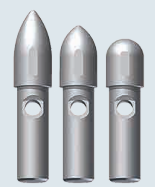


# Locating Pins

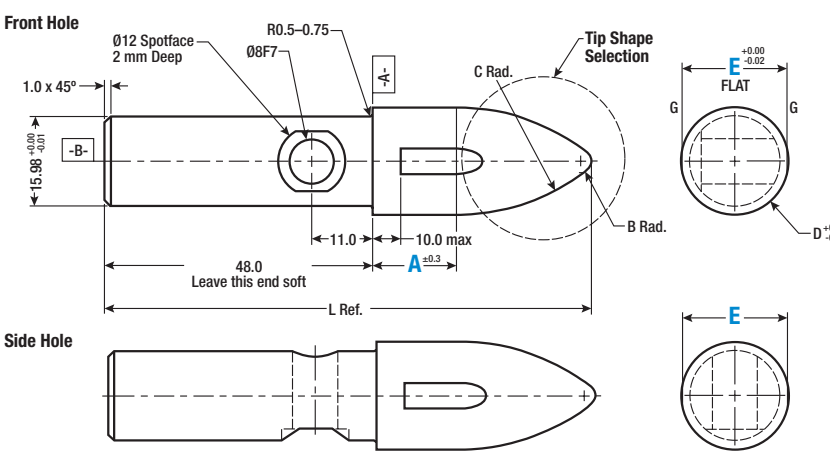
## APE-R Large Head



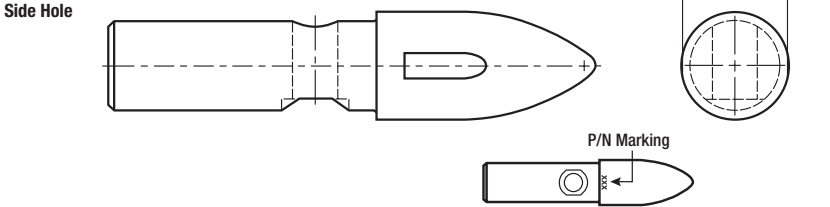
Type	Retractable	Coating	Material	Hardness
<b>APE</b>	Standard NAAMS	R - Front Hole S - Side Hole	None - Plain T - TIN	8620 Alloy Steel (JIS SNCM220)
<b>APERL</b>	Configurable	Front Hole	P - Plain	Carburized 58-62 HRC min. (Depth 0.5-0.7 after Grinding)
<b>APESL</b>		Side Hole	T - TIN	

3D CAD is available online.

**Front Hole**



**Side Hole**



P/N Marking

Tolerance			
Dim.	Tol.	Finish (Ra)	Geometric
0.0	±0.3	6.0 µm	⊥ 0.015 T.I.R to Datum A & B
0.00	±0.03	3.0 µm	∥ 0.03 T.I.R
0.000	±0.015	1.6 µm	⊙ 0.03 T.I.R

Tip Shape Selection		
<b>A Shape</b>	Bullet	
<b>B Shape</b>	Half Bullet	
<b>C Shape</b>	Sphere	

$L \text{ ref.} = 48 + A + \sqrt{D \left( C - \frac{D}{4} \right)}$

Standard NAAMS																
Type	E Flat Callout (Actual)	A Lead Length									Retractable	Coating (Optional)	D Diameter	B Rad	C Rad	
		15 mm	20 mm	30 mm	40 mm	50 mm	60 mm	70 mm	80 mm	90 mm						100 mm
<b>APE</b>	16 (15.85)	1	2	3	4	5	6	7	8	9	0	R - Front Hole S - Side Hole	None - Plain T - TIN	16.35	2.0	48.0
	19 (18.85)	1	2	3	4	5	6	7	8	9	0			19.27		38.0
	25 (24.85)	1	2	3	4	5	6	7	8	9	0			25.17		50.0

Standard NAAMS specifications are controlled by the NAAMS organization and the latest version of these products will be produced in compliance to: [www.naamsstandards.org](http://www.naamsstandards.org).

Configurable NAAMS (A Configurable)									
Type	Coating	Tip Shape	E Flat Callout (Actual)	A Lead Length (1 mm Inc.)	D Diameter	B Rad	C Rad		
							Tip A	Tip B	Tip C
<b>APERL</b> (Front Hole) <b>APESL</b> (Side Hole)	P - Plain T - TIN	A B C	16 (15.85)	10-100	16.35	2.0	48.0	24.0	D/2
			19 (18.85)		19.27		38.0	19.0	
			25 (24.85)		25.17		50.0	25.0	

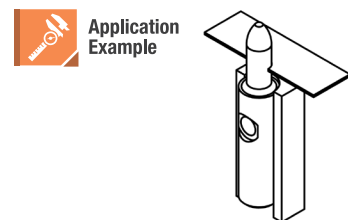
**Part Number Example**

Standard: Part Number - D - A - Retractable - Coating

**APE - 19 - 4 - R - T**


Configurable: Part Number - Coating - Tip Shape - D - A

**APERL T - A - 19 - A42**



# Respot Pins

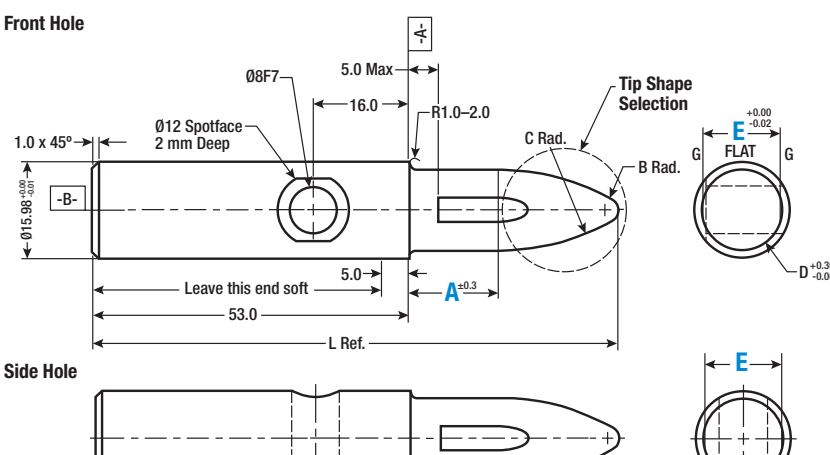
## ARE-R Small Head



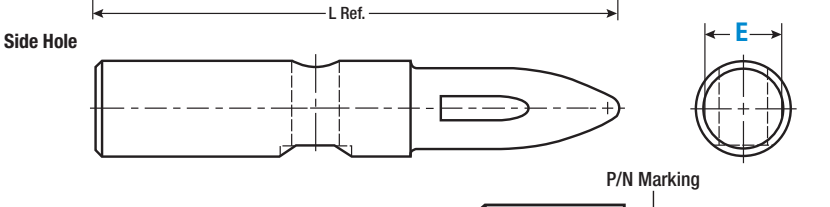
Type	Retractable	Coating	Material	Hardness
<b>ARE</b>	Standard NAAMS	R - Front Hole S - Side Hole	None - Plain T - TIN	8620 Alloy Steel (JIS SNCM220)
<b>ARERS</b>	Configurable	Front Hole	P - Plain	Carburized 58-62 HRC min. (Depth 0.5-0.7 after Grinding)
<b>ARESS</b>		Side Hole	T - TIN	

3D CAD is available online.

**Front Hole**



**Side Hole**



P/N Marking

Tolerance			
Dim.	Tol.	Finish (Ra)	Geometric
0.0	±0.3	6.0 µm	⊥ 0.015 T.I.R to Datum A & B
0.00	±0.03	3.0 µm	∥ 0.03 T.I.R
0.000	±0.015	1.6 µm	⊙ 0.03 T.I.R

Tip Shape Selection		
<b>A Shape</b>	Bullet	
<b>B Shape</b>	Half Bullet	
<b>C Shape</b>	Sphere	

$L \text{ ref.} = 53 + A + \sqrt{D \left( C - \frac{D}{4} \right)}$

Standard NAAMS																
Type	E Flat Callout (Actual)	A Lead Length									Retractable	Coating	For Slot	D Diameter	B Rad	C Rad
		10 mm	15 mm	25 mm	35 mm	45 mm	55 mm	65 mm	75 mm	85 mm						
<b>ARE</b>	06 (5.72)	1	2	3	4	5	6	-	-	-	-	R - Front Hole S - Side Hole	None - Plain T - TIN	6 x 12	7.09	18.0
	08 (7.72)	1	2	3	4	5	6	7	8	-	-			8 x 14	8.81	24.0
	10 (9.72)	1	2	3	4	5	6	7	8	9	0			10 x 16	10.63	30.0
	13 (12.72)	1	2	3	4	5	6	7	8	9	0			13 x 19	13.46	39.0

Standard NAAMS specifications are controlled by the NAAMS organization and the latest version of these products will be produced in compliance to: [www.naamsstandards.org](http://www.naamsstandards.org).

Configurable NAAMS (A Configurable)										
Type	Coating	Tip Shape	E Flat Callout (Actual)	A Lead Length (1 mm Inc.)	For Slot	D Diameter	B Rad	C Rad		
								Tip A	Tip B	Tip C
<b>ARERS</b> (Front Hole) <b>ARESS</b> (Side Hole)	P - Plain T - TIN	A B C	06 (5.72)	10-55	6 x 12	7.09	1.0	18.0	9.0	D/2
			08 (7.72)					24.0	12.0	
			10 (9.72)					30.0	15.0	
			13 (12.72)					39.0	19.5	

**Part Number Example**

Standard: Part Number - D - A - Retractable - Coating

**APE - 08 - 4 - R - T**

**APE - 13 - 0 - S - T**

Configurable: Part Number - Coating - Tip Shape - D - A

**ARERS P - A - 6 - A42**

**ARESS T - C - 10 - A99**

