NC Spot Drill >>>

No Need To Choose, Nine9 Does It All!

NC Spot Drill with indexable carbide insert.
High efficiency! Long tool life! Cost saving!

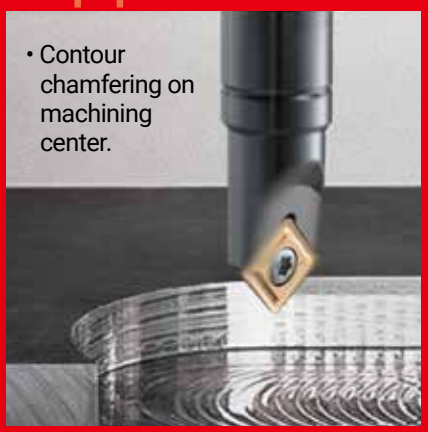
P M K N S H

- **Various Inserts Can Fit On The Same Tool Holder.**
- **One Tool For Various Applications.**

Features >>>

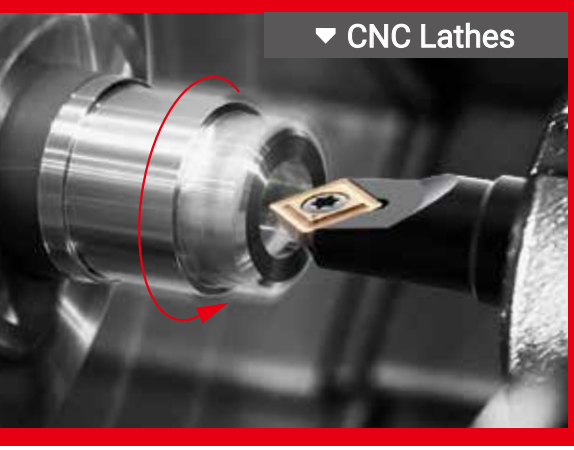
- **Spotting Produces Better Hole Position And Geometrically Uniform Holes.**
- **Available Shank Diameter- Ø5, Ø6, Ø8, Ø10, Ø12, Ø16, Ø20, Ø25mm, Ø1/4", Ø3/8", Ø1/2", Ø5/8", Ø3/4", Ø1", M5, M6 And M8.**
- **60° / 82° / 90° / 100° / 142° / 145° Angle For Different Applications.**
  - Suitable for spotting, chamfering, facing, grooving and engraving.
  - Each insert has 2 or 4 cutting edges.
  - Increase cutting speed with coated carbide inserts.

Applications

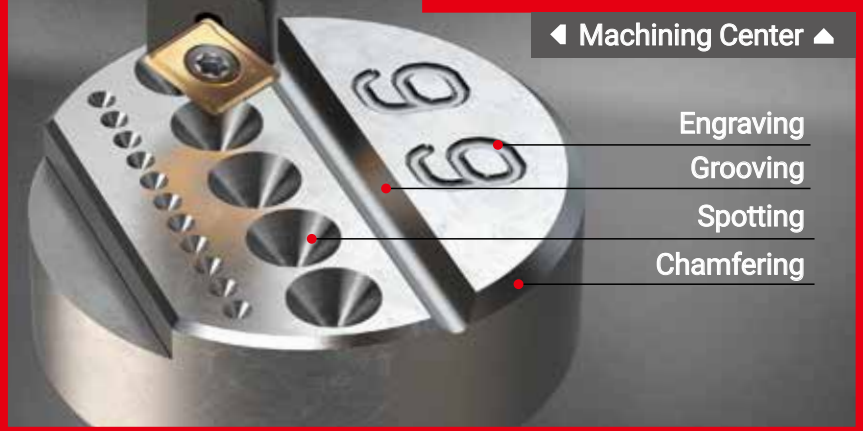


• Contour chamfering on machining center.

▼ CNC Lathes

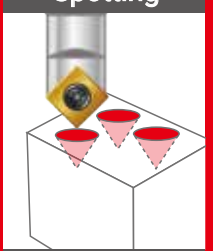


◀ Machining Center ▲

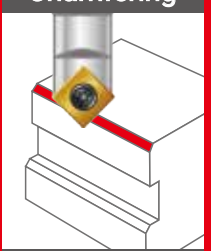


"One tool will perform multiple applications.
Suitable for spotting, chamfering, facing, grooving and engraving."

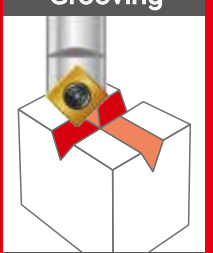
Spotting



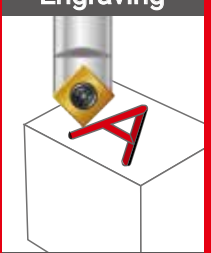
Chamfering



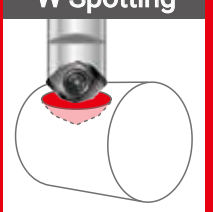
Grooving



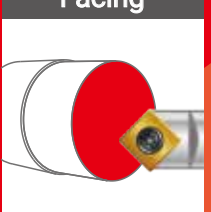
Engraving



W Spotting



Facing

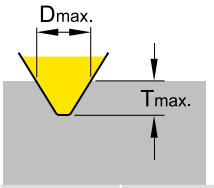


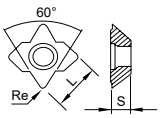
60° N9MT11T3P60

Inserts >>

• Fully ground spotting insert, for 60 degree spotting and engraving.

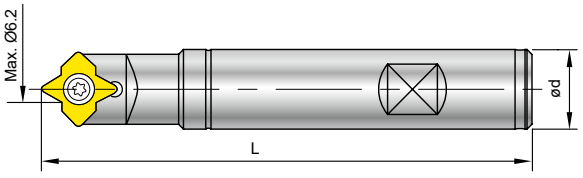
NC40: • Universal grade for all unhardened steel and cast iron.
• Each insert has 2 cutting edges.



Parts No.	Coating	Grade		Dimensions			Dmax.	Tmax.
				L	S	Re		
N9MT11T3P60-NC40	TiN	P35		11 (0.433”)	3.97 (0.156”)	0.8 (0.031”)	6.2 (0.244”)	4 (0.157”)

Holder >>

• 60 degree spotting drill with indexable insert.
• ***Using standard NC Spot Drill shank.***
• A single cutting edge design creates higher precision and position when spotting.
• Applications: • For spotting, engraving, small grooving on milling machines, machining centers.
• For carbon steel, alloy steel and cast iron, general purpose.



Parts No.	Ød	L	L1	Screw	Key
99616-14-1/2	1/2”	4”	28.03 (1.103”)	NS-35080 2.5 Nm	NK-T15
99616-14-5/8	5/8”	4”			

V9MT0802 / V9MT12T3

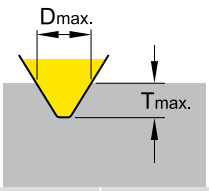
Inserts >>

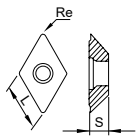
- 60 degree indexable spotting insert, Dmax 13mm.
- Special geometry with supporting edges for using in high speed machining.
- Excellent tool for grooving. Saving machining time!

NEW NC5071:
- For high alloy steel and cast iron.
- Each insert has 2 cutting edges.

NC2071:
- For carbon steel, low alloy steel, stainless steel, non-ferrous and titanium.
- Each insert has 2 cutting edges.

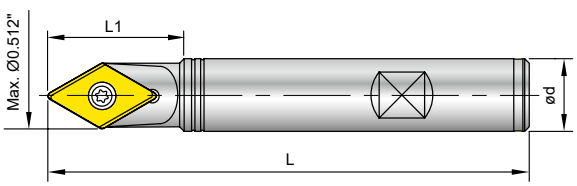
NC9076:
- For non-ferrous material such as aluminum, al-alloy, titanium, brass, copper and long cutting chip metal.
- Produces excellent surface finish on non-ferrous metal.
- Each insert has 2 cutting edges.



Parts No.		Coating	Grade		Dimensions			Dmax.	Tmax.
					L	S	Re		
V9MT0802CT	NC5071	TiAlN & TiN	K20F		8 (0.315")	2.38 (0.094")	0.4 (0.016")	9 (0.354")	7.3 (0.287")
	NC2071	TiN							
	NC9076	DLC							
V9MT12T3CT	NC5071	TiAlN & TiN	K20F		12.7 (0.5")	3.97 (0.156")	0.8 (0.031")	13 (0.512")	10.3 (0.405")
	NC2071	TiN							
	NC9076	DLC							

Holder >>

- 60° degree spotting drill with indexable insert.
- A single cutting edge creates higher precision and position when spotting.
- Applications: • Spotting, engraving, grooving and chamfering on milling machines, machining centers.
  • Spotting, facing on CNC Lathes.

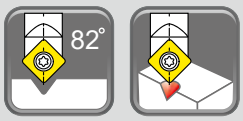


Ø8 (0.315")

Ø5/8"

Parts No.	Ød	L	L1	Insert Type	Screw	Key
99616-09V	8 (0.315")	60 (2.362")	-	V9MT08	NS-25045 0.9Nm	NK-T7
99616-13V-5/8	5/8"	4"	30 (1.181")	V9MT12	NS-35080 2.5Nm	NK-T15

82° V0820802 / V08212T3



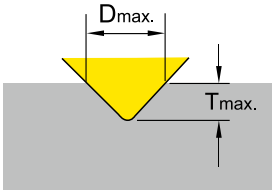
Inserts >>

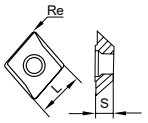
- 82 degree indexable spotting insert, Dmax. 14mm (0.551”).
- Match the geometry of Amercian standard flat head screw hole.
- Special geometry with supporting edges for high speed machining.

NC5071: • For high alloy steel and cast iron.
• Each insert has 2 cutting edges.

NC2071: • For carbon steel, low alloy steel, stainless steel, non-ferrous and titanium.
• Each insert has 2 cutting edges.

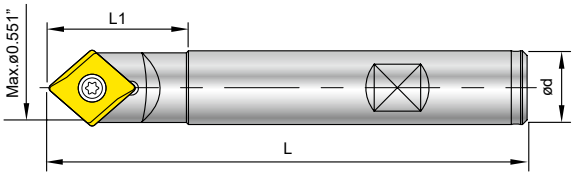
NC9076: • For non-ferrous material such as aluminum, al-alloy, titanium, brass, copper and long cutting chip metal.
• Produces excellent surface finish on non-ferrous metal.
• Each insert has 2 cutting edges.



Parts No.		Coating	Grade		Dimensions L	Dimensions S	Dimensions Re	Dmax.	Tmax.
V0820802	NC5071	TiAlN & TiN	K20F		8 (0.315”)	2.38 (0.094”)	0.4 (0.016”)	9 (0.354”)	4.8 (0.189”)
	NC2071	TiN							
	NC9076	DLC							
V08212T3	NC5071	TiAlN & TiN	K20F		12.7 (0.5”)	3.97 (0.156”)	0.8 (0.031”)	14 (0.551”)	7.5 (0.295”)
	NC2071	TiN							
	NC9076	DLC							

Holder >>

- 82 degree spotting drill with indexable insert.
- Special cutting edge design gives higher precision and position when spotting.
- Applications : • Spotting, engraving, grooving and chamfering on milling machines, machining centers.
  • Spotting, facing on CNC Lathes.

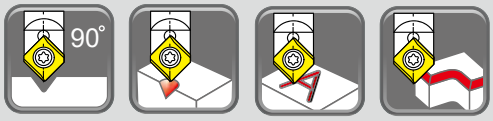


Ø3/8”

Ø5/8”

Parts No.	Ød	L	L1	Insert Type	Screw	Key
99619-V082-3/8	3/8”	3.5”	28 (0.102”)	V0820802	NS-30055 2.0 Nm	NK-T8
99619-V082-5/8	5/8”	4”	30 (1.181”)	V08212T3	NS-35080 2.5 Nm	NK-T15

N9MT05T1 / N9MT0602



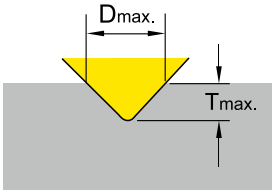
Inserts >>

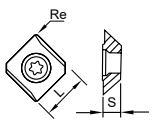
- Mini spotting drill with indexable insert, low cutting power required.
- Especially good for Swiss type automatic lathes and CNC lathes.

NEW NC5071: • For high alloy steel and cast iron.
• Each insert has 2 cutting edges.

NC2071: • For carbon steel, low alloy steel, stainless steel, non-ferrous and titanium.
• Geometry with supporting edges to stabilize the cutting condition on low power machine.
• Each insert has 2 cutting edges.

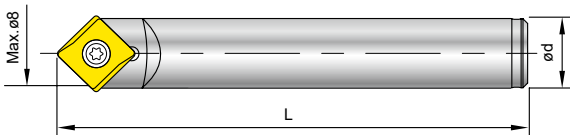
NC9076: • For non-ferrous material such as aluminum, titanium, brass, copper and stainless steel.
• Produces excellent surface finish on non-ferrous metal.
• Each insert has 2 cutting edges.

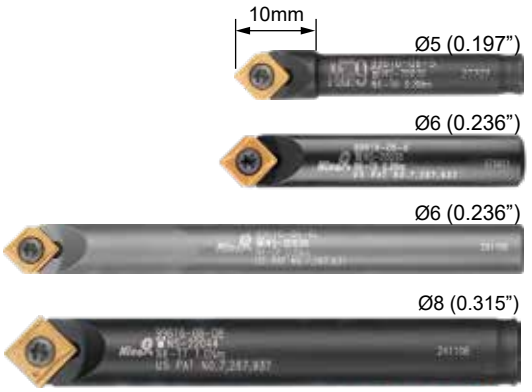


Parts No.		Coating	Grade		Dimensions L	Dimensions S	Dimensions Re	Dmax.	Tmax.
N9MT05T1CT	NC5071	TiAlN & TiN	K20F		5 (0.197")	1.8 (0.071")	0.4 (0.016")	6 (0.236")	2.8 (0.110")
	NC2071	TiN							
	NC9076	DLC							
N9MT0602CT	NC5071	TiAlN & TiN	K20F		6.35 (0.250")	2.38 (0.094")	0.4 (0.016")	8 (0.315")	3.8 (0.150")
	NC2071	TiN							
	NC9076	DLC							

Holder >>

- Smallest indexable spotting drill holder.
- Single cutting edge design gives higher precision when spotting.
- Applications : • Spotting, engraving, and chamfering on milling machines, machining centers.
  • Spotting, facing on CNC Lathes.





Parts No.	Ød	L	L1	Insert Type	Screw	Key
99616-06-5	5 (0.197")	35 (1.378")	10 (0.394")	N9MT05	NS-20036 0.6 Nm	NK-T6
99616-06-6	6 (0.236")	35 (1.378")	--			
99616-06-1/4	1/4"	35 (1.378")	--			
99616-06-6L	6 (0.236")	60 (2.362")	--			
99616-08-8	8 (0.315")	60 (2.362")	--	N9MT06	NS-22044 0.9 Nm	NK-T7

Note: 99616-06-6L is carbide shank holder.

90° N9MT0802

Inserts >>

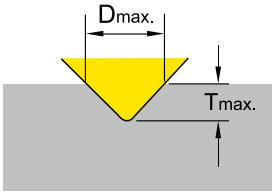
NC40: • General purpose, universal grade for all unhardened steel.
• Each insert has 4 cutting edges.

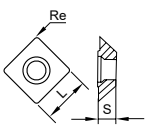
NC10: • High positive angle and fully ground cutting edge and relief angle.
• Universal grade for non-ferrous metal, cast iron and stainless steel.
• Each insert has 4 cutting edges.

NEW H-NC5071: • For carbon steel C>0.3%, high alloy steel C>0.3% and cast iron.
• Each insert has 2 cutting edges.

H-NC40: • For carbon steel C<0.3%, low alloy steel C<0.3%, stainless steel, non-ferrous and titanium.
• Each insert has 2 cutting edges.

H-NC9076: • High positive geometry and sharp edge.
• For non-ferrous material such as aluminum, titanium, brass, copper and long cutting chip metal.
• Produces excellent surface finish on non-ferrous metal.
• Each insert has 2 cutting edges.

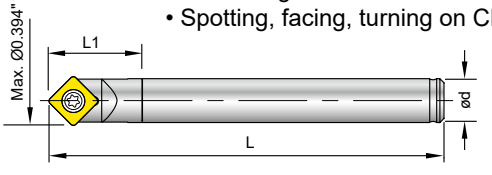


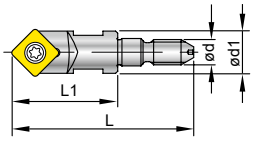
Parts No.		Coating	Grade		Dimensions L	Dimensions S	Dimensions Re	Dmax.	Tmax.
N9MT080208CT	NC40	TiN	K20F		8.31 (0.327")	2.38 (0.094")	0.8 (0.031")	10 (0.394")	4.5 (0.177")
N9MT080204CT	NC40	TiN	K20F				0.4 (0.016")		
	NC10	TiAlN							
N9MT0802CT2T	H-NC5071	TiAlN & TiN	K20F				0.8 (0.031")		
	H-NC40	TiN							
	H-NC9076	DLC							

* H type is with supporting edge.

Holder >>

• Single cutting edge design gives higher precision when spotting.
• Applications : • Spotting, engraving, grooving and chamfering on milling machines, machining centers.
• Spotting, facing, turning on CNC Lathes.

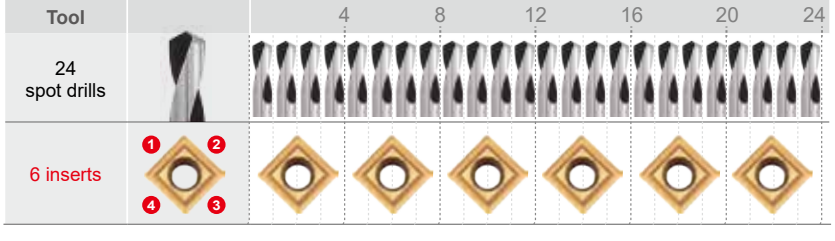


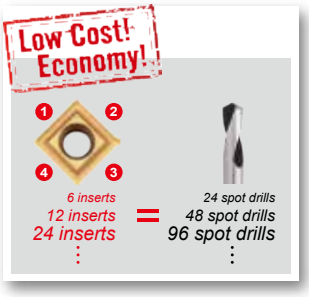


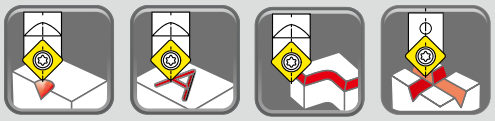
Parts No.	Ød	Ød1	L	L1	Screw	Key
99616-10	10 (0.394")	-	90 (3.543")	18.31 (0.720")	NS-30055 2.0 Nm	NK-T8
99616-3/8	3/8"	-	90 (3.543")	18.31 (0.720")		
99616-10-M6	M6	10 (0.394")	43 (1.693")	25.00 (0.984")		

Note: • Balanced type holder is on request. • Nine9 extension bar for M6 screw fit holder, see page 5-2.

Comparison >>







Inserts >>

NC40: • Wiper design, universal grade for all unhardened steel.
• Each insert has 4 cutting edges.

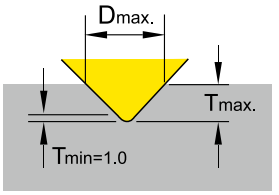
NC10: • High positive angle and fully ground cutting edge and relief angle.
• Universal grade for non-ferrous metal, cast iron and stainless steel.
• Each insert has 4 cutting edges.

NC60: • Wiper design cermet insert, for hardened steel up to 56 HRC.
• Each insert has 4 cutting edges.

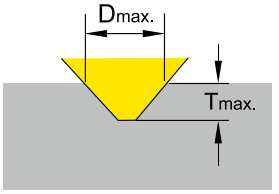
NEW H-NC5071: • For carbon steel C>0.3%, high alloy steel C>0.3% and cast iron.
• Each insert has 2 cutting edges.

H-NC40: • For carbon steel C<0.3%, low alloy steel C<0.3%, stainless steel, non-ferrous and titanium.
• Each insert has 2 cutting edges.

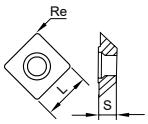
H-NC9076: • High positive geometry and sharp edge.
• For non-ferrous material such as aluminum, titanium, brass, copper and long cutting chip metal.
• Produces excellent surface finish on non-ferrous metal.
• Each insert has 2 cutting edges.



NC40 / Wiper design / NC60



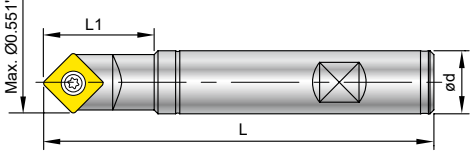
Other grade

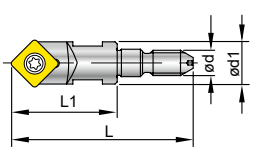
Parts No.		Coating	Grade		Dimensions L	Dimensions S	Dimensions Re	Dmax.	Tmax.
N9MT11T3CT	NC40	TiN	P35		11.11 (0.433")	3.97 (0.156")	0.8 (0.031")	14 (0.551")	7 (0.276")
	NC10	TiAlN	K10F				0.3 (0.012")		
	NC60	CERMET					0.8 (0.031")		
N9MT11T3CT2T	H-NC5071	TiAlN & TiN	K20F						
	H-NC40	TiN	K20F				0.8 (0.031")		
	H-NC9076	DLC	K20F						

* H type is with supporting edge.

Holder >>

• Single cutting edge design gives higher precision when spotting.
• Applications : • Spotting, engraving, grooving and chamfering on milling machines, machining centers.
• Spotting, facing on CNC Lathes.

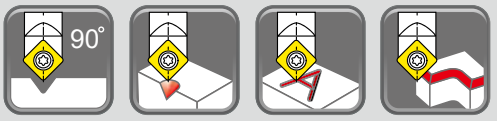




Parts No.	Ød	Ød1	L	L1	Screw	Key
99616-14-150L	16 (0.630")	-	150 (5.906")	29.03 (1.143")	NS-35080 2.5 Nm	NK-T15
99616-14-220L	20 (0.787")	-	220 (8.661")	28.03 (1.103")		
99616-14-1/2	1/2"	-	4"	28.03 (1.103")		
99616-14-5/8	5/8"	-	4"	28.03 (1.103")		
99616-14-M8	M8	14 (0.551")	48 (1.890")	30.00 (1.181")		

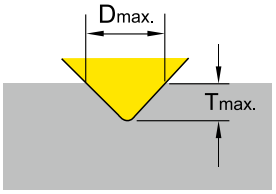
• Refer to Page 8-136 for extension bars.

90° N9MT1704



Inserts >>

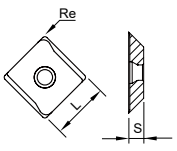
• 90 degree indexable spot drill insert, Dmax. 22mm.



NC5071: • High positive geometry, fully ground cutting edge and relief angle.
• For high alloy steel and cast iron.
• Each insert has 2 cutting edges.

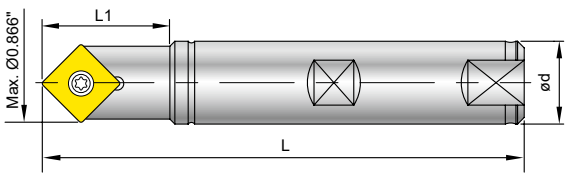
NC9036: • For non-ferrous material such as aluminum, acrylic, brass, copper, titanium and long cutting chip materials.
• High positive geometry and sharp edge produces excellent surface finish.
• Each insert has 2 cutting edges.

NC2071: • For carbon steel, low alloy steel, stainless steel, non-ferrous and titanium.
• Each insert has 2 cutting edges.

Parts No.		Coating	Grade		Dimensions			Dmax.	Tmax.
					L	S	Re		
N9MT1704CT	NC5071	TiAlN & TiN	K20F		17 (0.669”)	4.76 (0.187”)	1.2 (0.047”)	22 (0.866”)	10.4 (0.409”)
	NC9036	DLC	K20F						
	NC2071	TiN	K20F						

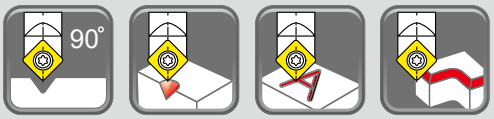
Holder >>

• 90 degree spotting drill with indexable insert.
• Spotting produces better hole positioning and geometrically uniform holes.
• Applications : • Spotting, engraving, grooving and chamfering on milling machines, machining centers.
• Spotting, facing on CNC Lathes.



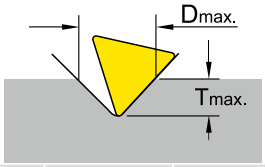
Ø3/4”, Ø1”

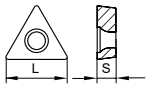
Parts No.	Ød	L	L1	Screw	Key
99616-22-3/4	3/4”	4”	35 (1.378”)	NS-50125 5.5 Nm	NK-T20
99616-22-1	1”	6”	34 (1.339”)		



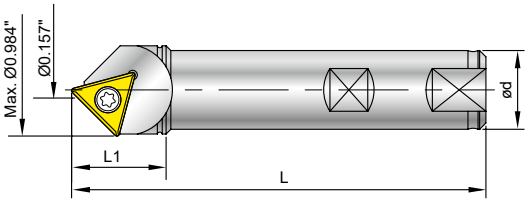
N9MT220408

NC40: • Universal grade for carbon steel, alloy steel and cast iron.
• Each insert has 3 cutting edges.



Parts No.	Coating	Grade		Dimensions L	S	Re	Dmax.	Tmax.
N9MT220408CT-NC40	TiN	P35		20.83 (0.820")	4.76 (0.187")	---	25 (0.984")	12.2 (0.480")

* 5 pcs per box.

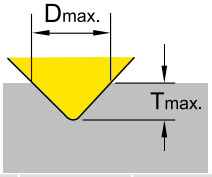


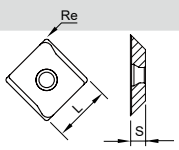
Parts No.	Ød	L	L1	Screw	Key
99616-1-CT28	1"	120 (4.72")	30 (1.181")	NS-40100 3.5Nm	NK-T15

N9MT2506 >> NEW

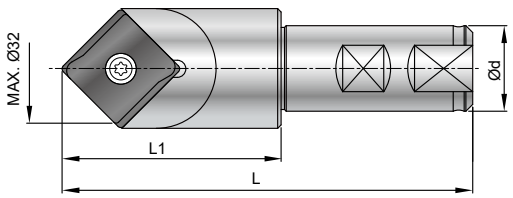
NC2033: • For carbon steel, alloy steel, high alloy steel, cast iron and hardened steel < 50 HRC.
• Each insert has 2 cutting edges.

XP9000: • High positive geometry and sharp edge produces excellent surface finish.
• For non-ferrous material such as aluminum, titanium, brass, copper and long cutting chip metal.
• Each insert has 2 cutting edges.



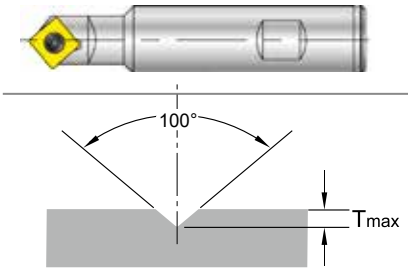
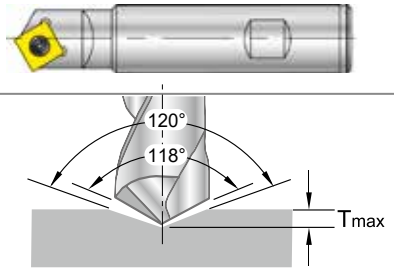
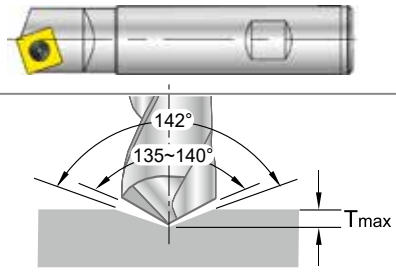
Parts No.		Coating	Grade		Dimensions L	S	Re	Dmax.	Tmax.
N9MT2506CT	NC2033	TiAlN	K20F		25 (0.984")	6.35 (0.250")	1.2 (0.047")	32 (1.260")	15.4 (0.606")
	XP9000	Uncoated							

* 2 pcs per box.

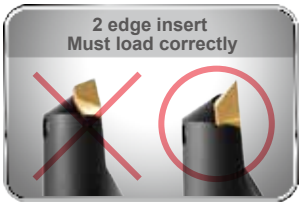


Parts No.	Ød	L	L1	Screw	Key
99616-32-25	25	120 (4.724")	64 (2.520")	NS-60180 5.5 Nm	NK-UT25
99616-32-1	1"				

N9MT11T3CT2T-H

100 degree	120 degree	142 degree
		
• For aircraft 100° normal rivet hole and screw hole.	• For spotting before drilling by 118° point angle drill. • 60° chamfering.	• For spotting before drilling by 135°~140° point angle high performance drill.

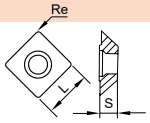
Inserts >>



• Special geometry with supporting edges to reduce the vibration in high speed machining.

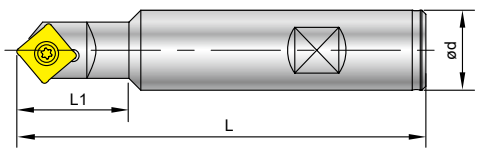
H-NC40:
- K20F grade, TiN coated.
- General purpose for all kinds of steel and cast iron.
- Each insert has 2 cutting edges.

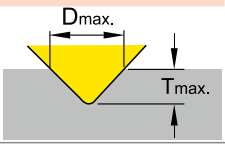
H-NC9076:
- High positive geometry and sharp edge.
- DLC coated, specially developed for Al, Al-alloy, copper, brass and bronze.
- Produces excellent surface finish when chamfering non-ferrous metal.
- Each insert has 2 cutting edges.

Parts No.		Coating	Grade		Dimensions		
					L	S	Re
N9MT11T3CT2T	H-NC40	TiN	K20F		11.11 (0.437")	3.97 (0.156")	0.8 (0.031")
	H-NC9076	DLC					

Holder >>

• Indexable insert spotting drill holders for 100°/120°/142° spotting.
• Reduces spotting time. Increases tool life and position accuracy of the next drilling operation.

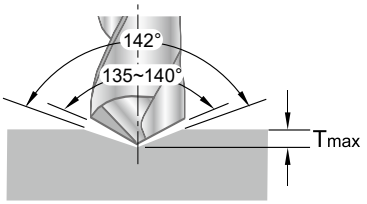


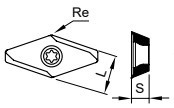
Parts No.	Angle	Ød	L	L1	Screw / Key	Dmax.	Tmax.	
99616-20-100	100°	20 (0.787")	4"	31 (1.220")	NS-35080 2.5 Nm / NK-T15	16 (0.630")	6.3 (0.248")	
99616-3/4-120	120°	3/4"		30 (1.181")		17 (0.669")	4.76 (0.187")	
99616-3/4-142	142°			30 (1.181")		18.5 (0.728")	3.16 (0.124")	

Inserts >>

- For spotting before drilling by 135° - 140° point angle high performance drill.
- 142 degree indexable spotting drills. Dmax. 32mm.

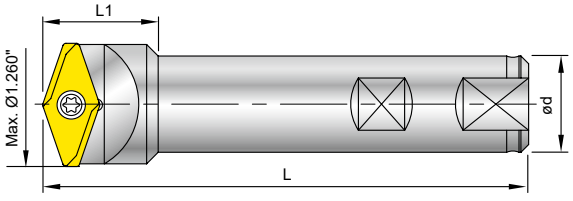
NC2071:
- High positive geometry, fully ground cutting edge and relief angle.
- Universal grade for all unhardened steel and cast iron.
- Each insert has 2 cutting edges.



Parts No.	Coating	Grade		Dimensions			Dmax.	Tmax.
				L	S	Re		
V1420803-NC2071	TiN	K20F		8 (0.315”)	3.18 (0.125”)	0.8 (0.031”)	16 (0.630”)	2.8 (0.110”)
V1421604-NC2071	TiN	K20F		14 (0.551”)	4.76 (0.187”)	1.2 (0.047”)	32 (1.260”)	5.5 (0.217”)

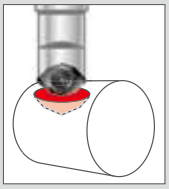
Holder >>

- Spotting produces better hole position and geometrically uniform holes.
- Extend your drill life with 142° spotting. Reduce your drilling cost.
- Higher accuracy of positioning and diameter tolerance !



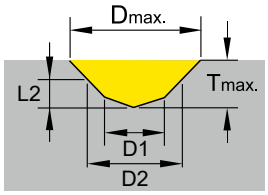
Parts No.	Ød	L	L1	Insert Type	Screw	Key
99619-V142-5/8	5/8”	4”	25 (0.984”)	V1420803-NC2071	NS-30072 2.0 Nm	NK-T9
99619-V142-1.000	1”	4.75”	30 (1.181”)	V1421604-NC2071	NS-50125 5.5 Nm	NK-T20

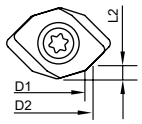
WSP Spotting Combined spotting and chamfering 145° + 90°



Inserts >>

NC2033:
- Fully ground cutting edge and relief angle.
- Universal grade for steel, cast iron and hardened steel < 50 HRC.
- Each insert has 2 cutting edges.

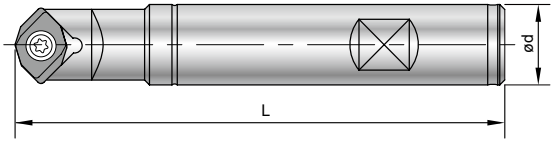


Parts No.	Coating	Grade		Thread Size	*D1±0.05 (±0.002")	D2	L2	Dmax.	Tmax.
N9MT0802M04C-NC2033	TiAlN	K20F		M4	3.30 (0.130")	4.20 (0.165")	0.93 (0.037")	8 (0.315")	2.83 (0.111")
N9MT0802M05C-NC2033				M5	4.20 (0.165")	5.25 (0.207")	1.14 (0.045")		2.52 (0.099")
N9MT0802M06C-NC2033				M6	5.00 (0.197")	6.30 (0.248")	1.39 (0.055")		2.24 (0.088")
N9MT11T3M08C-NC2033	TiAlN	K20F		M8	6.80 (0.266")	8.40 (0.331")	1.81 (0.071")	13 (0.512")	4.11 (0.162")
N9MT11T3M10C-NC2033				M10	8.50 (0.335")	10.50(0.413")	2.28 (0.090")		3.53 (0.139")
N9MT11T3UNC25-NC2033	TiAlN	K20F		1/4	5.08 (0.200")	6.70 (0.264")	1.55 (0.061")	13 (0.512")	4.70 (0.185")
N9MT11T3UNC31-NC2033				5/16	6.53 (0.257")	8.40 (0.331")	1.90 (0.075")		4.20 (0.165")
N9MT11T3UNC38-NC2033				3/8	7.94 (0.313")	10.00(0.394")	2.22 (0.087")		3.72 (0.146")
N9MT1704M12C-NC2033	TiAlN	K20F		M12	10.25(0.404")	12.60(0.496")	2.91(0.115")	20 (0.787")	6.61(0.260")
N9MT1704M14C-NC2033				M14	12.00(0.472")	14.70(0.579")	3.22(0.127")		5.87(0.231")
N9MT1704M16C-NC2033				M16	14.00(0.551")	16.80(0.661")	3.51(0.138")		5.11(0.201")

Note: *D1 refer to the Tap Pre-drilling sizes. D2 : Thread size x 5%. L2 : Depth of D2., see page 2-37 for example.

Holder >>

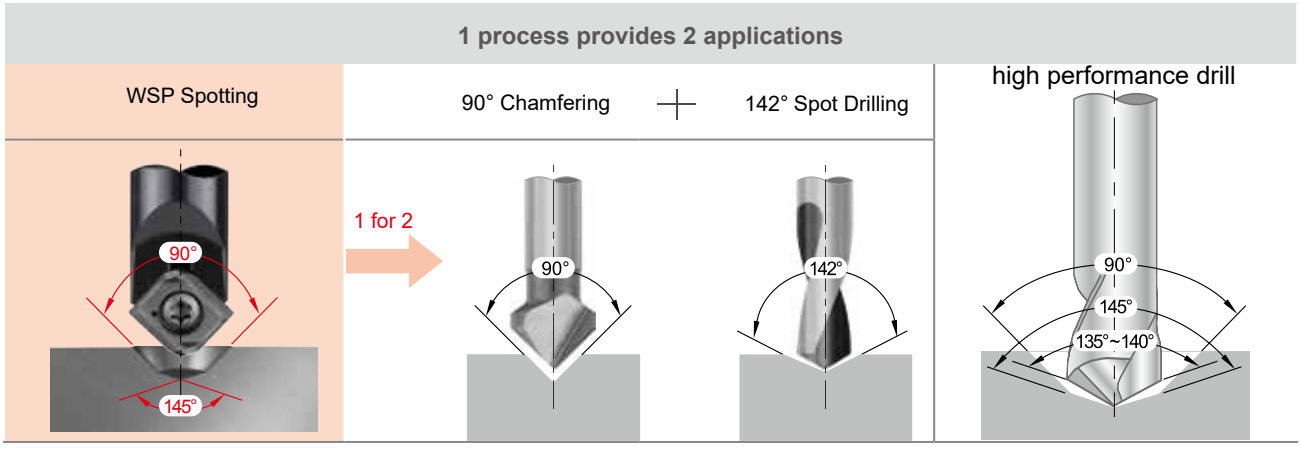
- Utilizes standard ***NC Spot Drill*** basic holder.
- Holders and inserts are interchangeable.



Parts No.	Ød	L	L1	Insert Type	Thread Size	Screw	Key
99616-10	10 (0.394")	89.08±0.29 (3.507" ±0.011")	16.95±0.29 (0.667" ±0.011")	N9MT0802	M4~M6	NS-30055 2.0Nm	NK-T8
99616-3/8	3/8"						
99616-14-1/2	1/2"	97.55±0.55 (3.839" ±0.021")	26.73±0.55 (1.052" ±0.021")	N9MT11T3	M8~M10	NS-35080 2.5Nm	NK-T15
99616-14-5/8	5/8"				1/4~3/8		
99616-22-3/4	3/4"	96.24±0.64 (3.780" ±0.025")	31.4±0.64 (1.236" ±0.025")	N9MT1704	M12~M16	NS-50125 5.5Nm	NK-T20

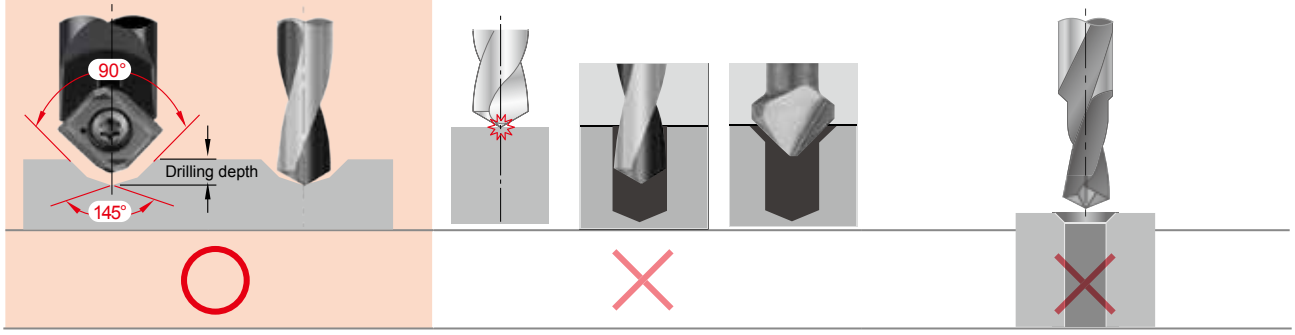
Combined spotting and chamfering 145° + 90° >>

- Reduces process to one operation. Shorten cycle time.
- Use to spot prior to drilling with high performance drills for higher accuracy of hole position.
- Good support spotting process for round parts.



Comparison >>

WSP Spotting + Drill	Drill + Spotting	Step Drill
• Shorter drilling time • Guided at the strongest corner of drill • Longer tool life • Good position accuracy	• Longer drilling time • Guided at the weakest corner of drill • Shorter tool life	• Tool cost is high • Shorter tool life • Can't drill directly from solid on round parts. • Bad position accuracy.



Example >>

- The recommended chamfering is 5% of the nominal diameter of the thread, for example 6.3 mm for M6 thread.
- If you need larger chamfer, it can be calculated the required depth of spotting.