

HPM1 equivalent  
SKD61  
DC53

# SPRUE BUSHINGS

—NORMAL BOLT TYPE • FLANGE THICKNESS 15mm—

Non JIS material definition is listed on P.1359 - 1360

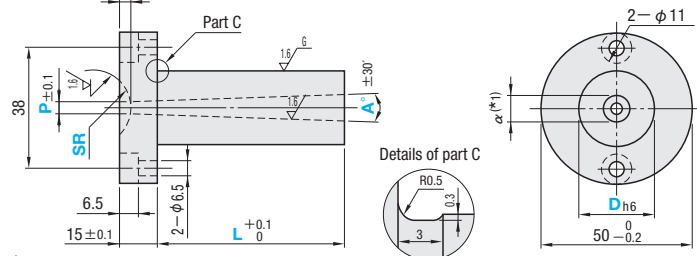
Electroforming P.777

Details of string eliminator P.751

— Straight type —



Part Number		M	H
Normal	String eliminator type		
SBBH	SBBHH	HPM1 equivalent	37~43HRC
SBBT	SBBTH	SKD61	48~52HRC
SBBX	SBBXH	DC53	58~62HRC



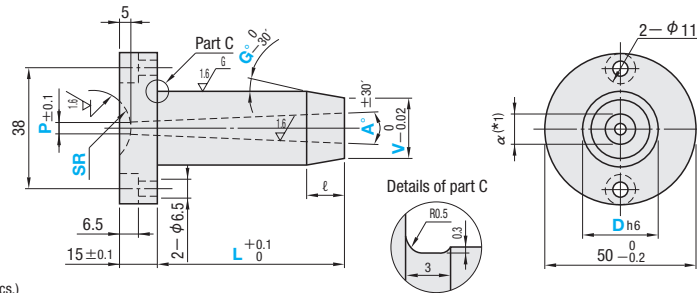
CB6—15 (2 pcs.)

RoHS

— Tapered type —



Part Number		M	H
Normal	String eliminator type		
SBGH	SBGHH	HPM1 equivalent	37~43HRC
SBGT	SBGTH	SKD61	48~52HRC
SBGX	SBGXH	DC53	58~62HRC



CB6—15 (2 pcs.)

RoHS

Dh6	Part Number Type	D	L <sup>(*)2</sup>		SR	P	A <sup>*</sup>	V	G <sup>*</sup>								
			0.1mm increments	1 <sup>(*)5</sup>													
16	— Straight type — (HPM1 equivalent) Normal SBBH, SBBT, SBBX String eliminator type SBBHH, SBBTH, SBBXH	16	30.0~150.0 <sup>(*)5</sup>	0 <sup>(*)6</sup>	10.5	2 <sup>(*)3,4)</sup> 2.5 <sup>(*)3)</sup> 3 <sup>(*)3)</sup>	0.5 <sup>(*)3)</sup>	D > V ≥ α + 2	1~10								
										20	30.0~200.0 <sup>(*)5</sup>	11	3.5	1~4			
															25	12	4
25	— Tapered type — (HPM1 equivalent) Normal SBGH, SBGT, SBGX String eliminator type SBGHH, SBGTH, SBGXH	25	30.0~200.0 <sup>(*)5</sup>	16	5.5	6	1~4	Available for tapered type only									
									21	6.5							
25	23	7	8	Available for tapered type only													

(\*)1 The value of α is set in accordance with L dimension.  
 (\*)2 L dimension is restricted by P, V and A. Similarly, G is restricted by L dimension.  
 (\*)3 L dimension limits  
 (\*)4 Not available for products with string eliminator. L dimension limit: 50, 85, 50, 85, 85, 150  
 (\*)5 L dimension is up to 100.0 for SBBX • SBBXH • SBGX • SBGXH.  
 (\*)6 SRO cannot be designated for SBBX • SBBXH • SBGX • SBGXH.  
 Working limits  
 • Straight type  
 D - α ≥ 2 (Calculation of α value) α = P + 2(L + (U + 10)tan α/2)  
 U : with ZC alteration  
 • Tapered type  
 V - α ≥ 2  
 L - ℓ ≥ 3 (Calculation of ℓ value) ℓ = 2tan(G - 0.25)  
 Conversion Chart of Trigonometric Functions P.1345  
 ※0.25 is a value that takes G tolerance into account.

Order

Part Number	L	SR	P	A	V	G
SBBH16	35.0	SR11	P3	A2		
SBGH25	100.0	SR16	P3.5	A2	V22.0	G8

Days to Ship	Normal (HPM1 equivalent)	(SKD61)	(DC53)	String eliminator type
5 Days	SBBH, SBGH	SBBT, SBGT	SBBX, SBGX	SBBH, SBGH
3 Days	Delivery days depend on subsidiary. P.45	Delivery days depend on subsidiary. P.45	Delivery days depend on subsidiary. P.45	Delivery days depend on subsidiary. P.45
5 Days	Express B P.46	Express A P.46	Express B P.46	Express B P.46



Price

Quantity discount rate P.45

Quantity Rate	1~4	5~9	10~14	15~20
	—	5%	10%	15%

To be quoted on price & lead time above Max. Qty.

Alterations

Part Number	L	SR	P	A	V	G	(AIW • AXW...etc.)	5 Days	Express B	P.46
SBGHH25	99.98	SR16	P3.5	A2	V22.0	G8	AIW10-GC7-LKC			

Alterations	Code	AIW	AHW	AXW	ATW	AJW	ALW	APW	Spec.																					
Shape A (Trapezoid)	Spec.								[Designation method] AIW10—GC7 + Bolt hole position • Dowel hole position (When NC, KP code is used) † KC position (When KC code is used)																					
	1Code	Quotation							• W dimension and GC <sup>*</sup> selection <table border="1"> <tr><th>W</th><th>t</th><th>GC<sup>*</sup></th></tr> <tr><td>3</td><td>2.5</td><td>7<sup>*</sup></td></tr> <tr><td>4</td><td>3</td><td></td></tr> <tr><td>5</td><td>3.5</td><td>10<sup>*</sup></td></tr> <tr><td>6</td><td>4</td><td></td></tr> <tr><td>8</td><td>5.5</td><td></td></tr> <tr><td>10</td><td>7</td><td></td></tr> </table>	W	t	GC <sup>*</sup>	3	2.5	7 <sup>*</sup>	4	3		5	3.5	10 <sup>*</sup>	6	4		8	5.5		10	7	
W	t	GC <sup>*</sup>																												
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5	3.5	10 <sup>*</sup>																												
6	4																													
8	5.5																													
10	7																													
		☒ Combination with ZC not available. ☑ ATW, AJW, ALW and APW have working limits as follows. ☒ Combination with RC not available. (α - 0.4) ≥ W ☑ The trapezoidal taper angle, which was previously fixed at 10°, is now selectable from 10° and 7°.																												
		[Designation method] AHW4—GC7 Specify in the sequence "(shape) (W dimension)—GC <sup>*</sup> ". If you do not make a specification, (AHW4, for example) will be 10°.																												
Alterations	Code	BIR	BHR	BXR	BTR	BJR	BLR	BPR	Spec.																					
Shape B (Semicircle)	Spec.								[Designation method] BXR2 + Bolt hole position • Dowel hole position (When NC, KP code is used) † KC position (When KC code is used)																					
	1Code	Quotation							• R dimension selection <table border="1"> <tr><td>1</td><td>1.25</td></tr> <tr><td>1.5</td><td>1.5</td></tr> <tr><td>1.75</td><td>2</td></tr> <tr><td>2</td><td>2.25</td></tr> <tr><td>2.5</td><td>2.5</td></tr> <tr><td>3</td><td>3</td></tr> <tr><td>3.5</td><td>3.5</td></tr> <tr><td>4</td><td>4</td></tr> </table>	1	1.25	1.5	1.5	1.75	2	2	2.25	2.5	2.5	3	3	3.5	3.5	4	4					
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		☒ Combination with ZC not available. ☑ BTR, BJR, BLR and BPR have working limits as follows. ☒ Combination with RC not available. (α - 0.4) ≥ 2 × R																												
Alterations	Code	CIQ	CHQ	CXQ	CTQ	CJQ	CLQ	CPQ	Spec.																					
Shape C (Arc+Tangent)	Spec.								[Designation method] CTQ5 + Bolt hole position • Dowel hole position (When NC, KP code is used) † KC position (When KC code is used)																					
	1Code	Quotation							• Q dimension selection <table border="1"> <tr><td>2</td><td>2.5</td></tr> <tr><td>3</td><td>3.5</td></tr> <tr><td>4</td><td>4</td></tr> <tr><td>5</td><td>5</td></tr> <tr><td>6</td><td>6</td></tr> <tr><td>8</td><td>8</td></tr> </table>	2	2.5	3	3.5	4	4	5	5	6	6	8	8									
2	2.5																													
3	3.5																													
4	4																													
5	5																													
6	6																													
8	8																													
		☒ Combination with ZC not available. ☑ CTQ, CJQ, CLQ and CPQ have working limits as follows. ☒ Combination with RC not available. (α - 0.4) ≥ Q × 1.09																												

Alterations	Code	Spec.	1Code
	BC	Increases No. of bolt holes. No. of bolt holes : 2 → 4 (Supplied bolts : 4) ☒ Combination with NC not available.	
	BN	Decreases of bolt holes. No. of bolt holes : 2 → 0 (Supplied bolts : 0) ☑ Available for equivalent of material HPM1	
	NC	Dowel hole boring ☒ Not available for string eliminator type	Quotation
	KP	Dowel hole boring (longitudinal) ☒ Not available for string eliminator type ☒ Combination with NC not available. ☑ Available for equivalent of HPM1 only ☑ The effective length of dowel hole is 10mm below underneath part. (recessed hole φ6.5)	Quotation
	LKC	L dimension tolerance alteration L +0.1 → L -0.02 ☑ L dimension can be designated at 0.01mm increments when LKC is used. ☒ Combination with ZC not available.	
	GKC	Changes the G tolerance. G -0.30 → G -0.15 ☑ Available for tapered type when ℓ ≤ 15 and (L - ℓ) ≥ 10 ☒ Combination with ZC not available.	
Alterations	Code	Spec.	1Code
	KC	Single flange cutting KC = 0.5mm increments D/2 ≤ KC < 25 ☒ Combination with BC not available ☒ Not available for string eliminator type ☒ Combination with NC • KP not available ☑ Interference with the SR part may occur.	
	WKC	Two parallel flange cutting WKC = 0.5mm increments D/2 ≤ WKC < 25 ☒ Combination with BC not available ☒ Not available for string eliminator type ☒ Combination with NC • KP not available ☑ Interference with the SR part may occur.	Quotation
	ZC	Undercut machining S, T, U = 0.1mm increments S ≥ α + 2 α + 2 ≤ T ≤ D(V - 2U)tanG 1.5 ≤ U ≤ 5 Specification L max ≥ L + U [Designation method] ZC—S3.5—T4.0—U2.0	Quotation
	RC	The step R is processed in the tip bore to prevent the connection between the sprue and the runner from breaking when releasing from the mold. Dimension selection of step R 1 2 ☑ The step R is cut with an inner R cutter. ☑ Surface roughness and position precision are not provided. ☑ Available for α ≥ 5 ☑ Straight type D - α - (2 × RC) > 2 ☑ Tapered type V - α - (2 × RC) > 2 ☒ Combination with shapes A, B and C not available. ☒ Combination with ZC not available.	