

High Speed Steel
SKH51 equivalent

P · W_{-0.01}⁰
Blank

RECTANGULAR EJECTOR PINS

— STANDARD —

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

Part Number	Head Thickness	P · W
ERPH	4mm(T4)	$\begin{matrix} 0 \\ -0.01 \end{matrix}$
ERJ	6 · 8mm(JIS)	$\begin{matrix} 0 \\ -0.01 \end{matrix}$

Ⓢ Range of guaranteed shaft diameter precision (D) (Details [P.1301](#))
 Ⓢ Step R (Details [P.1302](#))

SKH51 equivalent
 58~60HRC
 Range of guaranteed base material hardness (Details [P.1303](#))

Order **Part Number** - **L** - **P** - **W** - **N**
 ERJ8 - 120 - P6.0 - W1.0 - N60

Days to Ship **Quotation**

Alterations **Part Number** - **L** - **P** - **W** - **N** - (AKC · AWC...etc.)
 ERJ 8 - 120 - P6.0 - W1.0 - N60 - AKC 0

Alterations	Code	Spec.	Code
	VAK (precision) / AKC	VAK=45° increments AKC=1° increments Ⓢ 0 ≤ VAK or AKC < 360 Ⓢ (VAK) KSA, WSA not available Ⓢ (AKC) When combined with KSA/WSA, 90° increments only.	Quotation
	VAW	VAW=45° increments Ⓢ 0 ≤ VAW < 360 Ⓢ Combination with KSA/WSA not available.	
	AWC	AWC=1° increments Ⓢ 0 ≤ AWC < 360 Ⓢ When combined with KSA/WSA, 90° increments only.	
	ARC	ARC=1° increments Ⓢ 0 ≤ ARC < 360 Ⓢ When combined with KSA/WSA, 90° increments only.	
	ADC	ADC=1° increments Ⓢ 0 ≤ ADC < 360 Ⓢ When combined with KSA/WSA, 90° increments only.	
	KGA	KGA=1° increments Ⓢ 0 < KGA < 360	
	KGD	KGD=1° increments Ⓢ 0 < KGD < 360	
	HCC (precision)	HC, HCC=0.1mm increments Ⓢ (HC) D+1 ≤ HC < H Ⓢ (HCC) D+1 ≤ HCC < H-0.3	

Alterations	Code	Spec.	Code
	KSA	KSA=0.1mm increments Ⓢ W/2+0.1 ≤ KSA ≤ D/2-0.1	Quotation
	WSA	WSA=0.1mm increments Ⓢ W/2+0.1 ≤ WSA ≤ D/2-0.1	
	TC	TC=0.1mm increments Ⓢ T/2 ≤ TC < T Ⓢ Dimensions L and N become shorter by (T-TC)	
	NC	Dowel hole boring NC=90° increments Ⓢ Available when H ≥ 4 Ⓢ Combination with other than NHC · MHN not available. How to order and detailed specifications P.195	
	NCW	Dowel hole boring + Spring pin driving NCW=90° increments Ⓢ Available when H ≥ 4 Ⓢ Combination with other than NHC · MHN not available. How to order and detailed specifications P.195	
	NHC	Numbering on the head How to order P.196	
	NHN	Automatic sequential numbering on the head How to order P.196	
	MC	Tapping D8 · 8.5 ... M4 D10 · 10.5 ... M5 D12 ... M6 Ⓢ Not available for ERPH. Ⓢ Available when D ≥ 8	

4mm head JIS head		Part Number		L	P	W	N
H	T	4mm head	JIS head				
3				1.5	0.3 0.4 0.5 0.6	40 50 60	
				150	0.4 0.5 0.6 0.7 0.8 1.0	30 40 50 60	
4				2	0.4 0.5 0.6 0.7 0.8 1.0	40 50 60 70 80	
				150	0.4 0.5 0.6 0.7 0.8 1.0	40 50 60 70 80	
				200	0.4 0.5 0.6 0.7 0.8 1.0	60 70 80	
5				2.5	0.4 0.5 0.6 0.7 0.8 1.0 1.2 (1.5)	30 40 50 60	
				150	0.4 0.5 0.6 0.7 0.8 1.0 1.2 (1.5)	40 50 60 70 80	
				200	0.4 0.5 0.6 0.7 0.8 1.0 1.2 (1.5)	60 70 80 90 100	
6				3	0.4 0.5 0.6 0.7 0.8 1.0 1.2 (1.5) (2.0)	40 50 60	
				150	0.4 0.5 0.6 0.7 0.8 1.0 1.2 (1.5) (2.0)	40 50 60 70 80 90	
				200	0.4 0.5 0.6 0.7 0.8 1.0 1.2 (1.5) (2.0)	60 70 80 100 120	
7				3.5	0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.2 1.5 (2.0)	40 50 60	
				150	0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.2 1.5 (2.0)	40 50 60 70 80	
				200	0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.2 1.5 (2.0)	60 70 80 100	
8				4	0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.2 1.5 (2.0)	40 50 60	
				150	0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.2 1.5 (2.0)	40 50 60 70 80 90	
				200	0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.2 1.5 (2.0)	60 70 80 100 120	
8				4.5	0.6 0.7 0.8 0.9 1.0 1.2 1.5 1.8 (2.0) (2.5)	40 50 60 70	
				150	0.6 0.7 0.8 0.9 1.0 1.2 1.5 1.8 (2.0) (2.5)	40 50 60 70	
				200	0.6 0.7 0.8 0.9 1.0 1.2 1.5 1.8 (2.0) (2.5)	60 70 80 90 100	
9				5	0.6 0.7 0.8 0.9 1.0 1.2 1.5 1.8 2.0 2.5	40 50 60 70	
				150	0.6 0.7 0.8 0.9 1.0 1.2 1.5 1.8 2.0 2.5	40 50 60 70 80 90	
				200	0.6 0.7 0.8 0.9 1.0 1.2 1.5 1.8 2.0 2.5	60 70 80 100	
9	4			5.5	0.8 0.9 1.0 1.2 1.5 1.8 2.0 (2.5)	40 50 60 70	
				150	0.8 0.9 1.0 1.2 1.5 1.8 2.0 (2.5)	40 50 60 70	
				200	0.8 0.9 1.0 1.2 1.5 1.8 2.0 (2.5)	60 70 80 100	
10				6	0.8 0.9 1.0 1.2 1.5 1.8 2.0 2.5 3.0	40 50 60 70 80 90 100	
				150	0.8 0.9 1.0 1.2 1.5 1.8 2.0 2.5 3.0	60 70 80 100	
				200	0.8 0.9 1.0 1.2 1.5 1.8 2.0 2.5 3.0	90 100 120	
10				6.5	0.8 0.9 1.0 1.2 1.5 1.8 2.0	40 50 60	
				150	0.8 0.9 1.0 1.2 1.5 1.8 2.0	70 80	
				200	0.8 0.9 1.0 1.2 1.5 1.8 2.0	100	
10				7	0.8 0.9 1.0 1.2 1.5 1.8 2.0 2.5	40 50 60	
				150	0.8 0.9 1.0 1.2 1.5 1.8 2.0 2.5	40 50 60	
				200	0.8 0.9 1.0 1.2 1.5 1.8 2.0 2.5	60 70 80 100	
11				8	0.8 0.9 1.0 1.2 1.5 1.8 2.0 2.5	40 50 60	
				150	0.8 0.9 1.0 1.2 1.5 1.8 2.0 2.5	40 50 60	
				200	0.8 0.9 1.0 1.2 1.5 1.8 2.0 2.5	60 70 80 100	
11				8.5	0.8 0.9 1.0 1.2 1.5 1.8 2.0 2.5	40 50 60	
				150	0.8 0.9 1.0 1.2 1.5 1.8 2.0 2.5	40 50 60	
				200	0.8 0.9 1.0 1.2 1.5 1.8 2.0 2.5	60 70 80 100	
14				10	0.8 1.0 1.2 1.5 1.8 2.0 2.5	40 50 60	
				150	0.8 1.0 1.2 1.5 1.8 2.0 2.5	40 50 60	
				200	0.8 1.0 1.2 1.5 1.8 2.0 2.5	60 70 80 100	
15				10.5	1.2 1.5 2.0	40 50 60	
				150	1.2 1.5 2.0	40 50 60	
				200	1.2 1.5 2.0	60 70 80 100	
17				12	1.2 1.5 1.8 2.0	40 50 60	
				150	1.2 1.5 1.8 2.0	40 50 60	
				200	1.2 1.5 1.8 2.0	60 70 80 100	

Ⓢ L(120)(150)(175)(300) are available only for ERJ. Ⓢ Selections in which both the P and W dimensions are enclosed in brackets () cannot be made.

P Price **Quotation**

Precision Standard	
Squareness of the tip corner	<p>W plane as the base (Pmax - Pmin) ≤ 0.02</p>
Corner R value of the tip corner	<p>Rmax ≤ 0.03 (Trimming R) Ⓢ The tip corners have been slightly trimmed to measure the P · W dimensions. (Details P.1313)</p>

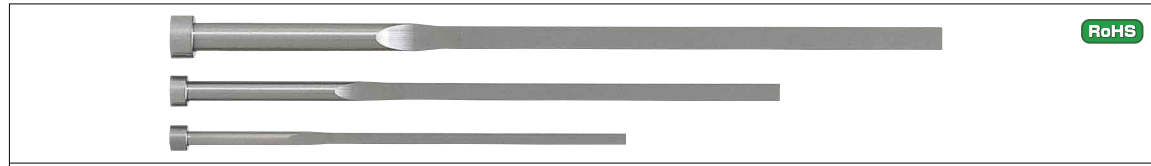
High Speed Steel
SKH51 equivalent

$P \cdot W_{-0.01}^0$
L dimension
designation

RECTANGULAR EJECTOR PINS

— L DIMENSION DESIGNATION TYPE —

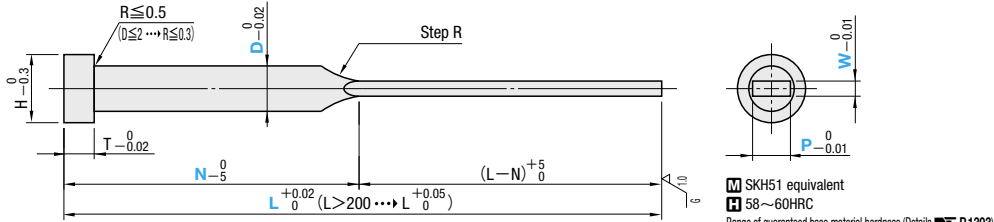
⚠ Non JIS material definition is listed on P.1351 - 1352



RoHS

Part Number	Head Thickness	P · W
ERL	4mm(T4)	0
ERJL	6 · 8mm(JIS)	-0.01

⚠ Range of guaranteed shaft diameter precision (D) (Details P.1301)
⚠ Step R (Details P.1302)



SKH51 equivalent
58~60HRC
Range of guaranteed base material hardness (Details P.1303)

Order Part Number — L — P — W — N
ERJL8 — 185.05 — P6.0 — W1.0 — N80

Days to Ship Quotation

Precision Standard	
Squareness of the tip corner	P_{max} , P_{min} W plane as the base ($P_{max} - P_{min}$) ≤ 0.02
Corner R value of the tip corner	$R_{max} \leq 0.03$ (Trimming R) The tip corners have been slightly trimmed to measure the P · W dimensions. (Details P.1313)

Alterations Part Number — L — P — W — N — (AKC · AWC...etc.)
ERJL 8 — 185.05 — P6.0 — W1.0 — N80 — AKC 0

Alterations	Code	Spec.	1Code
	VAK (precision)	VAK=45° increments AKC=1° increments ⚠ 0 ≤ VAK or AKC < 360 ⚠ (VAK) KSA, WSA not available	
	AKC	⚠ (AKC) When combined with KSA/WSA, 90° increments only.	
	VAW	VAW=45° increments ⚠ 0 ≤ VAW < 360 ⚠ Combination with KSA/WSA not available.	
	AWC	AWC=1° increments ⚠ 0 ≤ AWC < 360 ⚠ When combined with KSA/WSA, 90° increments only.	
	ARC	ARC=1° increments ⚠ 0 ≤ ARC < 360 ⚠ When combined with KSA/WSA, 90° increments only.	
	ADC	ADC=1° increments ⚠ 0 ≤ ADC < 360 ⚠ When combined with KSA/WSA, 90° increments only.	
	KGA	KGA=1° increments ⚠ 0 < KGA < 360	
	KGD	KGD=1° increments ⚠ 0 < KGD < 360	
	HCC (precision)	HC, HCC=0.1mm increments ⚠ (HC) $D+1 \leq HC < H$ ⚠ (HCC) $D+1 \leq HCC < H-0.3$	
	KSA	KSA=0.1mm increments ⚠ $W/2 + 0.1 \leq KSA \leq D/2 - 0.1$	
	WSA	WSA=0.1mm increments ⚠ $W/2 + 0.1 \leq WSA \leq D/2 - 0.1$	

Alteration details P.195			
Alterations	Code	Spec.	1Code
	TC	TC=0.1mm increments $T/2 \leq TC < T$ ⚠ Dimensions N becomes shorter by (T-TC). (Dimension L remains unchanged.) ⚠ T-TC ≤ Lmax. — L	
	NC	Dowel hole boring NC=90° increments ⚠ Available when H ≥ 4 ⚠ Combination with other than NHC · MHN not available. How to order and detailed specifications P.195	
	NCW	Dowel hole boring+Spring pin driving NCW=90° increments ⚠ Available when H ≥ 4 ⚠ Combination with other than NHC · MHN not available. How to order and detailed specifications P.195	
	NHC	Numbering on the head How to order P.196	
	NHN	Automatic sequential numbering on the head How to order P.196	
	TMC	Lapping on the tip face	
	MC	Tapping D8 · 8.5 → M4 D10 · 10.5 → M5 D12 → M6 ⚠ Not available for ERL ⚠ Available when D ≥ 8 ⚠ Only available combination is with CSW · CSF · TMC	
	CSW	C chamfering processing at 2 points on top (except tip) for relief is performed. Designation method CSW1—E25	
	CSF	C chamfering processing at 4 points (except tip) for relief is performed. Designation method CSF0.5—E30	

4mm head/JIS head		Part Number		L		P	W						N																
H	T	H	T	4mm head	JIS head		D	0.01mm increments																					
3							1.5	50.00~100.00 100.01~150.00	0.8 1.2 1.2	0.3	0.4	0.5	0.6	0.6		40	50	60											
4							2	50.00~100.00 100.01~150.00 150.01~200.00	1.0 1.2 1.5		0.4	0.5	0.6	0.7	0.8	1.0	30	40	50	60									
5							2.5	50.00~100.00 100.01~150.00 150.01~200.00	1.5 (2.0)		0.4	0.5	0.6	0.7	0.8	1.0	1.2	1.5	30	40	50	60	70	80	90	100			
6							3	50.00~100.00 100.01~150.00 150.01~200.00	2.0 (2.5)		0.4	0.5	0.6	0.7	0.8	1.0	1.2	1.5	(2.0)	40	50	60	70	80	90	100	120		
7							3.5	50.00~100.00 100.01~150.00 150.01~200.00 200.01~250.00	2.5 (3.0)		0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.5	(2.0)	40	50	60	70	80	90	100	120	
8							4	50.00~100.00 100.01~150.00 150.01~200.00 200.01~250.00	3.0 (3.5)		0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.5	(2.0)	40	50	60	70	80	90	100	120	
8							4.5	50.00~100.00 100.01~150.00 150.01~200.00 200.01~250.00	3.5 (4.0)			0.6	0.7	0.8	0.9	1.0	1.2	1.5	1.8	(2.0)	(2.5)	40	50	60	70	80	90	100	120
8							5	50.00~100.00 100.01~150.00 150.01~200.00 200.01~250.00	4.0			0.6	0.7	0.8	0.9	1.0	1.2	1.5	1.8	2.0	2.5	40	50	60	70	80	90	100	120
9							5.5	50.00~100.00 100.01~150.00 150.01~200.00 200.01~250.00	4.5 (5.0)			0.8	0.9	1.0	1.2	1.5	1.8	2.0	(2.5)	40	50	60	70	80	90	100	120		
9							6	50.00~100.00 100.01~150.00 150.01~200.00 200.01~250.00	5.0			0.8	0.9	1.0	1.2	1.5	1.8	2.0	2.5	3.0	40	50	60	70	80	90	100	120	
10							6.5	50.00~100.00 100.01~150.00 150.01~200.00 200.01~250.00	6.0			0.8	0.9	1.0	1.2	1.5	1.8	2.0	40	50	60	70	80	90	100	120			
10							7	50.00~100.00 100.01~150.00 150.01~200.00 200.01~250.00 (250.01~300.00)	6.0			0.8	0.9	1.0	1.2	1.5	1.8	2.0	2.5	40	50	60	70	80	90	100	120	150	180
11							8	50.00~100.00 100.01~150.00 150.01~200.00 200.01~250.00 (250.01~300.00)	6.0 7.0 7.5			0.8	0.9	1.0	1.2	1.5	1.8	2.0	2.5	40	50	60	70	80	90	100	120	130	160
14							8.5	50.00~100.00 100.01~150.00 150.01~200.00 200.01~250.00 (250.01~300.00)	7.0 8.0			0.8	0.9	1.0	1.2	1.5	1.8	2.0	2.5	40	50	60	70	80	90	100	120	150	180
15							10	50.00~100.00 100.01~150.00 150.01~200.00 200.01~250.00 (250.01~300.00)	8.0			0.8	1.0	1.2	1.5	1.8	2.0	2.5	40	50	60	70	80	90	100	120	130	160	
17							10.5	50.00~100.00 100.01~150.00 150.01~200.00 200.01~250.00 (250.01~300.00)	10.0			1.2	1.5	2.0	40	50	60	70	80	90	100	120	150	180					
17							12	100.00~150.00 150.01~200.00 200.01~250.00 250.01~300.00	10.0			1.2	1.5	1.8	2.0	40	50	60	70	80	90	100	120	150	200				

⚠ L(250.01~300.00) is standard dimension only for ERJL. ⚠ Selections in which both the P and W dimensions are enclosed in brackets () cannot be made. ⚠ L-N ≥ 10

Price Quotation

Rectangular Ejector Pins

High Speed Steel SKH51 equivalent

$P \cdot W_{-0.01}^0$
L dimension designation

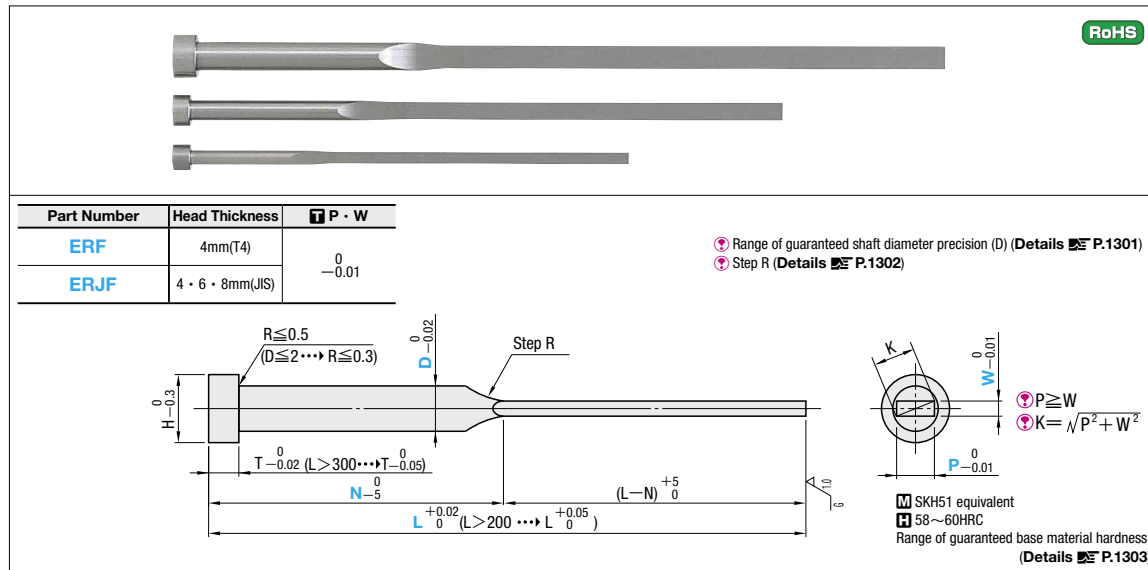
High Speed Steel
SKH51 equivalent

P · W_{-0.01}⁰
Free designation

RECTANGULAR EJECTOR PINS

— FREE DESIGNATION TYPE —

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



Alterations **Part Number** — L — P — W — N — (AKC · AWC...etc.)
ERF5 — 120.25 — P3.50 — W1.50 — N60 — AWC60

Quotation

Alterations	Code	Spec.	1Code
	VAK (precision)	VAK=45° increments Ⓢ 0 ≤ VAK or AKC < 360 Ⓢ (VAK) KSA, WSA not available Ⓢ (AKC) When combined with KSA/WSA, 90° increments only.	
	VAW	VAW=45° increments Ⓢ 0 ≤ VAW < 360 Ⓢ Combination with KSA/WSA not available.	
	AWC	AWC=1° increments Ⓢ 0 ≤ AWC < 360 Ⓢ When combined with KSA/WSA, 90° increments only.	
	ARC	ARC=1° increments Ⓢ 0 ≤ ARC < 360 Ⓢ When combined with KSA/WSA, 90° increments only.	
	ADC	ADC=1° increments Ⓢ 0 ≤ ADC < 360 Ⓢ When combined with KSA/WSA, 90° increments only.	Quotation
	KGA	KGA=1° increments Ⓢ 0 < KGA < 360	
	KGD	KGD=1° increments Ⓢ 0 < KGD < 360	
	HC (HCC (precision))	HC, HCC=0.1mm increments Ⓢ (HC) D+1 ≤ HC < H, D ≥ 1.5 Ⓢ (HCC) D+1 ≤ HCC < H-0.3, D ≥ 1.5	
	KSA	KSA=0.1mm increments Ⓢ W/2+0.1 ≤ KSA ≤ D/2-0.1 Ⓢ D ≥ 1.5	
	WSA	WSA=0.1mm increments Ⓢ W/2+0.1 ≤ WSA ≤ D/2-0.1 Ⓢ D ≥ 1.5	

Alteration details P.195

Alterations	Code	Spec.	1Code
	TC	TC=0.1mm increments Ⓢ T/2 ≤ TC < T (Dimensions L and N remain unchanged.) Ⓢ T-TC ≤ Lmax. — L, D ≥ 1.5	
	NC	Dowel hole boring NC=90° increments Ⓢ Available when H ≥ 4 Ⓢ Combination with other than NHC · NHN not available. Ⓢ How to order and detailed specifications P.195	
	NCW	Dowel hole boring+Spring pin driving NCW=90° increments Ⓢ Available when H ≥ 4 Ⓢ Combination with other than NHC · NHN not available. Ⓢ How to order and detailed specifications P.195	
	NHC	Numbering on the head Ⓢ How to order and detailed specifications P.196	
	NHN	Automatic sequential numbering on the head Ⓢ How to order and detailed specifications P.196	
	TMC	Lapping on the tip face Ⓢ Available when P ≥ 0.6 Ⓢ Available when L-N ≤ 31	Quotation
	LKC	L dimension tolerance alteration L+0.02...+0.01 Ⓢ Available when L ≤ 200	
	MC	Tapping D8 · 8.5 → M4 Ⓢ Not available for ERF Ⓢ Available when D ≥ 8 D12 · 15 → M6 Ⓢ Only available combination is with CSW · CSF · TMC	
	CSW	C-chamfering processing at 2 corners of the blade (except tip) for relief. [Designation method] CSW1—E25	Quotation
	CSF	C-chamfering processing at 4 corners of the blade (except tip) for relief. [Designation method] CSF0.5—E30	

4mm head		JIS head		Part Number		0.01mm increments				Kmax.	N 1mm increments	Nmin.					
H	T	H	T	4mm head	JIS head	D	L	P	W								
3	4	—	—	—	—	1.1	40.00~200.00	0.30~0.90	0.20~	1.0	10 ≤ (L-N) ≤ 150	23					
						1.2		0.30~1.00		1.1							
						1.3		0.30~1.10		1.2							
						1.4		0.30~1.20		1.3							
						1.5	40.00~250.00	0.50~1.30	0.30~	1.4			10 ≤ (L-N) ≤ 250	26			
						2		0.80~1.80		1.9							
						2.5		0.80~2.30		2.4							
						3	40.00~350.00	0.80~2.80	0.40~	2.9					27		
						3.5		1.00~3.30		3.4							
						4		1.00~3.80		3.9							
						4.5	50.00~350.00	1.20~4.30	0.50~	4.4						29	
						5		1.50~4.80		4.9							
						5.5		1.80~5.30		5.4							
						6	50.00~350.00	2.00~5.80	0.40~	5.9							31
						6.5		2.00~6.30		6.4							
7	2.30~6.80	6.9															
8	50.00~350.00	2.30~7.80	0.50~	7.9	33												
8.5		2.30~8.30		8.4													
10		3.00~9.80		9.9													
10.5	50.00~350.00	3.00~10.30	0.50~	10.4		40											
12		3.50~11.80		11.9													
15		3.50~14.80		14.9													

Ⓢ Designate P · W dimensions within the Kmax. $K = \sqrt{P^2 + W^2}$ Ⓢ P ≥ W

Order **Part Number** — L — P — W — N
ERF5 — 120.25 — P3.50 — W1.50 — N60

Days to Ship **Quotation**

Price **Quotation**

Precision Standard	
Squareness of the tip corner	 Pmax. Pmin. W plane as the base (Pmax. - Pmin.) ≤ 0.02
Corner R value of the tip corner	 Rmax. Ⓢ Rmax. ≤ 0.03 (Trimming R) Ⓢ The tip corners have been slightly trimmed to measure the P · W dimensions. Details P.1313

Rectangular Ejector Pins
High Speed Steel SKH51 equivalent

P · W_{-0.01}⁰
Free designation

High Speed Steel
SKH51 equivalent

Precision
P · W_{-0.005}
Blank

PRECISION RECTANGULAR EJECTOR PINS

—STANDARD—

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

Part Number | **Head Thickness** | **P · W**

ERVB	4mm(T4)	$\begin{matrix} 0 \\ -0.005 \end{matrix}$
ERVJB	6 · 8mm(JIS)	$\begin{matrix} 0 \\ -0.005 \end{matrix}$

ⓘ Range of guaranteed shaft diameter precision (D) (Details [P.1301](#))
ⓘ Step R (Details [P.1302](#))

ⓘ SKH51 equivalent
ⓘ 58~60HRC
Range of guaranteed base material hardness (Details [P.1303](#))

ⓘ $P \geq W$
ⓘ $K = \sqrt{P^2 + W^2}$

Order **Part Number** - **L** - **P** - **W** - **N**
ERVB 4 - 100 - P3.0 - W2.0 - N40

Days to Ship **Quotation**

Express T applicable sizes

Part Number	D	L	P	W	N
ERVB (Head Thickness 4mm)	1.5	100	1.0 1.2	0.4 0.5	50
	2	100	1.2 1.5	0.4 0.5 0.6	50
		150		60	
	2.5	150	2.0	0.5 0.6 0.7 0.8	60
		200		70	
	3	150	2.5	0.7 0.8 1.0	50 60
		200		70	
	3.5	150	3.0	0.8 1.0	50 60
		200		70	

Alterations **Part Number** - **L** - **P** - **W** - **N** - (AKC · AWC...etc.)
ERVB 4 - 100 - P3.0 - W2.0 - N40 - AWC 0

Quotation

Alteration details [P.195](#)

Alterations	Code	Spec.	1Code
	VAK (precision)	VAK=45° increments AKC=1° increments ⓘ 0 ≤ VAK or AKC < 360 ⓘ (VAK) KSA, WSA not available ⓘ (AKC) When combined with KSA, WSA, 90° increments only.	
	AKC		
	VAW	VAW=45° increments ⓘ 0 ≤ VAW < 360 ⓘ Combination with KSA/WSA not available.	
	AWC	AWC=1° increments ⓘ 0 ≤ AWC < 360 ⓘ When combined with KSA/WSA, 90° increments only.	
	ARC	ARC=1° increments ⓘ 0 ≤ ARC < 360 ⓘ When combined with KSA/WSA, 90° increments only.	Quotation
	ADC	ADC=1° increments ⓘ 0 ≤ ADC < 360 ⓘ When combined with KSA/WSA, 90° increments only.	
	KGA	KGA=1° increments ⓘ 0 < KGA < 360	
	KGD	KGD=1° increments ⓘ 0 < KGD < 360	
	HC (precision)	HC, HCC=0.1mm increments ⓘ (HC) D+1 ≤ HC < H ⓘ (HCC) D+1 ≤ HCC < H-0.3	

Alterations	Code	Spec.	1Code
	KSA	KSA=0.1mm increments ⓘ W/2+0.1 ≤ KSA ≤ D/2-0.1	
	WSA	WSA=0.1mm increments ⓘ W/2+0.1 ≤ WSA ≤ D/2-0.1	
	TC	TC=0.1mm increments ⓘ T/2 ≤ TC < T ⓘ Dimensions L and N become shorter by (T-TC)	Quotation
	NC	Dowel hole boring NC=90° increments ⓘ Available when H ≥ 4 ⓘ Combination with other than NHC · NHN not available. How to order and detailed specifications P.195	
	NCW	Dowel hole boring+Spring pin driving NCW=90° increments ⓘ Available when H ≥ 4 ⓘ Combination with other than NHC · NHN not available. How to order and detailed specifications P.195	
	NHC	Numbering on the head How to order P.196	
	NHN	Automatic sequential numbering on the head How to order P.196	

4mm head JIS head	Part Number		D	L	P	W	N	
	H	T						
ERVB (4mm head)	3	100	1.5	100	0.6 0.7 0.8 1.0 (1.2)	0.3 0.4 0.5 0.6 (0.8)	40 50 60	
							50 60 70 75 80 90 100	
		150	2	100	1.0 1.2 1.5 1.6 (1.8)	0.3 0.4 0.5 0.6 0.7 (0.8) (1.0)	40 50 60	
							40 50 60 70 80 90 100	
		150	2.5	100	1.5 1.6 (2.0)	0.4 0.5 0.6 0.7 0.8 1.0 1.2 (1.5)	40 50 60	
							40 50 60 70 80 90 100	
	200	3	100	2.0 (2.5)	0.4 0.5 0.6 0.7 0.8 1.0 1.2 (1.5)	40 50 60		
						40 50 60 70 80 90 100		
	ERVB (4mm head)	4	100	2.5	100	2.5	0.4 0.5 0.6 0.7 0.8 1.0 1.2 1.5 2.0	40 50 60
								40 50 60
			150	3.0	100	2.5	0.4 0.5 0.6 0.7 0.8 1.0 1.2 1.5	40 50 60 70 80 90 100
								40 50 60 70 80 90 100
150			3.0	150	3.0	0.4 0.5 0.6 0.7 0.8 1.0 1.2 1.5	40 50 60 70 80 90 100	
							40 50 60 70 80 90 100	
200		3.5	150	3.0	0.4 0.5 0.6 0.7 0.8 1.0 1.2	60 70 80 90 100		
						60 70 80 90 100		
7		100	3.0	100	3.0	0.4 0.5 0.6 0.7 0.8 1.0 1.2 2.0	40 50 60	
							40 50 60	
		150	3.5	100	3.5	0.4 0.5 0.6 0.7 0.8 1.0 1.2 2.0	40 50 60 70 80 90 100	
							40 50 60 70 80 90 100	
	200	4.0	100	3.0	0.4 0.5 0.6 0.7 0.8 1.0 1.2	60 70 80 90 100		
						60 70 80 90 100		
200	4.5	150	4.0	0.4 0.5 0.6 0.7 0.8 1.0 1.2	40 50 60 70			
					60 70 80			
8	150	5	150	4.0	0.4 0.5 0.6 0.7 0.8 1.0 1.2 2.0	50 60 80		
						60 70 80		
	200	5.5	150	5.0	0.5 0.6 1.0	50 60 80		
						50 60 70 80		
	150	6	150	5.0	0.8 1.0 1.5	50 60 70 80		
						60 75 80		
200	6	200	5.0	0.8 1.0 1.5	60 70 80			
					60 70 80			
ERVJB (JIS Head)	9	150	5	150	4.0	0.5 0.8 1.0 1.2	50 60 70	
							90 100	
		200	6	150	5.0	0.8 1.0 1.2	50 60	
							100	
	10	150	8	250	7.5	1.2 1.5	100	
							100	
		300	8	250	7.5	1.2 1.5	120 130	
							150	
	13	150	10	250	8.0 9.0	1.5 3.0 5.0 5.5	80 100	
							120	
		300	10	250	8.0 9.0	1.5 3.0 5.0 5.5	120 150	
							100	
15	150	12	250	10.0	2.0 2.5 3.0 5.0	120 150		
						150		
	300	12	250	10.0	2.0 2.5 3.0 5.0	150		
						150		

ⓘ Selections in which both the P and W dimensions are enclosed in brackets () cannot be made.

P Price **Quotation**

Precision Standard

Squareness of the tip corner	 Pmax, Pmin, W plane as the base (Pmax - Pmin) ≤ 0.01
Corner R value of the tip corner	 Rmax ≤ 0.03 (Trimming R) ⓘ The tip corners have been slightly trimmed to measure the P · W dimensions. (Details P.1313)

Rectangular Ejector Pins
High Speed Steel SKH51 equivalent

Precision P · W_{-0.005} Standard

High Speed Steel
SKH51 equivalent

Precision
P · W_{-0.005}⁰
Free designation

PRECISION RECTANGULAR EJECTOR PINS

— FREE DESIGNATION TYPE —

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

RoHS

Part Number	Head Thickness	P · W
ERVYF (Small diameter)	4mm(T4)	0 -0.005
※P-ERVYF (Small diameter angular tip corner)		
ERVF	4 · 6 · 8mm(JIS)	0 -0.005
※P-ERVF (Angular tip corner)		
ERVJ		

Ⓢ Range of guaranteed shaft diameter precision (D) (Details Ⓢ P.1301)
Ⓢ Step R (Details Ⓢ P.1302)

Ⓢ SKH51 equivalent
Ⓢ 58~60HRC
Range of guaranteed base material hardness (Details Ⓢ P.1303)

※ For P-ERVYF and P-ERVF, the deburring of tip is not carried out. (For details, refer to the right page.)

Order

Part Number — L — P — W — N

ERVF 5.5 — 105.03 — P3.50 — W0.65 — N55

Alterations

Part Number — L — P — W — N — (AKC · AWC · etc.)

ERVF 5.5 — 105.03 — P3.50 — W0.65 — N55 — AWC 0

Quotation

Alteration details Ⓢ P.195

Alterations	Code	Spec.	1Code
	VAK (precision) AKC	VAK=45° increments AKC=1° increments Ⓢ 0 ≤ VAK or AKC < 360 Ⓢ (VAK) KSA, WSA not available Ⓢ (AKC) When combined with KSA/WSA, 90° increments only. Ⓢ (P-) ERVYF 90° increments	Quotation
	VAW	VAW=45° increments Ⓢ 0 ≤ VAW < 360 Ⓢ 90° increments Ⓢ Combination with KSA/WSA not available.	
	AWC	AWC=1° increments Ⓢ 0 ≤ AWC < 360 Ⓢ 90° increments Ⓢ When combined with KSA/WSA, 90° increments only.	
	ARC	ARC=1° increments Ⓢ 0 ≤ ARC < 360 Ⓢ When combined with KSA/WSA, 90° increments only. Ⓢ (P-) ERVYF not available.	
	ADC	ADC=1° increments Ⓢ 0 ≤ ADC < 360 Ⓢ When combined with KSA/WSA, 90° increments only. Ⓢ (P-) ERVYF not available.	
	KGA	KGA=1° increments Ⓢ 0 < KGA < 360 Ⓢ (P-) ERVYF not available.	
	KGD	KGD=1° increments Ⓢ 0 < KGD < 360 Ⓢ (P-) ERVYF not available.	
	HC HCC (precision)	HC, HCC=0.1mm increments Ⓢ (HC) D+1 ≤ HC < H, D ≥ 1.5 Ⓢ (HCC) D+1 ≤ HCC < H-0.3, D ≥ 1.5	
	KSA	KSA=0.1mm increments Ⓢ W/2+0.1 ≤ KSA ≤ D/2-0.1 Ⓢ D ≥ 1.5	
	WSA	WSA=0.1mm increments Ⓢ W/2+0.1 ≤ WSA ≤ D/2-0.1 Ⓢ D ≥ 1.5	

Alterations	Code	Spec.	1Code												
	TC	TC=0.1mm increments Ⓢ T/2 ≤ TC < T Ⓢ Dimensions L and N remain unchanged. Ⓢ T-TC ≤ Lmax. — L, D ≥ 1.5													
	NC	Dowel hole boring NC=90° increments Ⓢ Available when H ≥ 4 Ⓢ Combination with other than NHC · MNH not available. How to order and detailed specifications Ⓢ P.195													
	NCW	Dowel hole boring+Spring pin driving NCW=90° increments Ⓢ Available when H ≥ 4 Ⓢ Combination with other than NHC · MNH not available. How to order and detailed specifications Ⓢ P.195													
	NHC	Numbering on the head How to order Ⓢ P.196													
	NHN	Automatic sequential numbering on the head How to order Ⓢ P.196													
	TMC	Lapping on the tip face Ⓢ Available when P ≥ 0.6 Ⓢ (P-) ERVYF not available.	Quotation												
	LKC	L dimension tolerance alteration L +0.02 ... +0.01 Ⓢ Available when L ≤ 200													
	MC	Tapping D8 ... M4 D10 ... M5 D12 · 15 ... M6 Ⓢ Only available combination is with CSW · CSF · TMC Ⓢ Available for ERVJ only Ⓢ Available when D ≥ 8													
	CSW	C chamfering processing at 2 points on top (except tip) for relief is performed. Designation method CSW1-E25	<table border="1" style="font-size: small;"> <tr> <td colspan="2">CSW, CSF: Range of designation</td> </tr> <tr> <td>W</td> <td>CSW, CSF</td> </tr> <tr> <td>1.0 ≤ W < 1.5</td> <td>0.3</td> </tr> <tr> <td>W ≥ 1.5</td> <td>0.5</td> </tr> <tr> <td></td> <td>1</td> </tr> <tr> <td></td> <td>1.5</td> </tr> </table>	CSW, CSF: Range of designation		W	CSW, CSF	1.0 ≤ W < 1.5	0.3	W ≥ 1.5	0.5		1		1.5
CSW, CSF: Range of designation															
W	CSW, CSF														
1.0 ≤ W < 1.5	0.3														
W ≥ 1.5	0.5														
	1														
	1.5														
	CSF	C chamfering processing at 4 points (except tip) for relief is performed. Designation method 8 ptCSF0.5-E30	<table border="1" style="font-size: small;"> <tr> <td>Ⓢ P ≥ 1.5</td> </tr> <tr> <td>Ⓢ CSW, CSF < W/2</td> </tr> <tr> <td>E=1mm increments</td> </tr> <tr> <td>Ⓢ 5 ≤ E ≤ (L-N)-20</td> </tr> </table>	Ⓢ P ≥ 1.5	Ⓢ CSW, CSF < W/2	E=1mm increments	Ⓢ 5 ≤ E ≤ (L-N)-20								
Ⓢ P ≥ 1.5															
Ⓢ CSW, CSF < W/2															
E=1mm increments															
Ⓢ 5 ≤ E ≤ (L-N)-20															

4mm head		JIS head		Part Number		0.01mm increments				Kmax.	N	Nmin.
H	T	H	T	4mm head	JIS head	D	L	P	W			
2				ERVYF (4mm head) P-ERVYF (Angular tip corner)	-	0.8	40.00~100.00	0.30~0.60	0.20~	0.7	10 ≤ (L-N) ≤ 50	23
						0.9		0.30~0.70		0.8		
3				ERVF (4mm head) P-ERVF (Angular tip corner)	-	1.1	40.00~200.00	0.30~0.90	0.30~	1.0	10 ≤ (L-N) ≤ 150	26
						1.2		0.30~1.00		1.1		
						1.3		0.30~1.10		1.2		
						1.4		0.30~1.20		1.3		
						1.5		0.50~1.30		1.4		
						2		0.80~1.80		1.9		
4				ERVF (4mm head) P-ERVF (Angular tip corner)	-	2.5	40.00~300.00	0.80~2.30	0.30~	2.4	10 ≤ (L-N) ≤ 250	27
3						0.80~2.80		2.9				
5				ERVF (4mm head) P-ERVF (Angular tip corner)	-	3.5	40.00~300.00	1.00~3.30	0.30~	3.4	10 ≤ (L-N) ≤ 250	29
6						1.00~3.30		3.9				
6				ERVF (4mm head) P-ERVF (Angular tip corner)	-	4	40.00~300.00 (40.00~350.00)	1.00~3.80	0.40~	4.4	10 ≤ (L-N) ≤ 250	31
7						1.20~4.30		4.9				
8				ERVJ (JIS Head)	-	5	50.00~300.00 (50.00~350.00)	1.50~4.80	0.50~	5.4	10 ≤ (L-N) ≤ 250	33
9						1.80~5.30		5.9				
9				ERVJ (JIS Head)	-	6	50.00~300.00 (50.00~350.00)	2.00~5.80	0.50~	6.4	10 ≤ (L-N) ≤ 250	40
10						2.00~5.80		6.9				
10				ERVJ (JIS Head)	-	6.5	50.00~300.00 (50.00~350.00)	2.00~6.30	0.50~	7.9	10 ≤ (L-N) ≤ 250	33
11						2.30~6.80		9.9				
11				ERVJ (JIS Head)	-	7	50.00~300.00 (50.00~350.00)	2.30~7.80	0.50~	11.9	10 ≤ (L-N) ≤ 250	40
15						3.00~9.80		14.9				
-				ERVJ (JIS Head)	-	12	50.00~300.00 (50.00~350.00)	3.50~11.80	0.80~	11.9	10 ≤ (L-N) ≤ 250	40
-						15		3.50~14.80		14.9		

Ⓢ Designate P · W dimensions within the Kmax. $K = \sqrt{P^2 + W^2}$ Ⓢ P ≥ W Ⓢ L dimension in () is for ERVJ.

Days to Ship

Quotation

Price

Quotation

Precision Standard		
Squareness of the tip corner	P-ERVYF P-ERVF P-ERVYF ERVJ	 Pmax. Pmin. W plane as the base (Pmax. - Pmin.) ≤ 0.01
Corner R value of the tip corner	ERVYF ERVF ERVJ	 Rmax. Rmax. ≤ 0.03 (Trimming R) Ⓢ The tip corners have been slightly trimmed to measure the P · W dimensions. (Details Ⓢ P.1313)
	P-ERVYF P-ERVF	 4-R ≤ 0.03 Approximately within 5mm from the tip is without deburring process. 5mm onward, deburring R is within ≤ 0.03.

Rectangular Ejector Pins

High Speed Steel SKH51 equivalent

Precision P · W_{-0.005}⁰ Free designation

High Speed Steel
SKH51 equivalent

R-chamfered
Free designation
P · W_{-0.01}

R-CHAMFERED RECTANGULAR EJECTOR PINS

— FREE DESIGNATION TYPE —

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

Part Number		Head Thickness	P · W
ERWR	ERFR	4mm(T4)	$\frac{0}{-0.01}$
ERJWR	ERJFR	4 · 6 · 8mm(JIS)	$\frac{0}{-0.01}$

Part Number		Head Thickness	P · W
ERWR	ERFR	4mm(T4)	$\frac{0}{-0.01}$
ERJWR	ERJFR	4 · 6 · 8mm(JIS)	$\frac{0}{-0.01}$

Ⓜ Range of guaranteed shaft diameter precision (D) (Details Ⓜ P.1301)
Ⓜ Step R (Details Ⓜ P.1302)

Ⓜ P ≥ W Ⓜ K = √(P² + W²) (Dimension before R processing)
Ⓜ SKH51 equivalent
Ⓜ 58~60HRC
Range of guaranteed base material hardness (Details Ⓜ P.1303)

Alterations

Part Number: ERFR 4 - 200.00 - P2.00 - W0.80 - R0.1 - N150 - AKC 0

Alteration details Ⓜ P.195

Alterations	Code	Spec.	1Code
	AKC	AKC=1° increments 0 ≤ AKC < 360 When combined with KSA/WSA, 90° increments only.	
	AWC	AWC=1° increments 0 ≤ AWC < 360 When combined with KSA/WSA, 90° increments only.	
	ARC	ARC=1° increments 0 ≤ ARC < 360 When combined with KSA/WSA, 90° increments only.	
	ADC	ADC=1° increments 0 ≤ ADC < 360 When combined with KSA/WSA, 90° increments only.	
	KGA	KGA=1° increments 0 < KGA < 360	Quotation
	KGD	KGD=1° increments 0 < KGD < 360	Quotation
	HC (HCC) (precision)	HC · HCC=0.1mm increments (HC) D+1 ≤ HC < H (HCC) D+1 ≤ HCC < H-0.3	
	KSA	KSA=0.1mm increments W/2+0.1 ≤ KSA ≤ D/2-0.1	
	WSA	WSA=0.1mm increments /2+0.1 ≤ WSA ≤ D/2-0.1	
	TC	TC=0.1mm increments T/2 ≤ TC < T (Dimensions L and N remain unchanged) T-TC ≤ Lmax. -L	

Alterations	Code	Spec.	1Code
	NC	Dowel hole boring NC=90° increments Available when H ≥ 4 Combination with other than NHC · NHN not available. How to order and detailed specifications Ⓜ P.195	
	NCW	Dowel hole boring + Spring pin driving NCW=90° increments Available when H ≥ 4 Combination with other than NHC · NHN not available. How to order and detailed specifications Ⓜ P.195	
	NHC	Numbering on the head How to order Ⓜ P.196	
	NHN	Automatic sequential numbering on the head How to order Ⓜ P.196	
	TMC	Lapping on the tip face	Quotation
	LKC	L dimension tolerance alteration L +0.02 ... +0.01 Available when L ≤ 200	Quotation
	MC	Tapping Not available for D8 · 8.5 ... M4 ERWR · ERFR Available when D ≥ 8 D10 · 10.5 ... M5 D12 · 15 ... M6 Only available combination is with CSW · CSF · TMC	
	CSW	C chamfering processing at 2 points on top (except tip) for relief is performed. Designation method CSW1-E25	CSW, CSF Range of designation W CSW, CSF 1.0 ≤ W < 1.5 0.3 W ≥ 1.5 0.5 1 1.5 P ≥ 1.5 CSW, CSF < W/2
	CSF	C chamfering processing at 4 points (except tip) for relief is performed. Designation method CSF0.5-E30	E=1mm increments 5 ≤ E ≤ (L-N)-20 R process range P.196

4mm head		JIS head		Part Number		0.01mm increments			R	Kmax.	N 1mm increments	Nmin.	
H	T	H	T	4mm head	JIS head	D	L	P					W
3	4	3	4	ERWR (2 places on the upper side are rounded.) ERFR (4 places are rounded.)	ERJWR (2 places on the upper side are rounded.) ERJFR (4 places are rounded.)	1.5	50.00~250.00	0.60~1.30	0.30~ 0.40~ 0.50~ 0.80~ 1.50~	0.1 0.15 0.2 0.3	20 ≤ (L-N) (L-N) ≤ 250	23	
4	5	4	5			2	50.00~300.00	0.80~1.80					1.4 1.9 2.4 2.9 3.4 3.9 4.4 4.9 5.4 5.9 6.4 6.9 7.9 8.4 9.9 10.4 11.9 14.9
5	6	5	6			2.5	50.00~300.00	0.80~2.30					
6	7	6	7			3	50.00~350.00	0.80~2.80					
7	8	7	8			3.5	50.00~350.00	1.00~3.30					
8	9	8	9			4	50.00~350.00	1.00~3.80					
9	10	9	10			4.5	50.00~350.00	1.20~4.30					
10	11	10	11			5	50.00~350.00	1.50~4.80					
11	12	11	12			5.5	50.00~350.00	1.80~5.30					
12	13	12	13			6	50.00~350.00	2.00~5.80					
13	14	13	14			6.5	50.00~350.00	2.00~6.30					
14	15	14	15			7	50.00~350.00	2.30~6.80					
15	16	15	16			7.5	50.00~350.00	2.30~7.30					
16	17	16	17			8	50.00~350.00	3.00~9.80					
17	18	17	18			8.5	50.00~350.00	3.00~10.30					
18	19	18	19			10	50.00~350.00	3.50~11.80					
19	20	19	20			10.5	50.00~350.00	3.50~14.80					
20	21	20	21	12	50.00~350.00	3.50~14.80							
21	22	21	22	15	50.00~350.00	3.50~14.80							

Ⓜ Designate P · W dimensions within the Kmax. K = √(P² + W²) (Dimension before R processing) Ⓜ P ≥ W Ⓜ Select R dimension from the range of R ≤ W/2 - 0.05.

Order

Days to Ship

Price

Part Number: ERFR 4 - 200.00 - P2.00 - W0.80 - R0.1 - N150

Quotation

Quotation

Precision Standard

Squareness of the tip corner: Pmax, Pmin, W plane as the base (Pmax - Pmin) ≤ 0.02

Corner R value of the tip corner: Rmax, Rmax ≤ 0.03 (Trimming R), Corner R value outside R processing range. The tip corners have been slightly trimmed to measure the P · W dimensions. (Details Ⓜ P.1313)

Rectangular Ejector Pins

High Speed Steel SKH51 equivalent

R-chamfered P · W_{-0.01} Free designation

High Speed Steel
SKH51 equivalent

R-chamfered Precision
P · W_{-0.005}
Free designation

R-CHAMFERED PRECISION RECTANGULAR EJECTOR PINS

— FREE DESIGNATION TYPE —

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

Part Number
2 places on the upper side are rounded. | 4 places are rounded. | P · W

ERVWR	ERVFR	4mm(T4)	-0.005
ERVJWR	ERVJFR	4 · 6 · 8mm(JIS)	

Ⓢ Range of guaranteed shaft diameter precision (D) (Details P.1301)
Ⓢ Step R (Details P.1302)

ERVWR (2 places on the upper side are rounded.)
ERVJWR (2 places on the upper side are rounded.)
ERVFR (4 places are rounded.)
ERVJFR (4 places are rounded.)

Ⓢ $P \geq W$ Ⓢ $K = \sqrt{P^2 + W^2}$ (Dimension before R processing)
Ⓢ SKH51 equivalent
Ⓢ S8~60HRC
Ⓢ Range of guaranteed base material hardness (Details P.1303)

Alterations Part Number L - P - W - R - N - (AKC · AWC...etc.)
ERVFR 4 - 200.00 - P2.00 - W0.80 - R0.1 - N150 - AKC 0

Alteration details P.195

Alterations	Code	Spec.	1Code
	AKC	AKC=1° increments 0 ≤ AKC < 360 Ⓢ When combined with KSA/WSA, 90° increments only.	Quotation
	AWC	AWC=1° increments 0 ≤ AWC < 360 Ⓢ When combined with KSA/WSA, 90° increments only.	
	ARC	ARC=1° increments 0 ≤ ARC < 360 Ⓢ When combined with KSA/WSA, 90° increments only.	
	ADC	ADC=1° increments 0 ≤ ADC < 360 Ⓢ When combined with KSA/WSA, 90° increments only.	
	KGA	KGA=1° increments 0 < KGA < 360	
	KGD	KGD=1° increments 0 < KGD < 360	
	HCC	HC · HCC=0.1mm increments (HC) D+1 ≤ HC < H (HCC) D+1 ≤ HCC < H-0.3	
	KSA	KSA=0.1mm increments W/2+0.1 ≤ KSA ≤ D/2-0.1	
	WSA	WSA=0.1mm increments W/2+0.1 ≤ WSA ≤ D/2-0.1	
	TC	TC=0.1mm increments T/2 ≤ TC < T (Dimensions L and N remain unchanged) T-TC ≤ Lmax.-L	
	NC	Dowel hole boring NC=90° increments Ⓢ Available when H ≥ 4 Ⓢ Combination with other than NHC · NHN not available. How to order and detailed specifications P.195	

Alterations	Code	Spec.	1Code
	NCW	Dowel hole boring+Spring pin driving NCW=90° increments Ⓢ Available when H ≥ 4 Ⓢ Combination with other than NHC · NHN not available. How to order and detailed specifications P.195	Quotation
	NHC	Numbering on the head How to order P.196	
	NHN	Automatic sequential numbering on the head How to order P.196	
	TMC	Lapping on the tip face	
	LKC	L dimension tolerance alteration L+0.02...+0.01 Ⓢ Available when L ≤ 200	
	MC	Tapping D6 → M4 D10 → M6 D12 · 15 → M6 Ⓢ Not available for ERVWR · ERVFR Ⓢ Available when D ≥ 8 Ⓢ Only available combination is with CSW · CSF · TMC	
	CSW	C-chamfering processing at 2 corners of the blade (except tip) for relief. Designation method CSW1-E25 CSW, CSF: Range of designation W CSW, CSF 1.0 ≤ W < 1.5 0.3 W ≥ 1.5 0.5 1 1.5 Ⓢ P ≥ 1.5 Ⓢ CSW, CSF < W/2 E=1mm increments Ⓢ ≤ (L-N)-20 Ⓢ R process range Ⓢ P.196 Ⓢ RC processing is prioritized when combining with RC.	
	CSF	C-chamfering processing at 4 corners of the blade (except tip) for relief. Designation method CSF0.5-E30	
	RC	Designate the length of R processed part. 5 ≤ RC ≤ (L-N)-30 and RC ≤ 40 RC=1mm increments Designation method RC25 Ⓢ Adds RC recess processing at all places R processed	

4mm head		JIS head		Part Number		0.01mm increments				R	Kmax.	N 1mm increments	Nmin.
H	T	H	T	4mm head	JIS head	D	L	P	W				
3		3		ERVWR (2 places on the upper side are rounded.)	ERVJWR (2 places on the upper side are rounded.)	1.5	50.00~250.00	0.60~1.30	0.30~	0.05	1.4	20 ≤ (L-N) ≤ 250	23
4		4				2	50.00~300.00	0.80~1.80			1.9		
5		5				2.5		0.80~2.30			2.4		
6		6				3	0.80~2.80	2.9					
7		7		3.5	50.00~300.00	1.00~3.30	3.4						
8		8		4		1.00~3.80	3.9						
9		9		4.5	50.00~350.00	1.20~4.30	4.4						
10		10		5		1.50~4.80	4.9						
11		11		5.5	50.00~300.00 (50.00~350.00)	1.80~5.30	5.4						
15		15		6		2.00~5.80	5.9						
		17		6.5		2.00~6.30	6.4						
		20		7		2.30~6.80	6.9						
				8	50.00~300.00 (50.00~350.00)	2.30~7.80	7.9						
				10		3.00~9.80	9.9						
				12		3.50~11.80	11.9						
				15		3.50~14.80	14.9						

Ⓢ Designate P · W dimensions within the Kmax. $K = \sqrt{P^2 + W^2}$ (Dimension before R processing) Ⓢ $P \geq W$
Ⓢ Select R dimension from the range of $R \leq \frac{W}{2} - 0.05$. Ⓢ L dimension in () is only for ERVJWR · ERVJFR.

Order Part Number L - P - W - R - N
ERVFR 4 - 200.00 - P2.00 - W0.80 - R0.1 - N150

Days to Ship Quotation

Price Quotation

Precision Standard	
Squareness of the tip corner	 Pmax. Pmin. W plane as the base (Pmax. - Pmin.) ≤ 0.01
Corner R value of the tip corner	 Rmax. Rmax. ≤ 0.03 (Trimming R) Ⓢ Corner R value outside R processing range The tip corners have been slightly trimmed to measure the P · W dimensions. (Details P.1313)

GAS RELEASE RECTANGULAR EJECTOR PINS

— FREE DESIGNATION TYPE —

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

Part Number	Head Thickness	T P · W
GV-ERF	4mm(T4)	0
GV-ERJF	4 · 6 · 8mm(JIS)	-0.01

ⓘ Range of guaranteed shaft diameter precision (D) (Details ⓘ P.1301)
 ⓘ Step R (Details ⓘ P.1302)

ⓘ SKH51 equivalent
 ⓘ S8~60HRC
 ⓘ Range of guaranteed base material hardness (Details ⓘ P.1303)

ⓘ When $W < 1.5$, the groove depth is 0.05.
 ⓘ Details of the tip: see below of the right page

Alterations ⓘ

Part Number: GV-ERF5.5 - 105.03 - P3.50 - W1.50 - N50 - AWC 0

Quotation ⓘ

Alterations	Code	Spec.	1Code
	VAK	VAK=45° increments 0 ≤ VAK < 360 ⊗ Combination with KSA/WAS not available.	
	VAW	VAW=45° increments 0 ≤ VAW < 360 ⊗ Combination with KSA/WAS not available.	
	AKC	AKC=1° increments 0 ≤ AKC < 360 ⊗ When combined with KSA/WAS, 90° increments only.	
	AWC	AWC=1° increments 0 ≤ AWC < 360 ⊗ When combined with KSA/WAS, 90° increments only.	
	ARC	ARC=1° increments 0 ≤ ARC < 360 ⊗ When combined with KSA/WAS, 90° increments only.	Quotation ⓘ
	ADC	ADC=1° increments 0 ≤ ADC < 360 ⊗ When combined with KSA/WAS, 90° increments only.	
	KGA	KGA=1° increments 0 < KGA < 360	
	KGD	KGD=1° increments 0 < KGD < 360	
	HC	HC=0.1mm increments D+1 ≤ HC < H, D ≥ 1.5	
	HCC	HCC=0.1mm increments D+1 ≤ HCC < H-0.3, D ≥ 1.5	

Alteration details ⓘ P.195

Alterations	Code	Spec.	1Code
	KSA	KSA=0.1mm increments W/2+0.1 ≤ KSA ≤ D/2-0.1	
	WSA	WSA=0.1mm increments W/2+0.1 ≤ WSA ≤ D/2-0.1	
	TC	TC=0.1mm increments T/2 ≤ TC < T ⊗ Dimensions N becomes shorter by (T-TC). (Dimension L remains unchanged.) ⊗ T-TC ≤ Lmax-L	
	NC	Dowel hole boring ⊗ Available when H ≥ 4 ⊗ Combination with other than NHC · NHN not available.	Quotation ⓘ
	NCW	Dowel hole + Spring pin driving ⊗ Available when H ≥ 4 ⊗ Combination with other than NHC · NHN not available.	
	NHC	Numbering on the head How to order ⓘ P.196	
	NHN	Automatic sequential numbering on the head How to order ⓘ P.196	

4mm head		JIS head		Part Number			0.01mm increments			Kmax.	N 1mm increments	Nmin.
H	T	H	T	4mm head	JIS head	D	L	P	W			
3		3				1.5	40.00~250.00	1.00~1.30		1.4		23
4		4				2		1.00~1.80		1.9		26
5		5	4			2.5	40.00~300.00	1.00~2.30		2.4		27
6		6				3		1.00~2.80		2.9		27
7		7				3.5		1.00~3.30		3.4		27
8	4	8		GV-ERF		4	40.00~300.00	1.00~3.80		3.9		29
9		9	6		GV-ERJF	4.5	(40.00~350.00)	1.20~4.30	1.00~	4.4		29
10		10				5		1.50~4.80		4.9		31
11		11				5.5		1.80~5.30		5.4		31
15		15				6		2.00~5.80		5.9		33
17		17				6.5	50.00~300.00	2.00~6.30		6.4		40
20		20				7	(50.00~350.00)	2.30~6.80		6.9		40
						8		2.30~7.80		7.9		40
						10		3.00~9.80		9.9		40
						12		3.50~11.80		11.9		40
						15		3.50~14.80		14.9		40

ⓘ Designate P · W dimensions within the Kmax. $K = \sqrt{P^2 + W^2}$ ⓘ $P \geq W$ ⓘ L dimension in () will be available for GV-ERJF.

Order ⓘ

Part Number: GV-ERF5.5 - 105.03 - P3.50 - W1.50 - N55

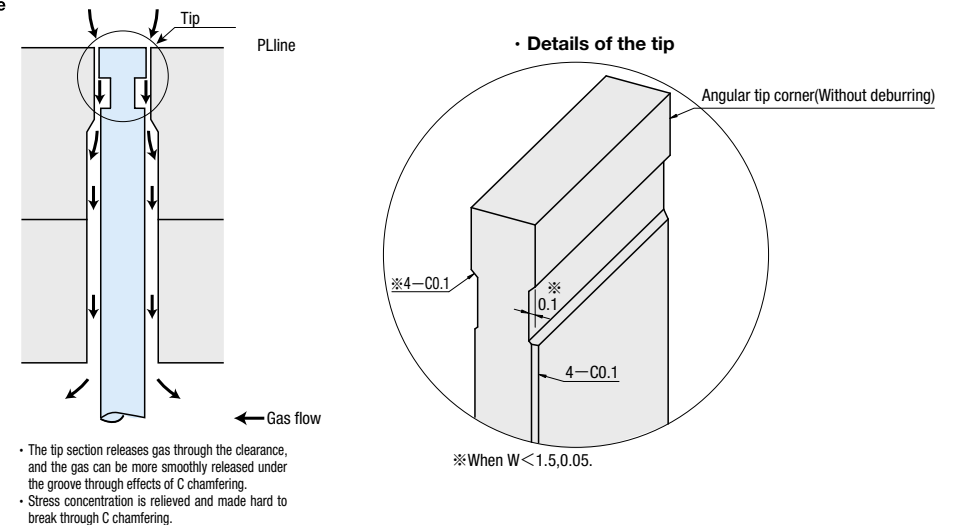
Days to Ship ⓘ

Quotation ⓘ

Price ⓘ

Quotation ⓘ

Example ⓘ



High Speed Steel
SKH51 equivalent

Shape processing
P · W_{-0.01}
Free designation

RECTANGULAR EJECTOR PINS WITH TIP PROCESS

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

Part Number	Head Thickness	P · W
ER□X · ER□Y	4mm(T4)	$\begin{matrix} 0 \\ -0.01 \end{matrix}$
ERJ□X · ERJ□Y	4 · 6 · 8mm(JIS)	$\begin{matrix} 0 \\ -0.01 \end{matrix}$

Unit of designation	Unit of designation
G±10°	1° increments
R±0.05	0.1mm increments
A±0.02	0.01mm increments
V±0.02	0.01mm increments
C±0.02	0.01mm increments

Range of guaranteed shaft diameter precision (D) (Details P.1301)
Step R (Details P.1302)

Select a tip shape from P.235 · 236

$P \geq W$. $K = \sqrt{P^2 + W^2}$

SKH51 equivalent
58~60HRC
Range of guaranteed base material hardness (Details P.1303)

Order

Part Number: ER 1X 4 - 150.00 - P3.00 - W1.00 - N50 - G15

Days to Ship **Quotation**

Alterations

Part Number: ER1X4 - 150.00 - P3.00 - W1.00 - N50 - G15 - NHC-3

Quotation

Alterations	Code	Spec.	1Code
	AKC	AKC=1° increments 0 ≤ AKC < 360 When combined with KSA/WSA, 90° increments only.	
	AWC	AWC=1° increments 0 ≤ AWC < 360 When combined with KSA/WSA, 90° increments only.	
	ARC	ARC=1° increments 0 ≤ ARC < 360 When combined with KSA/WSA, 90° increments only.	
	ADC	ADC=1° increments 0 ≤ ADC < 360 When combined with KSA/WSA, 90° increments only.	
	KGA	KGA=1° increments 0 < KGA < 360	Quotation
	KGD	KGD=1° increments 0 < KGD < 360	Quotation
	HC	HC=0.1mm increments D+1 ≤ HC < H	
	HCC	HCC=0.1mm increments D+1 ≤ HCC < H-0.3	
	KSA	KSA=0.1mm increments W/2+0.1 ≤ KSA ≤ D/2-0.1	
	WSA	WSA=0.1mm increments W/2+0.1 ≤ WSA ≤ D/2-0.1	

Alteration details P.195

Alterations	Code	Spec.	1Code
	TC	TC=0.1mm increments T/2 ≤ TC < T (Dimension L and N remain unchanged.)	
	NC	Dowel hole boring NC=90° increments Combination with other than NHC · NHN not available. How to order and detailed specifications P.195	
	NCW	Dowel hole boring+Spring pin driving NCW=90° increments Combination with other than NHC · NHN not available. How to order and detailed specifications P.195	
	NHC	Numbering on the head How to order P.196	
	NHN	Automatic sequential numbering on the head How to order P.196	
	MC	Tapping D8 · 8.5 → M4 D10 · 10.5 → M5 ERJA available when D ≥ 8 Only available combination is with CSW · CSF	Quotation
	CSW	C chamfering processing at 2 points on top (except tip) for relief is performed. Designation method CSW1-E25	Quotation
	CSF	C chamfering processing at 4 points (except tip) for relief is performed. Designation method CSF0.5-E30	Quotation

4mm head		JIS head		Part Number			0.01mm increments			Kmax.	N 1mm increments	Nmin.
H	T	H	T	Type	Tip shape	D	L	P	W			
4	4	4	4	ER (4mm head) ERJ (JIS Head)	1X 1Y 2X 2Y 3X 3Y 4X 4Y 5X 5Y 6X 6Y 7X 7Y	2	50.00~250.00	0.80~1.80	0.60~	1.9	N ≥ 33 (L > 200 → N ≥ 50)	
5	5	5	5			2.5		0.80~2.30		2.4		
6	6	6	6			3		1.00~2.80		2.9		
7	7	7	7			3.5		1.00~3.30		3.4		
8	8	8	8			4		1.00~3.80		3.9		
9	9	9	9			4.5		1.20~4.30		4.4		
10	10	10	10			5		1.50~4.80		4.9		
11	11	11	11			5.5		1.80~5.30		5.4		
12	12	12	12			6		2.00~5.80		5.9		
13	13	13	13			6.5		2.00~6.30		6.4		
14	14	14	14			7		2.30~6.80		6.9		
15	15	15	15			8		2.30~7.80		7.9		
16	16	16	16			8.5		2.30~8.30		8.4		
17	17	17	17			10		3.00~9.80		9.9		
						10.5		3.00~10.30		10.4		

Ⓢ Designate P · W dimensions within the Kmax. $K = \sqrt{P^2 + W^2}$ Ⓢ P ≥ W Ⓢ Select a tip shape for 1X~7Y P.235 · 236

Precision Standard

Squareness of the tip corner

$P_{max.}$, $P_{min.}$, W plane as the base
($P_{max.} - P_{min.}$) ≤ 0.02

Corner R value of the tip corner

$R_{max.}$
 $R_{max.} \leq 0.03$ (Trimming R)
The tip corners have been slightly trimmed to measure the P · W dimensions. (Details P.1313)

P Price **Quotation**

Rectangular Ejector Pins

High Speed Steel SKH51 equivalent

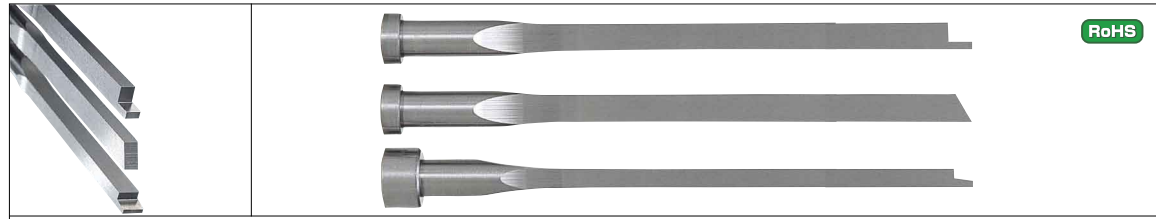
Shape processing P · W_{-0.01} Free designation

High Speed Steel
SKH51 equivalent

Shape processing
P · W_{-0.01}
Free designation

R-CHAMFERED RECTANGULAR EJECTOR PINS WITH TIP PROCESSED

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



RoHS

Part Number	R position	Head Thickness	P · W	Unit of designation
ERWR□X ERWR□Y	2 places on the upper side are rounded.	4mm(T4)	0	G±10° 1° increments R±0.05 0.1mm increments A±0.02 0.01mm increments V±0.02 0.01mm increments C±0.02 0.01mm increments
ERFR□X ERFR□Y	4 places are rounded.	4 · 6 ·	-0.01	
ERJWR□X ERJWR□Y	2 places on the upper side are rounded.	4 · 6 ·	-0.01	
ERJFR□X ERJFR□Y	4 places are rounded.	8mm(JIS)	-0.01	

Select a tip shape from P.235 · 236

(2 places on the upper side are rounded.)
ERWR□X ERWR□Y
ERJWR□X ERJWR□Y

(4 places are rounded.)
ERFR□X ERFR□Y
ERJFR□X ERJFR□Y

Range of guaranteed shaft diameter precision (D) (Details P.1301) SKH51 equivalent
 Step R (Details P.1302) 58~60HRC
 Range of guaranteed base material hardness (Details P.1303)

4mm head		JIS head		Part Number			0.01mm increments			R	Kmax.	N 1mm increments	Nmin.
H	T	H	T	Type	Tip shape	D	L	P	W				
4	4	4	4	ERWR (2 places on the upper side are rounded.)	ERJWR (2 places on the upper side are rounded.)	2	50.00~250.00	0.80~1.80	0.60~	0.1	1.9	N≥33 (L>200 → N≥50)	
5	5	5	2.5			0.80~2.30		2.4					
6	6	6	3			1.00~2.80		2.9					
7	7	7	3.5			1.00~3.30		3.4					
8	8	8	4			1.00~3.80		3.9					
9	9	9	4.5			1.20~4.30		4.4					
10	10	10	5			1.50~4.80		4.9					
11	11	11	5.5			1.80~5.30		5.4					
13	13	13	6			2.00~5.80		5.9					
15	15	15	6.5			2.00~6.30		6.4					
			7	2.30~6.80	6.9								
			8	2.30~7.80	7.9								
			10	3.00~9.80	9.9								

Designate P·W dimensions within the Kmax. $K = \sqrt{P^2 + W^2}$ (Dimension before R processing) $P \geq W$ Select R dimension from the range of $R \leq \frac{W}{2} - 0.05$.

Order **Part Number** L - P - W - R - N - V · In the order of A · C · Q · G

Type Tip shape D

ERWR 1X 4 - 150.00 - P3.00 - W1.00 - R0.1 - N50 - G15

Days to Ship **Quotation**

Price **Quotation**

Precision Standard	
Squareness of the tip corner	<p>W plane as the base (Pmax - Pmin) ≤ 0.02</p>
Corner R value of the tip corner	<p>Rmax ≤ 0.03 (Trimming R) Corner R value outside R processing range The tip corners have been slightly trimmed to measure the P · W dimensions. (Details P.1313)</p>

Alterations **Part Number** L - P - W - R - N - V · In the order of A · C · Q · G - (AKC · AWC · NHC...etc.)

ERWR1X4 - 150.00 - P3.00 - W1.00 - R0.1 - N50 - G15 - NHC-3

Alterations	Code	Spec.	1Code
	AKC	AKC=1° increments 0 ≤ AKC < 360 When combined with KSA/WSA, 90° increments only.	
	AWC	AWC=1° increments 0 ≤ AWC < 360 When combined with KSA/WSA, 90° increments only.	
	ARC	ARC=1° increments 0 ≤ ARC < 360 When combined with KSA/WSA, 90° increments only.	
	ADC	ADC=1° increments 0 ≤ ADC < 360 When combined with KSA/WSA, 90° increments only.	
	KGA	KGA=1° increments 0 < KGA < 360	
	KGD	KGD=1° increments 0 < KGD < 360	
	HC	HC=0.1mm increments D+1 ≤ HC < H	
	HCC	HCC=0.1mm increments D+1 ≤ HCC < H-0.3	
	KSA	KSA=0.1mm increments W/2+0.1 ≤ KSA ≤ D/2-0.1	
	WSA	WSA=0.1mm increments /2+0.1 ≤ WSA ≤ D/2-0.1	
	TC	TC=0.1mm increments T/2 ≤ TC < T (Dimension L and N remain unchanged.)	

Alterations	Code	Spec.	1Code
	NC	Dowel hole boring NC=90° increments Combination with other than NHC · NHN not available. How to order and detailed specifications P.195	
	NCW	Dowel hole boring+ Spring pin driving NCW=90° increments Combination with other than NHC · NHN not available. How to order and detailed specifications P.195	
	NHC	Numbering on the head How to order P.196	
	NHN	Automatic sequential numbering on the head How to order P.196	
	MC	Tapping D8 → M4 D10 → M5 ERJWR ERJFR Available when D ≥ 8 Only available combination is with CSW · CSF	
	CSW	C chamfering processing at 2 points on top (except tip) for relief is performed. [Designation method] CSW1-E25	
	CSF	C chamfering processing at 4 points (except tip) for relief is performed. [Designation method] CSF0.5-E30	
	RC	Designate the length of R processed part. 5 ≤ RC ≤ (L-N)-30 and RC ≤ 40 RC=1mm increments [Designation method] RC25 Adds RC recess processing at all places R processed	

Rectangular Ejector Pins
High Speed Steel SKH51 equivalent
Shape processing P · W_{-0.01} Free designation

High Speed Steel
SKH51 equivalent

Shape processing Precision
P · W_{-0.005}
Free designation

PRECISION RECTANGULAR EJECTOR PINS WITH TIP PROCESS

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

Part Number **Head Thickness** **P · W**

ERV□X · ERV□Y	4mm(T4)	$\begin{matrix} 0 \\ -0.005 \end{matrix}$
ERVJ□X · ERVJ□Y	4 · 6 · 8mm(JIS)	$\begin{matrix} 0 \\ -0.005 \end{matrix}$

Range of guaranteed shaft diameter precision (D) (Details P.1301)
Step R (Details P.1302)

Select a tip shape from P.235 · 236

$P \geq W, K = \sqrt{P^2 + W^2}$

SKH51 equivalent
58~60HRC
Range of guaranteed base material hardness (Details P.1303)

Unit of designation	Unit of designation
G±10°	1° increments
R±0.05	0.1mm increments
A±0.02	0.01mm increments
V±0.02	0.01mm increments
C±0.02	0.01mm increments

Order

Part Number: ERV 1X 4 - 150.00 - P3.00 - W1.00 - N50 - G15

In the order of V · A · C · R · G

Days to Ship **Quotation**

Alterations

Part Number: ERV1X4 - 150.00 - P3.00 - W1.00 - N50 - G15 - NHC-3

In the order of V · A · C · R · G (AKC · AWC · etc.)

Quotation

Alteration details P.195

Alterations	Code	Spec.	1Code
	AKC	AKC=1° increments 0 ≤ AKC < 360 When combined with KSA/WSA, 90° increments only.	
	AWC	AWC=1° increments 0 ≤ AWC < 360 When combined with KSA/WSA, 90° increments only.	
	ARC	ARC=1° increments 0 ≤ ARC < 360 When combined with KSA/WSA, 90° increments only.	
	ADC	ADC=1° increments 0 ≤ ADC < 360 When combined with KSA/WSA, 90° increments only.	
	KGA	KGA=1° increments 0 < KGA < 360	
	KGD	KGD=1° increments 0 < KGD < 360	
	HC	HC=0.1mm increments D+1 ≤ HC < H	
	HCC	HCC=0.1mm increments D+1 ≤ HCC < H-0.3	
	KSA	KSA=0.1mm increments W/2+0.1 ≤ KSA ≤ D/2-0.1	
	WSA	WSA=0.1mm increments W/2+0.1 ≤ WSA ≤ D/2-0.1	

Alterations	Code	Spec.	1Code
	TC	TC=0.1mm increments T/2 ≤ TC < T (Dimension L and N remain unchanged.)	
	NC	Dowel hole boring NC=90° increments Available when H ≥ 4 Combination with other than NHC · NHN not available. How to order and detailed specifications P.195	
	NCW	Dowel hole boring + Spring pin driving NCW=90° increments Available when H ≥ 4 Combination with other than NHC · NHN not available. How to order and detailed specifications P.195	
	NHC	Numbering on the head How to order P.196	
	NHN	Automatic sequential numbering on the head How to order P.196	
	MC	Tapping D8 → M4 D10 → M5 ERVJ Available when D ≥ 8 Only available combination is with CSW · CSF	
	CSW	C chamfering processing at 2 points on top (except tip) for relief is performed. [Designation method] CSW1—E25	
	CSF	C chamfering processing at 4 points (except tip) for relief is performed. [Designation method] CSF0.5—E30	

4mm head		JIS head		Part Number			0.01mm increments			Kmax.	N 1mm increments	Nmin.
H	T	H	T	Type	Tip shape	D	L	P	W			
3	—	—	—	ERV (4mm head)	1X 1Y 2X 2Y 3X 3Y 4X 4Y 5X 5Y 6X 6Y 7X 7Y	+1.5	50.00~250.00	0.80~1.30	0.60~	1.4	N ≥ 33 (L > 200 → N ≥ 50)	
4	4	4	4			2		0.80~1.80		1.9		
5	5	5	5			2.5		0.80~2.30		2.4		
6	6	6	6			3		1.00~2.80		2.9		
7	7	7	7			3.5		1.00~3.30		3.4		
8	8	8	8			4		1.00~3.80		3.9		
9	9	9	9			4.5		1.20~4.30		4.4		
10	10	10	10			5		1.50~4.80		4.9		
11	11	11	11			5.5		1.80~5.30		5.4		
12	12	12	12			6		2.00~5.80		5.9		
13	13	13	13			6.5		2.00~6.30		6.4		
14	14	14	14			7		2.30~6.80		6.9		
15	15	15	15			8		2.30~7.80		7.9		
						10		3.00~9.80		9.9		

*D1.5 is only for ERV□□ Designate P · W dimensions within the Kmax. $K = \sqrt{P^2 + W^2}$ P ≥ W Select a tip shape for 1X~7Y P.235 · 236

Precision Standard

Squareness of the tip corner
Pmax., Pmin., W plane as the base (Pmax. - Pmin.) ≤ 0.01

Corner R value of the tip corner
Rmax.
Rmax. ≤ 0.03 (Trimming R)
The tip corners have been slightly trimmed to measure the P · W dimensions. (Details P.1313)

Price **Quotation**

Rectangular Ejector Pins
High Speed Steel SKH51 equivalent
Shape processing Precision P · W_{-0.005} Free designation

High Speed Steel
SKH51 equivalent

For Large Size
 $P \cdot W_{-0.02}^0$
Standard · L dimension designation

RECTANGULAR EJECTOR PINS FOR LARGE MOLD

—STANDARD · L DIMENSION DESIGNATION TYPE—

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

Part Number	Head Thickness	P · W
ERJXB (Standard)	8mm	$0_{-0.02}$
ERJXL (L dimension designation type)		

⚠ Range of guaranteed shaft diameter precision (D) (Details P.1301)
⚠ Step R (Details P.1302)

⚠ SKH51 equivalent
⚠ S8~60HRC
Range of guaranteed base material hardness (Details P.1303)

⚠ $P \geq W$
⚠ $K = \sqrt{P^2 + W^2}$

⚠ $L - N \geq 10$ (ERJXL)

Order Part Number: ERJXL 15 - 205.00 - P10.0 - W5.0 - N120 Days to Ship **Quotation**

Alterations Part Number: ERJXL 15 - 205.00 - P10.0 - W5.0 - N120 - AKC 0 Price **Quotation**

Alterations	Code	Spec.	1Code
	AKC	AKC=1° increments 0 ≤ AKC < 360 ⚠ When combined with KSA/WSA, 90° increments only.	
	AWC	AWC=1° increments 0 ≤ AWC < 360 ⚠ When combined with KSA/WSA, 90° increments only.	
	ARC	ARC=1° increments 0 ≤ ARC < 360 ⚠ When combined with KSA/WSA, 90° increments only.	
	ADC	ADC=1° increments 0 ≤ ADC < 360 ⚠ When combined with KSA/WSA, 90° increments only.	
	KGA	KGA=1° increments 0 < KGA < 360	Quotation
	KGD	KGD=1° increments 0 < KGD < 360	
	HC	HC=0.1mm increments D+1 ≤ HC < H	
	HCC	HCC=0.1mm increments D+1 ≤ HCC < H-0.3	
	KSA	KSA=0.1mm increments W/2+0.1 ≤ KSA ≤ D/2-0.1	

Alteration details P.195

Alterations	Code	Spec.	1Code
	WSA	WSA=0.1mm increments W/2+0.1 ≤ WSA ≤ D/2-0.1	
	TC	TC=0.1mm increments 4.0 ≤ TC < 8 Dimensions L and N become shorter by (8-TC). (ERJXB) Dimensions N becomes shorter by (8-TC). (ERJXL) (Dimension L remains unchanged.) 8-TC ≤ Lmax.-L	
	NHC	Numbering on the head How to order P.196	
	NHN	Automatic sequential numbering on the head How to order P.196	
	CSW	C chamfering processing at 2 points on top (except tip) for relief is performed. [Designation method] CSW1-E25	Quotation
	CSF	C chamfering processing at 4 points (except tip) for relief is performed. [Designation method] CSF0.5-E30	

CSW, CSF: Range of designation
W CSW, CSF
1.0 ≤ W < 1.5 0.3
W ≥ 1.5 0.5
1.5
⚠ CSW, CSF < W/2
E=1mm increments
5 ≤ E ≤ (L-N)-20
⚠ Available for ERJXL only

H	T	Part Number		D	L		P	W					N		
		Type			ERJXB	ERJXL 0.01mm increments		1.0	2.0	3.0	4.0	5.0	80	100	
15	8	ERJXB (Standard) ERJXL (L dimension designation type)		10	200	100.00~200.00	7.0 8.0	1.0	2.0	3.0	4.0	5.0	80	100	
					300	200.01~300.00							100	120	150
					400	300.01~400.00							130 150 160		
					200	100.00~200.00							80	100	
					300	200.01~300.00							100	120	150
					400	300.01~400.00							130 160 180		
17				12	200	100.00~200.00	10.0	2.0	3.0	4.0	5.0	6.0	80	100	
					300	200.01~300.00							100	120	150
					400	300.01~400.00							130 160 180		
					200	100.00~200.00							80	100	
					300	200.01~300.00							120	130	
					400	300.01~400.00							150 160 180		
18				13	200	100.00~200.00	10.0	3.0	4.0	5.0	6.0	7.0	80	100	
					300	200.01~300.00							100	120	
					400	300.01~400.00							150 160 180		
					200	100.00~200.00							100	120	
					300	200.01~300.00							160 180		
					400	300.01~400.00							230		
20				15	200	100.00~200.00	10.0 12.0	4.0	5.0	6.0	7.0	8.0	100	120	
					300	200.01~300.00							160 180		
					400	300.01~400.00							230		
					200	100.00~200.00							100	120	
					300	200.01~300.00							100	120	
					400	300.01~400.00							130	180	230
21				16	200	100.00~200.00	14.0	4.0	5.0	6.0			130	180	230
					300	200.01~300.00					230	260	300		
					400	300.01~400.00					230 260 300				
					200	100.00~200.00					100	120			
					300	200.01~300.00					130	160	230		
					400	300.01~400.00					160	230	260		
25				20	200	100.00~200.00	16.0 17.0	7.0	8.0	10.0			130	160	230
					300	200.01~300.00					230	260	300		
					400	300.01~400.00					230 260 300				
					200	100.00~200.00					100	120			
					300	200.01~300.00					130	160	230		
					400	300.01~400.00					160	230	260		

Precision Standard

Squareness of the tip corner
W plane as the base (Pmax. - Pmin.) ≤ 0.02

Corner R value of the tip corner
Rmax. ≤ 0.03 (Trimming R)
⚠ The tip corners have been slightly trimmed to measure the P · W dimensions. (Details P.1313)

P Price **Quotation**

Rectangular Ejector Pins
High Speed Steel SKH51 equivalent
For Large Size $P \cdot W_{-0.02}^0$
Standard · L dimension designation

High Speed Steel
SKH51 equivalent

For Large Size
 $P \cdot W_{-0.02}^0$
Free designation

RECTANGULAR EJECTOR PINS FOR LARGE MOLD

—FREE DESIGNATION TYPE—

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

RoHS

Part Number	Head Thickness	$P \cdot W$
ERJX	8mm	$\begin{matrix} 0 \\ -0.02 \end{matrix}$

⦿ Range of guaranteed shaft diameter precision (D) (Details [P.1301](#))
⦿ Step R (Details [P.1302](#))

⦿ $P \geq W$
⦿ $K = \sqrt{P^2 + W^2}$

■ SKH51 equivalent
■ 58~60HRC
 Range of guaranteed base material hardness (Details [P.1303](#))

H	T	Part Number		0.01mm increments			K max.	N 1mm increments
		Type	D	L	P	W		
15	8	ERJX	10	100.00~500.00	5.00~9.80	1.00~	9.9	• D10~16 $N \geq 50$ • D20 $N \geq 55$ and $N \geq L/3$ $(L-N) \geq 10$
17			12					
18			13					
20			15					
21			16					
25			20					

Designate $P \cdot W$ dimensions within the K_{max} . $K = \sqrt{P^2 + W^2}$ ⦿ $P \geq W$

Precision Standard	Squareness of the tip corner	Corner R value of the tip corner
	<p>W plane as the base $(P_{max} - P_{min}) \leq 0.02$</p>	<p>$R_{max} \leq 0.03$ (Trimming R) ⦿ The tip corners have been slightly trimmed to measure the $P \cdot W$ dimensions. (Details P.1313)</p>

P Price Quotation

Order Part Number — L — P — W — N
ERJX 15 — 505.00 — P10.00 — W5.00 — N170

Alterations Part Number — L — P — W — N — (AKC · AWC...etc.)
ERJX 15 — 505.00 — P10.00 — W5.00 — N170 — AKC 0

Days to Ship Quotation

Alterations	Code	Spec.	1Code
	AKC	AKC=1° increments 0 ≤ AKC < 360 When combined with KSA/WSA, 90° increments only.	
	AWC	AWC=1° increments 0 ≤ AWC < 360 When combined with KSA/WSA, 90° increments only.	
	ARC	ARC=1° increments 0 ≤ ARC < 360 When combined with KSA/WSA, 90° increments only.	
	ADC	ADC=1° increments 0 ≤ ADC < 360 When combined with KSA/WSA, 90° increments only.	
	KGA	KGA=1° increments 0 < KGA < 360	Quotation
	KGD	KGD=1° increments 0 < KGD < 360	
	HC	HC=0.1mm increments D+1 ≤ HC < H	
	HCC	HCC=0.1mm increments D+1 ≤ HCC < H-0.3	
	KSA	KSA=0.1mm increments W/2+0.1 ≤ KSA ≤ D/2-0.1	
	WSA	WSA=0.1mm increments W/2+0.1 ≤ WSA ≤ D/2-0.1	

Alterations	Code	Spec.	1Code
	TC	TC=0.1mm increments 4.0 ≤ TC < 8 (Dimensions L and N remain unchanged) 8-TC ≤ Lmax.-L	
	NHC	Numbering on the head How to order P.196	
	NHN	Automatic sequential numbering on the head How to order P.196	
	CSW	C chamfering processing at 2 points on top (except tip) for relief is performed. Designation method CSW1-E25	Quotation
	CSF	C chamfering processing at 4 points (except tip) for relief is performed. Designation method CSF0.5-E30	

Rectangular Ejector Pins

High Speed Steel SKH51 equivalent

For Large Size $P \cdot W_{-0.02}^0$ Free designation

Dies Steel
SKD61 equivalent
+
Nitrided


For Large Size
P · W_{-0.02}⁰
Standard · L dimension designation

RECTANGULAR EJECTOR PINS FOR LARGE MOLD

— STANDARD · L DIMENSION DESIGNATION TYPE —

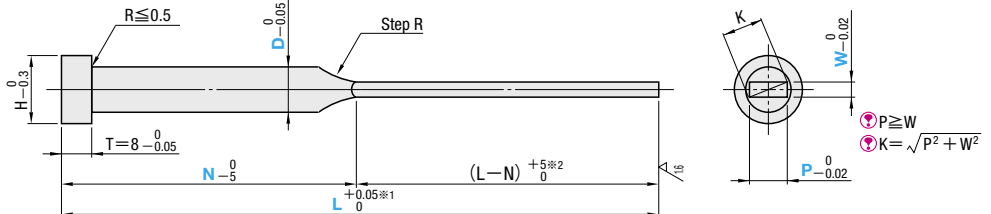
Ⓜ Non JIS material definition is listed on P.1351 - 1352

RoHS



Part Number	Head Thickness	P · W
ERNXB (Standard) ERNXL (L dimension designation type)	8mm	$\begin{matrix} 0 \\ -0.02 \end{matrix}$

Ⓜ Range of guaranteed shaft diameter precision (D) (Details [P.1301](#))
Ⓜ Step R (Details [P.1302](#))



Ⓜ SKD61 equivalent + Nitrided
Ⓜ Surface 900HV~ Base material 40~45HRC
Range of guaranteed surface hardness for nitriding (Details [P.1302](#))

Ⓜ This product is not polished after nitriding. There is hardly any color unevenness, and no problem with the quality.

Ⓜ *1 ERNXB is $\begin{matrix} +5 \\ +0.1 \end{matrix}$
Ⓜ *2 ERNXB is $\begin{matrix} +10 \\ 0 \end{matrix}$

Order Part Number — L — P — W — N
ERNXL13 — 205.00 — P10.0 — W5.0 — N120

Alterations Part Number — L — P — W — N — (AKC · AWC...etc.)
ERNXL13 — 205.00 — P10.0 — W5.0 — N120 — AKC 0

Days to Ship **Quotation**

Alteration details [P.195](#)

Alterations	Code	Spec.	1Code
	AKC	AKC=1° increments 0 ≤ AKC < 360 Ⓜ When combined with KSA/WSA, 90° increments only.	Quotation
	AWC	AWC=1° increments 0 ≤ AWC < 360 Ⓜ When combined with KSA/WSA, 90° increments only.	
	ARC	ARC=1° increments 0 ≤ ARC < 360 Ⓜ When combined with KSA/WSA, 90° increments only.	
	ADC	ADC=1° increments 0 ≤ ADC < 360 Ⓜ When combined with KSA/WSA, 90° increments only.	
	KGA	KGA=1° increments 0 < KGA < 360	
	KGD	KGD=1° increments 0 < KGD < 360	
	HC	HC=0.1mm increments D+1 ≤ HC < H	
	HCC	HCC=0.1mm increments D+1 ≤ HCC < H-0.3	
	WSA	WSA=0.1mm increments W/2+0.1 ≤ WSA ≤ D/2-0.1	
	TC	TC=0.1mm increments 4.0 ≤ TC < 8 Dimensions L and N becomes shorter by (8-TC). (ERNXB) Dimensions N becomes shorter by (8-TC). (ERNXL) (Dimension L remains unchanged.) 8-TC ≤ Lmax - L	

Alterations	Code	Spec.	1Code
	NC	Dowel hole boring NC=90° increments Ⓜ Combination with other than NHC · NHN not available. How to order and detailed specifications P.195	Quotation
	NCW	Dowel hole boring+Spring pin driving NCW=90° increments Ⓜ Combination with other than NHC · NHN not available. How to order and detailed specifications P.195	
	NHC	Numbering on the head How to order P.196	
	NHN	Automatic sequential numbering on the head How to order P.196	
	CSW	C chamfering processing at 2 points on top (except tip) for relief is performed. Designation method CSW1-E25 CSW, CSF: Range of designation W CSW, CSF 1.0 ≤ W < 1.5 0.3 W ≥ 1.5 0.5 1.5 Ⓜ CSW, CSF < W/2	
	CSF	C chamfering processing at 4 points (except tip) for relief is performed. Designation method CSF0.5-E30 E=1mm increments 5 ≤ E ≤ (L-N)-20 Ⓜ Available for ERNXL only	

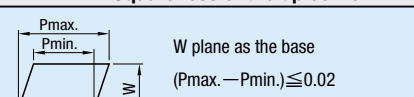
H	T	Part Number Type	D	L	P	W				N					
						2.0	3.0	4.0	5.0	80	100	150	160		
15	8	ERNXB (Standard)	10	200	7.0 8.0	2.0	3.0	4.0	5.0	80	100	150	160		
				300						100	120	150			
			17	12	200	10.0	2.0	3.0	4.0	5.0	6.0	80	100	150	160
					300							100	120	150	
			18	13	200	10.0	3.0	4.0	5.0	6.0	7.0	80	100	150	160
					300							120	130	180	
			20	15	300	10.0 12.0	4.0	5.0	6.0	7.0	8.0	100	120	160	180
					400							230	260	300	
					500										
			21	16	300	14.0	4.0	5.0	6.0			100	120	180	230
					400					130	180	230	260	300	
					500										
25	20	300	16.0 17.0	7.0	8.0	10.0			100	120	160	230			
		400					130	160	230	260	300				
		500													

H	T	Part Number Type	D	L	P	W				N					
						0.01mm increments	2.0	3.0	4.0	5.0	100	120	150	160	
15	8	ERNXL (L dimension designation type)	10	200.00~300.00	7.0 8.0	2.0	3.0	4.0	5.0	100	120	150	160		
				300.01~400.00						100	120	150			
			17	12	200.00~300.00	10.0	2.0	3.0	4.0	5.0	6.0	100	120	150	160
					300.01~400.00							130	160	180	
			18	13	200.00~300.00	10.0	3.0	4.0	5.0	6.0	7.0	120	130	150	160
					300.01~400.00							150	160	180	
			20	15	200.00~300.00	10.0 12.0	4.0	5.0	6.0	7.0	8.0	100	120	160	180
					300.01~400.00							230	260	300	
					400.01~500.00										
			21	16	200.00~300.00	14.0	4.0	5.0	6.0			100	120	180	230
					300.01~400.00					130	180	230	260	300	
					400.01~500.00										
25	20	200.00~300.00	16.0 17.0	7.0	8.0	10.0			100	120	160	230			
		300.01~400.00					130	160	230	260	300				
		400.01~500.00													

Ⓜ L-N ≥ 10

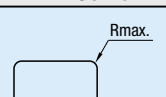
Precision Standard

Squareness of the tip corner



W plane as the base
(Pmax. - Pmin.) ≤ 0.02

Corner R value of the tip corner



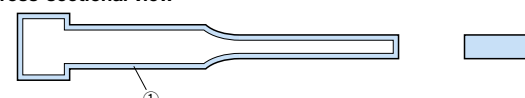
Rmax. ≤ 0.03 (Trimming R)
Ⓜ The tip corners have been slightly trimmed to measure the P · W dimensions. (Details [P.1313](#))

P Price **Quotation**

Guaranteed Ranges of Nitriding and Surface Hardness

RECTANGULAR EJECTOR PINS FOR LARGE MOLD

※ Cross-sectional view



M	Ejector Pin Surface Hardness
SKD61 equivalent + Nitrided	① (Guaranteed range of nitrided surface hardness) 900HV~

Rectangular Ejector Pins
Dies Steel SKD61 equivalent + Nitrided
For Large Size P · W_{-0.02}⁰
Standard · L dimension designation

High Speed Steel
SKH51 equivalent

D-shaped
P · W_{-0.01}⁰

D-SHAPED EJECTOR PINS

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

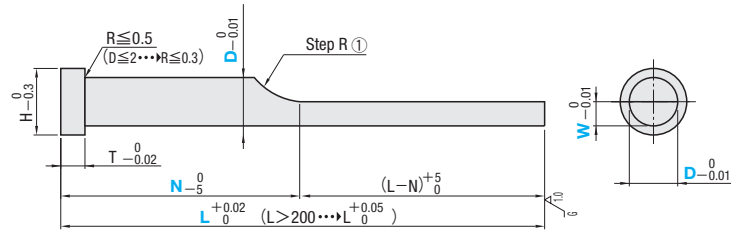
RoHS



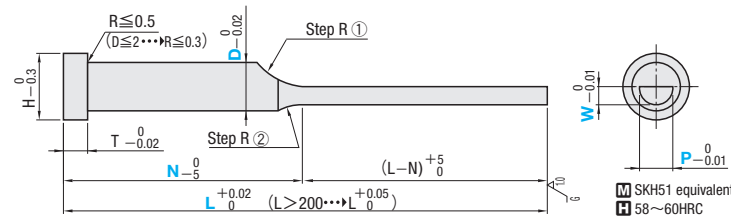
Part Number		Head Thickness (Flange)	Tip part P · W
Normal type	Stepped type	4mm (T4)	0 -0.01
ERDP	ERDF	4mm (T4)	
ERDPJ	ERDFJ	4 · 6 · 8mm (JIS)	

- ⓘ Range of guaranteed shaft diameter precision (D) (Details [P.1301](#))
- ⓘ Step R ① (Details [P.1302](#) Step R for rectangular ejector pins)
- ⓘ Step R ② (Details [P.1302](#) Step R for stepped ejector pins)

(Normal type)
ERDP
ERDPJ



(Stepped type)ERDF
ERDFJ



SKH51 equivalent
58~60HRC
Range of guaranteed base material hardness (Details [P.1303](#))

Alterations Part Number **L** - **P** - **W** - **N** - (AKC · AWC...etc.)
ERDF2 - 150.00 - P1.00 - W0.60 - N80 - AKC 90

Alteration details [P.195](#)

Alterations	Code	Spec.	1Code
	AKC	AKC=1° increments 0 ≤ AKC < 360	
	AWC	AWC=1° increments 0 ≤ AWC < 360	
	ARC	ARC=1° increments 0 ≤ ARC < 360	
	ADC	ADC=1° increments 0 ≤ ADC < 360	
	KGA	KGA=1° increments 0 < KGA < 360	
	KGD	KGD=1° increments 0 < KGD < 360	
	HC	HC=0.1mm increments D+1 ≤ HC < H	

Alterations	Code	Spec.	1Code
	HCC	HCC=0.1mm increments D+1 ≤ HCC < H-0.3	
	TC	TC=0.1mm increments T/2 ≤ TC < T (Dimensions L and N remain unchanged) T - TC ≤ Lmax. - L	
	NHC	Numbering on the head How to order P.196	
	NHN	Automatic sequential numbering on the head How to order P.196	
	TMC	Lapping on the tip face Available when W ≥ 0.6	
	MC	Tapping D8 · 9 → M4 D10 → M5 D12 → M6 ERDPJ, ERDFJ Available when D ≥ 8 Combination with other than TMC not available.	

Quotation

Quotation

Normal type

4mm head		JIS head		Part Number Type	D	0.01mm increments		N 1mm increments
H	T	H	T			L	W	
3	4	3	4	ERDP (T4) ERDPJ (JIS)	1.5	50.00~200.00	0.75~1.40	N ≥ 30 20 ≤ (L-N) ≤ 150
4		2			50.00~250.00	1.00~1.90		
5		2.5				1.25~2.40		
6		3			50.00~300.00	1.50~2.90		
7		3.5				1.75~3.40		
8		4				2.00~3.90		
9		4.5				2.25~4.40		
10		5			50.00~350.00	2.50~4.90	N ≥ 30 20 ≤ (L-N) ≤ 200	
11		5.5				2.75~5.40		
12		6				3.00~5.90		
13		6.5				3.25~6.40		
14		7				3.50~6.90		
15		8			4.00~7.90			
16		9			4.50~8.90			
17		10			5.00~9.90			
		11			6.00~11.90			

Stepped type

4mm head		JIS head		Part Number Type	D	0.01mm increments		W	N 1mm increments
H	T	H	T			L	P		
3	4	3	4	ERDF (T4) ERDFJ (JIS)	1.5	50.00~200.00	0.60~1.40	N ≥ 30 20 ≤ (L-N) ≤ 150	
4		2			50.00~250.00	0.80~1.90			
5		2.5				0.80~2.40			
6		3			50.00~300.00	1.00~2.90	P/2 ≤ W ≤ (P-0.1) N ≥ 30 20 ≤ (L-N) ≤ 200		
7		3.5				1.50~3.40			
8		4				2.00~3.90			
9		4.5				2.50~4.40			
10		5			50.00~350.00	3.00~4.90			
11		5.5				3.50~5.40			
12		6				4.00~5.90			
13		6.5				4.50~6.40			
14		7				5.00~6.90			
15		8			6.00~7.90				
16		9			6.90~8.90				
17		10			7.90~9.90				
		11			8.90~11.90				

Order

Part Number **L** - **P** - **W** - **N**
(Normal type)ERDP5 - 145.05 - W3.20 - N95
(Stepped type)ERDF2 - 150.00 - P1.00 - W0.60 - N80

Days to Ship

Quotation

P Price

Quotation

Rectangular Ejector Pins

High Speed Steel SKH51 equivalent

D-shaped P · W_{-0.01}⁰