3.4												
		30	31.7	30																						
		40	41.7	40																						
		50	51.7	50																						
		60	61.7	60																						
Angle	12	30	32	30	5	18	12	10	6	8.5	7.2	2.8	1	4.8												
		50	52	50																						
		80	82	80																						
		Angle	16	40											43.3	40	6	24	16	14	8	12	10.7	4.3	1.3	9.6
				60											63.3	60										
80	83.3			80																						

kgf=Nx0.101972


Part Number Example: **HRSM6-16**



Clamping Screws / Hex Head Clamping Screws

Non-Reverse / Serrated / Screws Tip Clamp / Head Clamp Type

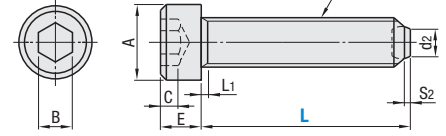
Clamping Screws – Non-Reverse / Serrated Type



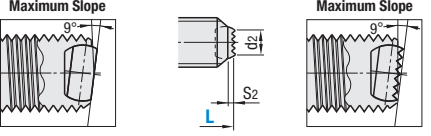
RoHS10

Type		Main Body		Ball	
Non-Reverse	Non-Reverse Serration	Material	Surface Treatment	Material	Hardness
HFMB	HFMG	4137 Alloy Steel or Equivalent	Black Oxide	52100 Bearing Steel	55-60 HRC
HFUB	—	304 Stainless Steel or Equivalent	—	440C Stainless Steel or Equivalent	55-60 HRC

Non-Reverse Type



Non-Reverse Serrated Type




Screw grade is based on JISG6 equivalent.

Part Number Type	M	L Selection					L ₁	A	E	B	C	d ₂	S ₂	Withstand Load (kN)		
		6	8	10	12	16										
Non-Reverse	6	16	20	25	30	40	3	10	6	5	3	3.2	0.45	3.3		
	8	—	20	—	30	35	40	50	3.5	13	8	6	4	4.5	0.5	3.9
	10	—	—	25	30	—	40	50	60	4.5	16	10	8	5	6	0.6
Non-Reverse Serration	12	—	—	—	30	—	50	80	5	18	12	10	6	7.2	0.75	4.8
	16	—	—	—	—	40	60	80	6	24	16	14	8	10.7	1	9.6

Part Number Example: **HFMB10 - 30**

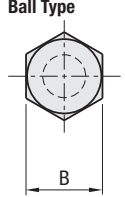
Hex Head Clamping – Screws Tip Clamp Type



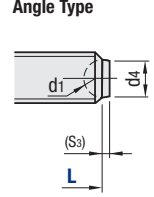
RoHS10

Type		Main Body		Ball		
Ball Type	Angle Type	Material	Hardness	Surface Treatment	Material	Hardness
BRASM	BFASM	4137 Alloy Steel	32-40 HRC	Black Oxide	52100 Bearing Steel	62 HRC-

Ball Type



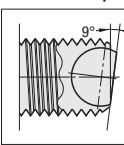
Angle Type




Part Number Type	M	L Selection				L ₁	A	B	E ₁	d ₁	d ₃	d ₄	(S ₂)	(S ₃)
		6	8	10	12									
BRASM	6	20	30	40	2	11.5	10	4	5.6	4	3.2	1.3	0.6	
	8	20	30	40	2.5	15	13	5.5	8	5.5	4.5	1.8	0.8	
	10	—	40	50	3	19.6	17	7	9.5	7.1	6	2.3	0.9	
	12	—	—	50	60	3.5	21.9	19	8	12.7	8.7	7.2	2.8	1
BFASM	16	—	—	50	60	4	27.7	24	10	15.9	11.9	10.7	4.3	1.3

Part Number Example: **BRASM6 - 20**

Notes on Clamping Screws
 This product is used not to rotate face balls but to clamp workpieces. (The face balls do not necessarily rotate depending on each caulking conditions of face balls.)
 For Angle Type, a sphere of its hemisphere appears on the face, instead of a flat plane by its rotation. In such a case, return its position using adhesive tape and magnet.



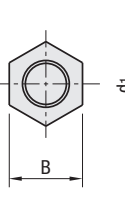
Hex Head Clamping Screws – Head Clamp Type



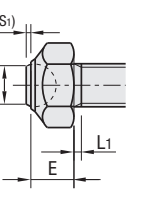
RoHS10

Type		Main Body		Ball		
Ball Type	Angle Type	Material	Hardness	Surface Treatment	Material	Hardness
BRSM	BFSM	4137 Alloy Steel	32-40 HRC	Black Oxide	52100 Bearing Steel	62 HRC-
BRSMS	—	304 Stainless Steel	—	—	440C Stainless Steel	55 HRC-

Ball Type



Angle Type



Part Number Type	M	L Selection				L ₁	B	E	d ₁	d ₂	(S)	(S ₁)
		6	8	10	12							
BRSM	6	30	40	—	—	2	10	6	5.6	4.5	2	0.8
	8	30	40	—	—	2.5	13	8	8	6.7	2.8	1
	10	—	40	50	—	3	17	10	9.5	7.9	3.2	1.2
	12	—	—	50	60	3.5	19	12	12.7	10.8	4.7	1.8
BFSM	16	—	—	50	60	4	24	16	15.9	13.3	5.7	2.1

Part Number Example: **BRSM12 - 50**

Notes on Clamping Screws
 This product is used not to rotate face balls but to clamp workpieces. (The face balls do not necessarily rotate depending on each caulking conditions of face balls.)
 For Angle Type, a sphere of its hemisphere appears on the face, instead of a flat plane by its rotation. In such a case, return its position using adhesive tape and magnet.

