


# Locating Pins

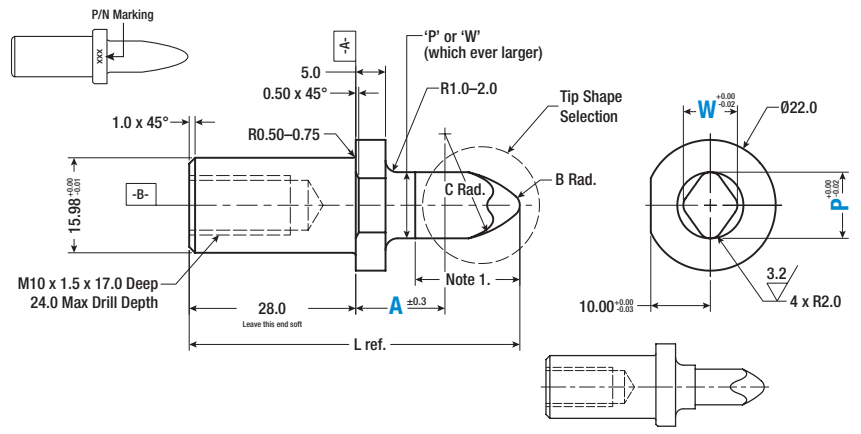
## Two Diameter Small Head



Type	Coating	Material	Hardness
APFSS	P - Plain	8620 Alloy Steel (JIS SNCM220)	Carburized 58 - 62HRC (Depth 0.5-0.7 after Grinding)
	T - TiN		
	R - Rainbow DLC		
M2APFSS	P - Plain	M2 Tool Steel (JIS SKH51)	Thru hardened 58-65 HRC (with drawn shank >35 HRC)
	R - Rainbow DLC		

Tolerance				
Dim.	Tol.	Finish (Ra)	Geometric	
0.0	±0.3	6.0 µm	$\perp$	0.015 T.I.R to Datum A & B
0.00	±0.03	3.0 µm	$\parallel$	
0.000	±0.015	1.6 µm	$\odot$	0.03 T.I.R

3D CAD is available online.



Tip Shape Selection		
A Shape	Bullet	
B Shape	Half Bullet	
C Shape	Sphere	

Configurable NAAMS (P, W & A Configurable)							
Type	Coating	Tip Shape	P (0.01 mm Inc.)	W (0.01 mm Inc.)	A (1 mm Inc.)	B Rad	C Rad
APFSS M2APFSS	P - Plain T - TiN (not available on M2 Pins) R - Rainbow DLC	A	5.00-6.99	5.00-20.00	10-60	2.0	<b>Tip A</b> C = P/W x 3.0 (Ø≤16) C = P/W x 2.0 (Ø>16)  <b>Tip B</b> C = P/W x 1.5 (Ø≤16) C = P/W x 1.0 (Ø>16)  <b>Tip C</b> C = P/W x 0.5
		B	7.00-7.99		10-70		
		C	8.00-8.99		10-80		
			9.00-9.99		10-90		
			10.00-20.00		10-100		

Note 1: P/W dimensions are machined 50mm only from the tip of the head.  
C radius is calculated based on P or W (whichever is larger).  
D = P/W (whichever is larger)

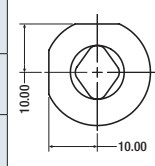
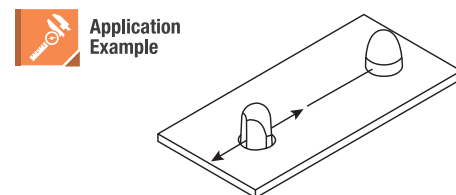
**Part Number Example**

Configurable

Type	Coating	Tip Shape	P	W	A	Alteration (KE)
APFSS	P	A	P12.22	W8.40	A95	
APFSS	T	C	P6.05	W16.75	A25	KE
M2APFSS	R	B	P8.02	W8.56	A56	
M2APFSS	P	C	P18.42	W18.21	A86	KE


**Part Number Alterations**

Code	KE
Description	Add 2nd Flat to the shoulder
Spec	10 mm +0.00 / -0.03

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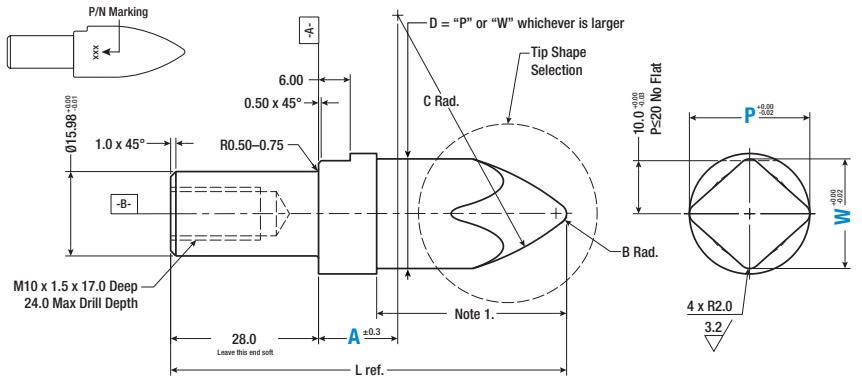
## Two Diameter Large Head



Type	Coating	Material	Hardness
APFSL	P - Plain	8620 Alloy Steel (JIS SNCM220)	Carburized 58 - 62HRC (Depth 0.5-0.7 after Grinding)
	T - TiN		
	R - Rainbow DLC		
M2APFSL	P - Plain	M2 Tool Steel (JIS SKH51)	Thru hardened 58-65 HRC (with drawn shank >35 HRC)
	R - Rainbow DLC		

Tolerance				
Dim.	Tol.	Finish (Ra)	Geometric	
0.0	±0.3	6.0 µm	$\perp$	0.015 T.I.R to Datum A & B
0.00	±0.03	3.0 µm	$\parallel$	
0.000	±0.015	1.6 µm	$\odot$	0.03 T.I.R

3D CAD is available online.



Tip Shape Selection		
A Shape	Bullet	
B Shape	Half Bullet	
C Shape	Sphere	

Configurable NAAMS (P, W & A Configurable)							
Type	Coating	Tip Shape	P (0.01 mm Inc.)	W (0.01 mm Inc.)	A (1 mm Inc.)	B Rad	C Rad
APFSL M2APFSL	P - Plain T - TiN (not available on M2 Pins) R - Rainbow DLC	A B C	19.00-50.00	12.00-50.00	10-100	2.0	<b>Tip A</b> C = P/W x 2.0 (Ø≥19) <b>Tip B</b> C = P/W x 1.0 (Ø≥19) <b>Tip C</b> C = P/W x 0.5

Note 1: P/W dimensions are machined 50 mm only from the tip of the head.  
For A tip Shape- Due to relation of tip radius and tip length.  
P or W parameter need to be max. 35 mm to have min. 3 mm locating surface on pin head.  
C radius is calculated based on P or W (whichever is larger).  
When P/W≤20 there is No Flat (Based on which ever is larger dimension). Check CAD for details.  
D = P/W (whichever is larger)  
A Tip only available for P/W≤30.

**Part Number Example**

Configurable

Type	Coating	Tip Shape	P	W	A	Alteration (KE)
APFSL	P	A	P35.07	W39.98	A25	
APFSL	T	C	P19.56	W22.55	A72	KE
M2APFSL	R	B	P20.06	W20.56	A56	KE
M2APFSL	P	C	P24.85	W24.62	A86	

**Part Number Alterations**

Code	KE
Description	Add 2nd Flat to the shoulder
Spec	10 mm +0.00 / -0.03

