CNC Bits Buying Guide

If you have any suggestions or need any assistance, please contact us via support@sainsmart.com.

Get a CNC Milling Bit Storage Tray to Group Your Bits In Order

	Picture						
	Model	<u>C08</u>	<u>C15</u>	<u>SS17</u>	<u>SF17</u>	<u>FN10A</u>	
				Spiral Bits			
	Туре	Fishtail End Mill/Corn-shaped End Mill Square Nose			Square Nose End N	nd Mill	
		Flat Nose					
	Shank	1/8" (3.175mm)					
	Flute	/	/		2		
	Degree			/			
Chasification	Material		Tungsto	en Carbide Steel All	loy		
Specification	Coating		Na	ano Blue Coating			
	Cutting Diameter	0.8-3.0mm	1.5-3.175mm	3.17	5mm	1.0-3.175mm	
	Cutting Length	12mm	12mm	17r	17mm		
	Overall Length						

	Picture					
	Model	<u>C08</u>	<u>C15</u>	<u>SS17</u>	<u>SF17</u>	<u>FN10A</u>
	Wood (MDF,Hardwood, Plywood)	*	*	*	*	◈
	Plastic (ABS, Acrylic, PVC)	*	*	*	*	★
Application	Soft Metal (Al,Fe,Cu,Steel)	\checkmark	√	√	√	√
Materials	Circuit Board (PCB)	*	食	×	×	√
	Others (Ceramic, Granite, Glass)	×	×	×	×	×
	Slot Milling	\checkmark	√	√	√	√
	Side Milling	√	√	√	√	√
	Face Milling	√	√	√	√	√
	3D Milling	×	×	×	×	×
	Drilling	√	√	×	×	√
Ideal for	Engraving(Lettering)	√	√	√	√	√
	Polishing	×	×	×	×	×
	Grinding	×	×	×	×	×
	Deburring	×	×	×	×	×

Picture							
	Model	<u>SN07A</u>	<u>SN06A</u>	SD06A	<u>SB17</u>	<u>BN10A</u>	
		Spiral Bits					
	Туре	Square Nose E	nd Mill	Downcut Cutter	Ball N	lose End Mill	
		Flat Nose	2	Downcut Cutter	E	Ball Nose	
	Shank	4mm 1/4"(6.35mm)		1/8" (3.175mm)	1/8" (3.175mm)		
	Flute	3		2	2		
	Degree	/	/	/	/		
	Material	Tungsten Carbide Steel	Tungsten	Tungsten Carbide	Tungsten	Tungsten Carbide Steel	
		Alloy	Carbide Steel	Steel Alloy	Carbide Steel	Alloy	
			Alloy		Alloy		
Specification	Coating	Nano Blue Coating	Nano Blue	Nano Blue Coating	Nano Blue	Nano Blue Coating	
			Coating		Coating		
	Cutting Diameter	1, 1.5, 2, 2.5 3, 3.5, 4mm	5, 6mm	3.175mm	3.175mm	1.0-2.5mm	
	Cutting Length	3, 5, 7, 8, 11, 12, 13mm	15, 20mm	8, 10, 12, 15, 17, 22mm	17mm	6-22mm	
	Overall Length	50mm	50, 55mm	40, 40, 40, 45, 45, 55mm	38mm	38mm	

Chart 2-1

	Picture					
	Model	<u>SN07A</u>	SN06A	<u>SD06A</u>	<u>SB17</u>	<u>BN10A</u>
	Wood (MDF,Hardwood, Plywood)	*	*	*	*	**
	Plastic (ABS, Acrylic, PVC)	*	*	*	*	**
Application	Soft Metal (AI,Fe,Cu,Steel)	\$	*	\$	√	\checkmark
Materials	Circuit Board (PCB)	×	×	\checkmark	×	\checkmark
	Others (Ceramic, Granite, Glass)	\checkmark	√	×	×	×
	Slot Milling	\$	\$	√	√	\checkmark
	Side Milling	\$	\$	√	√	√
	Face Milling	√	√	√	×	×
	3D Milling	×	×	×	√	√
	Drilling	×	×	√	×	√
Ideal for	Engraving(Lettering)	×	×	√	√	√
	Polishing	×	×	×	×	×
	Grinding	×	×	×	×	X
	Deburring	×	×	×	×	×

	Picture				
	Model	<u>TB04A</u>	<u>TB04B</u>	MC10A	WC04A
	Туре	Ball Nose	e End Mill Ball Nose	Tapered Ball Nose Fishtail End Mill Straight Router Bit V-shape Engraving Bit Compression Cutter Ball Nose V-Groove Router Bit	15° Detail Carving Liner 20° Profile Bit 60° V-Groove 90° V-Groove
	Shank	1/8" (3.175mm)	1/4''(6.35mm)	1/4'' (6.35mm	1/4" (6.35mm)
	Flute	2	2	2	/
	Degree		/	30° 60° 90°	15° 20° 60° 90
	Material			Tungsten Carbide Steel Alloy	
Specification	Coating			Nano Blue Coating	
	Cutting Diameter	R0.25, 0.5,0.75 ,1.0	R0.25, 0.5, 0.75, 1.0	1.58mm, 3.175mm, 4.76mm, 6.35mm, 12.7mm	0.2mm
	Cutting Length	15mm	20mm	12.7mm, 19.05mm, 22mm, 25.4mm	
	Overall Length	38mm	50mm	50mm, 55mm, 57mm, 63mm	50mm

Chart 3-1

	Picture				
	Model	<u>TB04A</u>	<u>TB04B</u>	MC10A	WC04A
	Wood (MDF,Hardwood, Plywood)	*	*	*	*
	Plastic (ABS, Acrylic, PVC)	&	★	贪	\$
Application	Soft Metal (Al,Fe,Cu,Steel)	√	√	√	√
Materials	Circuit Board (PCB)	×	×	×	×
	Others (Ceramic, Granite, Glass)	×	×	×	×
	Slot Milling	√	√	√	*
	Side Milling	√	√	√	√
	Face Milling	×	×	√	√
	3D Milling	√	√	√	×
	Drilling	×	×	×	×
Ideal for	Engraving(Lettering)	√	√	√	√
	Polishing	×	×	×	×
	Grinding	×	×	×	×
	Deburring	×	×	×	×

Picture		Property of the control of the contr				
	Model	<u>PD30A</u>	<u>V15</u>	<u>V20</u>	<u>VG05B</u>	
		Spiral Bits		Conical V-Bit		
	Туре	PCB Drill Bit	V-shape Eng	graving Bit	V-Groove Router Bit	
	Shank	1/8" (3.175mm)	1/8'' (3.1	75mm)	1/8" (3.175mm)	
	Flute			/		
	Degree	/	15°	20°	20°, 30°,45°,60°	
	Material					
Specification	Coating	/		Nano Blue Coating		
Specification	Cutting Diameter	0.1-1.0mm				
		1.1-2.0mm	0.1m	nm	3.175mm	
		2.1-3.0mm				
	Cutting Length	/	/		/	
	Overall Length	38mm	30mm		40mm	

Picture					
	Model	<u>PD30A</u>	<u>V15</u>	<u>V20</u>	<u>VG05B</u>
	Wood (MDF,Hardwood, Plywood)	\checkmark	√	√	*
	Plastic (ABS, Acrylic, PVC)	√	&	★	√
Application	Soft Metal (Al,Fe,Cu,Steel)	×	√	√	\checkmark
Materials	Circuit Board (PCB)	\$	X	×	×
	Others (Ceramic, Granite, Glass)	×	×	×	×
	Slot Milling	×	×	×	*
	Side Milling	×	×	×	×
	Face Milling	×	X	×	×
	3D Milling	×	×	×	×
Ideal for	Drilling	\$	×	×	×
iueai iui	Engraving(Lettering)	*	☆	*	√
	Polishing	×	×	×	×
	Grinding	×	X	×	×
	Deburring	×	×	×	×

Note ★: Recommended, V: Applicable, ×: Not Applicable

F	Picture					
	Model	<u>EM03A</u>	<u>MC30B</u>	<u>MC30A</u>	<u>MC50A</u>	<u>MC40A</u>
		Tapered Ball Nose End Mill	Corn-shaped End Mills	O Flute End Mills	2-Flute Flat Nose End Mills	2-Flute Spiral Flat Nose
	Туре	V-shape Engraving Bit	2 Flute Flat Nose End Mills	2 Flute Ball Nose End Mills	2-Flute Ball Nose End Mills	2-Flute Spiral Ball Nose
			V-shape Engraving Bit	Corn-shaped End Mill	Corn-shaped End Mill	Fishtail End Mill (Nano
					PCB Drill Bits	Blue Coating)
					V-Groove Engraving Bits	Fishtail End Mill
					2-Flute Straight Router Bit	(Titanium Coating)
	Shank	1/8" (3.175mm)	1/8" (3.175mm)	1/8" (3.175mm)	1/8" (3.175mm)	1/8" (3.175mm)
	Flute	1 & 2	2	1 &2	2	2
	Degree	10°, 30°	30°	/	20° 30° 45° 60° 90°	/
	Material		Tungsten Carbid	e Steel Alloy		HSS
	Coating	Chromatic Coating		Nano Blue Coating		Nano Blue Coating
Specification				Titanium Coating		Titanium Coating
	Cutting Diameter	R0.25mm,	2.475***** 0.4****	0.0000 2.175000	1-3.175mm,	3.175 mm
		D 0.1mm, D 0.2mm	3.175mm, 0.1mm	0.8mm, 3.175mm	1.1-2.0mm	3.175 mm
	Cutting Length	15mm	14 16 17 22 22	0 17	4-22mm	0.8-3.0 mm
			14, 16,17mm	8, 17mm		0.8-3.0 mm
	Overall Length	40mm, 27mm	27, 38mm	38mm	38, 45mm	17mm

Chart 5-1

	Picture					
	Model	<u>EM03A</u>	<u>MC30B</u>	<u>MC30A</u>	<u>MC50A</u>	<u>MC40A</u>
	Wood (MDF,Hardwood, Plywood)	A	*	*	&	**
	Plastic (ABS, Acrylic, PVC)	&	*	*	&	&
Application	Soft Metal (Al,Fe,Cu,Steel)	&	√	√	√	√
Materials	Circuit Board (PCB)	√	√	√	8	√
	Others (Ceramic, Granite, Glass)	×	×	×	×	×
	Slot Milling	√	√	√	8	√
	Side Milling	√	√	√	√	√
	Face Milling	×	√	√	√	√
	3D Milling	√	×	√	√	√
Ideal for	Drilling	√	√	√	*	√
iucai iui	Engraving(Lettering)	&	\$	√	√	√
	Polishing	×	×	×	×	×
	Grinding	×	×	×	×	×
	Deburring	×	×	×	×	×

Chart 5-2

F	Picture					
	Model	<u>V30</u>	<u>VG05A</u>	RR20A	<u>RR10B</u>	<u>VG03A</u>
		Conica	al V-Bit	Rotary	Router Bit	
	Type	V-shape Engraving Bit	V-groove Bit	Rotary Boring: Single Groove Rotary Boring: Double Groove Grinding Head	Grinding Head:Double Groove 10 Shapes	V-Groove Router Bit
	Shank	1/8" (3.175mm)	6mm	3.0mm	3.0mm	1/4"(6.35mm) & 6mm
	Flute	/	/	/	/	/
	Degree	30°	60°,90°,120°,150°	/	/	60°; 90°
Specification	Material		Tungste	en Carbide Steel Alloy		
	Coating	Nano Blue Coating	/	Nano Blue	Coating	Blue & Yellow
	Cutting Diameter	0.1mm	16,22,22,32,32mm	3.0mm	6.0mm	10mm, 12.7mm
	Cutting Length	/	11,11,15,17,31.5mm	17mm	6-13mm	12.7mm, 16mm
	Overall Length	30mm	40,42,46,49,63mm	38mm	43-50mm	50mm

Chart 6-1

	Picture					
	Model	<u>V30</u>	<u>VG05A</u>	<u>RR20A</u>	<u>RR10B</u>	<u>VG03A</u>
	Wood (MDF,Hardwood, Plywood)	√	A	*	*	*
	Plastic (ABS, Acrylic, PVC)	**	×	*	*	×
Application	Soft Metal (Al,Fe,Cu,Steel)	√	×	\$	*	×
Materials	Circuit Board (PCB)	×	×	×	×	×
	Others (Ceramic, Granite, Glass)	×	×	×	×	×
	Slot Milling	×	A	×	×	*
	Side Milling	×	√	×	×	√
	Face Milling	×	×	√	√	×
	3D Milling	×	×	√	√	×
Ideal for	Drilling	×	×	√	√	×
ideal IOI	Engraving(Lettering)	*	×	*	*	×
	Polishing	×	×	*	*	×
	Grinding	×	×	*	*	×
	Deburring	×	×	*	*	×

f	Picture		Total			
	Model	<u>RB10A</u>	<u>RB03A</u>	<u>SR05A</u> <u>SR10A</u>		
		Router Bit				
Туре		Straight, Core Box, V-Groove, Round Over, Keyhole, Rabbet, Corner Rounding, Piloted Beading	T-Shape Spoilboard Surfacing	Straight Router Bit		
	Shank	1/8" (3.175mm)	1/4'' (6.35mm)	1/4" (6.35mm)	1/8" (3.175mm)	
	Flute	/	3	2	2	
Specification	Degree	/	/	/	/	
	Material	HSS	Tungsten Carbide Steel Alloy	Tungsten Carbide Steel Alloy	Tungsten Carbide Steel Alloy	
	Coating	Titanium Coating	/	Nano Blue Coating	Nano Blue Coating	

Picture		** **********************************	Titi		
	Model	<u>RB10A</u>	<u>RB03A</u>	<u>SR05A</u>	SR10A
	Cutting Diameter	Corner Rounding Bit (CD: 9.5mm, CL:	24mm	1/4" (6.35mm)	3.175mm
Specification Cutting Diameter Cutting Length		12mm) Core Box Bit (CD: 6.5mm, CL: 11mm) Piloted Beading Bit (CD: 9.5mm, CL: 13mm) Keyhole Bit (CD: 8mm, CL: 9.5mm) Rabbet Bit (CD: 9.5mm, CL: 12mm) V-Groove Bit (CD: 6.5mm, CL: 11mm) Round Over Bit (CD: 6.5mm, CL: 11mm) Straight Bit (CD: 6.5mm, CL: 11mm) Straight Bit (CD: 6.5mm, CL: 13mm) Straight Bit (CD: 5mm, CL: 13mm)	7mm	25mm	17mm
	Overall Length	40mm	40mm	55mm	38mm

Picture		**	Total		
	Model	<u>RB10A</u>	RB03A	<u>SR05A</u>	<u>SR10A</u>
	Wood (MDF,Hardwood, Plywood)	食	*	食	**
	Plastic (ABS, Acrylic, PVC)	×	×	食	食
Application	Soft Metal (Al,Fe,Cu,Steel)	×	X	×	×
Materials	Circuit Board (PCB)	×	×	×	×
	Others (Ceramic, Granite, Glass)	×	×	×	×
	Slot Milling	*	\$	食	8
	Side Milling	√	*	食	8
	Face Milling	×	\checkmark	√	√
	3D Milling	√	×	X	×
Ideal for	Drilling	×	×	√	√
	Engraving(Lettering)	×	×	×	×
	Polishing	×	×	X	×
	Grinding	×	×	X	×
	Deburring	×	X	X	X

Note ★: Recommended, V: Applicable, ×: Not Applicable

Picture						
	Model	<u>VE10A</u>	<u>VE10B</u>	<u>EM10A</u>	<u>EM10B</u>	
		Router Bit		V-shape Engraving Bit	Flat Nose	
		V-Groove Engraving Bit		Single Flute Flat Nose	Ball Nose	
	Туре			2-Flute Tapered Ball Nose	V-Groove End Mill	
	Shank		1/	8'' (3.175mm)		
	Flute	/		1, 2	1 & 2	
Specification	Degree	30°	60°	30°	60°	
	Material		Tungster	n Carbide Steel Alloy		
	Coating	/		Nano Blue Coating		
	Cutting Diameter	0.1mr	n	0.1mm,0.2mm	01.mm, 2mm, 3.175mm	
	Cutting Length	/		2, 2, 3.175, 3.175mm R0.25, 0.5, 0.75, 1.0	8mm, 17mm	
	Overall Length		/	38mm		
		38mm		8, 8, 12, 22mm		
			15mm			

Picture					
	Model	<u>VE10A</u>	<u>VE10B</u>	<u>EM10A</u>	<u>EM10B</u>
	Wood (MDF,Hardwood, Plywood)	食	\$	\$	\$
	Plastic (ABS, Acrylic, PVC)	食	\$	\$	\$
Application	Soft Metal (Al,Fe,Cu,Steel)	√	√	\checkmark	\checkmark
Materials	Circuit Board (PCB)	√	√	×	\checkmark
	Others (Ceramic, Granite, Glass)	×	×	×	×
	Slot Milling	×	×	\checkmark	\checkmark
	Side Milling	×	×	\checkmark	\checkmark
	Face Milling	×	×	√	\checkmark
	3D Milling	×	×	√	\checkmark
Ideal for	Drilling	×	×	×	√
	Engraving(Lettering)	*	*	√	√
	Polishing	×	×	×	×
	Grinding	×	×	X	×
	Deburring	×	×	×	×

Note ★: Recommended, V: Applicable, ×: Not Applicable

Picture						
N	Model	<u>TR10A</u>	<u>TR10B</u>	<u>TR10C</u>	<u>BS04A</u> _	
		Router Bit				
	Туре	Triangular Router Bit			Brazed Stone Router Bit	
	Shank	1/8" (3.175mm)			1/4'' (6.35mm)	
	Flute	/			/	
	Degree	30°	60°	90°	/	
Chasification	Material	Tungsten Carbide Steel Alloy			HSS & Diamond	
Specification	Coating	/			Titanium Coating	
	Cutting Diameter	0.1mm			5mm, 7mm	
	Cutting Length	/			31mm	
	Overall Length	38mm			65mm	

Picture				
Model	<u>TR10A</u>	<u>TR10B</u>	<u>TR10C</u>	BS04A
Wood(MDF,Hardwood, Plywood)	*	\$	食	√
Plastic (ABS, Acrylic, PVC)	食	\$	食	×
Soft Metal (Al,Fe,Cu,Steel)	\checkmark	\checkmark	√	√
Circuit Board (PCB)	√	√	√	×
Others (Ceramic, Granite, Glass)	×	×	×	*
Slot Milling	×	×	×	√
Side Milling	×	×	×	√
Face Milling	×	×	×	*
3D Milling	√	√	√	×
Drilling	×	×	×	×
Engraving(Lettering)	肏	*	食	√
Polishing	×	×	×	\$
Grinding	×	×	×	√
Deburring	×	×	×	\$