BLOCK DIES

BLOCK DIES

Product name / Type	BLOCK DIE Straight	 Single flange	BLOCK DIE —SMALL TYPE— Straight	 Single flange	SCRAP RETENTION BLOCK DIE Straight	 Single flange
Page	369		371		373	

BLOCK DIE —CONFIGURABLE SIZE TYPE—	SCRAP RETENTION BLOCK DIE —CONFIGURABLE SIZE TYPE—	BLOCK DIE —FIXING-BOLT TYPE—	SCRAP RETENTION BLOCK DIE —FIXING-BOLT TYPE—
375	377	379	381

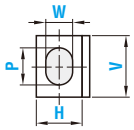
BLOCK DIE BLANK Straight	 Single flange	BLOCK DIE BLANK —FIXING-BOLT TYPE—	SPACER —FOR BLOCK DIE—
383		384	385

How to order block dies

■The position of the shaped hole can be determined as needed within the allowable range.

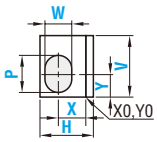
Order

(1) If shaped hole is at center of shank



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

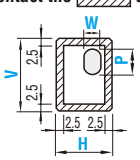
(2) If shaped hole is not at center of shank



Catalog No.	V	H	—	L	—	0.01mm increments						
						P	—	W	—	R (Ⓡ only)	—	X—Y
BLDR	13	10	—	20	—	P6.34	—	W4.65	—	R1.50	—	X2.85 — Y2.83

- The position of the shaped hole center is determined by X and Y.
  Unit: 0.01 increment
  Tolerance: X, Y±0.005 (Shaped holes Ⓐ), X, Y±0.01 (Shaped holes ⒹⓇⒺⒼ)
  Range : Refer below.
- For a scrap retention block die, only hole shapes Ⓐ can be selected.

X, Y range : X and Y values can be determined as needed as long as the shaped hole does not contact the ▨ area shown in the figure below.



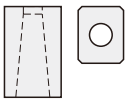
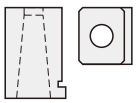
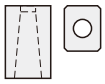
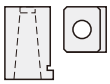
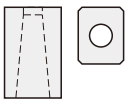
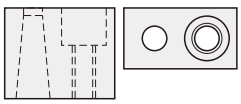
Hole shape Ⓐ: $2.5+P/2 \leqq X \leqq H-(2.5+P/2)$, $2.5+P/2 \leqq Y \leqq V-(2.5+P/2)$

Hole shape ⒹⓇⒺⒼ: $2.5+W/2 \leqq X \leqq H-(2.5+W/2)$, $2.5+P/2 \leqq Y \leqq V-(2.5+P/2)$

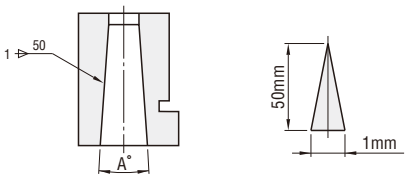
- For fixing-bolt types, the allowable ranges for X and Y are determined by a different formula from the above. Refer to the corresponding product page.
- Be aware that the shaped hole position and X/Y values are determined differently for block punches.

BLOCK DIES —GUIDE—

■Block dies list

Block die type		M	Type	Without scrap retention			With scrap retention		
				Round	Shaped	Page	Round	Shaped	Page
Block, straight		Equivalent to SKD11	Regular type	BLD	BLD□	P.369	SR—BLD	SR—BLD□	P.373
		Powdered high-speed steel	Regular type	PBLD	PBLD□		SR—PBLD	SR—PBLD□	
Block, single flange		Equivalent to SKD11	Regular type	BLDF	BLD□F	P.369	SR—BLDF	SR—BLD□F	P.373
		Powdered high-speed steel	Regular type	PBLDF	PBLD□F		SR—PBLDF	SR—PBLD□F	
Block, straight, small type		Equivalent to SKD11	Regular type	SBLD	SBLD□	P.371			
		Powdered high-speed steel	Regular type	SPBLD	SPBLD□				
Block, single flange, small type		Equivalent to SKD11	Regular type	SBLDF	SBLD□F	P.371			
		Powdered high-speed steel	Regular type	SPBLDF	SPBLD□F				
Block, configurable size		Equivalent to SKD11	Regular type	FBLD	FBLD□	P.375	SR—FBLD	SR—FBLD□	P.377
		Powdered high-speed steel	Regular type	FPBLD	FPBLD□		SR—FPBLD	SR—FPBLD□	
Block, fixing-bolt		Equivalent to SKD11	Regular type	BBD	BBD□	P.379	SR—BBD	SR—BBD□	P.381

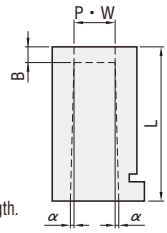
■Indication of block die relief angle



1/50 indicates a taper in which the diameter increases by 1mm over 50mm of length.

Taper	1/50
Angle (A°)	1.146°

■Dimension L of block die and spread of dimensions P and W (1/50 In case of)



(α×2) part dimension: Spread of P・W (when B=2).
Values in the table below are values for the α part on each side.

L \ Taper	2α
16	0.28
20	0.36
22	0.40
25	0.46
30	0.56
35	0.66

If used with LC, $2\alpha = \frac{LC-B}{50}$.

■Scrap retention block dies (For details, see P.1103)

Scrap retention block dies include two or more slanted grooves machined on the inner surface of the die.
The scrap initially punched out during the punching process forms small projections along the slanted grooves in the die. When the punching process pushes this scrap farther down to the bottom, the projections become compressed by the sides of the die ("ironing" effect), preventing scrap lifting from occurring.

●Applicable range
1. Hole diameter: ϕ1.0 ~ ϕ16
2. Workpiece material: Can be used for materials with tensile strengths up to 1,177N/mm^2 (120kgf/mm^2)
3. Thickness of workpiece materials: Minimum thickness 0.15 mm
4. The scrap retention effect cannot be obtained if the clearance (C) exceeds 20% of the workpiece thickness (MT). Make sure that the clearance is 20% or less of MT.
   Clearance (C) < Workpiece thickness (MT) × 20%

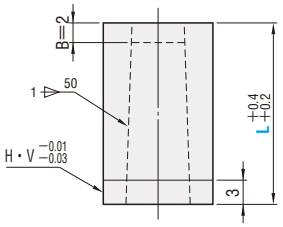
Because scrap retention block dies prevent scrap lifting by forming small projections on punching scrap, they are not suitable in cases such as punching of precision holes, or when the punched-out item becomes the product.

BLOCK DIES

—Straight—

RoHS

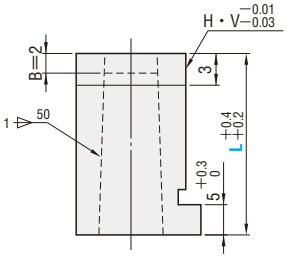
M / H	Catalog No. Ⓐ	Catalog No. D R E G
Equivalent to SKD11 60 ～ 63HRC	BLD	BLDD BLDR BLDE BLDG
Powdered high-speed steel 64 ～ 67HRC	PBLD	PBLDD PBLDR PBLDE PBLDG



—Single flange—

RoHS

M / H	Catalog No. Ⓐ	Catalog No. D R E G
Equivalent to SKD11 60 ～ 63HRC	BLDF	BLDDF BLDRF BLDEF BLDGF
Powdered high-speed steel 64 ～ 67HRC	PBLDF	PBLDDF PBLDRF PBLDEF PBLDGF



Catalog No.	H	V min.W max.	6 1.00 ～ 3.00	8 1.00 ～ 4.00	10 1.00 ～ 6.00	13 1.00 ～ 8.00	16 1.00 ～ 10.00	20 1.50 ～ 12.00	25 1.50 ～ 16.00	R	L
Straight type / Single flange type	6	1.00 ～ 3.00	○	○	○	○	○	○	○	0.15≦R< W/2 (R only)	16
Ⓐ BLD PBLD BLDF PBLDF	8	1.00 ～ 4.00		○	○	○	○	○	○		20
D BLDD PBLDD BLDDF PBLDDF	10	1.00 ～ 6.00			○	○	○	○	○		22
R BLDR PBLDR BLDRF PBLDRF	13	1.00 ～ 8.00				○	○	○	○		25
E BLDE PBLDE BLDEF PBLDEF	16	1.00 ～10.00					○	○	○		30
G BLDG PBLDG BLDGF PBLDGF	20	1.50 ～12.00						○	○		35
	25	1.50 ～16.00							○		

(P) P・W・R···0.01mm increments

Days to Ship **Quotation**

Alterations

Catalog No. | V | H | L(LC) | P—W—R | (BC・HC, etc.)
BLDF 08 06 — LC21.5 — P1.20 — PKC—ANF1.2

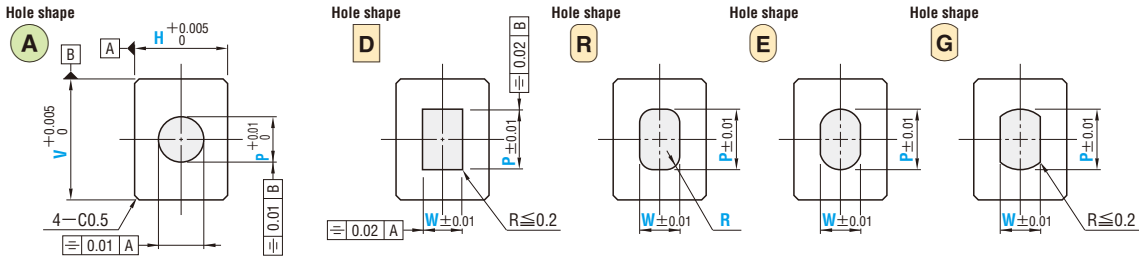
Alteration		Code	Ⓐ	D R E G	1Code
Alterations to shaped hole		BC	Shaped hole depth change 0≦BC≦4 0.1mm increments		Quotation
		PKC	Shaped hole tolerance change P +0.01 0 ⇨ +0.005 0	Shaped hole tolerance change P・W±0.01 ⇨ +0.01 0	
		HVC	—	H and V are reversed relative to shaped hole. P dimension is machined in direction H and W dimension is machined in direction V. (P) P≦W max. ⊗ Cannot be used if shaped hole is not at center of shank.	
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.) (P) For single flange types, if LC≦12 then press-in lead is not included.		
		LKC	Full length tolerance change L +0.4 +0.2 ⇨ +0.05 0		
		LKZ	Full length tolerance change L +0.4 +0.2 ⇨ +0.01 0		

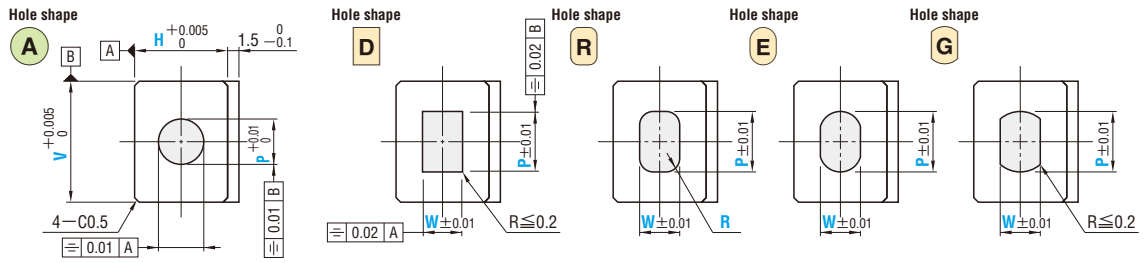
Alteration		Code	Ⓐ	D R E G	1Code
Alterations to flange		HC	Flange width change 0≦HC<1.5 0.1mm increments		Quotation
		TC	Flange thickness change 2≦TC<5 0.1mm increments (If combined with TKC・TKM, 0.01mm increments can be selected.) (P) Full length is shortened by (5—TC). If combined with LC, full length is equal to LC.		
		TKC	Flange thickness tolerance change T +0.3 0 ⇨ +0.02 0		
		TKM	Flange thickness tolerance change T +0.3 0 ⇨ 0 −0.02		
Others		VHM	Shape tolerance change H・V +0.005 0 ⇨ 0 −0.005		
		NDC	H・V −0.01 −0.03 H・V −0.01 −0.03 ⇨No press-in lead		
		ANF	Angular angle change 0≦ANF≦1.2 0.2° increments (P) d≦dmax. (P) d=P+2{(L—B) tan(ANF°)} (P) P—Btan(ANF°)≧0.6 W—Btan(ANF°)≧0.6 ⊗ Cannot be used if shaped hole is not at center of shank.		

ANF° ±20′

V	d max.
6	3.4
8	4.4
10	6.4
13	8.4
16	10.6
20	12.6
25	14.6

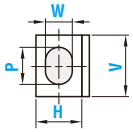
Taper 1/50
Angle (one side) 0.573°





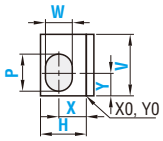
Order

(1) If shaped hole is at center of shank



Catalog No.	V	H	—	L	—	0.01mm increments				
						P	—	W	—	R (Ⓡ only)
BLDR	13	10	—	20	—	P6.34	—	W3.65	—	R1.50

(2) If shaped hole is not at center of shank



Catalog No.	V	H	—	L	—	0.01mm increments						
						P	—	W	—	R (Ⓡ only)	—	X—Y
BLDR	13	10	—	20	—	P6.34	—	W3.65	—	R1.50	—	X4.67—Y6.02

- For the upper and lower limit values for X and Y, refer to P.367.
- X,Y tolerance: ±0.005 (Shaped holes Ⓐ), ±0.01 (Shaped holes ⒹⓇⒺⒼ)
- Be aware that the shaped hole position and X/Y values are determined differently for block punches.

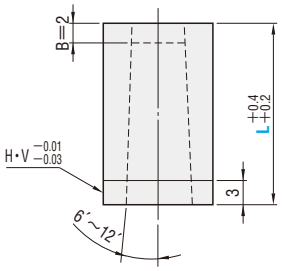
Price Quotation

BLOCK DIES
—SMALL TYPE—

—Straight—

RoHS

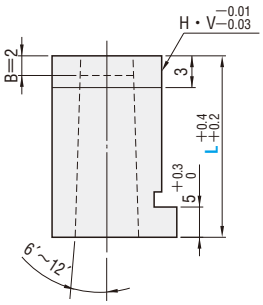
M / H	Catalog No. Ⓐ	Catalog No. D R E G
Equivalent to SKD11 60 ～ 63HRC	SBLD	SBLDD SBLDR SBLDE SBLDG
Powdered high-speed steel 64 ～ 67HRC	SPBLD	SPBLDD SPBLDR SPBLDE SPBLDG



—Single flange—

RoHS

M / H	Catalog No. Ⓐ	Catalog No. D R E G
Equivalent to SKD11 60 ～ 63HRC	SBLDF	SBLDDF SBLDRF SBLDEF SBLDGF
Powdered high-speed steel 64 ～ 67HRC	SPBLDF	SPBLDDF SPBLDRF SPBLDEF SPBLDGF



Catalog No.	H \ V	3	4	5	R	L
	min.P max. / min.W max.	0.60 ～ 1.00	0.60 ～ 2.00	0.60 ～ 3.00	R	
Straight: Ⓐ SBLD · D SBLDD · R SBLDR · E SBLDE · G SBLDG Single flange type: SPBLD · SPBLDD · SPBLDR · SPBLDE · SPBLDG · SBLDF · SBLDDF · SBLDRF · SBLDEF · SBLDGF · SPBLDF · SPBLDDF · SPBLDRF · SPBLDEF · SPBLDGF	3 / 0.60 ～ 1.00	○	○	○	0.15≦R＜W/2 (R only)	10 13
	4 / 0.60 ～ 2.00		○	○		16 20
	5 / 0.60 ～ 3.00			○		22 25

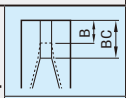
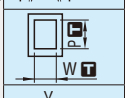
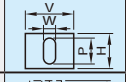
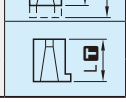
P・W・R···0.01mm increments

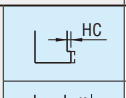
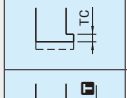
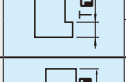
For single flange types, if L=10 then press-in lead is not included.

Days to Ship **Quotation**

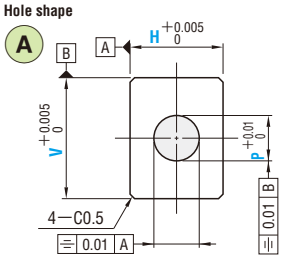
Alterations

Catalog No. | V | H | — | L(LC) | — | P—W—R | — | (BC・HC, etc.)
SBLDF | 04 | 04 | — | LC15.5 | — | P1.85 | — | TKC

Alteration		Code	Ⓐ	D R E G	1Code
Alterations to shaped hole		BC	Shaped hole depth change 0≦BC≦2 0.1mm increments		Quotation
		PKC	Shaped hole tolerance change P +0.01 0 ⇨ +0.005 0	Shaped hole tolerance change P・W±0.01 ⇨ +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≦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	Full length tolerance change L +0.4 +0.2 ⇨ +0.05 0		
		LKZ	Full length tolerance change L +0.4 +0.2 ⇨ +0.01 0		

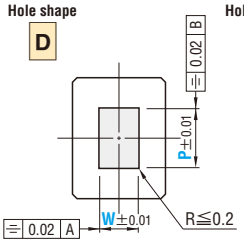
Alteration		Code	Ⓐ	D R E G	1Code
Alterations to flange		HC	Flange width change 0≦HC＜1.5 0.1mm increments		Quotation
		TC	Flange thickness change 2≦TC＜5 0.1mm increments (If combined with TKC・TKM, 0.01mm increments can be selected.) Full length is shortened by (5—TC). If combined with LC, full length is equal to LC.		
		TKC	Flange thickness tolerance change T +0.3 0 ⇨ +0.02 0		
		TKM	Flange thickness tolerance change T +0.3 0 ⇨ 0 −0.02		
Others		VHM	Shape tolerance change H・V +0.005 0 ⇨ 0 −0.005		
		NDC	H・V −0.01 −0.03 H・V −0.01 −0.03 ⇨No press-in lead		

Hole shape



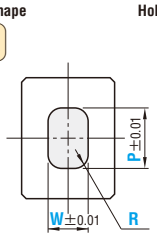
W min.≦P≦W max.
P dimension must be within the range of W dimension.

Hole shape



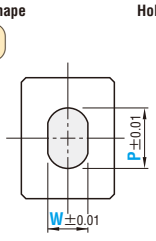
P≧W

Hole shape



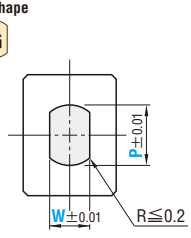
P≧W
0.15≦R<$\frac{W}{2}$

Hole shape



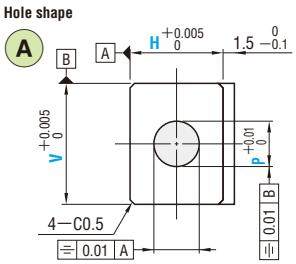
P>W

Hole shape



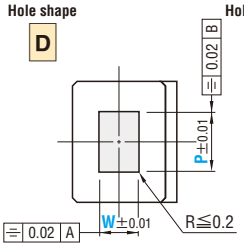
P>W

Hole shape



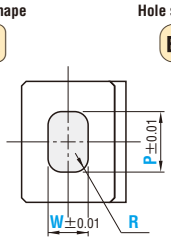
W min.≦P≦W max.
P dimension must be within the range of W dimension.

Hole shape



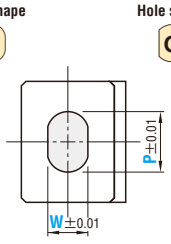
P≧W

Hole shape



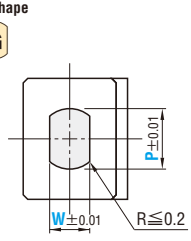
P≧W
0.15≦R<$\frac{W}{2}$

Hole shape



P>W

Hole shape



P>W

Order

Catalog No.	V	H	—	L	—	0.01mm increments			
						P	—	W	—	R (Ⓡ only)
SBLD	03	03	—	20	—	P0.60				

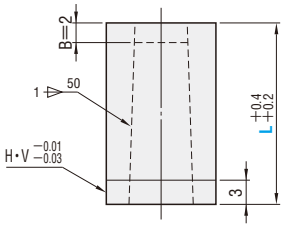
Price Quotation

SCRAP RETENTION BLOCK DIES

—Straight—

RoHS

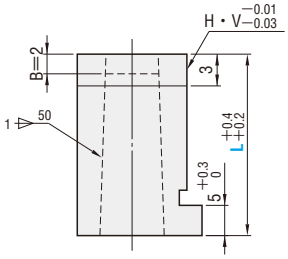
M / H	Catalog No. Ⓐ	Catalog No. DREG
Equivalent to SKD11 60 ～ 63HRC	SR—BLD	SR—BLDD SR—BLDR SR—BLDE SR—BLDG
Powdered high-speed steel 64 ～ 67HRC	SR—PBLD	SR—PBLDD SR—PBLDR SR—PBLDE SR—PBLDG



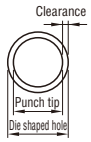
—Single flange—

RoHS

M / H	Catalog No. Ⓐ	Catalog No. DREG
Equivalent to SKD11 60 ～ 63HRC	SR—BLDF	SR—BLDDF SR—BLDRF SR—BLDEF SR—BLDGF
Powdered high-speed steel 64 ～ 67HRC	SR—PBLDF	SR—PBLDDF SR—PBLDRF SR—PBLDEF SR—PBLDGF



Catalog No. Straight	Catalog No. Single flange	H	V min. P max. / min. W max.	6	8	10	13	16	20	25	R	L	MT (workpiece material thickness) 0.01mm increments	C (clearance) 0.005mm increments
				1.00 ⌇ 3.00	1.00 ⌇ 4.00	1.00 ⌇ 6.00	1.00 ⌇ 8.00	1.00 ⌇ 10.00	1.50 ⌇ 12.00	1.50 ⌇ 16.00				
Ⓐ SR—BLD	SR—BLDF	6	1.00 ～ 3.00	○	○	○	○	○	○	○	0.15≦R＜W/2 (R only)	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.
Ⓓ SR—BLDD	SR—BLDDF	8	1.00 ～ 4.00		○	○	○	○	○	○		20		
Ⓡ SR—BLDR	SR—BLDRF	10	1.00 ～ 6.00			○	○	○	○	○		22		
Ⓔ SR—BLDE	SR—BLDEF	13	1.00 ～ 8.00				○	○	○	○		25		
Ⓖ SR—BLDG	SR—BLDGF	16	1.00 ～10.00					○	○	○		30		
Ⓐ SR—PBLD	SR—PBLDF	20	1.50 ～12.00						○	○		35		
Ⓓ SR—PBLDD	SR—PBLDDF	25	1.50 ～16.00							○				
Ⓡ SR—PBLDR	SR—PBLDRF													
Ⓔ SR—PBLDE	SR—PBLDEF													
Ⓖ SR—PBLDG	SR—PBLDGF													

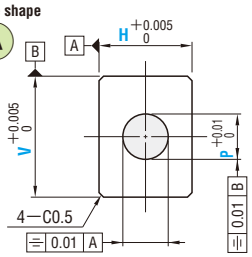


Ⓟ P・W・R···0.01mm increments Ⓟ Can be used only for workpiece materials with tensile strengths up to 1,177N/mm² (120kgf/mm²).
Ⓟ Workpiece material thickness and clearance are used as machining data for the scrap retention.Specify the shaped hole dimensions (P・W・R) when selecting the block die finishing dimensions.

Price Quotation

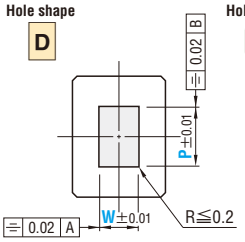
Days to Ship Quotation

Hole shape A



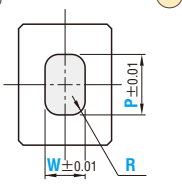
W min.≦P≦W max.
P dimension must be within the range of W dimension.

Hole shape D



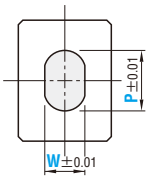
P≧W
P—0.4≧1.5
(P dimension straight section 1.5 mm or longer)

Hole shape R



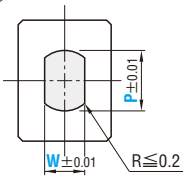
P≧W 0.15≦R<$\frac{W}{2}$
P—2R≧1.5
(P dimension straight section 1.5 mm or longer)

Hole shape E



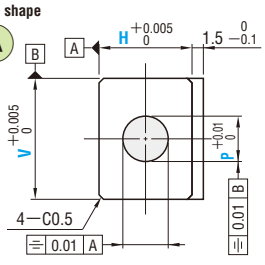
P>W

Hole shape G



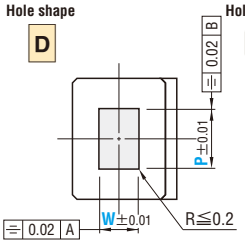
P>W
$\sqrt{P^2-W^2}$≧1.5
(P dimension straight section 1.5 mm or longer)

Hole shape A



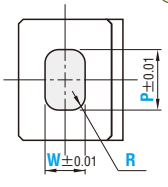
W min.≦P≦W max.
P dimension must be within the range of W dimension.

Hole shape D



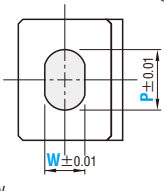
P≧W
P—0.4≧1.5
(P dimension straight section 1.5 mm or longer)

Hole shape R



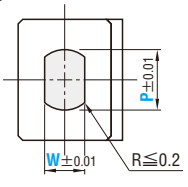
P≧W 0.15≦R<$\frac{W}{2}$
P—2R≧1.5
(P dimension straight section 1.5 mm or longer)

Hole shape E



P>W

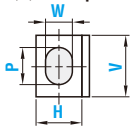
Hole shape G



P>W
$\sqrt{P^2-W^2}$≧1.5
(P dimension straight section 1.5 mm or longer)

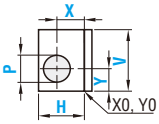
Order

(1) If shaped hole is at center of shank



Catalog No.	V	H	—	L	—	0.01mm increments			—	MT	—	C
						P	—	W	— R (Ⓡ only)			
SR—PBLDRF	13	10	—	22	—	P7.65	—	W3.65	—	R0.50	— MT1.50	— C0.105

(2) If shaped hole is not at center of shank (hole shapes Ⓐ only)

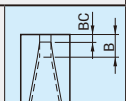
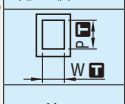
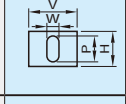
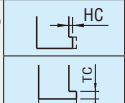
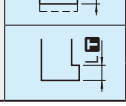


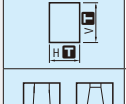
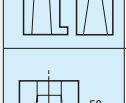
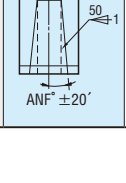
Catalog No.	V	H	—	L	—	0.01mm increments	—	MT	—	C	—	0.01mm increments
						P						X—Y
SR—PBLDF	13	10	—	22	—	P4.35	—	MT1.50	—	C0.105	—	X4.85 — Y7.82

For the upper and lower limit values for X and Y, refer to P.367.
X, Y tolerance: ±0.005
Be aware that the shaped hole position and X/Y values are determined differently for block punches.

Alterations

Catalog No.	V	H	—	L (LC)	—	P—W—R	—	MT	—	C	— (BC·HC, etc.)
SR—BLDF	08	06	—	LC21	—	P2.25	—	MT1.50	—	C0.105	— LKC — ANF1.2

Alteration		Code	Ⓐ	ⒹⓇⒺⒼ	1Code
Alterations to shaped hole		BC	Shaped hole depth change 1≦BC≦B max. 0.1mm increments P: 1.00 ~ 1.99 / 2.00 ~ ; Bmax.: 3 / 4	Shaped hole depth change 1≦BC<2 0.1mm increments	Quotation
		PKC	Shaped hole tolerance change P +0.01 0 ⇨ +0.005 0	Shaped hole tolerance change P·W±0.01 ⇨ +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≦W max. P dimension must be within the range of W dimension listed in the specification table.	
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 ⇨ +0.02 0		
		TKM	Flange thickness tolerance change T +0.3 0 ⇨ 0 −0.02		

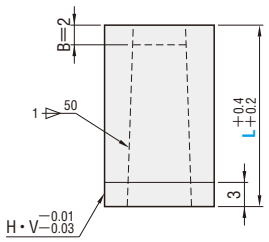
Alteration		Code	Ⓐ	ⒹⓇⒺⒼ	1Code
Alterations to full length		LC	Full length change 10≦LC<L 0.1mm increments (If combined with LKC·LKZ, 0.01mm increments can be selected.) For single flange types, if LC≦12 then press-in lead is not included.		Quotation
		LKC	Full length tolerance change L +0.4 +0.2 ⇨ +0.05 0		
		LKZ	Full length tolerance change L +0.4 +0.2 ⇨ +0.01 0		
Others		VHM	Shape tolerance change H·V +0.005 0 ⇨ 0 −0.005		
		NDC	H·V −0.01 −0.03 ⇨ H·V −0.01 −0.03 ⇨No press-in lead		
		ANF	Angular angle change 0≦ANF≦1.2 0.2° increments d≦dmax. d=P+2{(L—B) tan(ANF°)} P—Btan(ANF°)≧0.6 W—Btan(ANF°)≧0.6 Cannot be used if shaped hole is not at center of shank.	V / d max.: 6 / 3.4; 8 / 4.4; 10 / 6.4; 13 / 8.4; 16 / 10.6; 20 / 12.6; 25 / 14.6 Taper 1/50 Angle (one side) 0.573°	

BLOCK DIES
—CONFIGURABLE SIZE TYPE—

—Straight—

RoHS

M H	Catalog No. Ⓐ	Catalog No. D R E G
Equivalent to SKD11 60 ～ 63HRC	FBLD	FBLDD FBLDR FBLDE FBLDG
Powdered high-speed steel 64 ～ 67HRC	FPBLD	FPBLDD FPBLDR FPBLDE FPBLDG

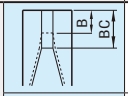
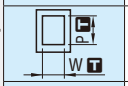
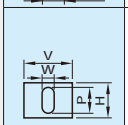


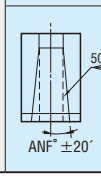
Catalog No. (Equivalent to SKD11)	Catalog No. (Powdered high-speed steel)	H	V min. W max.	V min. P max.	V a min. b min.	6.0 ～ 8.0	8.1 ～ 10.0	10.1 ～ 13.0	13.1 ～ 16.0	16.1 ～ 20.0	20.1 ～ 25.0	R	L
				1.00 ～ 4.00	4	4	4	5	6	8	9		
Ⓐ FBLD	FPBLD	6.0 ～ 8.0	1.00 ～ 6.00		4	○	○	○	○	○	○	0.15≦R＜W/2 (Ⓡ only)	16
D FBLDD	FPBLDD	8.1 ～ 10.0	1.00 ～ 6.00		4		○	○	○	○	○		20
R FBLDR	FPBLDR	10.1 ～ 13.0	1.00 ～ 8.00		5			○	○	○	○		22
E FBLDE	FPBLDE	13.1 ～ 16.0	1.00 ～ 10.00		6				○	○	○		25
G FBLDG	FPBLDG	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 Ⓐ, H—P=b)
Ⓡ P・W・R⋯0.01mm increments V・H⋯0.1mm increments

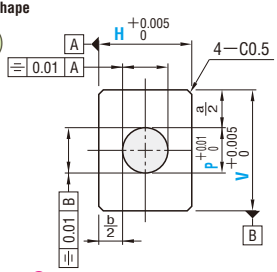
Days to Ship **Quotation**

Alterations — Catalog No. — V — H — L(LC) — P—W—R — (BC・LKC, etc.)
FBLDD — V12.5 — H9.5 — LC28.5 — P6.25 — W4.75 — LKC — ANF1.2

	Alteration	Code	Ⓐ	D R E G	1Code
Alterations to shaped hole		BC	Shaped hole depth change 0≦BC≦4 0.1mm increments	—	
		PKC	Shaped hole tolerance change P +0.01 0 ⇨ +0.005 0	Shaped hole tolerance change P・W±0.01 ⇨ +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≦W max. P dimension must be within the range of W dimension listed in the specification table. ⊗ Cannot be used if shaped hole is not at center.	Quotation
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.)		
		LKC	Full length tolerance change L +0.4 +0.2 ⇨ +0.05 0		
		LKZ	Full length tolerance change L +0.4 +0.2 ⇨ +0.01 0		

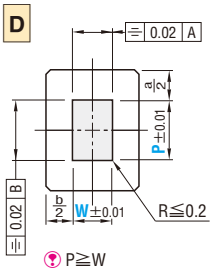
	Alteration	Code	Ⓐ	D R E G	1Code
Others		VHM	Shape tolerance change H・V +0.005 0 ⇨ 0 −0.005		
		NDC	No press-in lead		Quotation
		ANF	Angular angle change 0≦ANF≦1.2 0.2° increments Ⓡ d≦dmax. Ⓡ d=P+2{(L−B) tan(ANF°)} Ⓡ P−Btan(ANF°)≧0.6 W−Btan(ANF°)≧0.6 ⊗ Cannot be used if shaped hole is not at center of shank.	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. Taper 1/50, Angle (one side) 0.573°	

Hole shape A



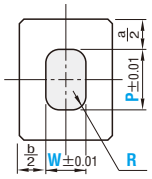
W min.≦P≦W max.
P dimension must be within the range of W dimension.

Hole shape D



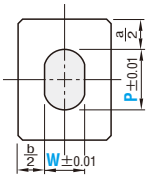
P≧W

Hole shape R



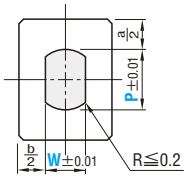
P≧W
0.15≦R<$\frac{W}{2}$

Hole shape E



P>W

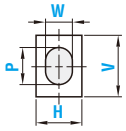
Hole shape G



P>W

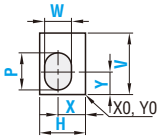
Order

(1) If shaped hole is at center of shank



Catalog No.	—	0.1mm increments V	—	H	—	L	—	0.01mm increments P	—	W	—	R (Ⓡ only)
FBLDE	—	V15.8	—	H12.8	—	L22	—	P7.25	—	W5.75		

(2) If shaped hole is not at center of shank



Catalog No.	—	0.1mm increments V	—	H	—	L	—	0.01mm increments P	—	W	—	R (Ⓡ only)	—	0.01mm increments X—Y
FBLDE	—	V15.8	—	H12.8	—	L22	—	P7.25	—	W5.75			—	X5.80 — Y8.35

For the upper and lower limit values for X and Y, refer to P.367.
X,Y tolerance: ±0.005 (Shaped holes Ⓐ), ±0.01 (Shaped holes ⒹⓇⒺⒼ)
Be aware that the shaped hole position and X/Y values are determined differently for block punches.

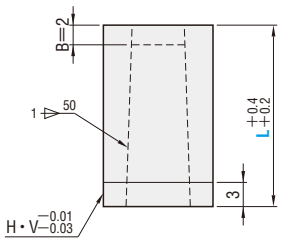
Price

Quotation

SCRAP RETENTION BLOCK DIES
—CONFIGURABLE SIZE TYPE—

—Straight— RoHS

M H	Catalog No. Ⓐ	Catalog No. D R E G
Equivalent to SKD11 60 ～ 63HRC	SR—FBLD	SR—FBLDD SR—FBLDR SR—FBLDE SR—FBLDG
Powdered high-speed steel 64 ～ 67HRC	SR—FPBLD	SR—FPBLDD SR—FPBLDR SR—FPBLDE SR—FPBLDG

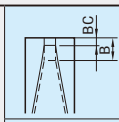
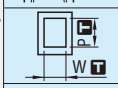
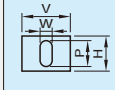


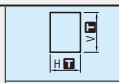
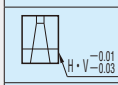
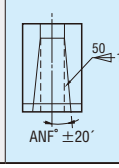
Catalog No.	H	V min. W max.	V min. P max.	V min. a min. / b min.	6.0 ⌇ 8.0	8.1 ⌇ 10.0	10.1 ⌇ 13.0	13.1 ⌇ 16.0	16.1 ⌇ 20.0	20.1 ⌇ 25.0	R	L	MT (workpiece material thickness)	C (clearance)
			1.00 ⌇ 4.00	1.00 ⌇ 6.00	1.00 ⌇ 8.00	1.00 ⌇ 10.00	1.50 ⌇ 12.00	1.50 ⌇ 16.00						
					4	4	5	6	8	9			0.01mm increments	0.005mm increments
(Equivalent to SKD11) (Powdered high-speed steel) Ⓐ SR—FBLD SR—FPBLD	6.0 ～ 8.0	1.00 ～ 4.00		4	○	○	○	○	○	○	0.15≦R< W/2 (R only)	16 20 22 25 30 35	MT≧0.15 Select a workpiece material thickness of 0.15mm or more.	C≧0.010 Select a clearance of 0.010mm or more. Clearance Punch tip Die shaped hole
Ⓓ SR—FBLDD SR—FPBLDD	8.1 ～ 10.0	1.00 ～ 6.00		4		○	○	○	○	○				
Ⓡ SR—FBLDR SR—FPBLDR	10.1 ～ 13.0	1.00 ～ 8.00		5			○	○	○	○				
Ⓔ SR—FBLDE SR—FPBLDE	13.1 ～ 16.0	1.00 ～ 10.00		6				○	○	○				
Ⓖ SR—FBLDG SR—FPBLDG	16.1 ～ 20.0	1.50 ～ 12.00		8					○	○				
	20.1 ～ 25.0	1.50 ～ 16.00		9						○				

- V—P=a H—W=b (For shape Ⓐ, H—P=b)
- P・W・R···0.01mm increments V・H···0.1mm increments
- Can be used only for workpiece materials with tensile strengths up to 1,177N/mm^2 (120kgf/mm^2).
- 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 block die finishing dimensions.

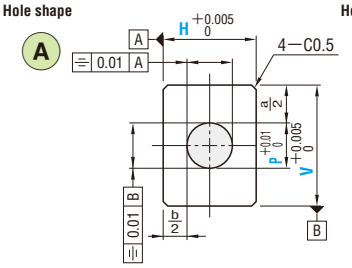
Days to Ship **Quotation**

Alterations ☎ Catalog No. — V — H — L(LC) — P—W—R — MT — C — (BC・LKC, etc.)
SR—FBLDD — V12.5 — H9.5 — LC28 — P6.25 — W4.75 — MT1.50 — C0.105 — LKC — ANF1.2

	Alteration		Code	Ⓐ	D R E G	1Code
Alterations to shaped hole			BC	Shaped hole depth change 1≦BC≦B max. 0.1mm increments P: 1.00 ～ 1.99 → Bmax. 3; 2.00 ～ → 4	Shaped hole depth change 1≦BC<2 0.1mm increments	Quotation
			PKC	Shaped hole diameter tolerance change P +0.01 0 ⇨ +0.005 0	Shaped hole diameter tolerance change P・W±0.01 ⇨ +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≦W max. P dimension must be within the range of dimension W listed in the specification table.	
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.)		
			LKC	Full length tolerance change L +0.4 +0.2 ⇨ +0.05 0		
			LKZ	Full length tolerance change L +0.4 +0.2 ⇨ +0.01 0		

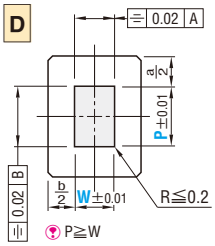
	Alteration		Code	Ⓐ	D R E G	1Code
Others			VHM	Shape tolerance change H・V +0.005 0 ⇨ 0 −0.005		Quotation
			NDC	No press-in lead		
			ANF	Angular angle change 0≦ANF≦1.2 0.2° increments d≦dmax. d=P+2{(L−B)tan(ANF°)} P−Btan(ANF°)≧0.6 W−Btan(ANF°)≧0.6 ⊗ Cannot be used if shaped hole is not at center of shank.	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 Taper 1/50 (Angle one side 0.573°)	

Hole shape **A**



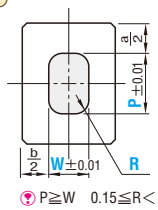
W min.≦P≦W max.
P dimension must be within the range of W dimension.

Hole shape **D**



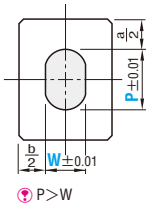
P≧W
P−0.4≧1.5
(Straight portion of P dimension must be 1.5mm or longer.)

Hole shape **R**



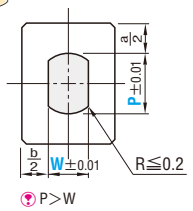
P≧W 0.15≦R<$\frac{W}{2}$
P−2R≧1.5
(Straight portion of P dimension must be 1.5mm or longer.)

Hole shape **E**



P>W

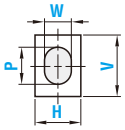
Hole shape **G**



P>W
$\sqrt{P^2-W^2}$ ≧1.5
(Straight portion of P dimension must be 1.5mm or longer.)

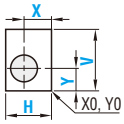
Order

(1) If shaped hole is at center of shank



Catalog No.	0.1mm increments V	H	L	0.01mm increments P	W	R (Ⓡ only)	MT	C
SR—FBLDE	V15.8	H12.8	L22	P7.27	W5.25		MT1.50	C0.105

(2) If shaped hole is not at center of shank (hole shapes Ⓐ only)



Catalog No.	0.1mm increments V	H	L	0.01mm increments P	MT	C	0.01mm increments X—Y
SR—FBLD	V15.8	H12.8	L22	P5.25	MT1.50	C0.105	X5.80 — Y6.35

For the upper and lower limit values for X and Y, refer to P.367.
X, Y tolerance: ±0.005
Be aware that the shaped hole position and X/Y values are determined differently for block punches.

Price

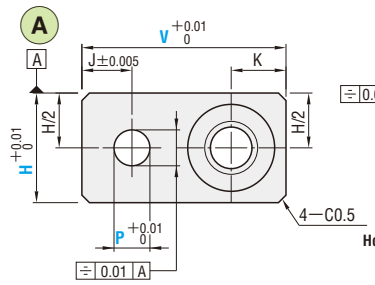
Quotation

BLOCK DIES
—FIXING-BOLT TYPE—

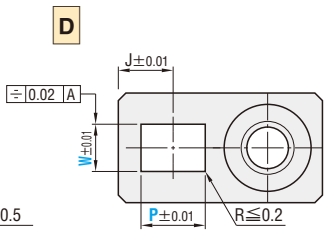
M H	Catalog No.
Equivalent to SKD11 60 ～ 63HRC	Ⓐ BBD Ⓓ BBDD Ⓡ BBDR Ⓔ BBDE Ⓖ BBDG

RoHS

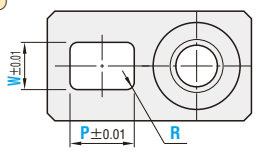
Hole shape Ⓐ



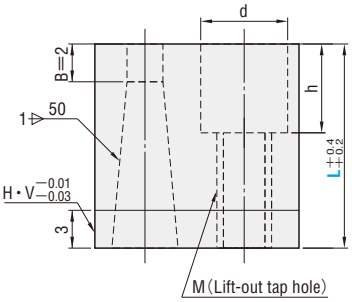
Hole shape Ⓓ



Hole shape Ⓡ



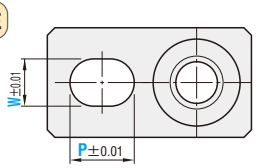
If P≧W
$0.15 \leqq R < \frac{W}{2}$
If P＜W
$0.15 \leqq R < \frac{P}{2}$



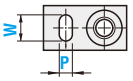
For the lift-out tap hole, use a bolt 1 size larger than the mounting bolt.

Mounting bolt	M (lift-out tap hole)
M3	M4
M4	M5
M6	M8
M8	M10

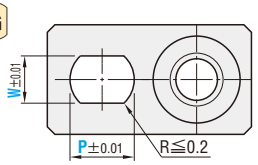
Hole shape Ⓔ



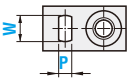
P=W cannot be selected.
If P＜W, pay particular attention to hole shape.



Hole shape Ⓖ



P=W cannot be selected.
If P＜W, pay particular attention to hole shape.

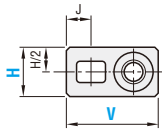


K	Mounting bolt d	Mounting bolt h	Mounting bolt Size	J	Catalog No.	V	H	L	0.01mm increments Ⓐ min. P max.	0.01mm increments ⒹⓇⒺⒼ min. P max.	0.01mm increments ⒹⓇⒺⒼ min. W max.	Ⓡ R	Base unit price 1 ～ 9 pieces BBD	Base unit price 1 ～ 9 pieces BBD□
4	6	7.5	M3	3		13	8		1.00 ～ 3.00	1.00 ～ 3.00	1.00 ～ 4.00			
				4		16			1.00 ～ 4.00	1.00 ～ 4.00				
				5		18				1.00 ～ 6.00				
				6.5		20				1.00 ～ 9.00				
5	8	8.5	M4	4		18	10	16	1.00 ～ 4.00	1.00 ～ 4.00	1.00 ～ 6.00			
				5	Ⓐ BBD	20			1.00 ～ 6.00	1.00 ～ 6.00				
				6.5		22				1.00 ～ 9.00				
				8		25				1.00 ～ 12.00				
6.5	11	10.5	M6	5	Ⓓ BBDD	22	13	20	1.00 ～ 6.00	1.00 ～ 6.00	1.00 ～ 9.00			
				6.5		25			1.00 ～ 9.00	1.00 ～ 9.00				
				8		28		22		1.00 ～ 12.00				
				10		32				1.50 ～ 16.00				
				6.5	Ⓡ BBDR	25	16	25	1.00 ～ 9.00	1.00 ～ 9.00	1.00 ～ 12.00	0.15≦R＜W/2 (Ⓡ only)		
				8		28			1.00 ～ 12.00	1.00 ～ 12.00				
				10		32				1.50 ～ 16.00				
				12.5	Ⓔ BBDE	38		30		1.50 ～ 21.00				
8	14	12.5	M8	8		32	20	35	1.00 ～ 12.00	1.00 ～ 12.00	1.50 ～ 16.00			
				10		35			1.50 ～ 16.00	1.50 ～ 16.00				
				12.5	Ⓖ BBDG	40				1.50 ～ 21.00				
				15		45				1.50 ～ 26.00				
				10		35	25		1.50 ～ 16.00	1.50 ～ 16.00	1.50 ～ 21.00			
				12.5		40			1.50 ～ 21.00	1.50 ～ 21.00				
				15		45				1.50 ～ 26.00				
				17.5		50				1.50 ～ 31.00				

Quotation

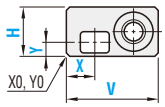
Order

(1) If shaped hole is at center of shank



Catalog No.	V	H	–	L	–	0.01mm increments			
						P	–	W	– R (Ⓡ only)
BBDD	25	13	–	20	–	P6.34	–	W4.65	

(2) If shaped hole is not at center of shank



Catalog No.	V	H	–	L	–	0.01mm increments				–	0.01mm increments
						P	–	W	– R (Ⓡ only)		X–Y
BBDD	25	13	–	20	–	P6.34	–	W4.65		–	X6.35 – Y9.5

Upper and lower limit values of X and Y

Hole shapes Ⓐ: $2.5+\frac{P}{2} \leqq X \leqq V-(2.5+\frac{P}{2})-(K+\frac{d}{2}),\ 2.5+\frac{P}{2} \leqq Y \leqq H-(2.5+\frac{P}{2})$

Hole shapes D R E G: $2.5+\frac{P}{2} \leqq X \leqq V-(2.5+\frac{P}{2})-(K+\frac{d}{2}),\ 2.5+\frac{W}{2} \leqq Y \leqq H-(2.5+\frac{W}{2})$

If P<W, pay particular attention to the hole shape.

X,Y tolerance: ±0.005 (Shaped holes Ⓐ), ±0.01 (Shaped holes D R E G)

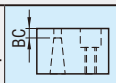
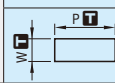
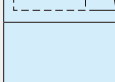
Be aware that the shaped hole position and X/Y values are determined differently for block punches.

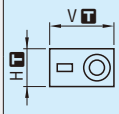
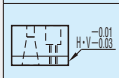
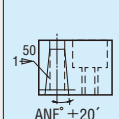
Days to Ship Quotation

Price Quotation

Alterations

Catalog No.	V	H	–	L (LC)	–	P–W–R	– (BC·LKC, etc.)
BBD	25	13	–	LC18	–	P1.50	– BC3 – LKC – ANF1.2

Alteration		Code	Ⓐ	D R E G	1Code
Alterations to shaped hole		BC	Shaped hole depth change 1≦BC≦4 0.1mm increments		Quotation
		PKC	Shaped hole tolerance change P $^{+0.01}_{0}$ ⇨ $^{+0.005}_{0}$	Shaped hole tolerance change P·W±0.01 ⇨ $^{+0.01}_{0}$	
Alterations to full length		LC	Full length change 16<LC<35 0.1mm increments (If combined with LKC·LKZ, 0.01mm increments can be selected.)		
		LKC	Full length tolerance change L $^{+0.4}_{+0.2}$ ⇨ $^{+0.05}_{0}$		
		LKZ	Full length tolerance change L $^{+0.4}_{+0.2}$ ⇨ $^{+0.01}_{0}$		

Alteration		Code	Ⓐ	D R E G	1Code
Others		VKC1	V·H tolerance change V·H $^{+0.01}_{0}$ ⇨V·H $^{+0.005}_{0}$		Quotation
		VKC2	V·H tolerance change V·H $^{+0.01}_{0}$ ⇨V·H $^{0}_{-0.005}$		
		NDC	No press-in lead		
		ANF	Angular angle change 0≦ANF≦1.2 0.2° increments d≦dmax. d=P+2{(L−B)tan(ANF°)} P−Btan(ANF°)≧0.6 W−Btan(ANF°)≧0.6 ⊗ Cannot be used if shaped hole is not at the center.		

H	d max.
8	4.4
10	6.4
13	8.4
16	10.6
20	12.6
25	14.6
Taper	1/50
Angle (one side)	0.573°

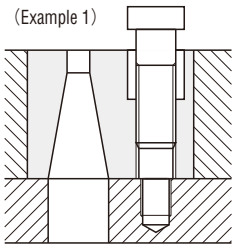
Example

■Features

1. Maintenance is possible without disassembling the die.
2. The use of shims allows fine adjustments to be made even after the die is assembled.

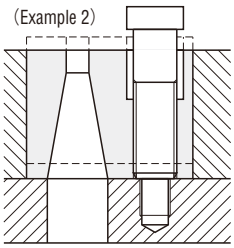
(Examples of using the lift-out tap hole)

(Example 1)



Screw a bolt into the lift-out tap hole and pull the die away from the die plate.

(Example 2)



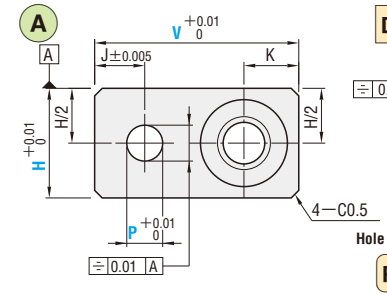
Screw a bolt into the lift-out tap hole and lift up the die.

SCRAP RETENTION BLOCK DIES
—FIXING-BOLT TYPE—

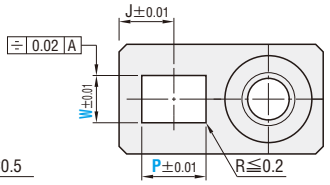
M H	Catalog No.
Equivalent to SKD11 60 ～ 63HRC	Ⓐ SR—BBD Ⓓ SR—BBDD Ⓡ SR—BBDR Ⓔ SR—BBDE Ⓖ SR—BBDG

RoHS

Hole shape Ⓐ

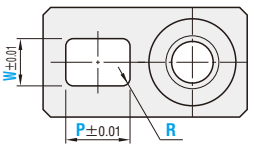


Hole shape Ⓓ

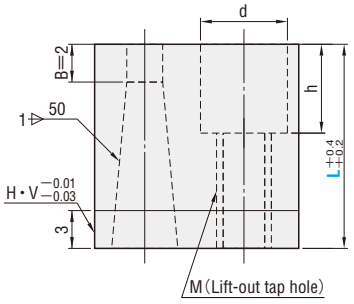


If P≧W
P—0.4≧1.5
(P dimension straight section 1.5 mm or longer)
If P＜W
W—0.4≧1.5
(W dimension straight section 1.5 mm or longer)

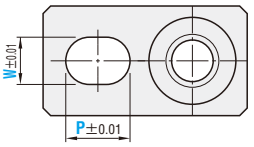
Hole shape Ⓡ



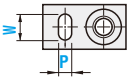
If P≧W
$0.15 \leqq R < \frac{W}{2}$
P—2R≧1.5
(P dimension straight section 1.5 mm or longer)
If P＜W
$0.15 \leqq R < \frac{P}{2}$
W—2R≧1.5
(W dimension straight section 1.5 mm or longer)



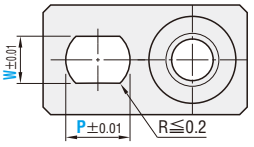
Hole shape Ⓔ



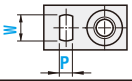
⊗ P=W cannot be selected.
If P＜W, pay particular attention to hole shape.



Hole shape Ⓖ



⊗ P cannot be selected.
If P＞W
$\sqrt{W^2-P^2} \geqq 1.5$
(P dimension straight section 1.5 mm or longer)
If P＜W
$\sqrt{W^2-P^2} \geqq 1.5$
(W dimension straight section 1.5 mm or longer)
Pay particular attention to hole shape.



For the lift-out tap hole, use a bolt 1 size larger than the mounting bolt.

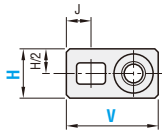
Mounting bolt	M (lift-out tap hole)
M3	M4
M4	M5
M6	M8
M8	M10

K	Mounting bolt d	h	Size	J	Catalog No.	V	H	L	0.01mm increments Ⓐ min. P max.	Ⓓ Ⓡ Ⓔ Ⓖ min. P max.	Ⓓ Ⓡ Ⓔ Ⓖ min. W max.	Ⓡ R	0.01mm increments MT (workpiece material thickness)	0.005mm increments C (clearance)	Base unit price 1 ～ 9 pieces SR—BBD	SR—BBD□
4	6	7.5	M3	3	Ⓐ SR—BBD Ⓓ SR—BBDD Ⓡ SR—BBDR Ⓔ SR—BBDE Ⓖ SR—BBDG	13	8	16 20 22 25 30 35	1.00 ～ 3.00	1.00 ～ 3.00	1.00 ～ 4.00	$0.15 \leqq R < \frac{W}{2}$ (Ⓡ only)	MT≧0.15 Select a workpiece material thickness of 0.15mm or more.	C≧0.010 Select a clearance of 0.010mm or more. Clearance Punch tip Die shaped hole	Quotation	
				4		16				1.00 ～ 4.00						
				5		18			1.00 ～ 4.00	1.00 ～ 6.00						
				6.5		20				1.00 ～ 9.00						
5	8	8.5	M4	4		18	10		1.00 ～ 4.00	1.00 ～ 4.00	1.00 ～ 6.00					
				5		20			1.00 ～ 6.00	1.00 ～ 6.00						
				6.5		22				1.00 ～ 9.00						
				8		25				1.00 ～ 12.00						
6.5	11	10.5	M6	5		22	13		1.00 ～ 6.00	1.00 ～ 6.00	1.00 ～ 9.00					
				6.5		25				1.00 ～ 9.00						
				8		28			1.00 ～ 9.00	1.00 ～ 12.00						
				10		32				1.50 ～ 16.00						
				6.5		25	16		1.00 ～ 9.00	1.00 ～ 9.00	1.00 ～ 12.00					
				8		28				1.00 ～ 12.00						
				10		32			1.00 ～ 12.00	1.50 ～ 16.00						
				12.5		38				1.50 ～ 21.00						
8	14	12.5	M8	8		32	20		1.00 ～ 12.00	1.00 ～ 12.00	1.50 ～ 16.00					
				10		35				1.50 ～ 16.00						
				12.5		40			1.50 ～ 16.00	1.50 ～ 21.00						
				15		45				1.50 ～ 26.00						
				10		35	25		1.50 ～ 16.00	1.50 ～ 16.00	1.50 ～ 21.00					
				12.5		40				1.50 ～ 21.00						
				15		45			1.50 ～ 21.00	1.50 ～ 26.00						
				17.5		50				1.50 ～ 31.00						

Can be used only for workpiece materials with tensile strengths up to 1177 N/mm^2 (120 kgf/mm^2).
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 block die finishing dimensions.

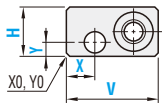
Order

(1) If shaped hole is at center of shank



Catalog No.	V	H	—	L	—	0.01mm increments: P	—	W	—	R (Ⓡ only)	—	MT	—	C
SR—BBDD	25	13	—	20	—	P6.34	—	W4.65			—	MT1.50	—	C0.105

(2) If shaped hole is not at center of shank (hole shapes Ⓐ only)



Catalog No.	V	H	—	L	—	0.01mm increments: P	—	MT	—	C	—	0.01mm increments: X—Y
SR—BBD	25	13	—	20	—	P6.34	—	MT1.50	—	C0.105	—	X6.35 — Y9.5

Upper and lower limit values of X and Y

Hole shapes Ⓐ $2.5+\frac{P}{2} \leqq X \leqq V-(2.5+\frac{P}{2})-(K+\frac{d}{2})$ $2.5+\frac{P}{2} \leqq Y \leqq H-(2.5+\frac{P}{2})$

X, Y tolerance: ±0.005

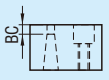
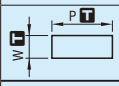
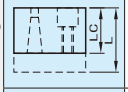
Be aware that the shaped hole position and X/Y values are determined differently for block punches.

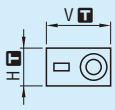
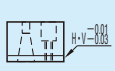
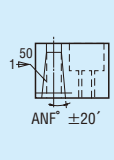
Days to Ship Quotation

Price Quotation

Alterations

Catalog No.	V	H	—	L (LC)	—	P—W—R	—	MT	—	C	— (BC·LKC, etc.)
SR—BBD	25	13	—	LC18	—	P1.5	—	0.5	—	0.04	— BC3 — LKC — ANF1.2

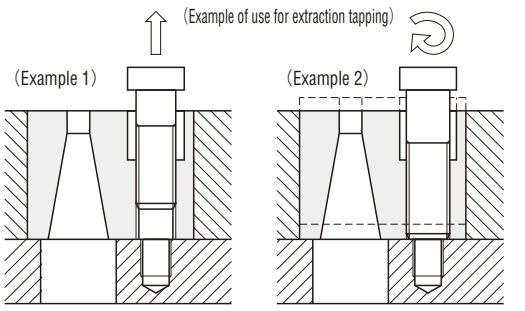
Alteration		Code	Ⓐ	DREG	1Code
Alterations to shaped hole		BC	Shaped hole depth change 1≦BC≦Bmax. 0.1mm increments P: 1.00～1.99 → Bmax. 3; 2.00～ → 4	Shaped hole depth change 1≦BC<2 0.1mm increments	Quotation
		PKC	Shaped hole tolerance change P +0.01 0 ⇨ +0.005 0	Shaped hole tolerance change P·W±0.01 ⇨ +0.01 0	
Alterations to full length		LC	Full length change 16<LC<35 0.1mm increments (If combined with LKC·LKZ, 0.01mm increments can be selected.)		
		LKC	Full length tolerance change L +0.4 +0.2 ⇨ +0.05 0		
		LKZ	Full length tolerance change L +0.4 +0.2 ⇨ +0.01 0		

Alteration		Code	Ⓐ	DREG	1Code
Others		VKC1	V·H tolerance change V·H +0.01 0 ⇨ +0.005 0		Quotation
		VKC2	V·H tolerance change V·H +0.01 0 ⇨ 0 −0.005		
		NDC	No press-in lead		
		ANF	Angular angle change 0≦ANF≦1.2 0.2° increments d≦dmax. d=P+2{(L−B)tan(ANF°)} P−Btan(ANF°)≧0.6 W−Btan(ANF°)≧0.6 ⊗ Cannot be used if shaped hole is not at the center. ANF° ±20′	H: d max. 8: 4.4; 10: 6.4; 13: 8.4; 16: 10.6; 20: 12.6; 25: 14.6 Taper 1/50; Angle (one side) 0.573°	

Example

■Features

1. Maintenance is possible without disassembling the die.
2. The use of shims allows fine adjustment even after the is assembled.



Screw a bolt into the lift-out tap hole and pull the die away from the die plate.

Screw a bolt into the lift-out tap hole and lift up the die.

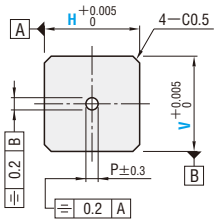
BLOCK DIE BLANK

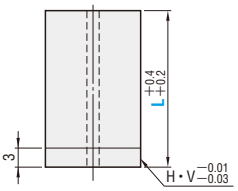
—Straight—

RoHS

—Single flange—

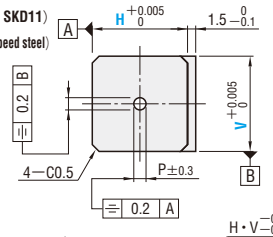
BLDB (Equivalent to SKD11)
PBLDB (Powdered high-speed steel)

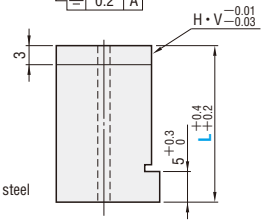




・BLDB ・BLDBF
M Equivalent to SKD11
H 60 ～ 63HRC

BLDBF (Equivalent to SKD11)
PBLDBF (Powdered high-speed steel)





・PBLDB ・PBLDBF
M Powdered high-speed steel
H 64 ～ 67HRC

Catalog No.	H \ V	6	8	10	13	16	20	25	L	P
Straight BLDB PBLDB / Single flange BLDBF PBLDBF	6	○	○	○	○	○	○	○	16	0.8
	8		○	○	○	○	○	○	20	
	10			○	○	○	○	○	22	
	13				○	○	○	○	25	
	16					○	○	○	30	
	20						○	○	35	
	25							○		

Order

Catalog No.	V	H	—	L
PBLDB	08	06	—	16

Days to Ship Quotation

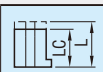
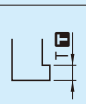
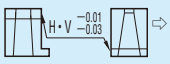
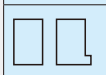
Price Quotation

Alterations

Catalog No.	V	H	—	L(LC)	—	(HC・TC・TKC, etc.)
BLDBF	13	10	—	20	—	TC4

■Base unit price

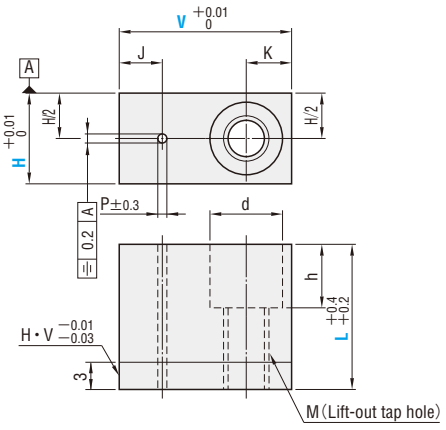
Catalog No.	H \ V	6	8	10	13	16	20	25
BLDB	6							
	8							
	10							
	13							
	16							
	20							
	25							
PBLDB	6							
	8							
	10							
	13							
	16							
	20							
	25			Quotation				
BLDBF	6							
	8							
	10							
	13							
	16							
	20							
	25							
PBLDBF	6							
	8							
	10							
	13							
	16							
	20							
	25							

Alteration		Code	Spec.	1Code
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.	Quotation
		LKC	Full length tolerance change L +0.4 +0.2 ⇨ +0.05 0	
		LKZ	Full length tolerance change L +0.4 +0.2 ⇨ +0.01 0	
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 L is shortened by (5—TC). If combined with LC, full length is equal to LC.	
		TKC	Flange thickness tolerance change T +0.3 0 ⇨ +0.02 0	
		TKM	Flange thickness tolerance change T +0.3 0 ⇨ 0 −0.02	
Others		VHM	Shape tolerance change H・V +0.005 0 ⇨ 0 −0.005	
		NDC	 ⇨ No press-in lead	
		NHC	No start hole (P)	

BLOCK DIE BLANK
—FIXING-BOLT TYPE—

RoHS

BBDB



For the lift-out tap hole, use a bolt 1 size larger than the mounting bolt.

Mounting bolt	M(lift-out tap hole)
M3	M4
M4	M5
M6	M8
M8	M10

M Equivalent to SKD11
H 60 ～ 63HRC

K	Mounting bolt d	Mounting bolt h	Mounting bolt Size	J	Catalog No.	V	H	L	P	Base unit price 1 ～ 9 pieces
4	6	7.5	M3	3	BBDB	13	8	16	0.8	Quotation
				4		16				
				5		18				
				6.5		20				
5	8	8.5	M4	4		18	10			
				5		20				
				6.5		22				
				8		25		20		
6.5	11	10.5	M6	5		22	13			
				6.5		25		22		
				8		28				
				10		32				
				6.5		25	16	25		
				8		28				
				10		32				
				12.5		38				
8	14	12.5	M8	8		32	20	30		
				10		35				
				12.5		40				
				15		45		35		
				10		35	25			
				12.5		40				
				15		45				
				17.5		50				

Order

Catalog No.	V	H	—	L
BBDB	25	13	—	20

Days to Ship Quotation

Price Quotation

Alterations

Catalog No.	V	H	—	L(LC)	— (CC・LKC, etc.)
BBDB	25	13	—	LC18.0	— LKC

Alteration		Code	Spec.	1Code
Alterations to full length		LC	Full length change 16<LC<L 0.1mm increments (If combined with LKC・LKZ, 0.01mm increments can be selected.)	Quotation
		LKC	Full length tolerance change L +0.4 +0.2 ⇨ +0.05 0	
		LKZ	Full length tolerance change L +0.4 +0.2 ⇨ +0.01 0	

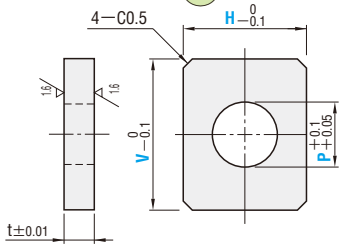
Alteration		Code	Spec.	1Code
Others		VKC1	V・H tolerance change V・H +0.01 0 ⇨ V・H +0.005 0	Quotation
		VKC2	V・H tolerance change V・H +0.01 0 ⇨ V・H 0 −0.005	
	4—C0.5	CC	C0.5 chamfering to 4 outer (V・H) corners	
	H・V −0.01 −0.03	NDC	No press-in lead	
		NHC	No start hole (P)	

SPACERS
—FOR BLOCK DIE—

RoHS

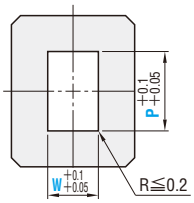
M SK5
H 45HRC ～

Hole shape A



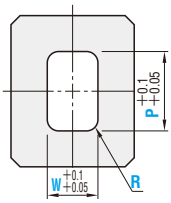
The outside diamerer has slight deprssion.

Hole shape D



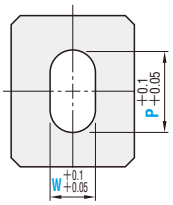
P≧W

Hole shape R



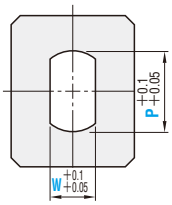
P≧W
0.15≦R＜W/2

Hole shape E



P＞W

Hole shape G



P＞W

P···min.W max.
P dimension must be within the range of dimension W.

Catalog No.	H	V min. P max. / min. W max.	6	8	10	13	16	20	25	R Ⓡ	t
			1.00 ～ 4.00	1.00 ～ 6.00	1.00 ～ 8.00	1.00 ～ 10.00	1.00 ～ 12.00	1.50 ～ 16.00	1.50 ～ 20.00		
Ⓐ SBD	6	1.00 ～ 4.00	○	○	○	○	○	○	○	0.15≦R＜W/2 (Ⓡ only)	0.05
Ⓓ SBDD	8	1.00 ～ 6.00		○	○	○	○	○	○		0.1
Ⓡ SBDR	10	1.00 ～ 8.00			○	○	○	○	○		0.2
Ⓔ SBDE	13	1.00 ～ 10.00				○	○	○	○		0.3
Ⓖ SBDG	16	1.00 ～ 12.00					○	○	○		0.5
	20	1.50 ～ 16.00						○	○		1.0
	25	1.50 ～ 20.00							○		1.5
											2.0

1 set consists of 8-piece (1 of each t dimension).
P・W・R···0.01mm increments

Order

Catalog No.	V	H	—	0.01mm increments P	—	W	—	R (Ⓡ only)
SBDE	13	10	—	P8.50	—	W6.50		

Days to Ship: Quotation

Price: Quotation

Alterations

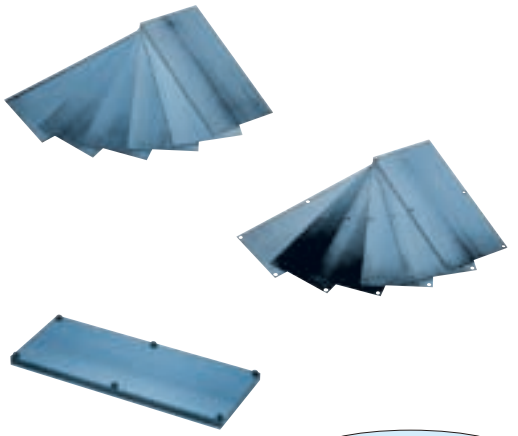
Catalog No.	V	H	—	P	—	W	—	R	— (HVC)
SBDR	25	20	—	P16.55	—	W12.55	—	R2.00	— HVC

Alteration		Code	Spec.	1Code
Alterations to shaped hole		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. ⊗Ⓐ Cannot be used with SBD.	Quotation

SHIM AND SPACER PRODUCT GUIDE

■Spacer layer plates P.707

RoHS



T dimension (thickness) : 0.05mm ~

LHP : Individual piece (no hole)
LHP—H : Individual piece (with hole)
LHP—SET : Set of layer plates (in desired combination)

■Precision multipurpose plates P.709

RoHS

T dimension (thickness) : 0.3mm ~

UTPB : Fixed L dimension (150mm)
UTPL : L dimension specified (10 ~ 150mm)

■Shim tape P.708

RoHS

T dimension (thickness) : 0.005mm ~

FGSM : Width 12.7mm Length 1m
FGSMW : Width 45.0mm Length 1m
FGSML : Width 12.7mm Length 5m (Value package)