

HPM1 equivalent  
SKD61  
DC53

# SPRUE BUSHINGS

—SHOULDER TYPE—

Non JIS material definition is listed on P.1351 - 1352

Electroforming P.773

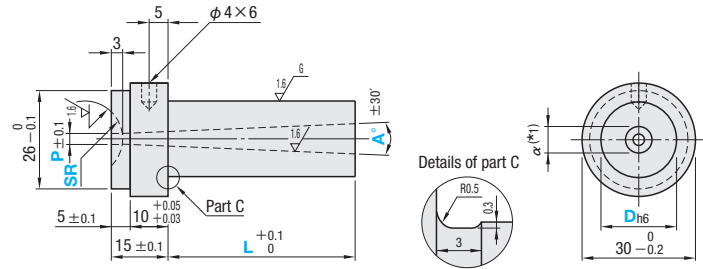
Details of string eliminator (P.747)

—Straight type—



RoHS

Part Number		M	H
Normal	String eliminator type		
SBSM	SBSMH	HPM1 equivalent	37~43HRC
SBSD	SBSDH	SKD61	48~52HRC
SBSS	SBSSH	DC53	58~62HRC

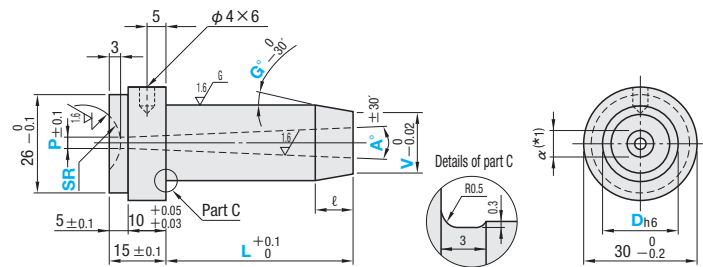


—Tapered type—



RoHS

Part Number		M	H
Normal	String eliminator type		
SBTM	SBTMH	HPM1 equivalent	37~43HRC
SBTD	SBTDH	SKD61	48~52HRC
SBTS	SBTSH	DC53	58~62HRC



Dh6	Part Number Type	D	(*2)L 0.1mm increments	SR	P	A° 0.5° increments	V 0.1mm increments	G° 1° increments				
									Normal	String eliminator type		
8	—Straight type— (HPM1 equivalent) SKD61 DC53	8 <sup>(*)5</sup>	0~80.0	0 10.5 11	2 2.5 3 3.5	0.5~3 <sup>(*)3</sup>	D > V ≥ α + 2	1~10				
									10	0~120.0	10.5	2 <sup>(*)3,4</sup> 2.5 <sup>(*)3</sup> 3 <sup>(*)3</sup> 3.5
10	—Tapered type— (HPM1 equivalent) SKD61 DC53	10 <sup>(*)6</sup>	0~200.0	23 <sup>(*)4</sup>	7	0.5~4 <sup>(*)3</sup>	Available for tapered type only	Available for tapered type only				
									13	0~150.0	12	4 4.5 5 5.5 6 6.5 7 8
20	0~150.0	16	4 4.5 5 5.5 6 6.5 7 8									
				25	0~150.0	20 <sup>(*)4</sup>	21 <sup>(*)4</sup>	7	8			

(\*)1 The value of α is set in accordance with L dimension. (\*3) L dimension limits  
 (\*2) L dimension is restricted by P, V and A. Similarly, G is restricted by L dimension.  
 (\*4) Not available for products with string eliminator. L dimension limit: 30 50 85 45 50 85 60 85 60 150  
 (\*5) Available only for SBSM · SBSB  
 (\*6) D20 · 25 cannot be designated for SBSS · SBSSH · SBTS · SBTSH  
 (\*7) SBSS · SBSSH · SBTS · SBTSH can be designed up to L100.  
 Working limits Conversion Chart of Trigonometric Functions P.1337  
 • Straight type  
 $D - \alpha \geq 2$  (Calculation of α value)  $\alpha = P + 2[L + (U + 12)\tan \frac{A}{2}]$   
 • Tapered type  
 $V - \alpha \geq 2$  U: with ZC alteration  
 $L - \ell \geq 3$  (Calculation of ℓ value)  $\ell = \frac{D - V}{2 \tan(G - 0.25)}$  ※0.25 is a value that takes G tolerance into account.

Order Part Number — L — SR — P — A — V — G  
 SBSD13 — 80.0 — SR11 — P3 — A2  
 SBTM25 — 45.5 — SR23 — P4.5 — A4 — V20.0 — G5

Days to Ship Quotation

Price Quotation

Alterations Part Number — L — SR — P — A — V — G — (AIW · AXW...etc.)  
 SBSMH25 — 45.5 — SR16 — P4.5 — A4 — AXW10—GC10—KC  
 Quotation

Alterations	Code	AIW	AHW	AXW	ATW	AJW	AKW	AEW	ALW	APW	AUW	ACW	Spec.
Shape A (Trapezoid)	Spec.												• W dimension and GC° selection W t GC° 3 2.5 4 3 7° 5 3.5 6 4 8 5.5 10° 10 7
	1Code												
	Designation method	• Dowel hole position AIW10—GC7 KC position (When KC code is used) • Combination with ZC not available. • Combination with RC not available. • ATW, AJW, AKW, AEW, ALW, APW, AUW and ACW have working limits as follows. When D ≤ 10, (α - 0.6) ≥ W When D ≥ 12, (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°". If you do not make a specification, (AHW4, for example) will be 10°.											

Alterations	Code	BIR	BHR	BXR	BTR	BJR	BKR	BER	BLR	BPR	BUR	BCR	Spec.
Shape B (Semicircle)	Spec.												• R dimension selection 1 1.25 1.5 1.75 2 2.25 2.5 3 3.5 4
	1Code												
	Designation method	• Dowel hole position BXR2 KC position (When KC code is used) • Combination with ZC not available. • Combination with RC not available. • BTR, BJR, BKR, BER, BLR, BPR, BUR and BCR have working limits as follows. when D ≤ 10, (α - 0.6) ≥ 2 × R when D ≥ 12, (α - 0.4) ≥ 2 × R											

Alterations	Code	CIQ	CHQ	CXQ	CTQ	CJQ	CKQ	CEQ	CLQ	CPQ	CUQ	CCQ	Spec.
Shape C (Arc+Tangent)	Spec.												• Q dimension selection 2 2.5 3 3.5 4 5 6 8
	1Code												
	Designation method	• Dowel hole position CTQ5 KC position (When KC code is used) • Combination with ZC not available. • Combination with RC not available. • CTQ, CJQ, CKQ, CEQ, CLQ, CPQ, CUQ and CCQ have working limits as follows. when D ≤ 10, (α - 0.6) ≥ Q × 1.09 when D ≥ 12, (α - 0.4) ≥ Q × 1.09											

Alterations	Code	Spec.	1Code
	KC	 Adds a key flat on the head. 13 <sup>0</sup> -0.1	
	WKC	 Adds two parallel flats on the head. 26 <sup>0</sup> -0.1	Quotation
	ZC	 Undercut machining S, T, U = 0.1mm increments S ≥ α + 2 α + 2 ≤ T ≤ D(V - 2UtanG) 1.5 ≤ U ≤ 5 L max. ≥ L + U [Designation method] ZC—S3.5—T4.0—U2.0 • Not available for D8	Quotation

Alterations	Code	Spec.	1Code
	GKC	 Changes the G tolerance. G <sub>0-30</sub> → G <sub>0-15</sub> • Available for tapered type when ℓ ≤ 15 and (L - ℓ) ≥ 10 • Combination with ZC not available.	
	LKC	 L dimension tolerance alteration +0.1 → L - 0.02 • L dimension can be designated at 0.01mm increments when LKC is used. • Combination with ZC not available.	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.	Quotation