

High Speed Steel  
SKH51 equivalent

R-chamfered Precision  
P · W<sub>-0.005</sub>  
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.	
	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	
	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 Ⓢ 5 ≤ (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 Ⓢ P ≥ 1.5 Ⓢ CSW, CSF < W/2 E=1mm increments Ⓢ 5 ≤ (L-N) - 20 Ⓢ R process range Ⓢ P.196 Ⓢ RC processing is prioritized when combining with RC.	
	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		0.80~1.80			1.9		
5		5				2.5	50.00~300.00	0.80~2.30			2.4		
6		6				3		0.80~2.80			2.9		
7		7		ERVFR (4 places are rounded.)	ERVJFR (4 places are rounded.)	3.5		1.00~3.30	0.40~	0.15	3.4		27
8		8				4	50.00~300.00	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		ERVWR (2 places on the upper side are rounded.)	ERVJWR (2 places on the upper side are rounded.)	5.5		1.80~5.30	0.50~	0.2	5.4		31
15		15				6		2.00~5.80			5.9		
17		17				6.5	50.00~300.00	2.00~6.30			6.4		
20		20				7	(50.00~350.00)	2.30~6.80			6.9		
				ERVFR (4 places are rounded.)	ERVJFR (4 places are rounded.)	8		2.30~7.80	0.80~	0.3	7.9		33
						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)