

COMPONENTS FOR AUTOMOTIVE DIES

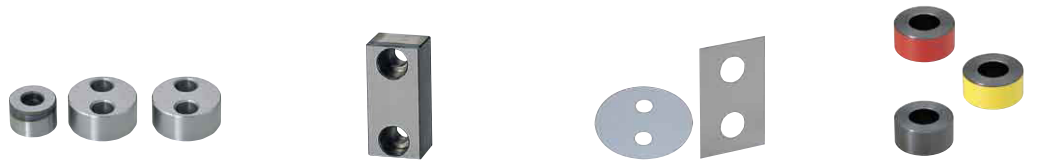
COMPONENTS FOR AUTOMOTIVE DIES



Product name Catalog No.	SPOOL RETAINERS CSR	STROKE ADJUSTMENT COLLARS FOR SPOOL RETAINERS CSRE	URETHANE WASHERS FOR SPOOL RETAINERS CSRUR	SPOOL RETAINERS — THICK TYPE — CSRH	SPOOL RETAINERS — LARGE FLANGE TYPE — CSRTA
Page	1001	1002	1002	1003	1003



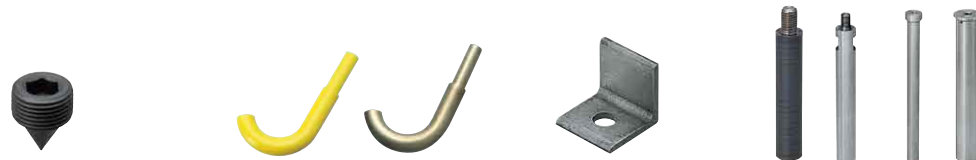
SPOOL RETAINERS — COUNTERBORE TYPE — CSRZ	BLANK HOLDER STOPPER BOLTS CBH	RETAINER PINS CSPST CSPWT CSPS CSPW P-CSPS P-CSPW CSPSP CSPWP	STOPPERS FOR RETAINER PINS SPP CSPT CST-N
1004	1004	1005	1005



ROUND DISTANCE PLATES DTPM DTPME DTPY DTPYE	SQUARE DISTANCE PLATES DTPK DTPB	SHIMS FOR DISTANCE PLATES DTPMS DTPKS	STROKE END BLOCKS DEB
1007	1007	1008	1009



HOLE REPAIR SCREWS MM□ MM□B	LOCATING KEYS LK	BACKUP KEYS BUKE	WASHERS FOR DIE FASTENING KWN	WASHERS FOR OBLONG HOLES WSS
1009	1010	1010	1011	1011



SCRAP BREAKERS FOR CAM PIERCE DIES CPSBR	AIR VENTS FOR DRAWING DIES WUR5	ANGLE STAYS UAS	RCUP	CUSHION PINS MCUP HCUP LCUP
1011	1012	1012	1013	1014



LIFTER CUSHION PINS DTCA DTCB	BUSHINGS FOR LIFTER CUSHION PINS TGF TGW	PLATE LIFTER PINS LCP	LIFTER PLATE STOPPERS BSE BST
1015	1015	1016	1016



HINGE PINS CLKGH	HINGE PIN KEYS HK	TENSION SPRING PINS SSPO WSP0	TENSION SPRINGS AW□	TENSION SPRINGS AWK	TENSION SPRING RINGS BSR
1017	1017	1017	1018	1018	1018

SPOOL RETAINERS

—THICK TYPE / LARGE FLANGE TYPE—

Thick type CSRH

Large flange type CSRTA

L	ℓ
L ≤ 100	L ± 0.03
L ≥ 110	L ± 0.05

① Hexagon socket head cap screw (CB)
M SCM435
 Strength class 12.9 (M10~20)
 10.9 (M24)
 ② **M** S45C
H 25~30HRC
S Black oxide (Fe₃O₄)

D _{e9}	d ₁	d ₂	d ₃	M×P	R	h	T	ℓ	Catalog No.		L	Base unit price 1~9 pieces
									Type	D		
18	-0.032 -0.075	16	27	10.7	10×1.5	1.0	10	8	22	Thick type CSRH	60 70 80	Quotation
											90 100 110 120	
											130 140 150	
											160 170 180	
22	-0.040 -0.092	18	33	12.7	12×1.75	1.0	12	10	20	Thick type CSRH	60 70 80	Quotation
											90 100 110 120	
30	-0.050 -0.112	24	44	16.7	16×2.0	1.5	16	13	27	Thick type CSRH	60 70 80	Quotation
											90 100 110 120 130 140	
36	-0.050 -0.112	30	53	20.7	20×2.5	1.5	20	16	34	Thick type CSRH	80 90 100	Quotation
											110 120 130 140	
44	-0.050 -0.112	36	64	24.7	24×3.0	1.5	24	18	42	Thick type CSRH	80 90 100	Quotation
											110 120 130 140	

D _{e9}	d ₁	d ₂	d ₃	M×P	R	h	T	ℓ	Catalog No.		L	Base unit price 1~9 pieces
									Type	D		
22	-0.040 -0.092	18	50	12.7	12×1.75	1.0	12	10	20	Large flange type CSRTA	80	Quotation
											90 100 110 120 130	
30	-0.050 -0.112	24	60	16.7	16×2.0	1.5	16	13	27	Large flange type CSRTA	80	Quotation
											90 100 110 120 130	
36	-0.050 -0.112	30	70	20.7	20×2.5	1.5	20	16	34	Large flange type CSRTA	100	Quotation
											110 120 130	
44	-0.050 -0.112	36	80	24.7	24×3.0	1.5	24	18	42	Large flange type CSRTA	100	Quotation
											110 120 130	

Order Catalog No. — L

CSRH 30 — 150
 CSRTA 36 — 100

Days to Ship Quotation

Price Quotation

Alterations Catalog No. — L(LC)

CSRH 30 — LC175.5

Alteration	Code	Spec.	1Code	
	LC	Retainer L dimension change Lmin. ≤ LC < Lmax. 0.1mm increments Install the bolts so that the ℓ dimension is within the range shown at right.	Quotation	
		D		ℓ
		18		22~31.9
		22		20~29.9
		30		27~36.9
36	34~43.9			
44	42~51.9			

Example Page at right

SPOOL RETAINERS / BLANK HOLDER STOPPER BOLTS

—COUNTERBORE TYPE—

Spool retainers CSRZ

Counterbore type CSRZ

L	ℓ
L ≤ 100	L ± 0.03
L ≥ 110	L ± 0.05

① Hexagon socket head cap screw (CB)
M SCM435
 Strength class 12.9 (M10~20)
 10.9 (M24)
 ② **M** S45C
H 25~30HRC
S Black oxide (Fe₃O₄)

D _{e9}	d ₁	d ₂	d ₃	M×P	Provided bolt	T	S	ℓ	Catalog No.		L	Base unit price 1~9 pieces
									Type	D		
20	-0.040 -0.092	15	26	9	8×1.25	CB 8-35	6	20	15	Counterbore type CSRZ	40 50 60	Quotation
											70 80 90	
											100 110 120 130	
											140 150 160 170 180	
24	-0.040 -0.092	18	33	11	10×1.5	CB10-45	6	25	20	Counterbore type CSRZ	50 60 70	Quotation
											80 90 100	
28	-0.050 -0.112	20	37	13	12×1.75	CB12-50	8	30	20	Counterbore type CSRZ	50 60 70 80	Quotation
											90 100 110	
35	-0.050 -0.112	26	47	17	16×2.0	CB16-60	8	35	25	Counterbore type CSRZ	60 70 80 90	Quotation
											100 110 120 130	
44	-0.050 -0.112	32	57	21	20×2.5	CB20-70	8	40	30	Counterbore type CSRZ	70 80 90 100	Quotation
											110 120 130	

D	d ₁	d ₂	d ₃	h	T	M×P	ℓ	Catalog No.		L	Base unit price 1~9 pieces
								Type	No.		
25.4	24	36	17.4	16	13	16×2.0	27	CBH	25	100 110 120	Quotation
										130 140 150 160	
31.8	30	45	21.8	20	16	20×2.5	34	CBH	32	100	Quotation
										110 120 130	
										140 150 160	Quotation
										170 180 190 200 210 220	
										230 240 250 260	Quotation
										280 300	

Order Catalog No. — L

CSRZ 35 — 100
 CBH 25 — 180

Alterations Catalog No. — L(LC)

CSRZ 35 — LC114.0
 CBH 25 — LC175.0

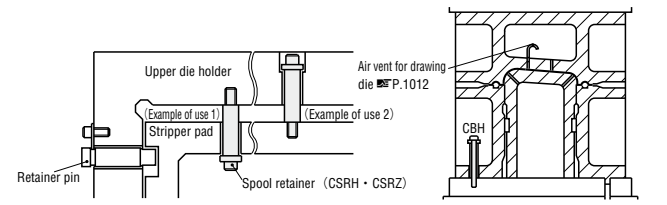
Quotation

Days to Ship Quotation

Price Quotation

Example Example showing combined use of retainer pin and spool retainer

Alteration	Code	Spec.	1Code	
	LC	Retainer L dimension change for spool retainer Lmin. — 10 ≤ LC < Lmax. 0.1mm increments Bolt size remains the same. S dimension is shortened by (L-LC).	Quotation	
		D		ℓ
		60		25
		27~36.9		32
		34~43.9		



COMPONENTS FOR AUTOMOTIVE DIES

ROUND DISTANCE PLATES / SQUARE DISTANCE PLATES

SHIMS FOR ROUND DISTANCE PLATES / SHIMS FOR SQUARE DISTANCE PLATES

Round distance plates RoHS

—One hole type—
D=45·55·65·90

—Two holes type—
D=65·80·90

Ⓜ S45C

Square distance plates RoHS

DTPK DTPB
(// Induction hardened part) (Not hardened)

Ⓜ S45C

Shims for round distance plates RoHS

DTPMS
D=45·55 D=65·90

D=80

T	±
0.05	±0.005
0.1	±0.020
0.2	±0.030
0.3	±0.035
0.5	±0.040
1.0	±0.050

Ⓜ SUS304

Shims for square distance plates RoHS

DTPKS

T	±
0.05	±0.005
0.1	±0.020
0.2	±0.030
0.3	±0.035
0.5	±0.040
1.0	±0.050

Ⓜ SUS304

Round distance plates

Bolt hole	H	Catalog No.		T	Color	Base unit price 1~9 pieces			
		Type	D			DTPM-DTPME (N/Y)	DTPY-DTPYE (N/Y)	N (Normal)	R (Red)
One hole	6	DTPM (Induction hardened)	45	20	R (Red)				
	15			30					
	15			40					
One hole	6	DTPY (Not hardened)	55	20	Y (Yellow)				
	15			30					
	15			40					
Two holes	15	DTPME (Induction hardened)	65	30	N (Normal)				
				50					
				90					
		DTPYE (Not hardened)	90	30					
				40					
				50					
DTPM (Induction hardened)	80	30							
		40							
		50							
		DTPY (Not hardened)	80	30					
				40					
				50					

Quotation

Square distance plates

H	P	Catalog No.			Color	Base unit price 1~9 pieces					
		Type	A	B		T	DTPK (N/Y)	DTPB (N/Y)	N (Normal)	R (Red)	
6	30	DTPK (Induction hardened)	38	60	R (Red)	20					
						30					
						40					
15	55	DTPB (Not hardened)	60	80	Y (Yellow)	20					
						30					
						40					
6	55	DTPK (Induction hardened)	50	80	R (Red)	20					
						30					
						40					
15	70	DTPB (Not hardened)	60	100	N (Normal)	20					
						30					
						40					
6	70	DTPK (Induction hardened)	80	100	Y (Yellow)	20					
						30					
						40					
15	85	DTPB (Not hardened)	80	120	N (Normal)	20					
						30					
						40					

Quotation

Order Catalog No. — B — T — Color (R·Y·N)

DTPME 65 — 30 — R

DTPK 50 — 80 — 30 — N

Alteration Catalog No. — T — (DC·TC·NMC)

DTPM 65 — 40 — R—DC20

Quotation

Alteration	Code	Spec.	1Code
	DC	Cutting of D dimension on one side 13 ≦ DC < D/2 1mm increments Ⓧ Can be used for round distance plates only.	DTPM-DTPME DTPY-DTPYE-DTPB
	TC	Plate thickness (T dimension) change (T-5) ≦ TC < T 1mm increments Ⓧ Cannot be used for DTPM, DTPME, and DTPK. Ⓧ Cannot be used for T=20. Ⓧ Check of Bolt-head size.	Quotation
	NMC	Groove machining Ⓧ Cannot be used for DTPM and DTPME. Ⓧ Can be used for round distance plates only.	

Shims for round distance plates

Catalog No.	Type	D	T	Base unit price 1~9 pieces			
					DTPMS		
45			0.05				
			0.1				
			0.2				
			0.3				
			0.5				
			1.0				
			55			0.05	
						0.1	
						0.2	
						0.3	
0.5							
1.0							
65						0.05	
						0.1	
						0.2	
						0.3	
			0.5				
			1.0				
			80			0.05	
						0.1	
						0.2	
						0.3	
0.5							
1.0							
90						0.05	
						0.1	
						0.2	
						0.3	
			0.5				
			1.0				

Quotation

Shims for square distance plates

P	Catalog No.			Base unit price 1~9 pieces				
	Type	A	B					
30	DTPKS	38	60	0.05				
				0.1				
				0.2				
				0.3				
				0.5				
				1.0				
				55	DTPKS	50	80	0.05
								0.1
								0.2
								0.3
0.5								
1.0								
70	DTPKS	60	100					0.05
								0.1
								0.2
								0.3
				0.5				
				1.0				
				85	DTPKS	80	120	0.05
								0.1
								0.2
								0.3
0.5								
1.0								

Quotation

Order Catalog No. — B — T

DTPME 65 — 30 — 0.2

DTPKS 50 — 60 — 0.2

Days to Ship Quotation

Price Quotation

STROKE END BLOCKS / HOLE REPAIR SCREWS

—DRAW · WRIST · PRESSER BALANCER—

LOCATING KEYS / BACKUP KEYS

Stroke end blocks RoHS **DEB**

M S45C
S Black oxide (Fe₃O₄)
A Hexagon socket head cap screw (CB12-30)

d ₁	d ₂	H	l	Catalog No.		T	Color	Base unit price 1~9 pieces		
				Type	D					
20	14	6	24	DEB	40	20	R (Red)	Quotation		
						30				
						20				
						30				
						20				
						30				
		14	16	6	24	DEB	50		20	Y (Yellow)
									30	
									20	
									30	
									20	
									30	
14	16	14	16	DEB	70	20	N (Normal)			
						30				
						40				
						30				
						40				
						50				

N (Normal) exterior is black oxide (Fe₃O₄).

Order Catalog No. — T — R·Y·N

DEB 60 — 20 — N

Days to Ship Quotation

Price Quotation

Alterations Catalog No. — T — R·Y·N — (NMC)

DEB 50 — 30 — Y — NMC

Alteration	Code	Spec.	1Code
	NMC	Addition of a groove for height adjustment The surface treatment at the location of the alteration is removed.	Quotation

Example

Hole repair screws RoHS **MMS** (SS400) **MMF** (FC250) **MMSB** (SS400) **MMFB** (FC250)

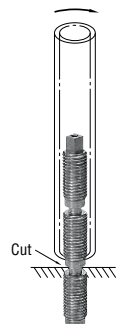
MMS · MMSB M SS400
MMF · MMFB FC 250

M×P (Coarse thread)	A	d ₁	d ₂	L	Catalog No.		Base unit price 1~20 pieces
					Type	M	
12×1.75	8	8.5	8.0	24	MMS (SS400)	12	Quotation
16×2.0	8	8.5	8.0	32		16	
20×2.5	13	10.5	10.0	40		20	
24×3.0	16	10.5	10.0	48	MMF (FC250)	24	Quotation
						30	

M×P (Coarse thread)	A	L	Catalog No.		Base unit price 1~20 pieces
			Type	M	
6×1.0	4	100	MMSB (SS400)	6	Quotation
8×1.25	5			8	
10×1.5	6			10	
10×1.5	7	130	MMFB (FC250)	10	Quotation
12×1.75	8	200	MMSB (SS400)	12	
16×2.0	8			16	
20×2.5	13			20	
24×3.0	16			24	
30×3.5	18			30	

How to use

These products can be used to repair holes that were created by mistake. Tighten the upper square part with a spanner. After the screw is installed, cut it using an iron saw. MMS and MMF can be broken using a pipe wrench.



Order Catalog No. MMS 12

Days to Ship Quotation

Price Quotation

Locating keys RoHS **LK**

M S45C

A	T	d ₁	d ₂	h	a	Catalog No.		Base unit price 1~49 pieces
						Type	L	
20	20	9	14	10	3	LK	20	60
							25	80
							32	100
25	25	11	18	12	4	LK	25	60
							28	80
							32	100
28	28	11	18	12	4	LK	28	60
							32	80
							32	100

Price Quotation

Order Catalog No. — L

LK 20 — 60

Days to Ship Quotation

Alterations Catalog No. — L(LC)

LK 25 — LC70

Quotation

Alteration	Code	Spec.	1Code
	LC	L dimension change 30 ≤ LC < L 5mm increments Both ends are cut to the specified dimension.	Quotation

Backup keys RoHS **BUKE**

M SS400

T	d	Catalog No.		Base unit price 1~19 pieces
		Type	L (Selection)	
20	11	BUKE	20	120
			25	150
25	13	BUKE	30	100
			125	150

Price Quotation

Order Catalog No. — L

BUKE 25 — 150

Days to Ship Quotation

Alterations Catalog No. — L(LC)

BUKE 20 — LC115

Alteration	Code	Spec.	1Code
	LC	L dimension change 50 ≤ LC < L 1mm increments Both ends are cut to the specified dimension.	Quotation


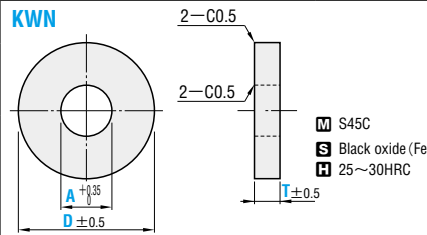
Example

Mutual positioning of dies

Backup key (BUKE)


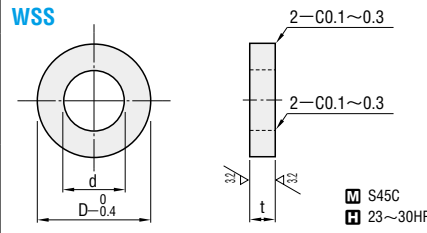
Details

Washers for die fastening RoHS **KWN**

2-C0.5
2-C0.5
A +0.35
D ±0.5
T ±0.5

Washers for oblong holes RoHS **WSS**

2-C0.1~0.3
2-C0.1~0.3
D-0.4
t

Material:
M S45C
S Black oxide (Fe₃O₄)
H 25~30HRC

Catalog No.		A	T	Base unit price 1~19 pieces
Type	D			
KWN	50	22	10·15	Quotation
	60	26		
	70	26	10·15	
	80	26	10·15	

D	d	T	t	Catalog No.		Base unit price 1~49 pieces	Volume discount unit price		
				Type	No.		50~199	200~499	500~1000
12.5	6.4	+0.25	2.5	WSS	6	Quotation			
17	8.4	0	8						
21	10.5	3	±0.3		10				
24	13	+0.3	4		±0.4		12		
30	17	0	5	±0.5	16				
37	21				20				

Order Catalog No. - **A** - **T**

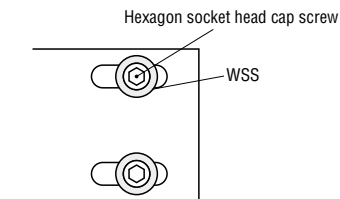
KWN 60 - 22 - 15

WSS 8

Example ex


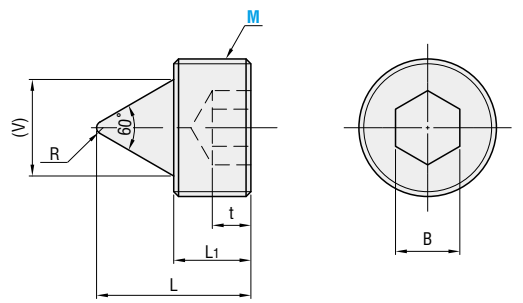
Days to Ship Quotation

Price Quotation



⚠ To prevent breakage, the plate thickness is slightly thicker and the hardness is 23~30HRC.

Scrap breakers for cam pierce dies RoHS **CPSBR**

M
R
60°
t
L₁
L
B

Material:
M S45C
S Black oxide (Fe₃O₄)
H 25~30HRC

⚠ Dimensions in parentheses are reference values.

M×P	L	L ₁	B	V	t	R	Catalog No.		Base unit price 1~9 pieces
							Type	M	
16×1.5	20	10	8	(12.7)	5	CPSBR	16	Quotation	
20×1.5	24	12	10	(15.0)	6		20		
24×1.5	26	12	14	(17.3)	8		24		

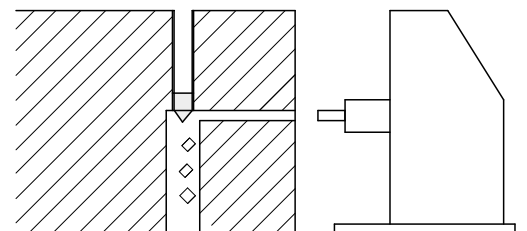
Order Catalog No.

CPSBR20

Days to Ship Quotation



Price Quotation

Example ex



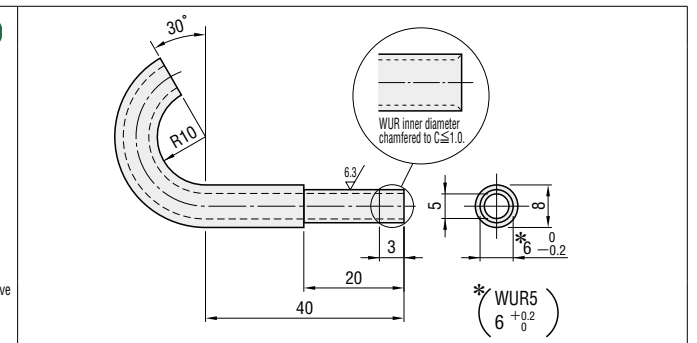
Air vents for drawing dies RoHS

WUR 5 **WAV 5**

⚠ Yellow
M Polyurethane
H Shore A90

⚠ Use an epoxy-based adhesive for mounting.
M Brass (C2700T)



Catalog No.	Base unit price 1~9 pieces
WUR 5 (Polyurethane)	Quotation
WAV 5 (C2700T)	


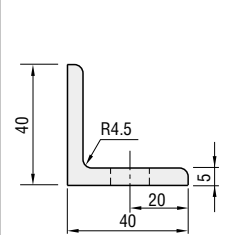
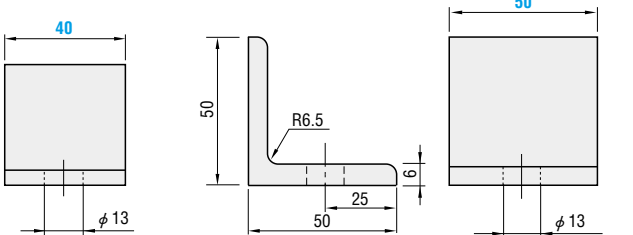
Order P

Price Quotation

Catalog No. WAV 5

Days to Ship Quotation

Angle stays RoHS **UAS40-40** **UAS50-50**

40
R4.5
20
5
φ13

50
R6.5
25
6
φ13

Material: M SS400

Catalog No.		Base unit price 1~9 pieces
Type	No.	
UAS	40-40	Quotation
	50-50	

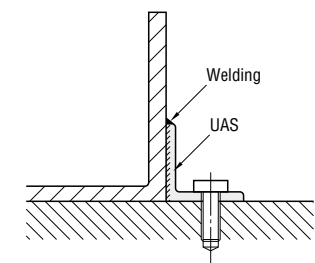
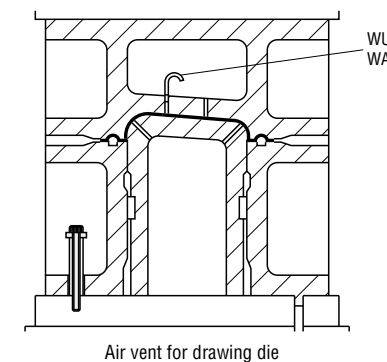
Order P

Price Quotation

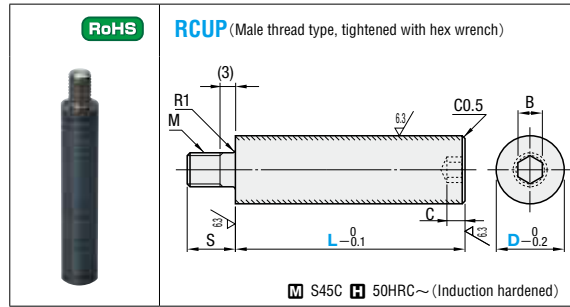
Catalog No. UAS 40-40

Days to Ship Quotation

Example ex



CUSHION PINS



M×P	S	B	C	Catalog No.		Base unit price 1~9 pieces
				Type	L 10mm increments	
10×1.5	15	8	5	RCUP	16	50~100
						110~150
						160~200
12×1.75	18	10	6		20	50~100
						110~150
						160~200
16×2.0	24	14	9		25	210~250
						50~100
						110~150
20×2.5	30	17	12	32	160~200	
					210~250	
					50~100	

The RCUP male thread diameter is one rank larger than MCUP.



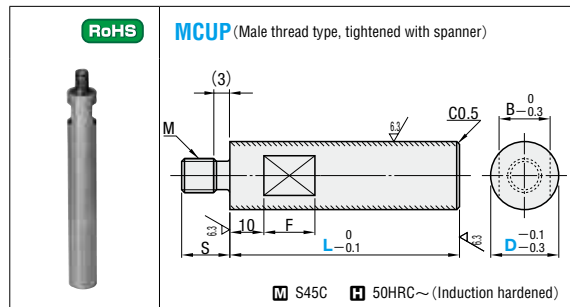
Order Catalog No. — L
RCUP 20 — 200

Days to Ship Quotation

Price Quotation

Alterations Catalog No. — L(LC) — (LKC)
RCUP 20 — LC195 — LKC

Alteration	Code	Spec.	1Code
	LC	Full length change 35 ≤ LC < L 1mm increments	Quotation
	LKC	Full length tolerance change L tolerance $0 \rightarrow -0.04$ LC → 0.1mm increments (When combined with LC, LC can be specified in 0.1mm increments)	



M×P	S	B	F	Catalog No.		Base unit price 1~9 pieces	
				Type	L 10mm increments		
8×1.25	12	13	16	MCUP	16	50~100	
						110~150	
						160~200	
10×1.5	15	16			20	20	50~100
							110~150
							160~200
12×1.75	18	18			25	25	210~250
							50~100
							110~150
16×2.0	24	21	32	32	160~200		
					210~250		
					100~150		



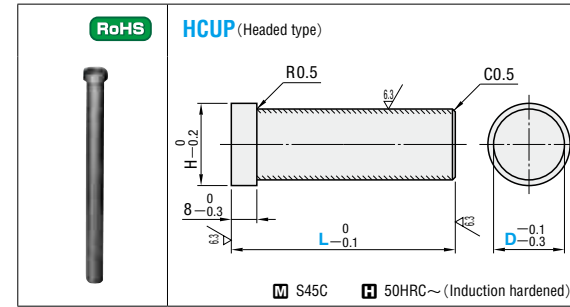
Order Catalog No. — L
MCUP 20 — 200

Days to Ship Quotation

Price Quotation

Alterations Catalog No. — L(LC) — (LKC-MC)
MCUP 20 — LC195 — LKC

Alteration	Code	Spec.	1Code											
	LC	Full length change 35 ≤ LC < L 1mm increments	Quotation											
	LKC	Full length tolerance change L tolerance $0 \rightarrow -0.04$ LC → 0.1mm increments (When combined with LC, LC can be specified in 0.1mm increments)												
	MC	Tapping <table border="1"> <thead> <tr> <th>D</th> <th>M</th> <th>ℓ</th> </tr> </thead> <tbody> <tr> <td>16</td> <td>8</td> <td rowspan="4">2×M</td> </tr> <tr> <td>20</td> <td>10</td> </tr> <tr> <td>25</td> <td>12</td> </tr> <tr> <td>32</td> <td>16</td> </tr> </tbody> </table>		D	M	ℓ	16	8	2×M	20	10	25	12	32
D	M	ℓ												
16	8	2×M												
20	10													
25	12													
32	16													



H	Catalog No.		Base unit price 1~9 pieces
	Type	L 10mm increments	
15	HCUP	10	50~100
			110~150
			160~200
18		13	50~100
			110~150
			160~200
21		16	210~250
			50~100
			110~150
25	20	160~200	
		210~250	
		50~100	
30	25	110~150	
		160~200	
		210~250	
37	32	50~100	
		110~150	
		160~200	



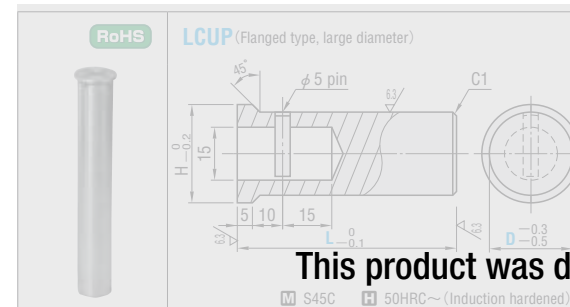
Order Catalog No. — L
HCUP 13 — 150

Days to Ship Quotation

Price Quotation

Alterations Catalog No. — L(LC) — (LKC-MC-NC)
HCUP 13 — LC155 — LKC

Alteration	Code	Spec.	1Code											
	LC	Full length change 35 ≤ LC < L 1mm increments	Quotation											
	LKC	Full length tolerance change L tolerance $0 \rightarrow -0.04$ LC → 0.1mm increments (When combined with LC, LC can be specified in 0.1mm increments)												
	MC	Tapping <table border="1"> <thead> <tr> <th>D</th> <th>M</th> <th>ℓ</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>6</td> <td rowspan="4">2×M</td> </tr> <tr> <td>13-16</td> <td>8</td> </tr> <tr> <td>20</td> <td>10</td> </tr> <tr> <td>25-32</td> <td>12</td> </tr> </tbody> </table>		D	M	ℓ	10	6	2×M	13-16	8	20	10	25-32
D	M	ℓ												
10	6	2×M												
13-16	8													
20	10													
25-32	12													
	NC	Tapping <table border="1"> <thead> <tr> <th>D</th> <th>M</th> <th>ℓ</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>6</td> <td rowspan="4">2×M</td> </tr> <tr> <td>13-16</td> <td>8</td> </tr> <tr> <td>20</td> <td>10</td> </tr> <tr> <td>25-32</td> <td>12</td> </tr> </tbody> </table>	D	M	ℓ	10	6	2×M	13-16	8	20	10	25-32	12
D	M	ℓ												
10	6	2×M												
13-16	8													
20	10													
25-32	12													



H	Catalog No.		Base unit price 1~9 pieces
	Type	L 20mm increments	
30	LCUP	25	80~160
			180~240
			100~160
40		32	180~240
			100~160
			180~280
45		38	160~220
			240~300
			160~220



Order Catalog No. — L
LCUP 38 — 160

Days to Ship Quotation

Price Quotation

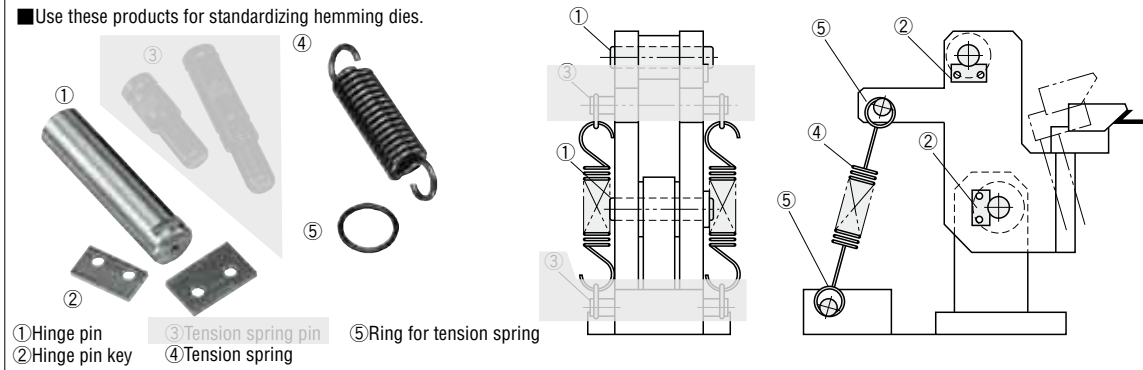
Alterations Catalog No. — L(LC) — (LKC)
LCUP 38 — LC153 — LKC

Alteration	Code	Spec.	1Code
	LC	Full length change 45 ≤ LC < L 1mm increments	Quotation
	LKC	Full length tolerance change L tolerance $0 \rightarrow -0.04$	

This product was discontinued in 2017.

Catalog No. : LCUP

COMPONENTS FOR AUTOMOTIVE DIES



Hinge pins **CLKGH** **RoHS**

■ S45C
■ 55HRC~ (Induction hardened)

D ₁₆	ℓ	M	N	Catalog No. Type	D ₁₆	L 1mm increments	Base unit price 1~19 pieces
25	-0.007		4	CLKGH	25	50~150	Quotation
30	-0.020		4		25	151~300	
					30	50~150	
					30	151~300	
					35	80~150	
					35	151~300	
					35	301~400	
					40	80~150	
					40	151~300	
					40	301~400	
					45	100~150	
					45	151~300	
				45	301~500		
				50	100~150		
				50	151~300		
				50	301~500		

Order **Catalog No.** — **L**
CLKGH 30 — 157

Days to Ship **Quotation**

Price **Quotation**

Hinge pin keys **HK** **RoHS**

■ SS400

Tension spring pins **SSPO** **RoHS**

This product was discontinued in 2017.

Catalog No. : SSPO WSP0

■ S45C
■ Black oxide (Fe₃O₄)

A	B	C	D	E	T	Catalog No. Type	No.	Base unit price 1~19 pieces
20	35	18	6.5	13	4.5	HK	7	Quotation
25	40	20		15			8	

S	W	M×P	ℓ	Catalog No. Type	D	L	Base unit price 1~19 pieces
8	14	12×1.75	24	SSPO	16	12 15 18	Quotation
10	17	16×2.0	32		20		
10	22	20×2.5	40		25		
8	14	12×1.75	24	WSP0	16	25 30	Quotation
10	17	16×2.0	32		20	25 30 35	
10	22	20×2.5	40		25	35 45	

Order **Catalog No.**
HK 7

Price **Quotation**

Days to Ship **Quotation**

Tension springs **RoHS**

AWL
AWM
AWH
AWB

Max. load N (kgf) max
Initial tension N (kgf) min

Ⓜ SWP—A

Ⓢ Maximum load N(kgf) max. ±10%

Tension springs **RoHS**

AWK

Ⓜ ① Coil spring SWP—A
② End part S45C
③ Hook part SWP—A (wire diameter φ 6)

Tension spring rings **RoHS**

BSR

Ⓜ SS400
Ⓢ Black oxide (Fe₃O₄)

■ Tension springs

D ₁	d	Spring constant N/mm (kgf/mm)	F max.	Maximum load N(kgf)	Initial tension N(kgf)	Catalog No. Type D—L	Base unit price 1~19 pieces
21 (±0.4)	2	0.95 (0.097)	55.22	61.98 (6.32)	9.22 (0.94)	AWL25 — 68	Quotation
		0.60 (0.061)	87.94			83	
		0.39 (0.040)	132.93			105	
		0.25 (0.026)	210.64			143	
		0.16 (0.016)	333.34			203	
26.8 (±0.5)	2.6	1.30 (0.133)	64.94	101.40 (10.34)	16.57 (1.69)	AWL32 — 85.1	Quotation
		0.82 (0.084)	103.42			106.5	
		0.54 (0.055)	156.33			135.5	
		0.34 (0.035)	247.72			184.9	
		0.22 (0.022)	392.02			262.9	
19.8 (±0.4)	2.6	2.95 (0.301)	35.10	132.39 (13.50)	28.73 (2.93)	AWM25 — 72.1	Quotation
		1.86 (0.190)	55.90			92.5	
		1.23 (0.125)	84.50			121.5	
		0.77 (0.079)	133.90			170.9	
		0.49 (0.050)	211.90			248.9	
25.6 (±0.5)	3.2	3.19 (0.325)	45.50	184.66 (18.83)	39.42 (4.02)	AWM32 — 91.2	Quotation
		2.00 (0.204)	72.46			116.8	
		1.32 (0.135)	109.53			152.0	
		0.83 (0.085)	173.56			212.8	
		0.53 (0.054)	274.66			308.8	

D ₁	d	Spring constant N/mm (kgf/mm)	F max.	Maximum load N(kgf)	Initial tension N(kgf)	Catalog No. Type D—L	Base unit price 1~19 pieces
18.6 (±0.4)	3.2	7.37 (0.752)	23.76	242.22 (24.70)	67.08 (6.84)	AWH25 — 77.2	Quotation
		4.63 (0.472)	37.84			102.8	
		3.06 (0.312)	57.20			138.0	
24 (±0.5)	4	1.93 (0.197)	90.64	353.53 (36.05)	99.44 (10.14)	AWH32 — 98	Quotation
		1.22 (0.124)	143.44			130	
		0.84 (0.865)	29.97			174	
		5.33 (0.543)	47.73			250	
		3.52 (0.359)	72.15			370	
17 (±0.4)	4	2.23 (0.227)	114.33	466.99 (47.62)	161.91 (16.51)	AWB25 — 84	Quotation
		1.40 (0.143)	180.93			116	
		20.00 (2.040)	15.26			160	
		12.55 (1.280)	24.30			236	
		8.31 (0.847)	36.73			356	

● Load (kgf) = Load (N) × 0.101972
 Ⓢ The initial tension values are provided only for reference.
 Ⓢ kgf = N × 0.101972

Wire diameter d	Spring constant N/mm (kgf/mm)	Fmm	F=L×23% Load N (kgf)	Fmm	F=L×25% Load N (kgf)	Initial tension N Load (kgf)	Identifying color	Catalog No. Type D—L	Base unit price 1~19 pieces
5.0	12.55 (1.28)	42.1	703.1 (71.7)	45.7	748.3 (76.3)	174.8 (17.84)	Brown	AWK 34—183	Quotation
	10.91 (1.11)	45.5	671.2 (68.3)	49.5	714.8 (72.8)		Red		
	10.04 (1.03)	47.8	654.7 (67.1)	52.0	696.9 (71.4)		Black		
	9.30 (0.95)	50.1	640.7 (65.4)	54.5	681.6 (69.6)		Yellow		
	8.66 (0.88)	52.4	628.6 (64.0)	57.0	668.4 (68.0)		Light blue		
Operating count		1,000,000		500,000					

■ Tension spring rings

Catalog No.	D	Base unit price 1~19 pieces
BSR	4	Quotation
	34	
	40	

■ Features
 Because the hook ③ and the coil spring ① are separate parts, this product is more resistant to fatigue fracture caused by axial rotation and uneven load. The coil spring ① and the end part ② are in linear contact, providing high durability.

Order **Catalog No.**
 AWL25—105
 AWK34—183
 BSR4—40

Days to Ship **Quotation**

Price **Quotation**