

CARBIDE BLOCK DIES

CARBIDE BLOCK DIES



CARBIDE BLOCK DIES
—STRAIGHT, SINGLE FLANGE—



SCRAP RETENTION
CARBIDE BLOCK DIES



CARBIDE BLOCK DIES
—CONFIGURABLE SIZE—

Product name Catalog No.	CARBIDE BLOCK DIES —STRAIGHT, SINGLE FLANGE—	SCRAP RETENTION CARBIDE BLOCK DIES	CARBIDE BLOCK DIES —CONFIGURABLE SIZE—
Page	617	619	621



SCRAP RETENTION
CARBIDE BLOCK DIES (CONFIGURABLE SIZE)

622



CARBIDE BLOCK DIE BLANKS
WBLDB WBLDBF

623



CARBIDE BLOCK DIE BLANKS
ZD ZDA ZD□B ZD□C

624-625

CARBIDE BLOCK DIES

—GUIDE—

■ Carbide block dies list

Block die type	Material	Shape tolerance	Without scrap retention			With scrap retention		
			Round	Shaped	Page	Round	Shaped	Page
Carbide block dies straight	V40 (HIP)	$V \cdot H^{+0.005}_0$	WBLD	WBLD□	P.617	SR—WBLD	SR—WBLD□	P.619
Carbide block dies with single flange	V40 (HIP)	$V \cdot H^{+0.005}_0$	WBLDF	WBLD□F	P.617	SR—WBLDF	SR—WBLD□F	P.619
Carbide block dies (configurable size)	V40 (HIP)	$V \cdot H^{+0.005}_0$	WFLD	WFLD□	P.621	SR—WFLD	SR—WFLD□	P.622

■ Scrap retention block dies (For details, see P.1619)

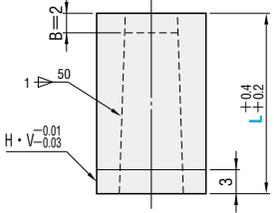
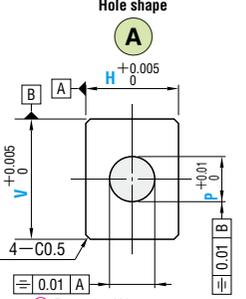
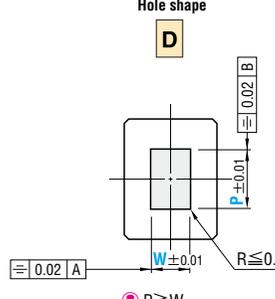
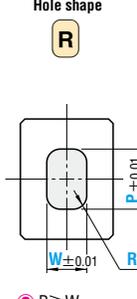
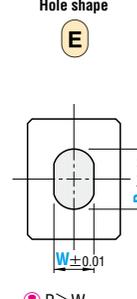
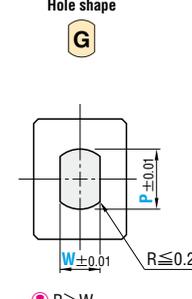
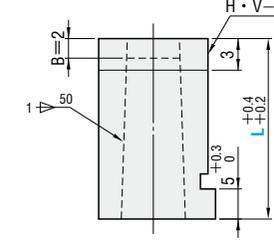
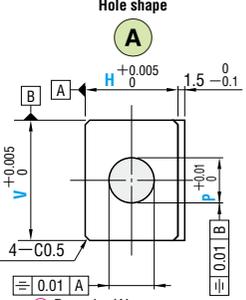
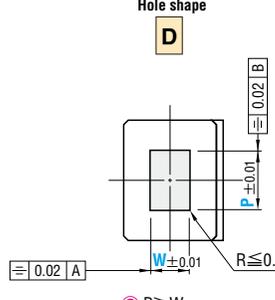
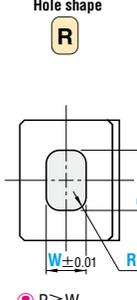
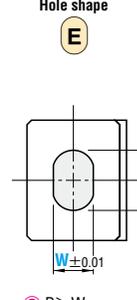
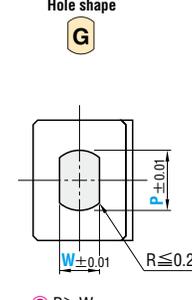
- Applicable range
 1. Hole diameter: $\phi 1.0 \sim \phi 16$
 2. Workpiece material: Can be used for materials up to a maximum tensile strength to $1,177\text{N/mm}^2$ (120kgf/mm^2).
 3. Thickness of workpiece material: Minimum thickness 0.15mm
 4. Scrap retention effects cannot be expected when the clearance (C) is larger than the workpiece material thickness (MT) by more than 20%. Therefore, keep the difference to 20% or less.

$$\text{Clearance on one side (C)} < \text{Workpiece material thickness (MT)} \times 20\%$$

- ⚠ Because scrap retention block dies prevent scrap lifting by forming small projections on punching scrap, they are not suitable in cases such as punching of precision holes, or when the punched-out item becomes the product.

CARBIDE BLOCK DIES

—STRAIGHT TYPE · SINGLE FLANGE TYPE—

—Straight—	RoHS	M H	Catalog No.		V40 (HIP) 87~88HRA	A WBLD D WBLDD R WBLDR E WBLDE G WBLDG		 <p>Hole shape A</p> <p>$H \begin{matrix} +0.005 \\ 0 \end{matrix}$</p> <p>$V \begin{matrix} +0.005 \\ 0 \end{matrix}$</p> <p>$4-C0.5$</p> <p>$\pm 0.01$ A</p> <p>± 0.01 B</p> <p>$P \rightarrow$ min. W max. P dimension must be within the range of W dimension.</p>	 <p>Hole shape D</p> <p>$P \geq W$</p>	 <p>Hole shape R</p> <p>$P \geq W$ $0.15 \leq R < \frac{W}{2}$</p>	 <p>Hole shape E</p> <p>$P > W$</p>	 <p>Hole shape G</p> <p>$P > W$</p>
—Single flange—	RoHS	M H	Catalog No.		V40 (HIP) 87~88HRA	A WBLDF D WBLDDF R WBLDRF E WBLDEF G WBLDGF		 <p>Hole shape A</p> <p>$H \begin{matrix} +0.005 \\ 0 \end{matrix}$</p> <p>$V \begin{matrix} +0.005 \\ 0 \end{matrix}$</p> <p>$4-C0.5$</p> <p>$\pm 0.01$ A</p> <p>± 0.01 B</p> <p>$P \rightarrow$ min. W max. P dimension must be within the range of W dimension.</p>	 <p>Hole shape D</p> <p>$P \geq W$</p>	 <p>Hole shape R</p> <p>$P \geq W$ $0.15 \leq R < \frac{W}{2}$</p>	 <p>Hole shape E</p> <p>$P > W$</p>	 <p>Hole shape G</p> <p>$P > W$</p>

Catalog No.	H	V		R								L
		min. W max.	P max.	6	8	10	13	16	20	25	30	
Straight	6	1.00~3.00	3.00	1.00	1.00	1.00	1.00	1.00	1.50	1.50	1.50	16
Single flange	8	1.00~4.00	4.00	1.00	1.00	1.00	1.00	1.00	1.50	1.50	1.50	20
	10	1.00~6.00	6.00	1.00	1.00	1.00	1.00	1.00	1.50	1.50	1.50	22
	13	1.00~8.00	8.00	1.00	1.00	1.00	1.00	1.00	1.50	1.50	1.50	25
	16	1.00~10.00	10.00	1.00	1.00	1.00	1.00	1.00	1.50	1.50	1.50	30
	20	1.50~12.00	12.00	1.00	1.00	1.00	1.00	1.00	1.50	1.50	1.50	35
	25	1.50~16.00	16.00	1.00	1.00	1.00	1.00	1.00	1.50	1.50	1.50	35

P·W·R→0.01mm increments

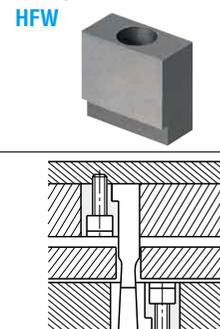
Price **Quotation**

Order **Catalog No.** V H — L — **0.01mm increments**
 P W — R (R only)
 WBLDR 13 10 — 20 — P6.34 — W4.65 — R1.50

Days to Ship **Quotation**

Alterations **Catalog No.** V H — L(LC) — P—W—R — (BC-HC, etc.)
 WBLDF 08 06 — 20 — P1.20 — PKC — ANF1.2

Flange holder P.465
 HFV



50
 1
 A°

• $\frac{1}{50}$ indicates a taper in which the diameter increases by 1mm over 50mm of length.

Taper	1/50
Angle (A°)	1.146°

Alteration	Code	A	D R E G	1Code
Alterations to shaped hole	BC	Shaped hole depth change $0 \leq BC \leq 4$ 0.1mm increments		
	PKC	Shaped hole tolerance change $P \pm 0.01 \rightarrow +0.005$ 0	Shaped hole tolerance change $P \cdot W \pm 0.01 \rightarrow +0.01$ 0	
	HVC	H and V are reversed relative to shaped hole. P dimension is machined in direction H and W dimension is machined in direction V. P → min. W max.		
Alterations to full length	LC	Full length change $10 \leq LC < L$ 0.1mm increments (If combined with LKC-LKZ, 0.01mm increments can be selected.) P For single flange types, if $LC \leq 12$ then press-in lead is not included.		
	LKC	Full length tolerance change $L \begin{matrix} +0.4 \\ +0.2 \end{matrix} \rightarrow +0.05$ 0		
	LKZ	Full length tolerance change $L \begin{matrix} +0.4 \\ +0.2 \end{matrix} \rightarrow +0.01$ 0		

Alteration	Code	A	D R E G	1Code															
Alterations to flange	HC	Flange width change $0 \leq HC < 1.5$ 0.1mm increments																	
	TC	Flange thickness change $2 \leq TC < 5$ 0.1mm increments (If combined with TKC-TKM, 0.01mm increments can be selected.) P Full length is shortened by (5-TC). If combined with LC, full length is equal to LC.																	
	TKC	Flange thickness tolerance change $T \begin{matrix} +0.3 \\ 0 \end{matrix} \rightarrow +0.02$ 0																	
	TKM	Flange thickness tolerance change $T \begin{matrix} +0.3 \\ 0 \end{matrix} \rightarrow -0.02$ 0																	
Others	VKC	Shape tolerance change $H \cdot V \begin{matrix} +0.005 \\ 0 \end{matrix} \rightarrow +0.003$ 0																	
	VKM	Shape tolerance change $H \cdot V \begin{matrix} +0.005 \\ 0 \end{matrix} \rightarrow -0.003$ 0																	
	VHM	Shape tolerance change $H \cdot V \begin{matrix} +0.005 \\ 0 \end{matrix} \rightarrow -0.005$ 0																	
	ANF	Angular angle change $0 \leq ANF \leq 1.2$ 0.2° increments P $d \leq d_{max}$ P $d = P + 2 \cdot ((L - B) \tan(ANF^\circ))$ P $B - \tan(ANF^\circ) \geq 0.6$ W $B - \tan(ANF^\circ) \geq 0.6$	<table border="1"> <tr> <td>V</td> <td>d max.</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> <tr> <td>13</td> <td>8.4</td> </tr> <tr> <td>16</td> <td>10.6</td> </tr> <tr> <td>20</td> <td>12.6</td> </tr> <tr> <td>25</td> <td>14.6</td> </tr> </table> Taper 1/50 Angle (one side) 0.573°	V	d max.	6	3.4	8	4.4	10	6.4	13	8.4	16	10.6	20	12.6	25	14.6
V	d max.																		
6	3.4																		
8	4.4																		
10	6.4																		
13	8.4																		
16	10.6																		
20	12.6																		
25	14.6																		
NDC	$H \cdot V \begin{matrix} -0.01 \\ -0.03 \end{matrix}$	→ No press-in lead																	

SCRAP RETENTION CARBIDE BLOCK DIES

—STRAIGHT TYPE / SINGLE FLANGE TYPE—



—Straight—	RoHS	M H	Catalog No.	Hole shape	Hole shape	Hole shape	Hole shape	Hole shape	
			V40 (HIP) 87~88HRA	<p>A SR-WBLD D SR-WBLDD R SR-WBLDR E SR-WBLDE G SR-WBLDG</p>	<p>A</p> <p>⊙ P→ min. W max. P dimension must be within the range of W dimension.</p>	<p>D</p> <p>⊙ P ≥ W ⊙ P - 0.4 ≥ 1.5 (P dimension straight section 1.5 mm or longer)</p>	<p>R</p> <p>⊙ P ≥ W ⊙ 0.15 ≤ R < W/2 ⊙ P - 2R ≥ 1.5 (P dimension straight section 1.5 mm or longer)</p>	<p>E</p> <p>⊙ P > W</p>	<p>G</p> <p>⊙ P > W ⊙ √(P² - W²) ≥ 1.5 (P dimension straight section 1.5 mm or longer)</p>
—Single flange—	RoHS	M H	Catalog No.	Hole shape	Hole shape	Hole shape	Hole shape	Hole shape	
			V40 (HIP) 87~88HRA	<p>A SR-WBLDF D SR-WBLDDF R SR-WBLDRF E SR-WBLDEF G SR-WBLDFG</p>	<p>A</p> <p>⊙ P→ min. W max. P dimension must be within the range of W dimension.</p>	<p>D</p> <p>⊙ P ≥ W ⊙ P - 0.4 ≥ 1.5 (P dimension straight section 1.5 mm or longer)</p>	<p>R</p> <p>⊙ P ≥ W ⊙ 0.15 ≤ R < W/2 ⊙ P - 2R ≥ 1.5 (P dimension straight section 1.5 mm or longer)</p>	<p>E</p> <p>⊙ P > W</p>	<p>G</p> <p>⊙ P > W ⊙ √(P² - W²) ≥ 1.5 (P dimension straight section 1.5 mm or longer)</p>

Catalog No.	H	V								R	L	MT (workpiece material thickness) 0.01mm increments	C (clearance) 0.005mm increments
		min. P max.	6	8	10	13	16	20	25				
Straight	6	1.00~3.00	1.00	1.00	1.00	1.00	1.50	1.50			16	C ≥ 0.010	
Single flange	8	1.00~4.00	1.00	1.00	1.00	1.00	1.50	1.50			20	MT ≥ 0.15	
	10	1.00~6.00									22	Select a clearance of 0.010mm or more.	
	13	1.00~8.00									25	Select a workpiece material thickness of 0.15mm or more.	
	16	1.00~10.00									30	Clearance Punch tip Die shaped hole	
	20	1.50~12.00									35		
	25	1.50~16.00											

⊙ P-W-R→0.01mm increments ⊙ Can be used only for workpiece materials with tensile strengths up to 1177N/mm² (120kgf/mm²).
⊙ Workpiece material thickness and clearance are used as machining data for the scrap retention. Specify the shaped hole dimensions (P-W-R) when selecting the die finishing dimensions.

P Price **Quotation**

Order Catalog No. V H L **0.01mm increments** P W R (R only) MT C
SR-WBLDRF 13 10 22 P7.65 W4.65 R0.50 MT1.50 C0.105

Days to Ship **Quotation**

Alterations Catalog No. V H L(LC) P-W-R MT C (BC-LKC, etc.)
SR-WBLDF 08 06 20 P2.25 MT1.50 C0.105 LKC-ANF1.2

Flange holder P.465
HFW

• 1/50 indicates a taper in which the diameter increases by 1mm over 50mm of length.
Taper Angle (A°) 1.146°

Alteration	Code	A	D R E G	1Code
Alterations to shaped hole	BC	Shaped hole depth change 1 ≤ BC < Bmax. 0.1mm increments 1.00~1.99 3 2.00~ 4	Shaped hole depth change 1 ≤ BC < 2 0.1mm increments	
	PKC	Shaped hole tolerance change P+0.01 → +0.005 0 → 0	Shaped hole tolerance change P-W±0.01 → +0.01 0 → 0	
	HVC		H and V are reversed relative to shaped hole. P dimension is machined in direction H and W dimension is machined in direction V. ⊙ P→min. W max.	
Alterations to full length	LC	Full length change 10 ≤ LC < L 0.1mm increments (If combined with LKC-LKZ, 0.01mm increments can be selected.) ⊙ For single flange types, if LC ≤ 12 then press-in lead is not included.		
	LKC LKZ	Full length tolerance change L+0.4 → +0.05 +0.2 → 0 L+0.4 → +0.01 +0.2 → 0		

Alteration	Code	A	D R E G	1Code															
Alterations to flange	HC	Flange width change 0 ≤ HC < 1.5 0.1mm increments																	
	TC	Flange thickness change 2 ≤ TC < 5 0.1mm increments (If combined with TKC-TKM, 0.01mm increments can be selected.) ⊙ Full length is shortened by (5-TC). If combined with LC, full length is equal to LC.																	
	TKC	Flange thickness tolerance change T+0.3 → +0.02 0 → 0																	
	TKM	Flange thickness tolerance change T+0.3 → 0 0 → -0.02																	
Others	VKC	Shape tolerance change H-V+0.005 → +0.003 0 → 0																	
	VKM	Shape tolerance change H-V+0.005 → 0 0 → -0.003																	
	VHM	Shape tolerance change H-V+0.005 → 0 0 → -0.005																	
	ANF	Angular angle change 0 ≤ ANF ≤ 1.2 0.2° increments ⊙ d ≤ dmax. ⊙ d = P + 2(L-B)tan(ANF°) ⊙ P-B tan(ANF°) ≥ 0.6 ⊙ W-B tan(ANF°) ≥ 0.6	<table border="1"> <tr><td>V</td><td>d max.</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> <tr><td>13</td><td>8.4</td></tr> <tr><td>16</td><td>10.6</td></tr> <tr><td>20</td><td>12.6</td></tr> <tr><td>25</td><td>14.6</td></tr> </table>	V	d max.	6	3.4	8	4.4	10	6.4	13	8.4	16	10.6	20	12.6	25	14.6
V	d max.																		
6	3.4																		
8	4.4																		
10	6.4																		
13	8.4																		
16	10.6																		
20	12.6																		
25	14.6																		
NDC	H·V-0.01 -0.03	→ No press-in lead																	

CARBIDE BLOCK DIES

—CONFIGURABLE SIZE TYPE—

SCRAP RETENTION CARBIDE BLOCK DIES

—CONFIGURABLE SIZE TYPE—

PRODUCTS DATA

P.1619

—Straight— **RoHS** **M**
H Catalog No.

V40 (HIP)
87~88HRA

A WFBLD
D WFBLDD
R WFBLDR
E WFBLDE
G WFBLDG

Hole shape **A** Hole shape **D** Hole shape **R** Hole shape **E** Hole shape **G**

$P \rightarrow \min. W \max.$
 P dimension must be within the range of W dimension.

—Straight— **RoHS** **M**
H Catalog No.

V40 (HIP)
87 ~ 88HRA

A SR-WFBLD
D SR-WFBLDD
R SR-WFBLDR
E SR-WFBLDE
G SR-WFBLDG

Hole shape **A** Hole shape **D** Hole shape **R** Hole shape **E** Hole shape **G**

$P \rightarrow \min. W \max.$
 P dimension must be within the range of W dimension.

Catalog No.	H	V		V						R	L
		min. W max.	min. P max.	6.0	8.1	10.1	13.1	16.1	20.1		
A WFBLD D WFBLDD R WFBLDR E WFBLDE G WFBLDG	6.0~ 8.0	1.00~ 4.00	4	4	4	5	6	8	9	$0.15 \leq R < \frac{W}{2}$	16
	8.1~ 10.0	1.00~ 6.00	4								20
	10.1~ 13.0	1.00~ 8.00	5								22
	13.1~ 16.0	1.00~ 10.00	6								25
	16.1~ 20.0	1.50~ 12.00	8								30
	20.1~ 25.0	1.50~ 16.00	9								35

$V-P=a$ $H-W=b$ (For shape **A**, $H-P=b$)
 $P-W-R \rightarrow 0.01\text{mm}$ increments $V-H \rightarrow 0.1\text{mm}$ increments

Order **Catalog No.** **0.1mm increments** **L** **0.01mm increments**

WFBLDE - **V15.8** - **H12.8** - **L22** - **P7.25** - **W5.75**

Days to Ship **Quotation**

Price **Quotation**

Alterations **Refer to the page at right.**

Catalog No.	H	V		V						R	L	MT (workpiece material thickness)	C (clearance)
		min. W max.	min. P max.	6.0	8.1	10.1	13.1	16.1	20.1				
A SR-WFBLD D SR-WFBLDD R SR-WFBLDR E SR-WFBLDE G SR-WFBLDG	6.0~ 8.0	1.00~ 4.00	4	4	4	5	6	8	9	$0.15 \leq R < \frac{W}{2}$	16	MT ≥ 0.15 Select a workpiece material thickness of 0.15mm or more.	C ≥ 0.010 Select a clearance of 0.010mm or more.
	8.1~ 10.0	1.00~ 6.00	4								20		
	10.1~ 13.0	1.00~ 8.00	5								22		
	13.1~ 16.0	1.00~ 10.00	6								25		
	16.1~ 20.0	1.50~ 12.00	8								30		
	20.1~ 25.0	1.50~ 16.00	9								35		

$V-P=a$ $H-W=b$ (For shape **A**, $H-P=b$) $P-W-R \rightarrow 0.01\text{mm}$ increments $V-H \rightarrow 0.1\text{mm}$ increments \odot Can be used only for workpiece materials with tensile strengths up to 1,177N/mm² (120kgf/mm²).
 \odot Workpiece material thickness and clearance are used as machining data for the scrap retention. Specify the shaped hole dimensions (P-W-R) when selecting the die finishing dimensions.

Order **Catalog No.** **0.1mm increments** **L** **0.01mm increments** **MT** **C**

SR-WFBLDE - **V15.8** - **H12.8** - **L22** - **P7.27** - **W5.25** - **MT1.50** - **C0.105**

Alterations **Catalog No.** **V** **H** **L(LC)** **P-W-R** **(BC-LKC, etc.)**

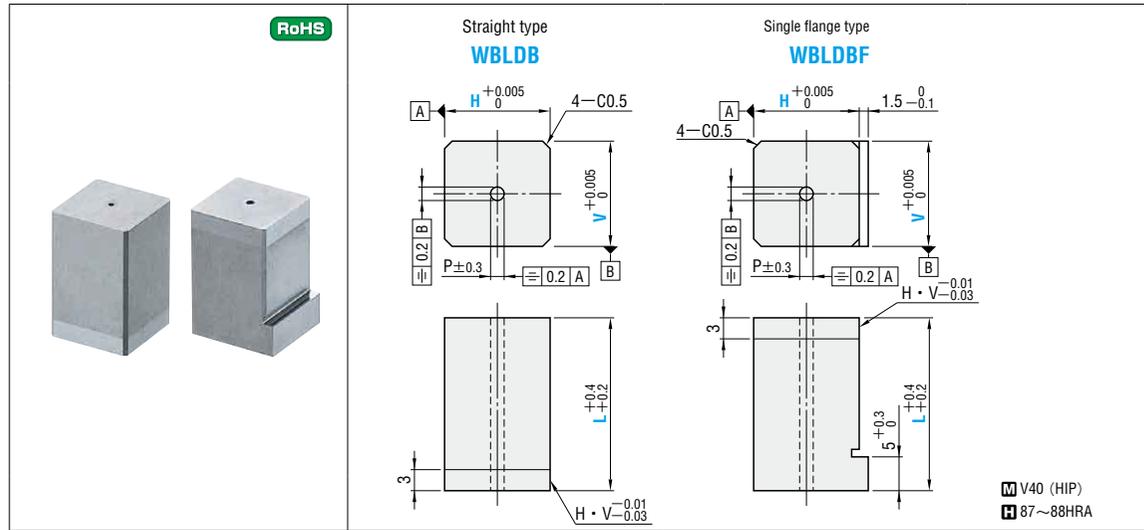
SR-WFBLDD - **V12.5** - **H9.5** - **LC28.5** - **P6.25** - **W4.75** - **LKC-ANF1.2**

Alteration	Code	A	D R E G	1Code
Alterations to shaped hole	BC	Shaped hole depth change $0 \leq BC \leq 4$ 0.1mm increments With scrap retention $1 \leq BC \leq 2$ 0.1mm increments $\frac{P}{1.00 \sim 1.99}$ $\frac{B_{max}}{3}$ $\frac{P}{2.00 \sim}$ $\frac{B_{max}}{4}$	Shaped hole depth change $0 \leq BC \leq 4$ 0.1mm increments With scrap retention $1 \leq BC < 2$ 0.1mm increments	Quotation
	PKC	Shaped hole tolerance change $P+0.01 \rightarrow +0.005$ 0	Shaped hole tolerance change $P-W \pm 0.01 \rightarrow +0.01$	
Alterations to full length	HVC		H and V are reversed relative to shaped hole. P dimension is machined in direction H and W dimension is machined in direction V. $P \rightarrow \min. W \max.$	Quotation
	LC	Full length change $10 \leq LC < L$ 0.1mm increments (If combined with LKC-LKZ, 0.01mm increments can be selected.)		
Alterations to full length	LKC	Full length tolerance change $L+0.4 \rightarrow +0.05$ $L+0.2 \rightarrow 0$		Quotation
	LKZ	Full length tolerance change $L+0.4 \rightarrow +0.01$ $L+0.2 \rightarrow 0$		

Alteration	Code	A	D R E G	1Code																
Others	VKC	Shape tolerance change $H+V+0.005 \rightarrow +0.003$ 0		Quotation																
	VKM	Shape tolerance change $H+V+0.005 \rightarrow -0.003$ 0																		
	VHM	Shape tolerance change $H+V+0.005 \rightarrow -0.005$ 0																		
Others	ANF	Angular angle change $0 \leq ANF \leq 1.2$ 0.2° increments $d \leq d_{max}$ $d = P+2 \{ (L-B) \tan(ANF^\circ) \}$ $P-B \tan(ANF^\circ) \geq 0.6$ $W-B \tan(ANF^\circ) \geq 0.6$	<table border="1"> <tr> <th>V</th> <th>d max.</th> </tr> <tr> <td>6.0</td> <td>3.4</td> </tr> <tr> <td>8.0</td> <td>4.4</td> </tr> <tr> <td>10.0</td> <td>6.4</td> </tr> <tr> <td>13.0</td> <td>8.4</td> </tr> <tr> <td>16.0</td> <td>10.6</td> </tr> <tr> <td>20.0</td> <td>12.6</td> </tr> <tr> <td>25.0</td> <td>14.6</td> </tr> </table>	V	d max.	6.0	3.4	8.0	4.4	10.0	6.4	13.0	8.4	16.0	10.6	20.0	12.6	25.0	14.6	Quotation
		V	d max.																	
6.0	3.4																			
8.0	4.4																			
10.0	6.4																			
13.0	8.4																			
16.0	10.6																			
20.0	12.6																			
25.0	14.6																			
NDC	No press-in lead																			

CARBIDE BLOCK DIE BLANKS

CARBIDE BLOCK DIE BLANKS



Catalog No.	H	V	L								P
			6	8	10	13	16	20	25	35	
Straight type WBLDB	6	○	○	○	○	○	○	○	○	16	0.8
	8		○	○	○	○	○	○	○	20	
	10			○	○	○	○	○	○	22	
	13				○	○	○	○	○	25	
	16					○	○	○	○	30	
	20						○	○	○	35	
25								○			

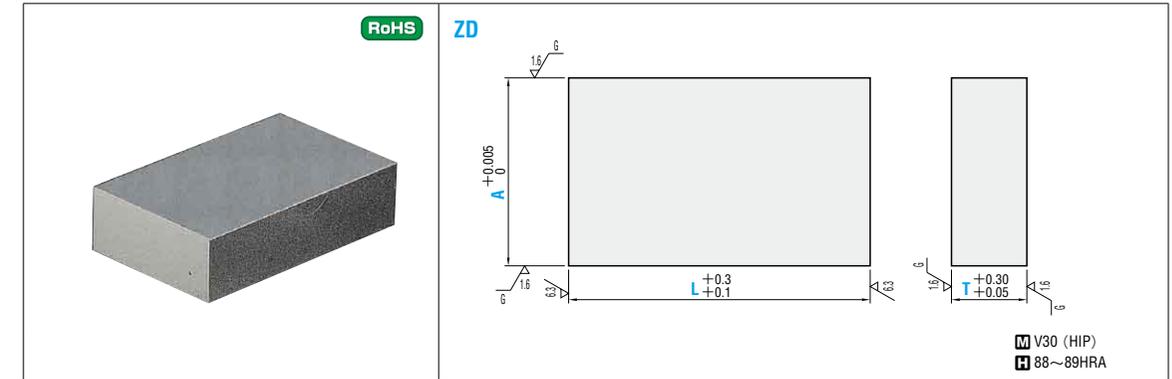
Order **Catalog No.** **V** **H** - **L**
WBLDB 08 06 - 16

Alterations **Catalog No.** **V** **H** - **L(LC)** - (HC·TC·TKC, etc.)
WBLDBF 13 10 - 20 - TC4

Days to Ship **Quotation**

Price **Quotation**

Alteration	Code	Spec.	1Code
Alterations to full length	LC	Full length change $10 \leq LC < L$ 0.1mm increments (If combined with LKC-LKZ, 0.01mm increments can be selected.) For single flange types, if $LC \leq 12$ then press-in lead is not included.	
	LKC	Full length tolerance change $L \begin{matrix} +0.4 \\ +0.2 \end{matrix} \rightarrow \begin{matrix} +0.05 \\ 0 \end{matrix}$	
	LKZ	Full length tolerance change $L \begin{matrix} +0.4 \\ +0.2 \end{matrix} \rightarrow \begin{matrix} +0.01 \\ 0 \end{matrix}$	
Alterations to flange	HC	Flange width change $0 \leq HC < 1.5$ 0.1mm increments	
	TC	Flange thickness change $2 \leq TC < 5$ 0.1mm increments (If combined with TKC·TKM, 0.01mm increments can be selected.) Full length L is shortened by (5-TC). If combined with LC, full length is equal to LC.	Quotation
	TKC	Flange thickness tolerance change $T \begin{matrix} +0.3 \\ 0 \end{matrix} \rightarrow \begin{matrix} +0.02 \\ 0 \end{matrix}$	
	TKM	Flange thickness tolerance change $T \begin{matrix} +0.3 \\ 0 \end{matrix} \rightarrow \begin{matrix} 0 \\ -0.02 \end{matrix}$	
Others	VKC	Shape tolerance change $H \cdot V \begin{matrix} +0.005 \\ 0 \end{matrix} \rightarrow \begin{matrix} +0.003 \\ 0 \end{matrix}$	
	VKM	Shape tolerance change $H \cdot V \begin{matrix} +0.005 \\ 0 \end{matrix} \rightarrow \begin{matrix} 0 \\ -0.003 \end{matrix}$	
	VHM	Shape tolerance change $H \cdot V \begin{matrix} +0.005 \\ 0 \end{matrix} \rightarrow \begin{matrix} 0 \\ -0.005 \end{matrix}$	
	NDC	$H \cdot V \begin{matrix} -0.01 \\ -0.03 \end{matrix}$ ⇒ No press-in lead	



Catalog No.	Type	T	A	L	Base unit price 1 ~ 4 pieces			
					L=40	L=50	L=60	L=70
ZD	10	10	10	40				
			13					
			16					
			20					
			13					
			16					
	13	13	13	50				
			16					
			20					
			16					
			20					
			20					

Order **Catalog No.** **A** - **L**
ZD 10 16 - 50

Days to Ship **Quotation**

Price **Quotation**

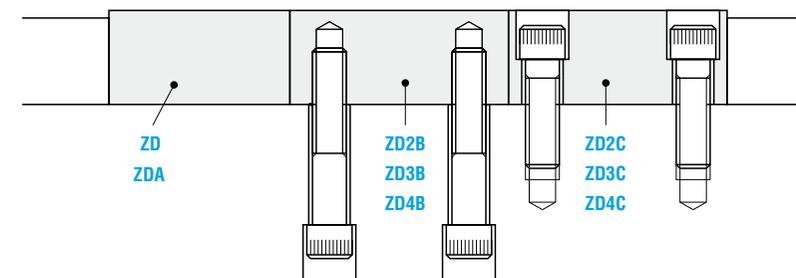
Alterations **Catalog No.** **A** - **L(LC)** - (TKC)
ZD 10 16 - LC45 - TKC

Alteration	Code	Spec.	1Code
Alterations to full length	LC	$30 \leq LC < L$ 1mm increments	Quotation

Alteration	Code	Spec.	1Code
Alteration to thickness	TKC	T tolerance change $T \begin{matrix} +0.30 \\ +0.05 \end{matrix} \rightarrow \begin{matrix} +0.01 \\ 0 \end{matrix}$	Quotation

ex Example **Carbide block die blanks**

- ZD: Thickness T · width A · length L are standard dimensions. Material is same as the punch (V30). ※Dimension L can be changed within the specified range.
- ZDA·ZDB·ZDC (P.567): Thickness T, width A, and length L can be specified in 0.01mm increments. Die material (V40) is used. ※The material can be changed to V20 · V30 by alteration.



CARBIDE BLOCK DIE BLANKS

—MACHINED TYPE—

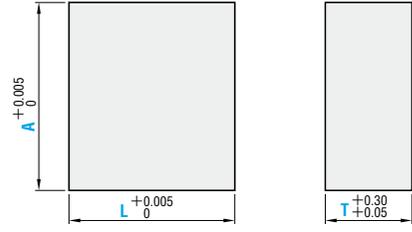


RoHS

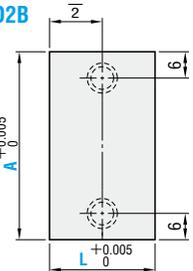
 V40 (HIP)
 87 ~ 88HRA

A	10.00~31.99	32.00~70.00
M	4	5
d1	4.5	5.5
d2 x t	7.5 x 7	9 x 8

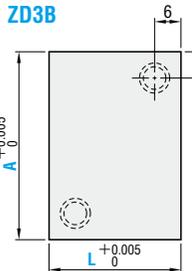
ZDA



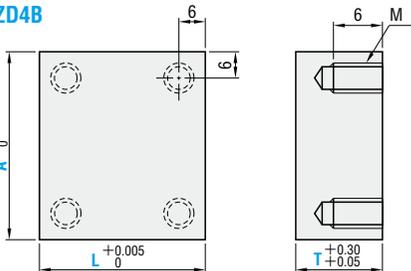
ZD2B



ZD3B

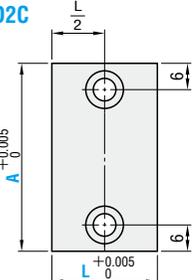


ZD4B

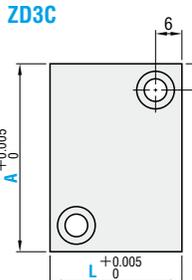


ⓘ Although the tap hole has performed tap processing to steel inlaw until now, as soon as stock of a factory is lost, tap processing is directly given to the quality of super-hard material.

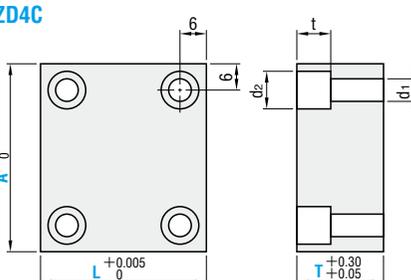
ZD2C

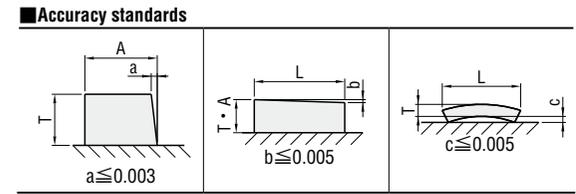


ZD3C



ZD4C





Catalog No.	T	A 0.01mm increments	L 0.01mm increments
ZDA	10	10.00~70.00	3.00~80.00
ZD2B ZD2C	13	30.00~70.00	13.00~70.00
ZD3B ZD3C	20	20.00~70.00	20.00~80.00
ZD4B ZD4C	25	30.00~70.00	25.00~80.00

Order  **Catalog No.** **T** **0.01mm increments**

ZDA 16 — 16.00 — 40.00

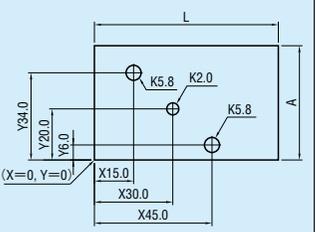
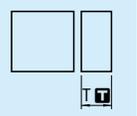
Days to Ship  **Quotation**

Price  **Quotation**

ⓘ For larger orders, ask about prices/delivery.

Alterations  **Catalog No.** **T** **A** **L** **X·Y·K** — (TKC·JC)

ZDA 25 — 45.00 — 70.00 — X15.0 Y34.0 K5.8
X30.0 Y20.0 K2.0
X45.0 Y 6.0 K5.8 — TKC

Alteration	Code	Spec.	1Code
	X Y K	Pilot holes for WEDM, dowel holes, and other holes can be machined. Specify the hole position (X and Y) and diameter (K). Increment for X·Y 0.1mm increments T=10·13·16→ φ 1.0 ≤ K ≤ φ 10 T=20·22·25→ φ 1.5 ≤ K ≤ φ 10 Increment for K 0.1mm increments Hole pitch tolerance ±0.3	Quotation
	TKC	T dimension tolerance change T +0.30 → +0.01 +0.05 → 0	Quotation
M Material change	JC2	Material change M V40 → V20	Quotation
	JC3	Material change M V40 → V30	Quotation