

NON-CLOGGING CARBIDE ANGULAR BUTTON DIES WITH AIR HOLES

— HEADED TYPE · STRAIGHT TYPE —



Type	RoHS	Shank diameter D tolerance	Catalog No.	Shape						
— Headed —	RoHS	D _{m5}	SV—WAHD	<table border="1"> <tr> <td>D</td> <td>3~5</td> <td>6~10</td> </tr> <tr> <td>R</td> <td>R≤0.2</td> <td>R≤0.5</td> </tr> </table>	D	3~5	6~10	R	R≤0.2	R≤0.5
		D	3~5		6~10					
R	R≤0.2	R≤0.5								
D _{n5}	SV—WASD									
D _{m5}	SVA—WAHD									
— Straight —	RoHS	D _{n5}	SV—WASD							
		D _{m5}	SVA—WASD							

For shank diameter tolerance D tolerance, select either m5 or n5.

D tolerance			Catalog No.		D	L	0.01mm increments		V	G	H	T
D	m5	n5	Type	Type			min.	max.				
3	+0.006 +0.002	+0.008 +0.004	Headed (D _{m5}) SV—WAHD Straight (D _{n5}) SV—WASD (D _{m5} +0.005) SVA—WAHD (D _{n5} +0.005) SVA—WASD	3	13	0.50~1.00	0.4	0.2	4	3		
4	+0.009 +0.004	+0.013 +0.008		4	16	0.50~1.50	0.8	0.3	5	11	5	
5				5	20	0.50~2.50			6			
6	+0.012 +0.006	+0.016 +0.010		6	22	1.00~3.00	0.8	0.3	9	13	5	
8				8	25	1.00~4.00			11			
10				10	25	2.00~6.00			13			

Order Catalog No. — L — P
SV—WAHD10 — 25 — P4.50

Days to Ship **Quotation**

Price **Quotation**

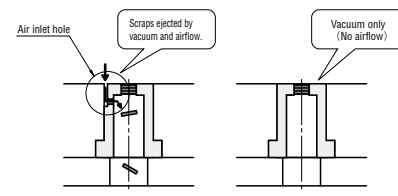
Alterations Catalog No. — L(LC·SLC·LCT·LMT) — P(PC) — (BC·HC·TC·CKC·MKC, etc.)
SV—WAHD10 — LC18 — PC1.80 — TKC — ANF1.0

Alteration	Code	Spec.	1Code															
Alterations to shaped hole	PC	Shaped hole diameter change min.: P > PC ≥ E _{min.} / 2 ≥ 1.00 0.01mm increments max.: P < PC ≤ P _{max.} + 0.2 0.01mm increments																
	BC	Shaped hole depth change 1 ≤ BC < 2 0.1mm increments																
Alterations to full length	LC	Full length change 0.1mm increments (If combined with LKC-LKZ-CKC-MKC, 0.01mm increments can be selected.) 8 ≤ LC < L																
	LKC	Full length tolerance change L + 0.4 → +0.05 L - 0.2 → 0 Cannot be used for L(LC) < 16.																
	LKZ	Full length tolerance change L + 0.4 → +0.01 L - 0.2 → 0 Cannot be used for L(LC) < 16.																
	CKC	Changes to head thickness tolerance and full length tolerance are processed using a single code. The allowable range of change, increment, ordering process, and notes (⊕) are the same as for L.C.	TKC Head thickness tolerance change + Full length tolerance change Cannot be used for L(LC) < 16.	LKC Full length tolerance change														
	MKC	Changes to head thickness tolerance and full length tolerance are processed using a single code. The allowable range of change, increment, ordering process, and notes (⊕) are the same as for L.C.	TKM Head thickness tolerance change + Full length tolerance change Cannot be used for L(LC) < 16.	LKC Full length tolerance change														
	SLC	Changes to full length and full length tolerance are processed using a single code. The allowable range of change, increment, ordering process, and notes (⊕) are the same as for L.C.	LC Full length change + Full length tolerance change 0.01mm increments Cannot be used for straight types only. Cannot be used for L(LC) < 10.	LKC Full length tolerance change														
	LCT	Changes to head thickness tolerance, full length, and full length tolerance are processed using a single code. The ordering process is the same as for L.C. For the machining limit and notes (⊕), refer to the description of each alteration.	TKC Head thickness tolerance change + Full length tolerance change + tolerance change 0.01mm increments Cannot be used for L(LC) < 16.	LC Full length change + tolerance change LKC Full length tolerance change														
	LMT	Changes to head thickness tolerance, full length, and full length tolerance are processed using a single code. The ordering process is the same as for L.C. For the machining limit and notes (⊕), refer to the description of each alteration.	TKM Head thickness tolerance change + Full length tolerance change + tolerance change 0.01mm increments Cannot be used for L(LC) < 16.	LC Full length change + tolerance change LKC Full length tolerance change														
	Alterations to shank	ANF	Angular angle change 0.2 ≤ ANF ≤ 1.2 0.2° increments d ≤ d _{max.} d = P + 2(L - B) × tan(ANF°) P - Btan(ANF°) ≥ 0.6 Cannot be used for P < 1.00. Cannot be combined with KM.	<table border="1"> <tr> <th>D</th> <th>d max.</th> </tr> <tr> <td>3</td> <td>2.0</td> </tr> <tr> <td>4</td> <td>2.4</td> </tr> <tr> <td>5</td> <td>2.9</td> </tr> <tr> <td>6</td> <td>3.4</td> </tr> <tr> <td>8</td> <td>4.4</td> </tr> <tr> <td>10</td> <td>6.4</td> </tr> </table>	D	d max.	3	2.0	4	2.4	5	2.9	6	3.4	8	4.4	10	6.4
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3	2.0																	
4	2.4																	
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KM	Addition of key groove to prevent lifting Cannot be used for D < 6. Cannot be combined with WKC-ANF.	<table border="1"> <tr> <th>D</th> <th>h</th> <th>ℓ</th> </tr> <tr> <td>6</td> <td>1</td> <td>5 ≤ ℓ < L</td> </tr> <tr> <td>8</td> <td>1.5</td> <td>0.1mm increments</td> </tr> <tr> <td>10</td> <td></td> <td></td> </tr> </table>	D	h	ℓ	6	1	5 ≤ ℓ < L	8	1.5	0.1mm increments	10						
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Example

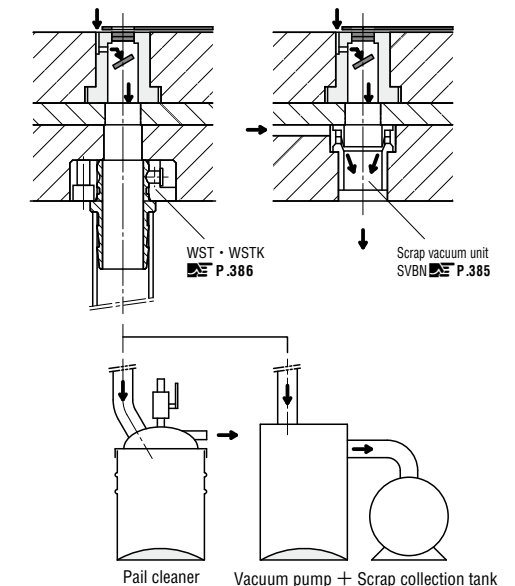
Features

- These non-clogging carbide angular button dies are intended to be used in combination with a vacuum device such as a vacuum pump.
- Because an air inlet hole is created near the shaped hole, when a vacuum device is used to provide suction, an air flow is produced inside the button die. As a result, the scrap removal effect is higher than in button dies without air inlet holes. (Figure 1)
- It is also possible to use products such as a scrap vacuum unit (P.385) or commercially available pail-mounted cleaner as the vacuum device in place of the vacuum pump. In these cases, the drive source is compressed air from a compressor or other machine. (Figure 2)
- Non-clogging button dies (Products data) P.1621



(Figure 1) Effect of air inlet hole

Alteration	Code	Spec.	1Code													
Alterations to head	KC	Addition of single key flat to head Cannot be used for straight types.														
	WKC	Addition of single key flat Cannot be used for D3~5. Cannot be used for headed types.														
	KFC	Addition of double key flats in parallel Cannot be combined with KC-KFC. Cannot be used for straight types.														
	HC	Head diameter change D ≤ HC < H 0.1mm increments														
	TC	Head thickness change 2 ≤ TC < T 0.1mm increments (If combined with TKC-TKM-CKC-MKC, 0.01mm increments can be selected.) Full length L is shortened by (T-TC). If combined with LC, full length is equal to LC.														
Alterations to shank	TKC	Head thickness tolerance change T + 0.3 → +0.02 T 0 → 0 Cannot be used for L(LC) < 16.														
	TKM	Head thickness tolerance change T + 0.3 → -0.02 T 0 → 0 Cannot be used for L(LC) < 16.														
	ANF	Angular angle change 0.2 ≤ ANF ≤ 1.2 0.2° increments d ≤ d _{max.} d = P + 2(L - B) × tan(ANF°) P - Btan(ANF°) ≥ 0.6 Cannot be used for P < 1.00. Cannot be combined with KM.	<table border="1"> <tr> <th>D</th> <th>d max.</th> </tr> <tr> <td>3</td> <td>2.0</td> </tr> <tr> <td>4</td> <td>2.4</td> </tr> <tr> <td>5</td> <td>2.9</td> </tr> <tr> <td>6</td> <td>3.4</td> </tr> <tr> <td>8</td> <td>4.4</td> </tr> <tr> <td>10</td> <td>6.4</td> </tr> </table>	D	d max.	3	2.0	4	2.4	5	2.9	6	3.4	8	4.4	10
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6	1	5 ≤ ℓ < L														
8	1.5	0.1mm increments														
10																



(Figure 2) Examples of Combinations with Various Vacuum Devices

CARBIDE
BUTTON DIES