



# No Need To Choose Nine9 Does It All! >>



Cost Saving



Time Saving



Highly Efficient



Long Tool Life

► Various inserts can fit on the same tool holder

► Various Applications

► Spotting

► Corner Rounding

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WSP

SW

PR

CT

RC

- CT
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- CT-P60

- Re1.0
- Re1.5
- Re2.0
- Re2.5
- Re3.0

# A New Drilling Concept!

## 0.5xD of spotting

Many drill manufacturers and suppliers state that their drills start drilling on the solid material. You can look forward to the following benefits when using the NC Spot Drill to drill a spot that is half of the drilling diameter.

### ► Drill Benefits >>


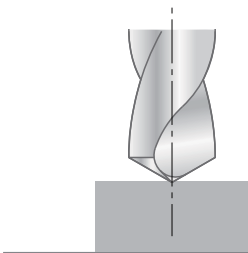
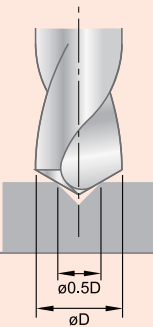
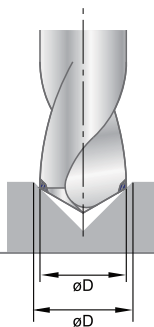
- **Higher feed rate.**

Why? Because the drill is guided at the strongest part of cutting edge.

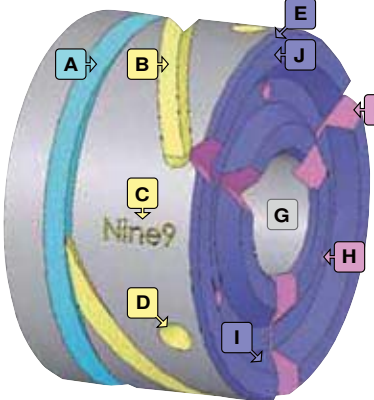
- **Better center position.**

Why? Because the spotting is done by a single cutting edge which is out of center, and similar to boring operation.

- **Increased tool life.**

NC Spot Drill	Without Spotting	0.5xD Spotting	Larger Spotting
<ul style="list-style-type: none"> <li>• Better center position!</li> <li>• Longer tool life!</li> </ul>	<ul style="list-style-type: none"> <li>• Drill has less position accuracy and diameter tolerance.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Best result!</b></li> <li>• Higher speed and feed rate.</li> <li>• Better position accuracy and diameter tolerance.</li> </ul>	<ul style="list-style-type: none"> <li>• Longer spotting time!</li> <li>• Guided at the weakest corner of drill.</li> <li>• Shorter tool life</li> </ul>
	 Unstable tool life	 Ø0.5D ØD	 ØD ØD
	✗	○	✗

### ► Various Applications of NC Spot Drill >>

Turning Center	Fig	Applications	Multifunctional Cutting Tool
	A	Grooving	Use on CNC lathes CNC turning centers Machining centers Milling machines SPM machines .....
	B	Helical groove milling	
	C	Engraving	
	D	Spot drilling	
	E	Chamfer turning	
	F	Face groove milling	
	G	Internal turning	
	H	Spot drilling on end surface	
	I	Internal Chamfering	
	J	Face grooving	





# NC Spot Drill >>

NC Spot Drill with indexable carbide insert.

High efficiency! Low cost!

CNC lathes, CNC turning centers and machining centers.

## Features

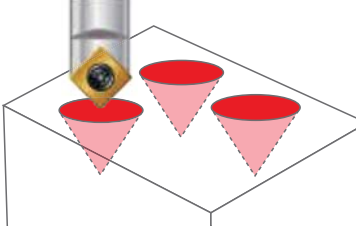
- ▶ Spotting produces better hole position and geometrically uniform holes
- ▶ Available shank diameter-Ø5, Ø6, Ø10, Ø12, Ø16, Ø20, Ø25mm, Ø3/8", Ø1/2", Ø5/8", Ø1/4", Ø3/4", M5, M6 and M8.
- ▶ One tool will perform multiple applications
  - Long tool life.
  - Each insert has 2 or 4 cutting edges.
  - Suitable for spotting, chamfering, grooving and engraving.
  - 45° / 60° / 82° / 90° / 100° / 120° / 142° angle for different applications.
  - Increase cutting speed with coated carbide inserts.



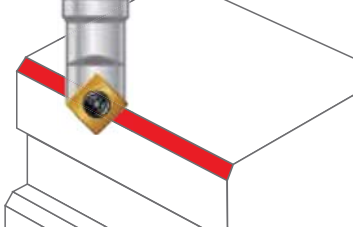
- ▲ Machining Center
- a** Engraving
  - b** Spotting
  - c** Chamfering
  - d** Grooving

▼ ALL IN ONE!!

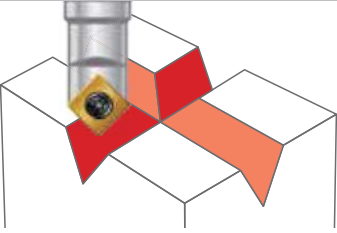
Spotting



Chamfering



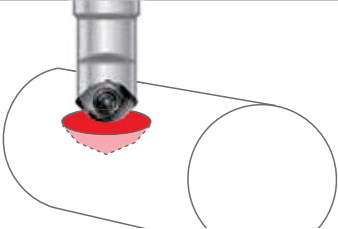
Grooving



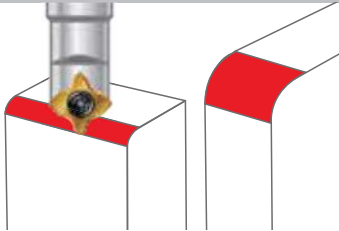
Engraving



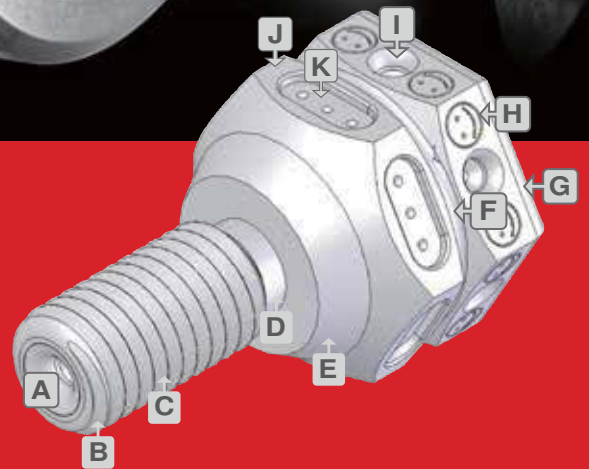
W Spotting



Corner Rounding



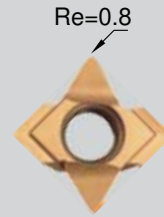
- ▲ CNC Lathes
- a** External and internal chamfering
  - b** Grooving
  - c** Centering
  - d** Facing



- Multifunctional:
- |          |                             |          |                 |
|----------|-----------------------------|----------|-----------------|
| <b>A</b> | Center Drilling             | <b>B</b> | Corner rounding |
| <b>C</b> | Thread turning              | <b>D</b> | Grooving        |
| <b>E</b> | Taper turning               | <b>F</b> | V-grooving      |
| <b>H</b> | Engraving                   | <b>J</b> | Face milling    |
| <b>K</b> | Drilling & milling a groove |          |                 |

\* Some features produced with a special insert

# N9MT11T3P60

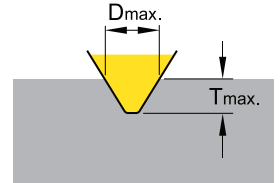


P60-NC40

## ▶ Inserts >>

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

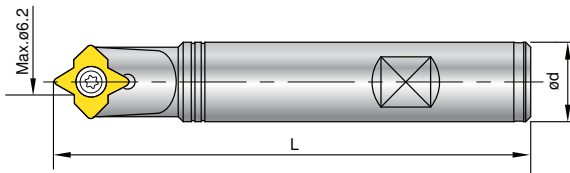
- NC40:**
- Universal grade for all unhardened steel and cast iron.
  - Each insert has 2 cutting edges.



Code	Parts No.	Coating	Grade	Dimensions	Dmax.	Tmax.
014204	N9MT11T3P60-NC40	TiN	P35		6.2	4

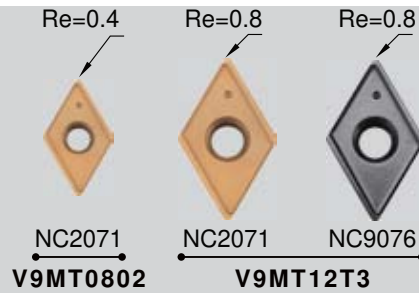
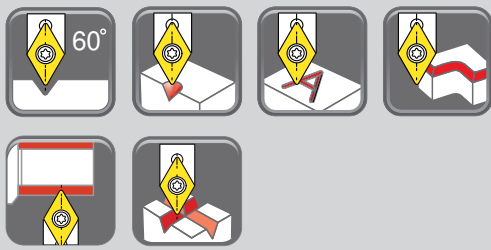
## ▶ Holder >>

- A single cutting edge design creates higher precision and position when spotting.
- Applications: For spotting, engraving, small grooving on milling machines, machining centers.



Code	Parts No.	Ød	L	Screw	Key
604002	00-99616-14-12	12	100	NS-35080 2.5 Nm	NK-T15
604004	00-99616-14	16	100		

# V9MT0802 / V9MT12T3



## ▶ Inserts >>

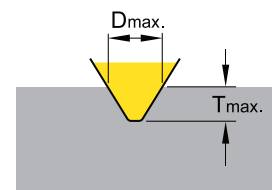
- 60 degree indexable spotting insert, Dmax 13mm.
- Special geometry with supporting edges for using in high speed machining.
- Excellent tool for grooving. Saving machining time!

**NC2071:**

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

**NC9076:**

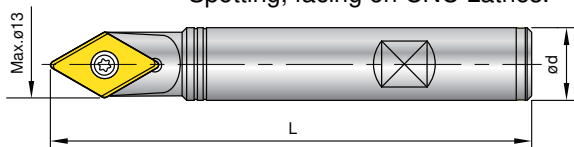
- For non-ferrous material such as aluminum, al-alloy, titanium brass, copper and long cutting chip metal.
- Produces excellent surface finish on non-ferrous metal.
- Each insert has 2 cutting edges.



Code	Parts No.	Coating	Grade	Re	Dimensions			Dmax.	Tmax.
					L	S	Re		
019201	V9MT0802CT NC2071	TiN	K20F	0.4	8	2.38	0.4	9	7.3
015201	V9MT12T3CT NC2071	TiN	K20F	0.8	12.7	3.97	0.8	13	10.3
015202	NC9076	DLC	K20F	0.8					

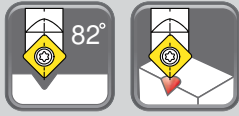
## ▶ Holder >>

- 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.



Code	Parts No.	Ød	L	Insert Type	Screw	Key
609001	00-99616-09V	8	60	V9MT08	NS-25045 0.9 Nm	NK-T7
605001	00-99616-13V	16	100	V9MT12	NS-35080 2.5 Nm	NK-T15
615001	00-99616-13V-5/8	5/8"	100			

# V0820802 / V08212T3

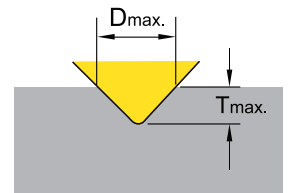


## ▶ Inserts >>

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

**NC2071:** • Universal grade for all unhardened steel and cast iron.  
• Each insert has 2 cutting edges.

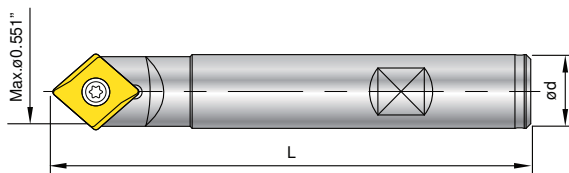
**NC9076:** • For non-ferrous material such as aluminum, al-alloy, titanium brass, copper and long cutting chip metal.  
• Produces excellent surface finish on non-ferrous metal.  
• Each insert has 2 cutting edges.



Code	Parts No.	Coating	Grade	Image	Dimensions			Dmax.	Tmax.
					L	S	Re		
0108201	V0820802	TiN	K20F		8	2.38	0.4	9 (0.354")	4.8 (0.189")
0108202		DLC							
0108211	V08212T3	TiN	K20F		12.7	3.97	0.8	14 (0.551")	7.5 (0.295")
0108212		DLC							

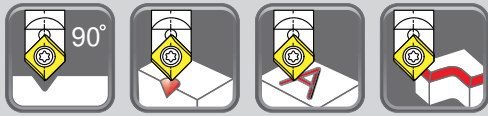
## ▶ Holder >>

- 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.



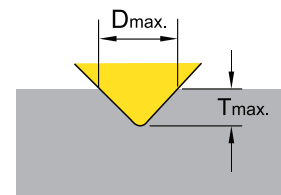
Code	Parts No.	Ød	L	Insert Type	Screw	Key
693001	00-99619-V082-3/8	3/8"	90	V0820802	NS-30055 2.0 Nm	NK-T8
693002	00-99619-V082-5/8	5/8"	100	V08212T3	NS-35080 2.5 Nm	NK-T15

# N9MT05T1 / N9MT0602



## ▶ Inserts >>

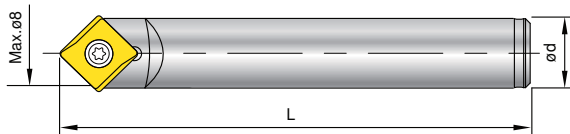
- Mini spotting drill with indexable insert, low cutting power required.
  - Especially good for Swiss type automatic lathes and CNC lathes.
- NC2071:**
- Universal grade for all unhardened steel and cast iron.
  - Geometry with supporting edges to stabilize the cutting condition on low power machine.
  - 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.



Code	Parts No.	Coating	Grade		Dimensions			Dmax.	Tmax.	
					L	S	Re			
011201	N9MT05T1CT	NC2071	TiN	K20F		5	1.8	0.4	6	2.8
011202		NC9076	DLC	K20F		6.35	2.38	0.4	8	3.8
012201	N9MT0602CT	NC2071	TiN	K20F						
012202		NC9076	DLC	K20F						

## ▶ 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.

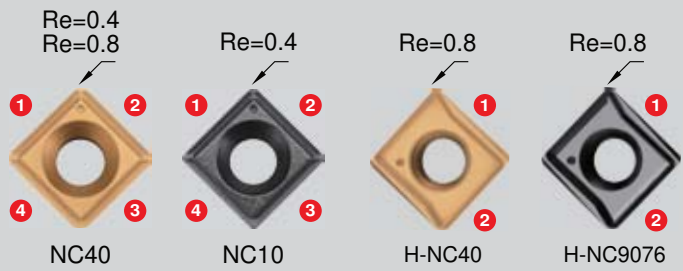
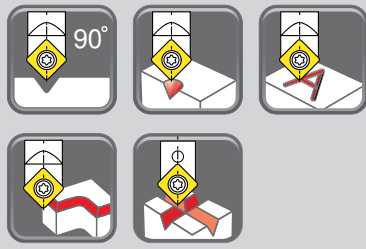


Code	Parts No.	Ød	L	Insert Type	Screw	Key
601001	00-99616-06-6	6	35	N9MT05	NS-20036 0.6 Nm	NK-T6
601002	00-99616-06-5	5	35			
601003	00-99616-06-6L	6	60			
602001	00-99616-08-8	8	60	N9MT06	NS-22044 0.9 Nm	NK-T7

Note:601003 is carbide shank holder.

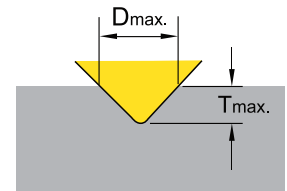


# N9MT0802



## ► Inserts >>

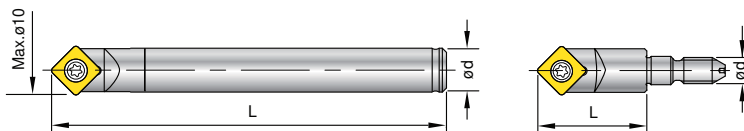
- NC40:**
  - General purpose, universal grade for all unhardened steel.
  - Each insert has 4 cutting edges.
- NC10:**
  - High positive angle and fully ground cutting edge and relief angle.
  - Universal grade for non-ferrous metal, cast iron and stainless steel.
  - Each insert has 4 cutting edges.
- H-NC40:**
  - Best choice for spotting application.
  - Special geometry with supporting edges for use in high speed machining.
  - Universal grade for all kind of steel and cast iron.
  - 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.



Code	Parts No.	Coating	Grade	Image	Dimensions			Dmax.	Tmax.
					L	S	Re		
013401	N9MT080208CT	NC40	TiN		8.31	2.38	0.8	10	4.5
013402	N9MT080204CT	NC40	TiN		8.31	2.38	0.4		
013403		NC10	TiAlN		8.31	2.38	0.4		
013201	N9MT0802CT2T	H-NC40	TiN		8.31	2.38	0.8		
013202		H-NC9076	DLC		8.31	2.38	0.8		

## ► 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.



Code	Parts No.	Ød	L	Screw	Key
603001	00-99616-10	10	90		
603003	00-99616-10-SL10 (Weldon)	10	90		
613001	00-99616-10-3/8	3/8"	90	NS-30055 2.0 Nm	NK-T8
623001	00-99616-10-M5	M5	25		
623002	00-99616-10-M6	M6	25		

Note: • Balanced type holder is on request.  
 • Nine9 extension bar for M5,M6 screw fit holder, see page 70.

# N9MT0802



## ► Single Set >>

- User friendly, each set is fitted with one complimentary insert.

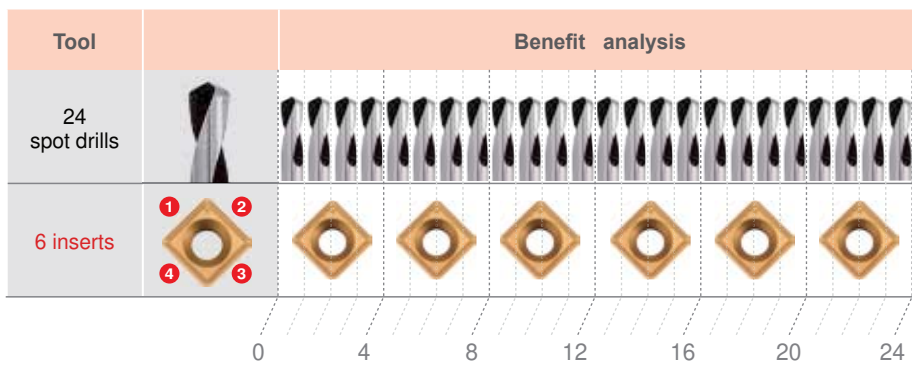
Code	Parts No.	Ød	Total Length	Insert fitted	Dmax.	Tmax.
603101-3401	00-99616-10-02S	10	90	N9MT080208CT-NC40	10	4.5
603101-3403	00-99616-10-02SAL	10	90	N9MT080204CT-NC10	10	4.5

## ► Starter Package >>

- Selected package for starter who wants to try NC Spot Drill.
- Included one insert on tool holder and five inserts in the pocket.
- Total 6 inserts are equal to 24 spot drills.

Code	Parts No.	Ød	Insert included	Content
603201-3401	00-99616-10-ME6	10	N9MT080208CT-NC40	<p>1 tool holder + 6 inserts + 1 key</p>
603201-3403	00-99616-10-ME6AL	10	N9MT080204CT-NC10	
613201-3401	00-99616-10-IN6	3/8"	N9MT080208CT-NC40	
613201-3403	00-99616-10-IN6AL	3/8"	N9MT080204CT-NC10	

## ► Comparison >>



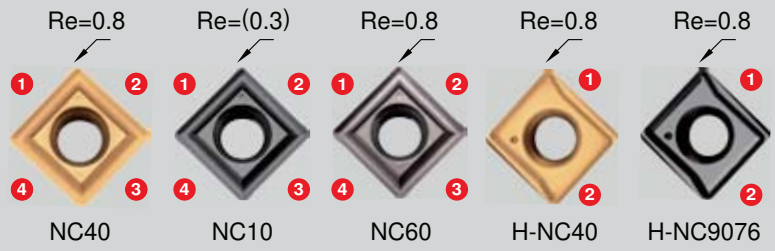
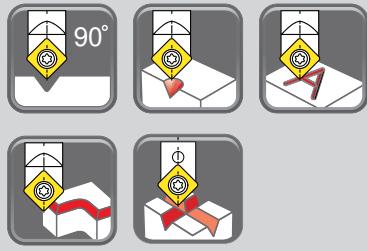
**Low Cost! Economy!**

 6 inserts 12 inserts 24 inserts ...	=	 24 spot drills 48 spot drills 96 spot drills ...
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Note: N9MT080201W Engraving, see page 59.

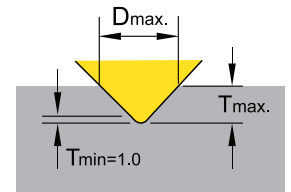


# N9MT11T3

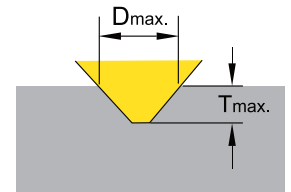


## ▶ Inserts >>

- 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.
- H-NC40:**
  - Best choice for spotting application.
  - Special geometry with supporting edges for use in high speed machining.
  - Universal grade for all kind of steel and cast iron.
  - 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

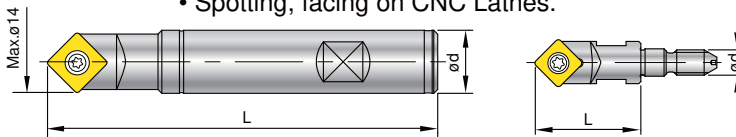


Other grade

Code	Parts No.	Coating	Grade	Image	Dimensions			Dmax.	Tmax.
					L	S	Re		
014401	NC40	TiN	P35		11.11	3.97	14	7	
014402	NC10	TiAlN	K10F						
014403	NC60	CERMET							
014202	H-NC40	TiN	K20F						
014203	H-NC9076	DLC	K20F						

## ▶ 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.



Code	Parts No.	Ød	L	Screw	Key
604002	00-99616-14-12	12	100		
604004	00-99616-14	16	100		
604007	00-99616-14-150L	16	150		
604009	00-99616-14-220L	20	220	NS-35080 2.5 Nm	NK-T15
614001	00-99616-14-1/2	1/2"	100		
614002	00-99616-14-5/8	5/8"	100		
624001	00-99616-14-M8	M8	30		

Note: • Balanced type holder is on request.  
 • Nine9 extension bar for M5,M6 screw fit holder, see page 70.

# N9MT11T3



## ▶ Single Set >>

- User friendly, each set is fitted with one complimentary insert.

Code	Parts No.	Ød	Total Length	Insert fitted	Dmax.	Tmax.
604102-4401	00-99616-14-12-02S	12	100	N9MT11T3CT-NC40	14	7
604102-4402	00-99616-14-12-02SAL			N9MT11T3CT-NC10	14	7
604104-4401	00-99616-14-02S	16		N9MT11T3CT-NC40	14	7
604104-4402	00-99616-14-02SAL			N9MT11T3CT-NC10	14	7
614102-4401	00-99616-14-5/8-02S	5/8"		N9MT11T3CT-NC40	0.551"	0.276"
614102-4402	00-99616-14-5/8-02SAL			N9MT11T3CT-NC10	0.551"	0.276"

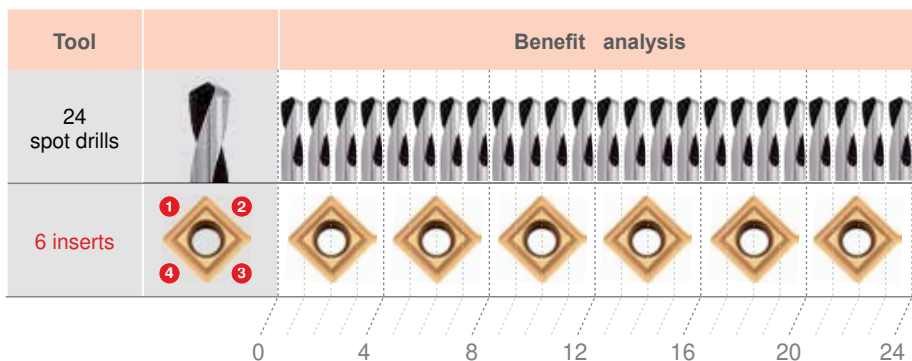
## ▶ Starter Package >>

- Selected package for starter who wants to try NC Spot Drill.
- Included one insert on tool holder and five inserts in the pocket.
- Total 6 inserts are equal to 24 spot drills.

Code	Parts No.	Ød	Insert included	Content
604202-4401	00-99616-14-12-ME6	12	N9MT11T3CT-NC40	1 tool holder + 6 inserts + 1 key
604202-4402	00-99616-14-12-ME6AL		N9MT11T3CT-NC10	
604204-4401	00-99616-14-ME6	16	N9MT11T3CT-NC40	
604204-4402	00-99616-14-ME6AL		N9MT11T3CT-NC10	
614202-4401	00-99616-14-IN6	5/8"	N9MT11T3CT-NC40	
614202-4402	00-99616-14-IN6AL		N9MT11T3CT-NC10	



## ▶ Comparison >>



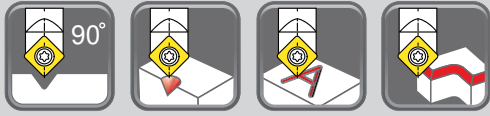
**Low Cost! Economy!**

6 inserts  
12 inserts  
24 inserts  
⋮

24 spot drills  
48 spot drills  
96 spot drills  
⋮

6 inserts = 24 spot drills

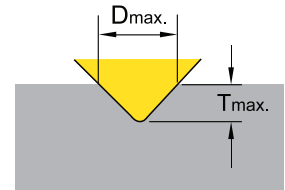
# N9MT1704



## ▶ Inserts >>

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

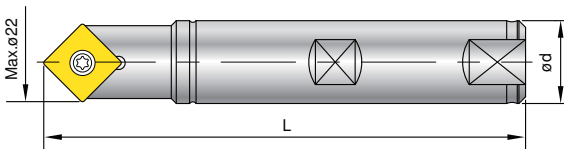
- NC2071** :
- High positive geometry, fully ground cutting edge and relief angle.
  - Universal grade for all unhardened steel and cast iron.
  - Each insert has 2 cutting edges.



Code	Parts No.	Coating	Grade	Image	Dimensions			Dmax.	Tmax.
					L	S	Re		
016201	N9MT1704CT-NC2071	TiN	K20F		17	4.76	1.2	22	10.4

## ▶ Holder >>

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



Code	Parts No.	Ød	L	Screw	Key
606001	00-99616-22	20	100	NS-50125 5.5 Nm	NK-T20
606002	00-99616-22-25	25	150		

# N9MT220408



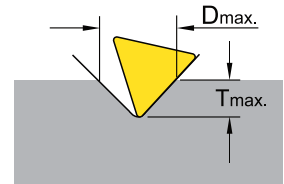
NC40



## ► Inserts >>

- For spotting diameter up to 25mm.
- Fully ground cutting edge and relief angle.

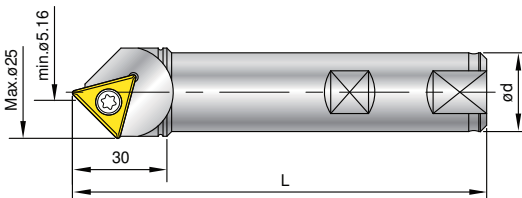
- NC40:**
- Universal grade for carbon steel, alloy steel and cast iron.
  - Each insert has 3 cutting edges.



Code	Parts No.	Coating	Grade	Image	Dimensions			Dmax.	Tmax.
					L	S	Re		
017301	N9MT220408CT-NC40	TiN	P35		20.83	4.76	---	25	12.2

## ► Holder >>

- Large spotting diameter with indexable insert.
- Single cutting edge design gives high precision when spotting.
- Applications : spotting and chamfering on milling machine, machining centers.

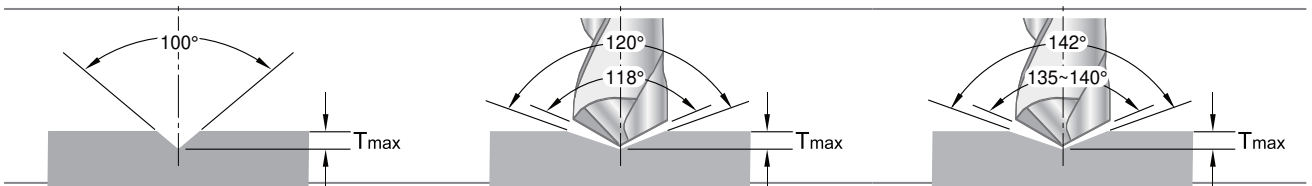
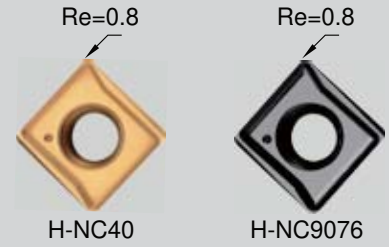


Ø25

Code	Parts No.	Ød	L	Screw	Key
607001	00-99616-25-CT28	25	120	NS-40100 3.5 Nm	NK-T15
617001	00-99616-1-CT28	1"	120		

100°  
120°  
142°

# N9MT11T3CT2T-H



• 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.

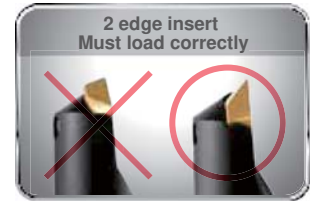
## ► Inserts >>

**H-NC40:**

- Universal grade for all kind of steel and cast iron.
- Each insert has 2 cutting edges.

**H-NC9076:**

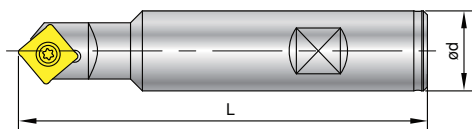
- High positive geometry and sharp edge.
- For non-ferrous material such as aluminum, titanium, brass, copper and long cutting chip metal.
- Produces excellent surface finish when chamfering non-ferrous metal.
- Each insert has 2 cutting edges.



Code	Parts No.	Coating	Grade	Diagram	Dimensions		
					L	S	Re
014202	N9MT11T3CT2T	H-NC40	TiN		11	3.97	0.8
014203		H-NC9076	DLC				

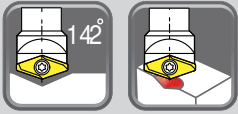
## ► Holder >>

- Indexable insert spotting drill holders for 100°/120°/142° spotting.
- Spotting produces better hole position and geometrically uniform holes.
- Increase tool life of the next drilling operation.



Code	Parts No.	Angle	Ød	L	Screw / Key	Dmax.	Tmax.	Diagram
604011	00-99616-20-100	100°	20	100	NS-35080 2.5 Nm	16	6.3	
604013	00-99616-20-120	120°	20	100		17	4.76	
614003	00-99616-3/4-120	120°	3/4"	100	NK-T15	0.669"	0.187"	
604014	00-99616-20-142	142°	20	100		18.5	3.16	
614004	00-99616-3/4-142	142°	3/4"	100		0.728"	0.124"	

# V14208 / V14216



V1420803-NC2071

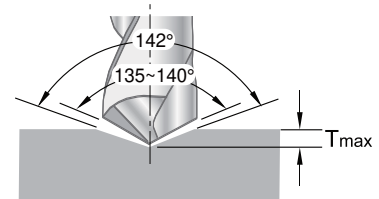
V1421604-NC2071



## ▶ 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.

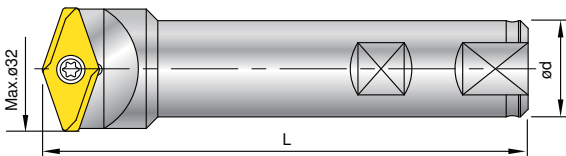


NC Spot Drill

Code	Parts No.	Coating	Grade	Image	Dimensions			Dmax.	Tmax.
					L	S	Re		
0114201	V1420803-NC2071	TiN	K20F		8	2.38	0.8	16	2.8
0114211	V1421604-NC2071				14	4.76	1.2	32	5.5

## ▶ Holder >>

- Using spotting first may increase higher speed and feed rate of the after drills.
- Extend your drill life with 142° spotting. Reduce your drilling cost.
- Higher accuracy of positioning and diameter tolerance !



Code	Parts No.	Ød	L	Insert Type	Screw	Key
696001	00-99619-V142-16	16	100	V1420803	NS-30072 2.0 Nm	NK-T9
696002	00-99619-V142-32	25	120	V1421604	NS-50125 5.5 Nm	NK-T20



145°  
+  
90°

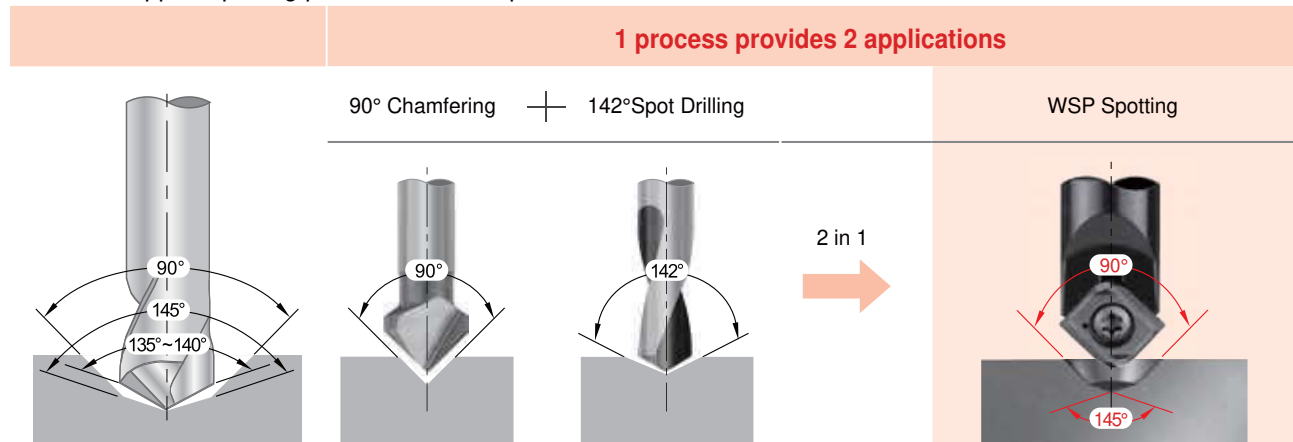
# WSP Spotting New Geometry of Spotting Tool



NC2033

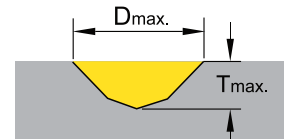
## ► Combined spotting and chamfering 145° + 90° >>

- 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.



## ► Inserts >>

- NC2033:**
- Fully ground cutting edge and relief angle.
  - Universal grade for steel and cast iron.
  - Each insert has 2 cutting edges.



Code	Parts No.	Coating	Grade		Thread Size	*D1±0.05	D2	L2	Dmax.	Tmax.	
013203	N9MT0802M04C-NC2033	TiAlN	K20F		M4x0.7	3.30	4.20	0.93		2.83	
013204	N9MT0802M05C-NC2033				M5x0.8	4.20	5.25	1.14		8	2.52
013205	N9MT0802M06C-NC2033				M6x1.0	5.00	6.30	1.39			2.24
014219	N9MT11T3M08C-NC2033	TiAlN	K20F		M8x1.25	6.80	8.40	1.81	13	4.11	
014220	N9MT11T3M10C-NC2033				M10x1.5	8.50	10.50	2.28		3.53	
014221	N9MT11T3UNC25-NC2033	TiAlN	K20F		1/4-20 UNC	5.08	6.70	1.55	13	4.70	
014222	N9MT11T3UNC31-NC2033				5/16-18 UNC	6.53	8.40	1.90		4.20	
014223	N9MT11T3UNC38-NC2033				3/8-16 UNC	7.94	10.00	2.22		3.72	
016205	N9MT1704M12C-NC2033	TiAlN	K20F		M12x1.75	10.25	12.60	2.91	20	6.61	
016206	N9MT1704M14C-NC2033				M14x2.0	12.00	14.70	3.22		5.87	
016207	N9MT1704M16C-NC2033			M16x2.0	14.00	16.80	3.51	5.11			

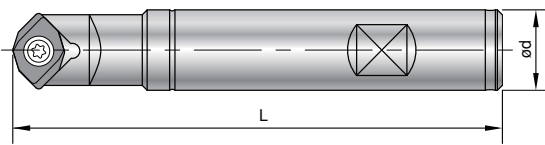
Note: \* D1 refer to the Tap Pre-drilling sizes.  
\* Technical information, please refer to page 34.

# WSP Spotting New Geometry of Spotting Tool



## ► Holder >>

- Utilizes standard **NC Spot Drill** holders.
- Holders and inserts are interchangeable.
- Applications: Spotting, grooving and chamfering.

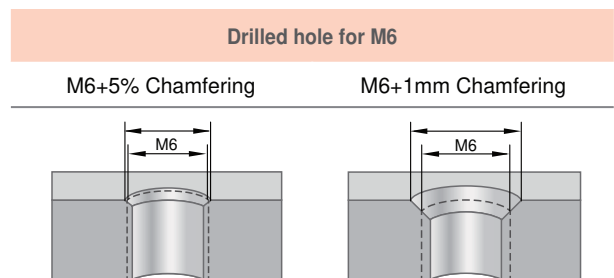


NC Spot Drill

Code	Parts No.	Ød	L	Insert Type	Thread Size	Screw	Key
603001	00-99616-10	10	89.08±0.29	N9MT0802	M4~M6	NS-30055 2.0Nm	NK-T8
613001	00-99616-10-3/8	3/8"					
604004	00-99616-14	16	97.55±0.55	N9MT11T3	M8~M10	NS-35080 2.5Nm	NK-T15
614002	00-99616-14-5/8	5/8"					
606001	00-99616-22	20	96.24±0.64	N9MT1704	M12~M16	NS-50125 5.5Nm	NK-T20
616001	00-99616-22-3/4	3/4"					

## ► 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. (see page 34)



## ► Comparison >>

Carbide Step Drill	Spotting + Drill	WSP Spotting + Drill
<ul style="list-style-type: none"> <li>• Tool cost is high</li> <li>• Shorter tool life</li> <li>• Can't drill directly from solid on round parts. Bad position accuracy.</li> </ul>	<ul style="list-style-type: none"> <li>• Longer drilling time</li> <li>• Guided at the weakest corner of drill</li> <li>• Shorter tool life</li> </ul>	<ul style="list-style-type: none"> <li>• Shorter drilling time</li> <li>• Guided at the strongest corner of drill</li> <li>• Longer tool life</li> <li>• Also for chamfering or grooving application</li> </ul>