CUTTING TOOLS & TOOL HOLDERS

Nine9®

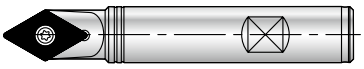
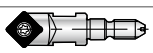
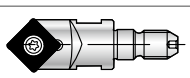
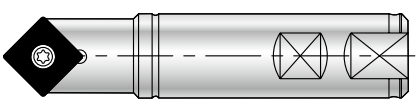
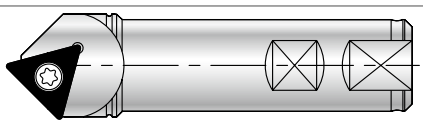
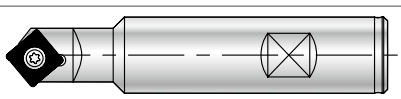
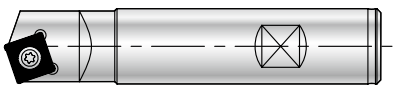
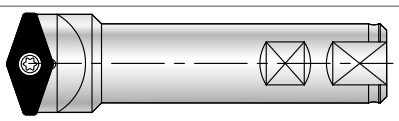
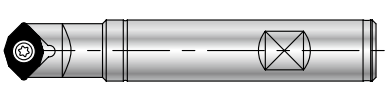
Nine9.jic-tools.com.tw

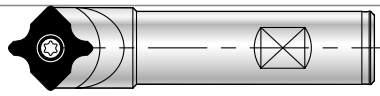
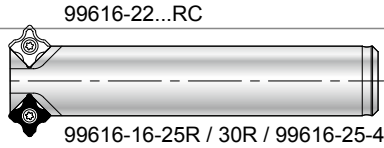
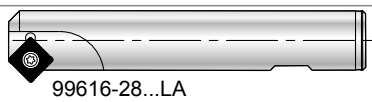
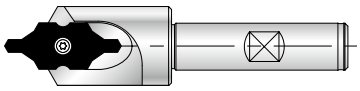
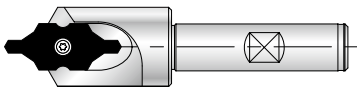
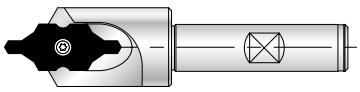
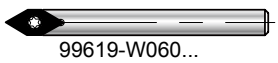
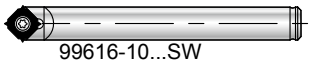
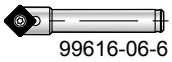
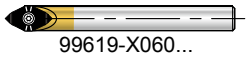
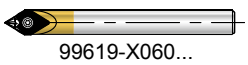
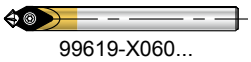
Cat. 16

Productivity, Creativity & Infinity

Nine9 company began in 1994 and with the development of special tools, boring heads and accessories.
The Nine9 logo was commissioned in 1999.
It comes from the Chinese characters meaning “long life and durability” – words which aptly describe all Nine9 tools. 99 is the largest 2 digit number, indicating maximum product endurance.
Nine9 tools whilst being ”special” in the indrustry, are standard in our product range. NC Spot Drills , super power drills , boring tools , engraving tools , i-Center , NC helix drills , chamfer mill. Those established Nine9 as a market leader and innovator in the cutting tool field.

Contents >>

Angle	Holder	Inserts	D min.	D max.	Spotting	Chamfering	Grooving	Engraving	Drilling	Page
	NC Spot Drill									
60°	 99616-09V	 V9MT0802	1	9	●	●	●	● Tmin=0.1		12
	 99616-13V	 V9MT12T3	2	13	●	●	●	● Tmin=0.1		
82°	 99619-V082-3/8	 V0820802	2	9	●	●	●	● Tmin=0.1		13
	 99619-V082-5/8	 V08212T3	2	14	●	●	●	● Tmin=0.1		
90°	 99616-06-6	 N9MT05T1	1	6	●	●		● Tmin=0.1		14
	 99616-08-8	 N9MT0602	1	8	●	●	●	● Tmin=0.1		
	 99616-10...  99616-10-M5	 N9MT0802	2	10	●	●	●	● Tmin=0.1		15
	 99616-14...  99616-14-M8	 N9MT11T3	3	14	●	●	●	● Tmin=0.1 (2 Cutting edges) ● Tmin=1.0 (4 Cutting edges)		17
	 99616-22	 N9MT1704	3	22	●	●	●			19
	 99616-25-CT28	 N9MT2204	4	25	●	●				20
100°	 99616-20-100	 N9MT11T3	3	16	●	●				21
120°	 99616-20-120		3	17	●	●				
142°	 99616-20-142...		3	18	●	●				
	 99619-V142...	 V1421604	2	32	●					22
145° + 90°	 99616-10 / 14 / 22 ...	 WSP / M4~M16	3.3	20	●	●	●			23

Angle	Holder	Inserts	D min.	D max.	Spotting	Chamfering	Grooving	Engraving	Drilling	Page
	Corner Rounding									
RC	 99616-06..99616-14...RC	 N9MT05/N9MT11..RC (2 Cutting edges)	R0.5 R1.0	R1.0 R3.0		•				26
	 99616-22...RC	 N9MT1704RC (2 Cutting edges)	R4.0	R6.0		•				28
R	 99616-16-25R / 30R / 99616-25-40R	 N9MT11T3R (4 Cutting edges)	R1.0	R3.0		•				30
	Large 45° Chamfering									
45	 99616-18...LA	 N9MT11T308LA	6	28		•				32
	 99616-28...LA		16	28		•	* *Side grooving			
	Center Drilling / i-Center									
R	 99616-IC...	 DIN332 Form R	1.0	10					•	39
60° + 120°	 99616-IC...	 DIN332 Form A+B	1.0	10					•	
60°	 99616-IC...	 ANSI 60°	5/64”	3/8”					•	
PR	 99616-14-PR	 N9MT11T3PR	2.0	3.0					•	41
	Engraving Tools									
45°	 99619-V045...	 V04506T1W	0.45	2.1	•			•		50
60°	 99619-V060...	 V06006T1W	0.25	2.7	•			•		51
60°	 99619-W060...	 W06004S	0.1	1.1	•			•		52
60°	 99616-10...SW	 N9MT0802	0.1	1.1	•			•		52
90°	 99616-10...SW	 N9MT0802	0.1	2.0	•			•		
	 99616-06-6	 N9MT05T1	1.0	6.0	•	•		•		14
10° ~ 120°	 99619-X060...	 X060A	0.1	2.7				•		57
	NC Deburring									
60°	 99619-X060...	 X060A60T6	0.3	2.0		•				62
90°	 99619-X060...	 X060A90T6	0.5	3.5		•				

Inserts >> Quick Pick

Nine9 inserts apply for modern machining by its special geometry which is able to run at higher speed and feed. In addition,
the indexable insert eliminates the tool's changing time.
Carbide insert with latest coating techology extends tool life dramatically.
Nine9-insert helps you to save money and increase productivity.

Products		Grade	Coating	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous	H Hardened Steel Up to 56 HRC	S Titanium
NC Spot Drill		NC10	TiAlN		●	●	◎		
		NC40	TiN	●	○	◎			
		NC2071	TiN	●	◎	●	◎		
		NC9076	DLC		◎		●		◎
		NC60	Cermet	◎				●	
Corner Rounding		NC2071	TiN	●	○	●			
		NC9036	DLC		●		●		◎
i-Center		NC2033	TiAlN	●	○	●		○	
		NC5074	Helica	●	○	◎			
Engraving		NC2032	TiAlN	●	○	●			
		NC2071	TiN	◎	●		◎		
		NC9031	TiN		◎		●		
		NC2035	ALDURA	◎		○		●	
		NC9036	DLC		◎		●		◎
Chamfer Mill		NC2032	AlTiN	●	○	●		◎	
		NC9071	TiN	○	●		●		

● Best ◎ Suit ○ Possible

Features
Universal grade for non-ferrous metal, cast iron and stainless steel. General purpose, fully ground cutting edge and relief angle.
Universal grade for all unhardened steel, and tool steel up to 1200N/mm². General purpose, fully ground cutting edge and relief angle .
Universal grade for all unhardened steel, free cutting steel, tool steel up to 750N/mm² and cast iron. The cutting geometry has been designed to optimize the tool's performance and to use in high speed machining.
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.
For hardened steel up to 56 HRC. Cermet insert reduces heat and low tool wearing at the cutting edge.
Universal grade for all unhardened steel and cast iron. The cutting geometry has been designed to optimize the tool's performance.
For non-ferrous material, aluminum, acrylic, brass, copper, stainless steel (low carbon contain) and titanium. High positive geometry and sharp edge produces excellent surface finish.
For carbon steel, alloy steel, high alloy steel and cast iron. 2 Cutting flutes design same as carbide center drill for high performance speed and feed rate.
Helica coating provides a smooth cutting and helps the cutting chip to be removed easily.
For all kind of steel from 30~50 HRC, carbon steel, alloy steel and cast iron. TiAIN coating provides a longer tool life.
Universal grade for all kind of steel<30 HRC, non-ferrous metal and stainless steel. The cutting geometry of this insert has been designed with strong cutting edge.
For non ferrous metal, aluminum, brass, copper, plastic, acrylic and stainless steel. Very sharp edge for shallow engraving.
For steel with heat treatment up to 56 HRC. Latest ALDURA coating to reduce heat and tool wear.
For non-ferrous material and titanium. Very sharp edge for shallow engraving.
For carbon steel, alloy steel, cast iron and hardened steel up to 56 HRC. Upgraded AlTiN coating provides a very long tool life.
For non-ferrous metal, aluminum, al-alloy, brass, copper and stainless steel. Very sharp produces excellent surface finish.

No Need To Choose Nine9 Does It All! >>

Cost Saving | Time Saving | Highly Efficient | Long Tool Life

Various inserts can fit on same holder

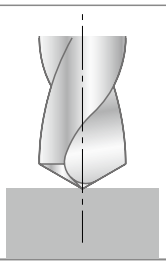
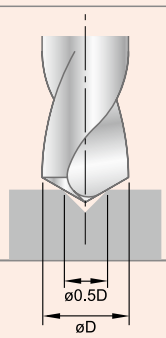
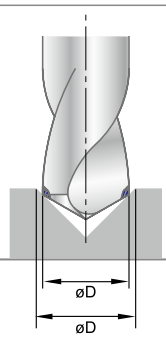
A New Drilling Concept!

0.5xD of spotting

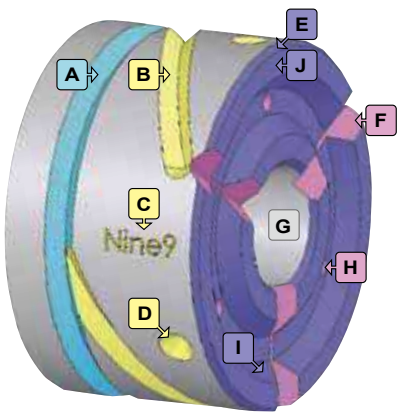
Many drill manufacturers and suppliers state that their drills start drilling on the solid material. You can look forward to the following benefits when using the NC Spot Drill to drill a spot that is half of the drilling diameter.

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.**

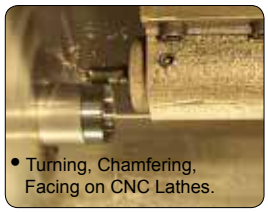
NC Spot Drill	Without Spotting	0.5xD Spotting	Larger Spotting
• Better center position! • Longer tool life!	• Drill has less position accuracy and diameter tolerance.	• Best result! • Higher speed and feed rate. • Better position accuracy and diameter tolerance.	• Longer spotting time! • Guided at the weakest corner of drill. • Shorter tool life
	 Unstable tool life		
	✕	○	✕

Various Applications of NC Spot Drill >>

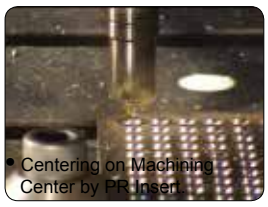
Turning Center	Fig	Applications	Multifunctional Cutting Tool
	A	Grooving	Use on CNC lathes CNC turning centers Machining centers Milling machines SPM machines .....
	B	Helical groove milling	
	C	Engraving	
	D	Spot drilling	
	E	Chamfer turning	
	F	Face groove milling	
	G	Internal turning	
	H	Spot drilling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


• 45° and 60° Engraving Tools.


• Spotting, Grooving, Engraving on Machining Center.


• Turning, Chamfering, Facing on CNC Lathes.


• Cut a Serrated Workpiece.
• Single Pass Each Direction.


• Centering on Machining Center by PR Insert.


• Contour Chamfering on Machining Center.

NC Spot Drill >>

NC Spot Drill with indexable carbide insert.

High efficiency! Low cost!

CNC lathes, CNC turning centers and machining centers.

Features

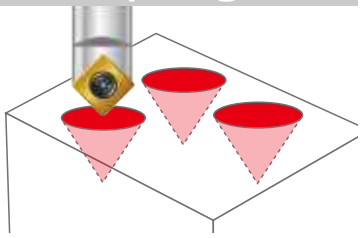
- **Spotting produces better hole position and geometrically uniform holes**
- **Available shank diameter-Ø5, Ø6, Ø10, Ø12, Ø16, Ø20, Ø25mm, Ø3/8'', Ø1/2'', Ø5/8'', Ø1/4", Ø3/4'', M5, M6 and M8.**
- **One tool will perform multiple applications**
  - Long tool life.
  - Each insert has 2 or 4 cutting 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

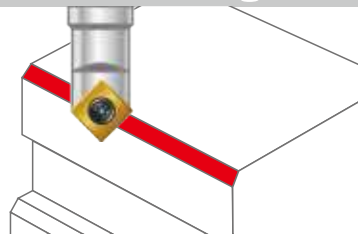
a Engraving
b Spotting
c Chamfering
d Grooving

▼ ALL IN ONE!!

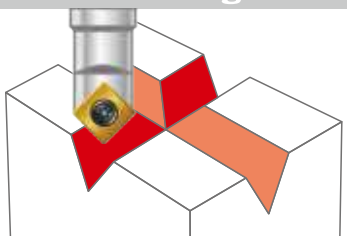
Spotting



Chamfering

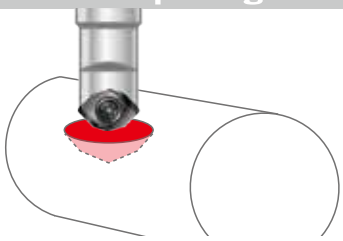


Grooving

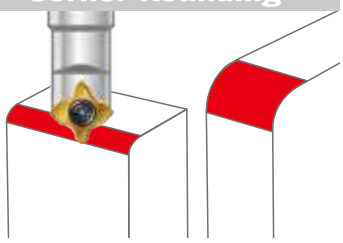


Engraving

W Spotting

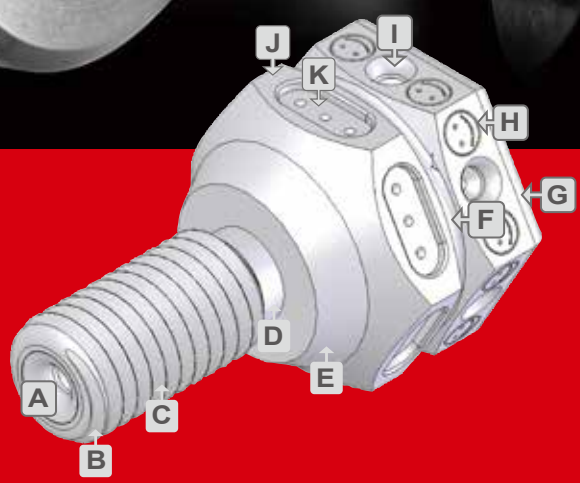


Corner Rounding



▲ CNC Lathes

- a External and internal chamfering
- b Grooving
- c Centering
- d Facing

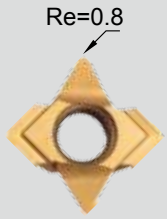


Multifunctional:

A I	Center Drilling	B G	Corner rounding
C	Thread turning	D	Grooving
E	Taper turning	F	V-grooving
H	Engraving	J	Face milling
K	Drilling & milling a groove		

* Some features produced with a special insert

N9MT11T3P60

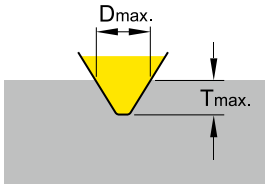


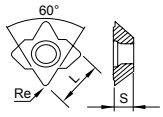
P60-NC40

Inserts >>

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

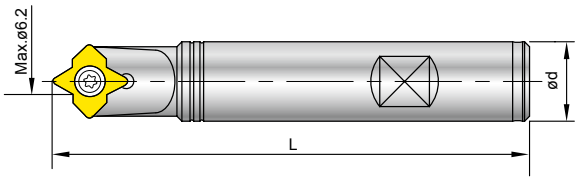
NC40: • Universal grade for all unhardened steel and cast iron.
• Each insert has 2 cutting edges.



Code	Parts No.	Coating	Grade		Dimensions			Dmax.	Tmax.
					L	S	Re		
014204	N9MT11T3P60-NC40	TiN	P35		11	3.97	0.8	6.2	4

Holder >>

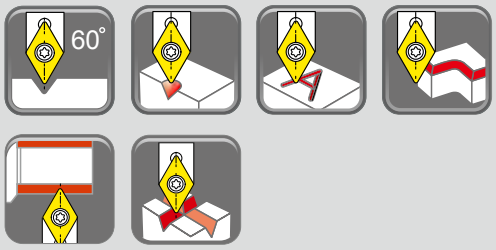
• A single cutting edge design creates higher precision and position when spotting.
• Applications: For spotting, engraving, small grooving on milling machines, machining centers.

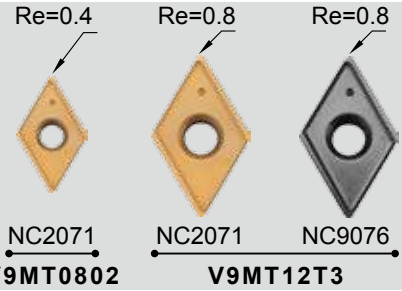


Ø16

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



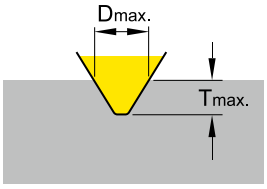


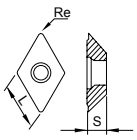
Inserts >>

- 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.

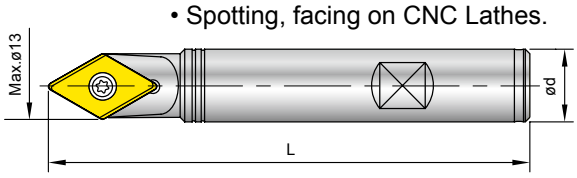
NC9076: • For non-ferrous material such as aluminum, al-alloy, titanium brass, copper and long cutting chip metal.
• Produces excellent surface finish on non-ferrous metal.
• Each insert has 2 cutting edges.



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

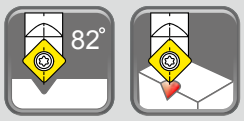
Holder >>

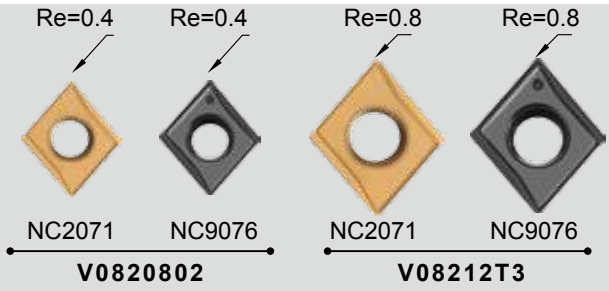
- A single cutting edge creates higher precision and position when spotting.
- Applications: • Spotting, engraving, grooving and chamfering on milling machines, machining centers.
  • Spotting, facing on CNC Lathes.



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

V0820802 / V08212T3



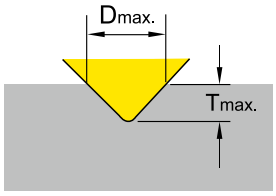


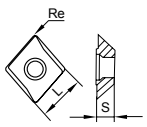
Inserts >>

- 82 degree indexable spotting insert, Dmax 14mm (0.551”)
- Match the geometry of Amercian 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.

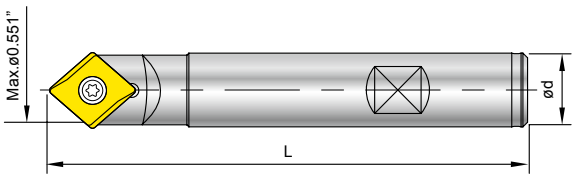
NC9076:
- For non-ferrous material such as aluminum, al-alloy, titanium brass, copper and long cutting chip metal.
- Produces excellent surface finish on non-ferrous metal.
- Each insert has 2 cutting edges.



Code	Parts No.		Coating	Grade		Dimensions			Dmax.	Tmax.
						L	S	Re		
0108201	V0820802	NC2071	TiN	K20F		8	2.38	0.4	9 (0.354”)	4.8 (0.189”)
0108202		NC9076	DLC							
0108211	V08212T3	NC2071	TiN	K20F		12.7	3.97	0.8	14 (0.551”)	7.5 (0.295”)
0108212		NC9076	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.



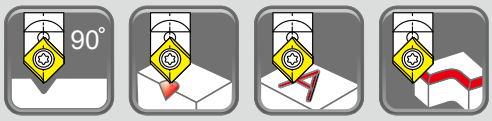
Ø3/8”

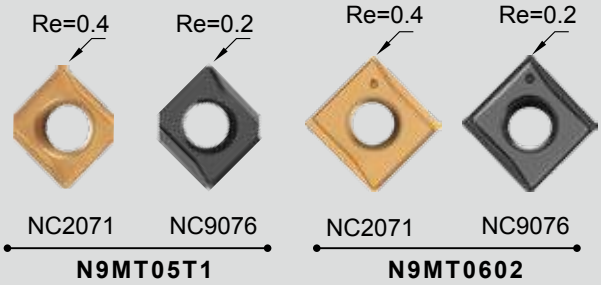
Ø5/8”

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

N9MT05T1 / N9MT0602

NEW



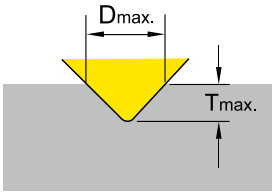


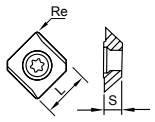
Inserts >>

- 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.

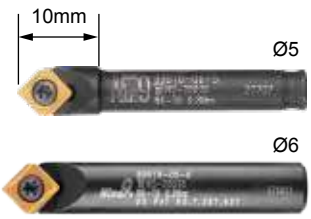


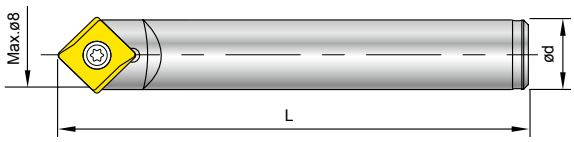
Code	Parts No.		Coating	Grade		Dimensions L	Dimensions S	Dimensions Re	Dmax.	Tmax.
011201	N9MT05T1CT	NC2071	TiN	K20F		5	1.8	0.4	6	2.8
011202		NC9076	DLC	K20F				0.2		
012201	N9MT0602CT	NC2071	TiN	K20F		6.35	2.38	0.4	8	3.8
012202		NC9076	DLC	K20F				0.2		

New

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.



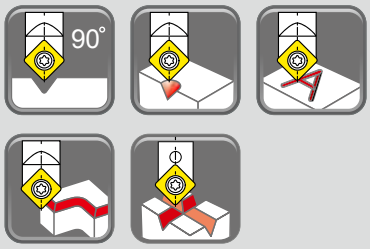


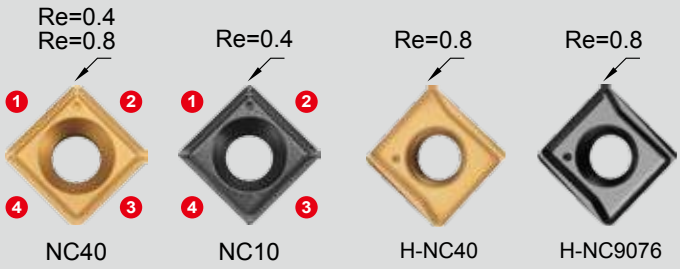
Code	Parts No.	Insert Type	Ød	L	Screw	Key
601001	00-99616-06-6	N9MT05	6	35	NS-20036 0.6 Nm	NK-T6
601002	00-99616-06-5		5	35		
601003	00-99616-06-6L		6	60		
602001	00-99616-08-8	N9MT06	8	60	NS-22044 0.9 Nm	NK-T7

New

Note:601003 is carbide shank holder.

N9MT0802





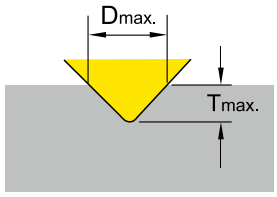
Inserts >>

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

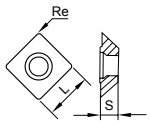
NC10:
- High positive angle and fully ground cutting edge and relief angle.
- Universal grade for non-ferrous metal, cast iron and stainless steel.
- Each insert has 4 cutting edges.

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.

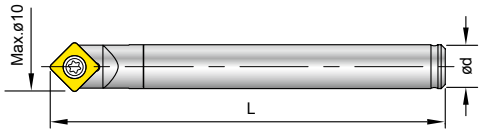


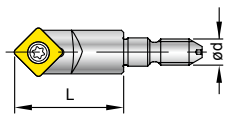
Code	Parts No.		Coating	Grade		Dimensions L	Dimensions S	Dimensions Re	Dmax.	Tmax.
013401	N9MT080208CT	NC40	TiN	K20F		8.31	2.38	0.8		
013402	N9MT080204CT	NC40	TiN	K20F		8.31	2.38	0.4		
013403		NC10	TiAlN			8.31	2.38	0.4	10	4.5
013201	N9MT0802CT2T	H-NC40	TiN	K20F		8.31	2.38	0.8		
013202		H-NC9076	DLC			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	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: • 603003 with side lock flat on shank.
• Nine9 extension bar for M5,M6 screw fit holder, see page 69.

N9MT0802

Single Set >>

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

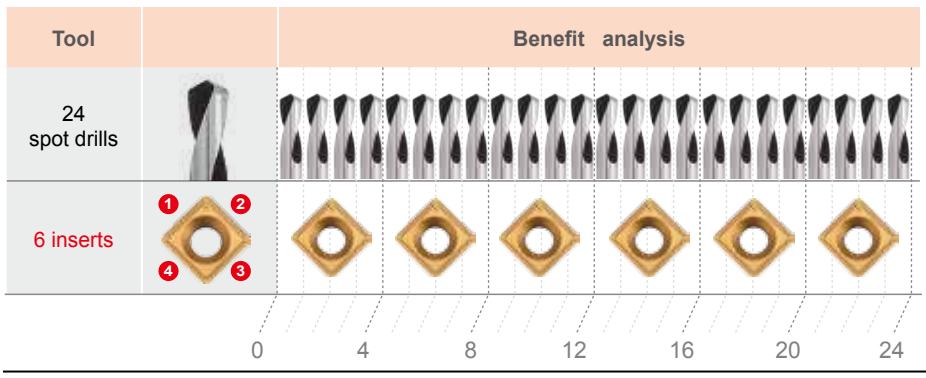
Code	Parts No.	Ød	Total Length	Insert fitted	Dmax.	Tmax.
603101-3401	00-99616-10-02S	10	90	N9MT080208CT-NC40	10	4.5
603101-3403	00-99616-10-02SAL	10	90	N9MT080204CT-NC10	10	4.5

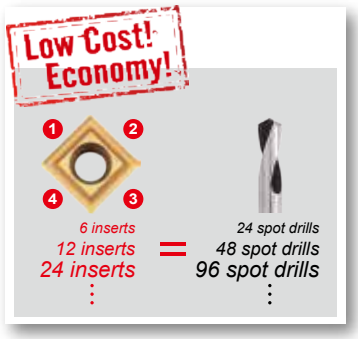
Starter Package >>

• 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	1 tool holder + 6 inserts + 1 key
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	

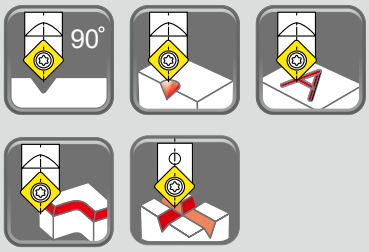
Comparison >>

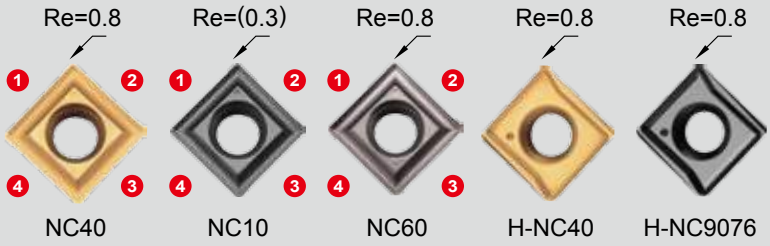




Note: N9MT080201W Engraving , see page 52.

N9MT11T3





Inserts >>

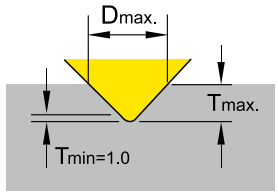
NC40: • Wiper design, universal grade for all unhardened steel.
• Each insert has 4 cutting edges.

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.

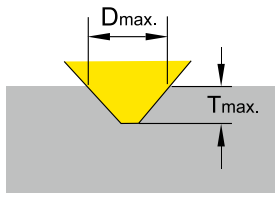
NC60: • Wiper design cermet insert, for hardened steel up to 56 HRC.
• Each insert has 4 cutting edges.

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.

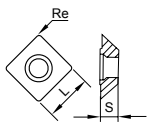
H-NC9076: • High positive geometry and sharp edge.
• For non-ferrous material such as aluminum, titanium, brass, copper and long cutting chip metal.
• Produces excellent surface finish on non-ferrous metal.
• Each insert has 2 cutting edges.



NC40 / Wiper design / NC60

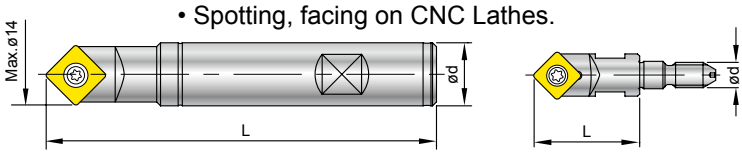


Other grade

Code	Parts No.		Coating	Grade		Dimensions L	Dimensions S	Dimensions Re	Dmax.	Tmax.
014401	N9MT11T3CT	NC40	TiN	P35		11.11	3.97	0.8	14	7
014402		NC10	TiAlN	K10F				(0.3)		
014403		NC60	CERMET					0.8		
014202	N9MT11T3CT2T	H-NC40	TiN	K20F				0.8		
014203		H-NC9076	DLC	K20F				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 on CNC Lathes.



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		
604007	00-99616-14-150L	16	150		
604009	00-99616-14-220L	20	220		
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: • Nine9 extension bar for M8 screw fit holder, see page 69.

N9MT11T3

Single Set >>

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

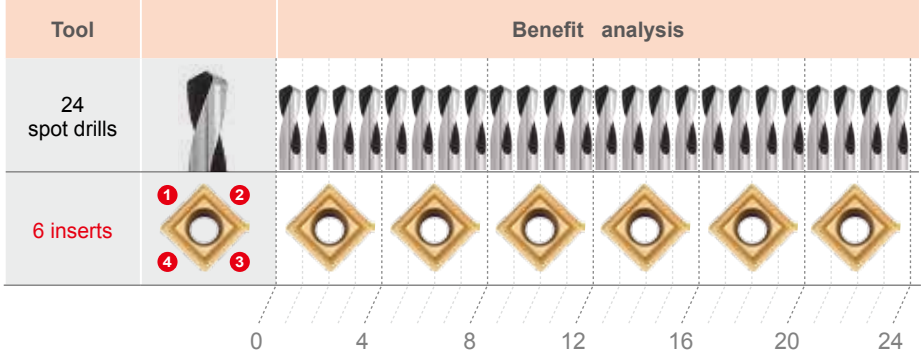
Code	Parts No.	Ød	Total Length	Insert fitted	Dmax.	Tmax.
604102-4401	00-99616-14-12-02S	12	100	N9MT11T3CT-NC40	14	7
604102-4402	00-99616-14-12-02SAL			N9MT11T3CT-NC10	14	7
604104-4401	00-99616-14-02S	16		N9MT11T3CT-NC40	14	7
604104-4402	00-99616-14-02SAL			N9MT11T3CT-NC10	14	7
614102-4401	00-99616-14-5/8-02S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

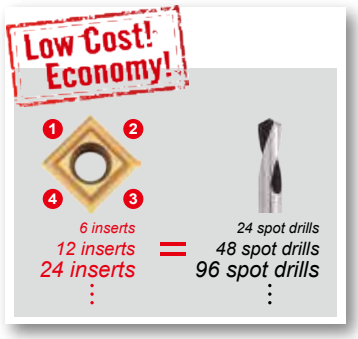
Starter Package >>

• 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.

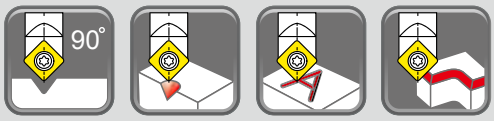
Code	Parts No.	Ød	Insert included	Content
604202-4401	00-99616-14-12-ME6	12	N9MT11T3CT-NC40	1 tool holder + 6 inserts + 1 key
604202-4402	00-99616-14-12-ME6AL		N9MT11T3CT-NC10	
604204-4401	00-99616-14-ME6	16	N9MT11T3CT-NC40	
604204-4402	00-99616-14-ME6AL		N9MT11T3CT-NC10	
614202-4401	00-99616-14-IN6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

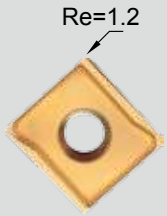
Comparison >>





N9MT1704

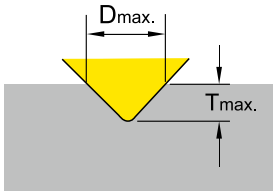


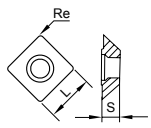


Inserts >>

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

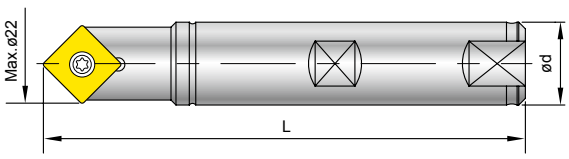
NC2071 : • High positive geometry,
fully ground cutting edge and relief angle.
• Universal grade for all unhardened steel and cast iron.
• Each insert has 2 cutting edges.



Code	Parts No.	Coating	Grade		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.



Ø20

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		

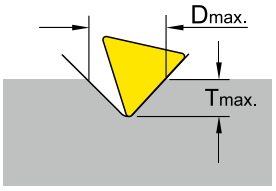
N9MT220408

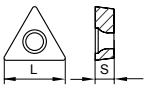
NC40

Inserts >>

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

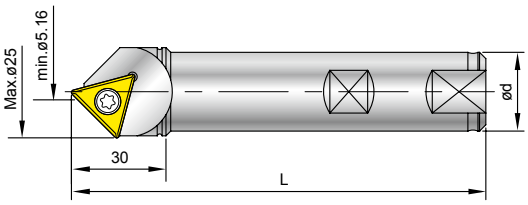
NC40: • Universal grade for carbon steel, alloy steel and cast iron.
• Each insert has 3 cutting edges.



Code	Parts No.	Coating	Grade		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.

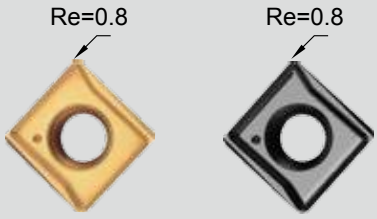


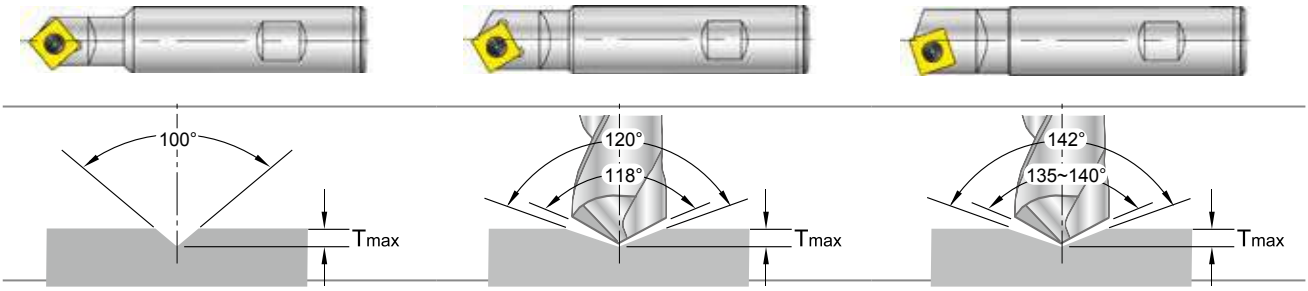
Ø25

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°

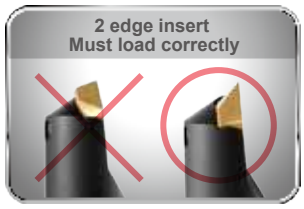
N9MT11T3CT2T-H





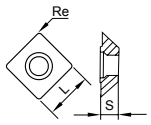
- For aircraft 100° normal rivet hole and screw hole.
- For spotting before drilling by 118° point angle drill.
- 60° chamfering.
- For spotting before drilling by 135°~140° point angle high performance drill.

Inserts >>



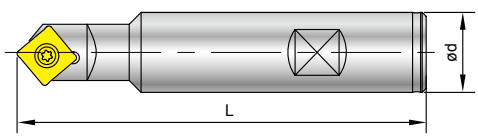
H-NC40:
- Universal grade for all kind of steel and cast iron.
- Each insert has 2 cutting edges.

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.

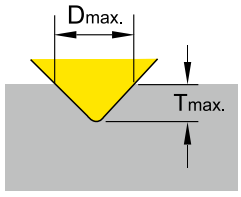
Code	Parts No.		Coating	Grade		Dimensions		
						L	S	Re
014202	N9MT11T3CT2T	H-NC40	TiN	K20F		11	3.97	0.8
014203		H-NC9076	DLC					

Holder >>

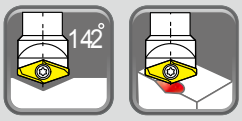
- Indexable insert spotting drill holders for 100°/120°/142° spotting.
- Spotting produces better hole position and geometrically uniform holes.
- Increase tool life of the next drilling operation.

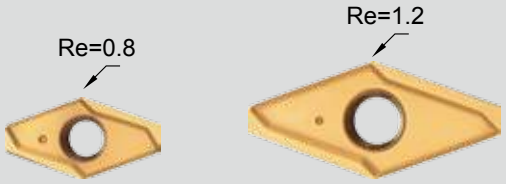


Code	Parts No.	Angle	Ød	L	Screw / Key	Dmax.	Tmax.
604011	00-99616-20-100	100°	20	100	 NS-35080 2.5 Nm	16	6.3
604013	00-99616-20-120	120°	20	100		17	4.76
614003	00-99616-3/4-120	120°	3/4"	100		0.669"	0.187"
604014	00-99616-20-142	142°	20	100	 NK-T15	18.5	3.16
614004	00-99616-3/4-142	142°	3/4"	100		0.728"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



V14208 / V14216



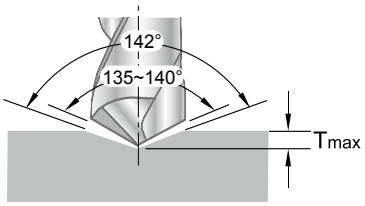


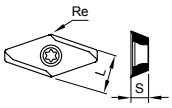
V1420803-NC2071 V1421604-NC2071

Inserts >>

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

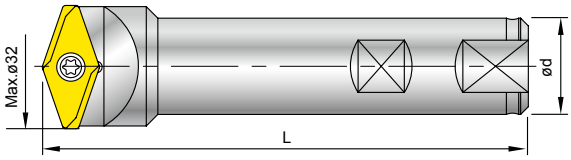
NC2071:
- High positive geometry, fully ground cutting edge and relief angle.
- Universal grade for all unhardened steel and cast iron.
- Each insert has 2 cutting edges.



Code	Parts No.	Coating	Grade		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 !



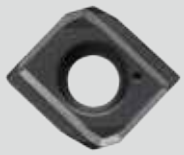
Ø16

Ø25

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

145°
+
90°

WSP Spotting New Geometry of Spotting Tool

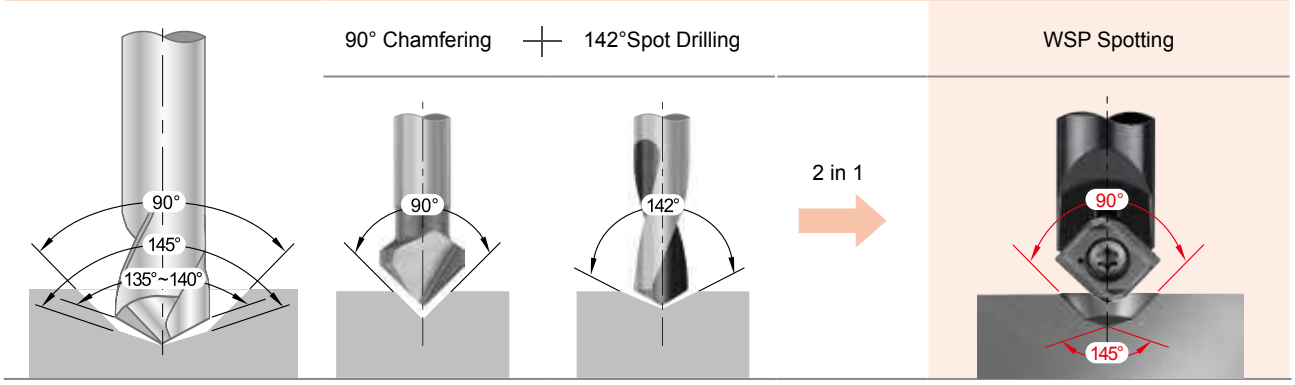


NC2033

Combined spotting and chamfering 145° + 90° >>

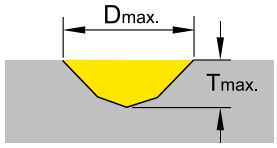
- Reduces process to one operation. Shortens cycle time.
- Use to spot prior to drilling with high performance drills for higher accuracy of hole position.
- Good support spotting process for round parts.

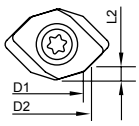
1 process provides 2 applications



Inserts >>

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



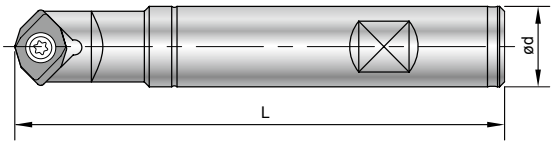
Code	Parts No.	Coating	Grade		Thread Size	*D1±0.05	D2	L2	Dmax.	Tmax.
013203	N9MT0802M04C-NC2033	TiAlN	K20F		M4x0.7	3.30	4.20	0.93	8	2.83
013204	N9MT0802M05C-NC2033				M5x0.8	4.20	5.25	1.14		2.52
013205	N9MT0802M06C-NC2033				M6x1.0	5.00	6.30	1.39		2.24
014219	N9MT11T3M08C-NC2033	TiAlN	K20F		M8x1.25	6.80	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 35.

WSP Spotting New Geometry of Spotting Tool

Holder >>

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

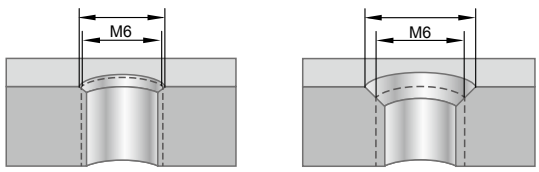


Code	Parts No.	Ød	Insert Type	Thread Size	L	Screw	Key
603001	00-99616-10	10	N9MT0802	M4~M6	89.08±0.29	NS-30055 2.0Nm	NK-T8
613001	00-99616-10-3/8	3/8”					
604004	00-99616-14	16	N9MT11T3	M8~M10	97.55±0.55	NS-35080 2.5Nm	NK-T15
614002	00-99616-14-5/8	5/8”		1/4~3/8 UNC			
606001	00-99616-22	20	N9MT1704	M12~M16	96.24±0.64	NS-50125 5.5Nm	NK-T20
616001	00-99616-22-3/4	3/4"					

Example >>

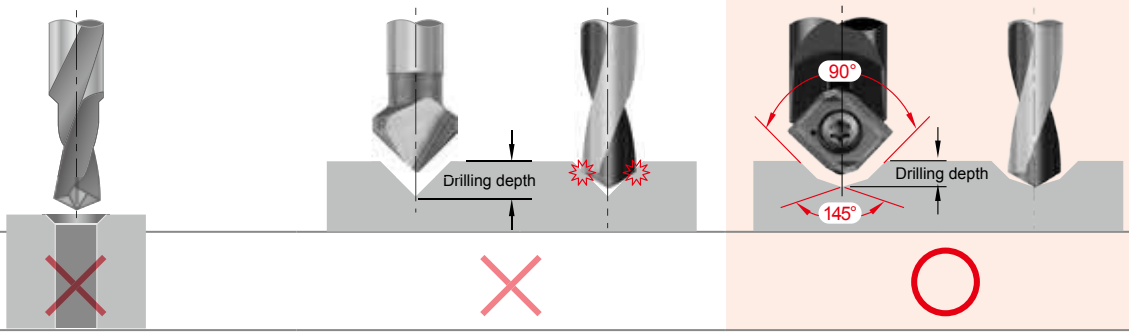
- The recommended chamfering is 5% of the nominal diameter of the thread, for example 6.3 mm for M6 thread.
- If you need larger chamfer, it can be calculated the required depth of spotting. (see page 35)

Drilled hole for M6	
M6+5% Chamfering	M6+1mm Chamfering



Comparison >>

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



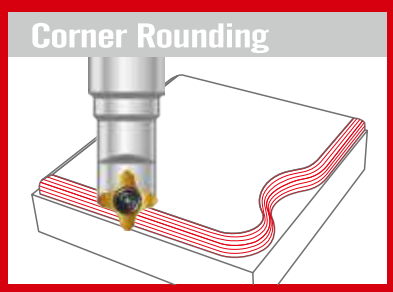
Corner Rounding >> Type of RC

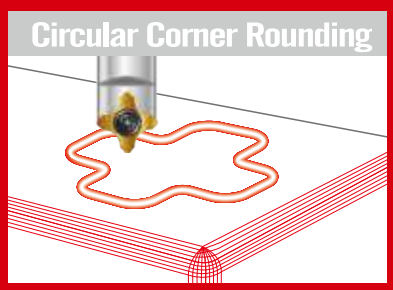
Various corner radius inserts can fit on same holder
Carbide insert can stand very long tool life
Produces smooth and excellent surface finish on workpiece.

Features

RC

- Each insert has 2 cutting edges.
- Combination corner rounding and 45° chamfering application on same insert.
- Higher cutting speed and feed rate.
- Very small X offset, good for contour chamfering.
- Utilizes standard NC Spot Drill holders 99616-06, 99616-14 & 99616-22.





◀ Applications

a Radius 0.5
b Radius 1.0
c Radius 2.0

N9MT05T1RC

RC0.5~RC1.0
All are interchangeable on same holder

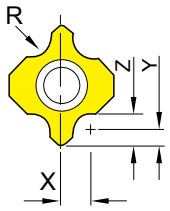
NC2071 NC9036

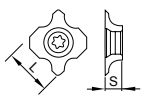
Inserts >>

- Various corner radius inserts can fit on same holder.
- Very small X offset 1.25mm for radius 0.5, the small x offset allows for profiling in small corners.

NC2071:
- Universal grade for all unhardened steel and cast iron.
- Inserts are CNC ground for precision radius location.
- Each insert has 2 cutting edges.

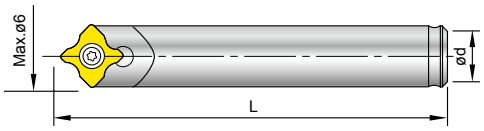
NC9036:
- For non-ferrous material such as aluminum, acrylic, titanium, brass, copper and stainless steel.
- High positive geometry and sharp edge produces excellent surface finish.
- Each insert has 2 cutting edges.



Insert Radius	Code	Parts No.		Coating	Grade	offset X	offset Y	offset Z		Dimensions L	Dimensions S
0.5	011203	N9MT05T1RC05	NC2071	TiN	K20F	1.25	0.75	1.25		5	1.8
	011206		NC9036	DLC							
0.75	011204	N9MT05T1RC075	NC2071	TiN	K20F	1.50	0.75	1.50			
	011207		NC9036	DLC							
1.0	011205	N9MT05T1RC10	NC2071	TiN	K20F	1.75	0.75	1.75			
	011208		NC9036	DLC							

Holder >>

- For corner rounding using ***NC Spot Drill*** shank.



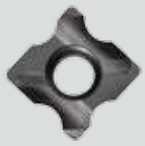
Code	Parts No.	Ød	L	Screw	Key
601001	00-99616-06-6	6	35	 NS-20036 0.6 Nm	 NK-T6
601002	00-99616-06-5	5	35		
601003	00-99616-06-6L	6	60		

* 601003 is carbide shank holder

N9MT11T3RC

RC1.0~RC3.0
All are interchangeable on same holder

NC40



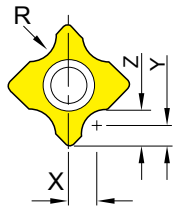
NC9036

Inserts >>

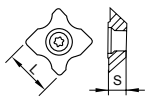
- Higher cutting speed and feed rate.
- Combination corner rounding and 45° chamfering application on same insert.
- Various corner radius inserts can fit on same holder.

NC40:
- Universal grade for all unhardened steel and cast iron.
- Inserts are CNC ground for precision radius location.
- Each insert has 2 cutting edges.

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



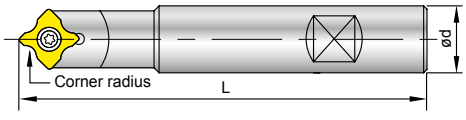
Insert Radius	Code	Parts No.		Coating	Grade	offset				Dimensions	
						X	Y	Z		L	S
1.0	014209	N9MT11T3RC10	NC40	TiN	K20F	2.75	1.5	2.5			
	014224		NC9036	DLC							
1.5	014210	N9MT11T3RC15	NC40	TiN	K20F	3.25	1.5	3			
	014225		NC9036	DLC							
2.0	014211	N9MT11T3RC20	NC40	TiN	K20F	3.75	1.5	3.5		11.11	3.97
	014226		NC9036	DLC							
2.5	014212	N9MT11T3RC25	NC40	TiN	K20F	4.25	1.5	4			
	014227		NC9036	DLC							
3.0	014213	N9MT11T3RC30	NC40	TiN	K20F	4.75	1.4	4.4			
	014228		NC9036	DLC							
1/64	014214	N9MT11T3RC1/64	NC40	TiN	K20F	0.086”	0.059”	0.0747”			
	014229		NC9036	DLC							
1/32	014215	N9MT11T3RC1/32	NC40	TiN	K20F	0.101”	0.059”	0.090”			
	014230		NC9036	DLC							
1/16	014216	N9MT11T3RC1/16	NC40	TiN	K20F	0.133”	0.059”	0.122”		0.437”	0.156”
	014231		NC9036	DLC							
3/32	014217	N9MT11T3RC3/32	NC40	TiN	K20F	0.164”	0.059”	0.153”			
	014232		NC9036	DLC							
1/8	014218	N9MT11T3RC 1/8	NC40	TiN	K20F	0.199”	0.055”	0.180”			
	014233		NC9036	DLC							



Holder >>

- For corner rounding using ***NC Spot Drill*** shank.

Code	Parts No.	Ød	L	Screw/ Key
604002	00-99616-14-12	12	100	NS-35080 2.5 Nm
604004	00-99616-14	16		
614001	00-99616-14-1/2	1/2”	100	NK-T15
614002	00-99616-14-5/8	5/8”		



Ø12, Ø16

N9MT1704RC

RC4.0~RC6.0
All are interchangeable on same holder


NC2071

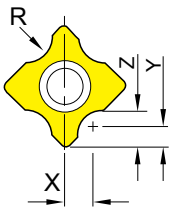

NC9036

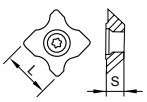
Inserts >>

- Higher cutting speed and feed rate.
- Combination corner rounding and 45° chamfering application on same insert.
- Various corner radius inserts can fit on same holder.

NC2071:
- Universal grade for all unhardened steel and cast iron.
- Inserts are CNC ground for precision radius location.
- Each insert has 2 cutting edges.

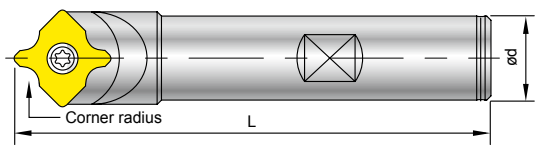
NC9036:
- For non-ferrous material such as aluminum, acrylic, titanium, brass, copper and stainless steel.
- High positive geometry and sharp edge produces excellent surface finish.
- Each insert has 2 cutting edges.



Corner radius(R)	Code	Parts No.		Coating	Grade	offset				Dimensions	
						X	Y	Z		L	S
4.0	016202	N9MT1704RC40	NC2071	TiN	K20F	6.15	2	6		17	4.76
	016208		NC9036	DLC							
5.0	016203	N9MT1704RC50	NC2071	TiN	K20F	7.1	2	7			
	016209		NC9036	DLC							
6.0	016204	N9MT1704RC60	NC2071	TiN	K20F	8.1	2	8			
	016210		NC9036	DLC							

Holder >>

- For corner rounding using ***NC Spot Drill*** shank.
- Good for small work pieces, which need large corner rounding.



Ø20 , Ø25

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		

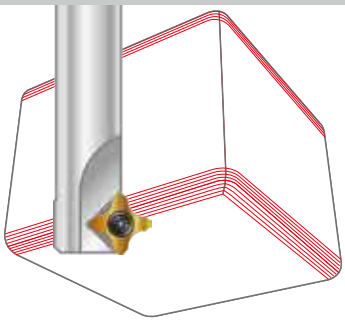
Corner Rounding >> Type of R

Various corner radius inserts can fit on same holder
Carbide insert can stand very long tool life
Produces smooth and excellent surface finish on workpiece.

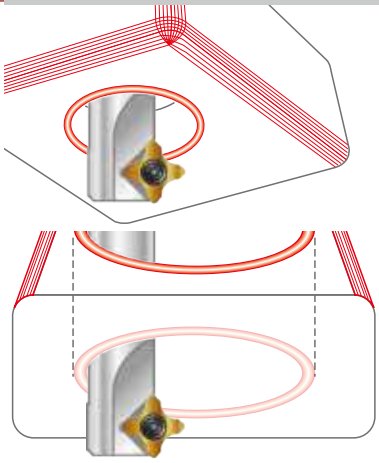
Features

- Each insert has 4 cutting edges.
- R1.0 ~ R3.0 inserts are interchangeable on same holder.
- For front and back chamfering.
- Tool offset can be set after measuring tool length by tool presetter or Z-Zero Setter.
- Inserts are CNC ground for precision radius and location.
- Optimizes the tool performance and reduces the cutting time.

Front & Back Corner Rounding



Back Circular Corner Rounding



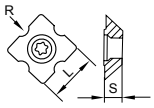
N9MT11T3R

R1.0~R3.0
All are interchangeable on same holder

Inserts >>

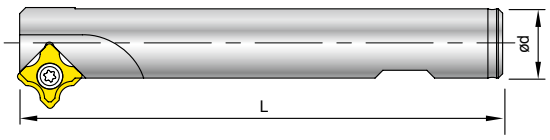
- For front and back corner rounding.
- Various corner radius inserts can fit on same holder.
- Coated carbide inserts for excellent tool life.
- Each insert has 4 cutting edges.

NC2071: • Universal grade for all unhardened steel and cast iron.
• Inserts are CNC ground for precision radius location.

Corner radius(R)	Code	Parts No.	Coating	Grade		Dimensions	
						L	S
1.0	014404	N9MT11T3R10-NC2071	TiN	P35		11.11	3.97
1.5	014405	N9MT11T3R15-NC2071	TiN	P35			
2.0	014406	N9MT11T3R20-NC2071	TiN	P35			
2.5	014407	N9MT11T3R25-NC2071	TiN	P35			
3.0	014408	N9MT11T3R30-NC2071	TiN	P35			

Holder >>

- Center of radius of each tool is dedicated.
- Tool offset can be set after measuring tool length by tool presetter or Z-Zero Setter.



Code	Parts No.	Ød	L	Z	Screw	Key
604015	00-99616-16-25R	16	100	1	 NS-35080 2.5 Nm	 NK-T15
604019	00-99616-16-30R	16	120	1		
604020	00-99616-25-40R	25	150	4		

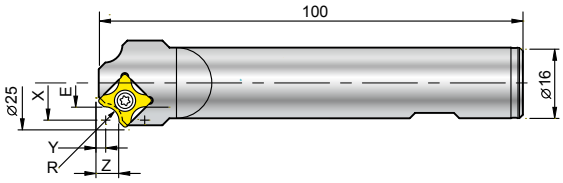
More >>

- Also can fit with N9MT11T308LA inserts for front and back chamfering. (Please see page 32)

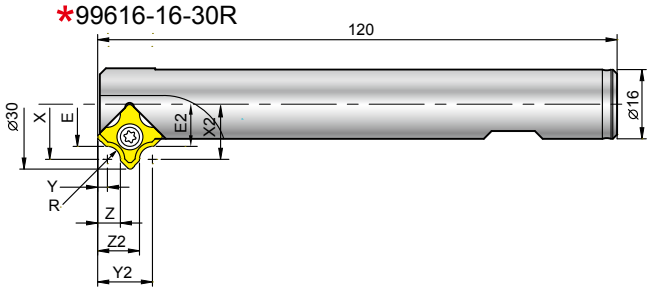
N9MT11T3R

Cutting Position >>

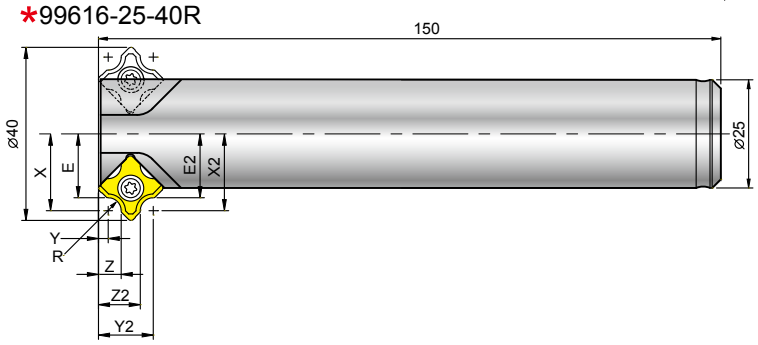
99616-16-25R



*99616-16-30R



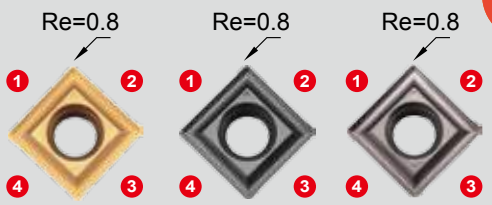
*99616-25-40R



99616-16-30R & 99616-25-40R
*For front and back corner rounding.
*Eliminates 2nd operation or deburring time.

Insert Radius	Holder	Front Chamfering				Back Chamfering				Z
		E	X	Y	Z	E2	X2	Y2	Z2	
R1.0	00-99616-16-25R	8.25	9.25	3.25	4.25	---	---	---	---	1
	00-99616-16-30R	10.75	11.75	3.25	4.25	10.75	11.75	11.65	10.65	1
	00-99616-25-40R	15.75	16.75	3.25	4.25	15.75	16.75	11.65	10.65	4
R1.5	00-99616-16-25R	8	9.5	3	4.5	---	---	---	---	1
	00-99616-16-30R	10.5	12	3	4.5	10.5	12	11.9	10.4	1
	00-99616-25-40R	15.5	17	3	4.5	15.5	17	11.9	10.4	4
R2.0	00-99616-16-25R	7.75	9.75	2.75	4.75	---	---	---	---	1
	00-99616-16-30R	10.25	12.25	2.75	4.75	10.25	12.25	12.15	10.15	1
	00-99616-25-40R	15.25	17.25	2.75	4.75	15.25	17.25	12.15	10.15	4
R2.5	00-99616-16-25R	7.5	10	2.5	5	---	---	---	---	1
	00-99616-16-30R	10	12.5	2.5	5	10	12.5	12.4	9.9	1
	00-99616-25-40R	15	17.5	2.5	5	15	17.5	12.4	9.9	4
R3.0	00-99616-16-25R	7.25	10.25	2.25	5.25	---	---	---	---	1
	00-99616-16-30R	9.75	12.75	2.25	5.25	9.75	12.75	12.65	9.65	1
	00-99616-25-40R	14.75	17.75	2.25	5.25	14.75	17.75	12.65	9.65	4

N9MT11T308LA 45° Chamfering Tool

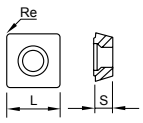


Inserts >>

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

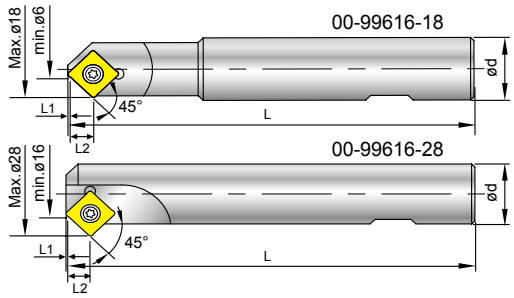
NC10: • High positive angle and fully ground cutting edge and relief angle.
• Universal grade for Al, Al-alloy, non-ferrous metal, cast iron and stainless steel.
• Each insert has 4 cutting edges.

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

Code	Parts No.		Coating	Grade		Dimensions		
						L	S	Re
014409	N9MT11T308LA	NC40	TiN	P35		11.11	3.97	0.8
014410		NC10	TiAN	K10F				
014411		NC60	Cermet					

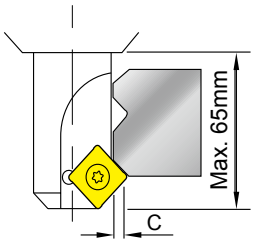
Holder >>

• 99616-28 can be applied for machining back chamfering and side grooving.

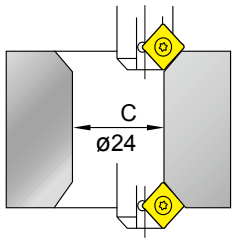


Code	Parts No.	Insert type	Chamfering	Ød	L	L1	L2	Z	Screw / Key
604017	00-99616-18	N9MT11T308LA	Ø6-Ø18	20	120	1.15	7.55	1	 NS-35080 2.5 Nm
604018	00-99616-28		Ø16-Ø28	20	120	1.15	7.55	1	NK-T15

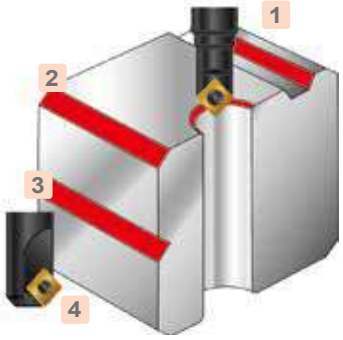
Example >>



For back chamfering
Max. 2mm



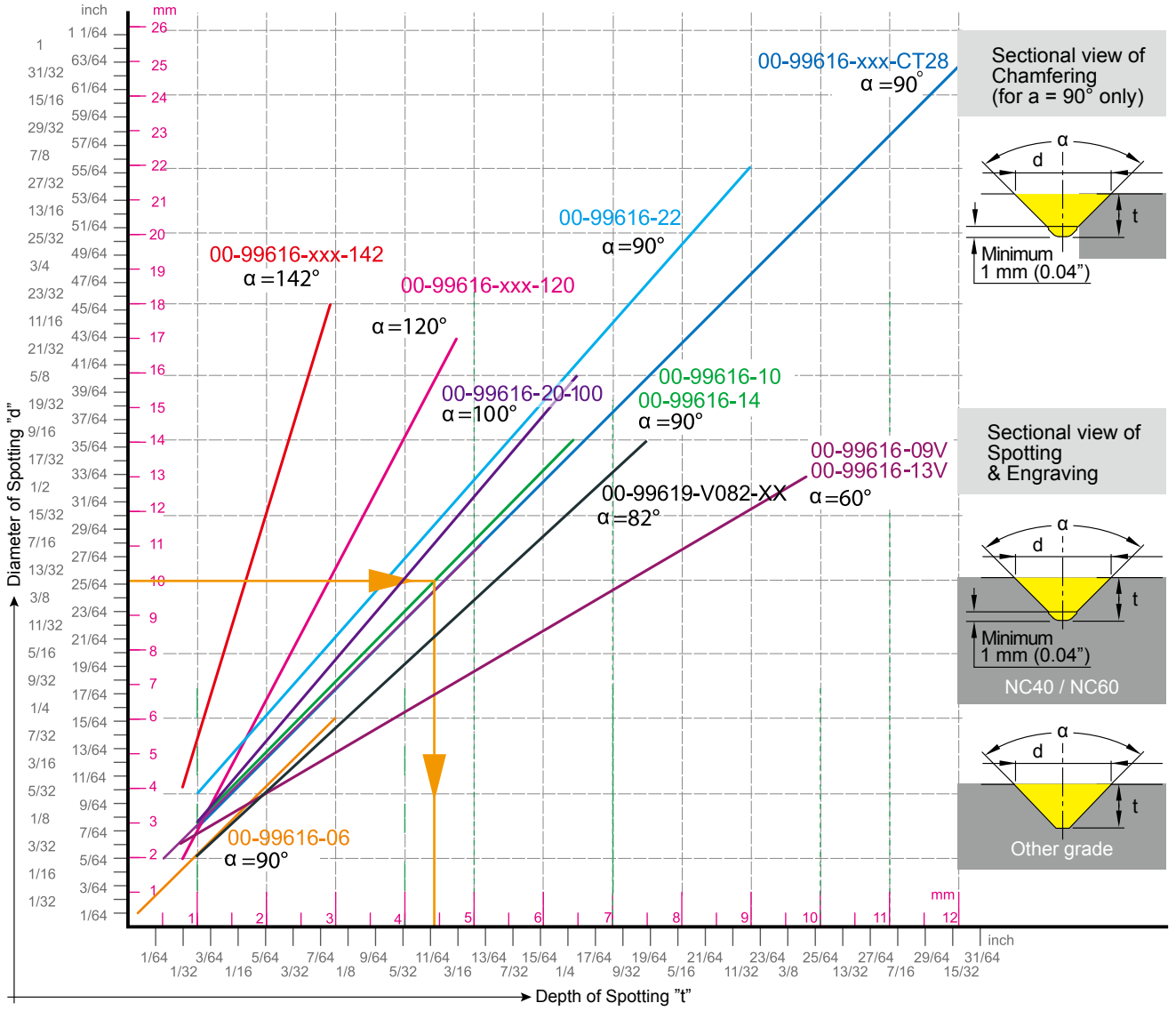
Min.diameter
for shift ø24mm.



Action	
1	External and internal chamfering
2	Side chamfering
3	Side grooving
4	Back chamfering

Cutting Data

Diameter / Depth Chart and Speed / Feed Rate Calculation of NC Spot Drill



Instruction of Use >>

1. From Spot diameter "d" to get drill depth " t ".
2. Point angle "α" is determined by which tool holder you use.
3. From "d" draw a horizontal line to get intersection of the line by point angle "α".
4. From the intersection draw a vertical line to the bottom to have depth of spotting " t ". " t " is the drill depth of the NC program.
5. The sectional view of spotting will depend on the shape of insert, NC40 and other grades of inserts have different sectional view.
6. For chamfering, do not use tip of insert, 1mm(0.04") minimum clearance is required for a smooth surface finish.

Calculate spindle speed and feed rate >>

1. Using your "d" value and cutting speed Vc from the data sheet, calculate spindle speed "S"(RPM).
2. " F" feed rate per minute F = f x S = RPM x IPR

Metric

$$S = \frac{Vc \times 1000}{\pi \times d}$$

$$F = S \times f$$

d =	diameter -mm
S =	Spindle Speed -r.p.m.
Vc =	Cutting Speed -m/min.
f =	mm/rev.
F =	mm/min.

Inch

$$S = \frac{(3.82 \times SFM)}{d}$$

$$F = f \times S$$

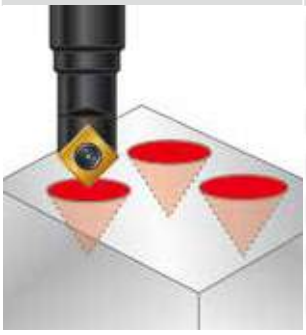
d =	diameter-inch
S =	Spindle Speed-r.p.m.
SFM =	Surface Speed-ft./min. Vc (m/min.) x 3.28
f = IPR =	inch/rev.
F =	inch/min.

Cutting Data

N9MT-CT >> Insert Multi-function

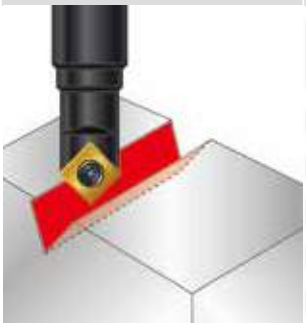
Determine spindle speed and feed rate:

- Choose spotting depth to decide spotting diameter according to the Diameter/Depth chart on page 33.
- The spindle speed should be calculated by the maximum diameter of spotting, chamfering and grooving.

Spotting	Work Material	Vc (m/min)	f (mm/rev.)	Grade of Insert
	Carbon Steel	150~250	0.05~0.10	NC40, NC2071
	Alloy Steel	100~200	0.04~0.08	NC40, NC2071
	Stainless Steel	65~125	0.03~0.06	NC10, NC60, NC40, NC2071
	Cast iron	80-150	0.05~0.10	NC40, NC10, NC2071
	Non-Ferrous Metal (Al, Cu)	150~300	0.05~0.10	NC10, NC9076, NC2071
	Ti, Ti-alloy	40~80	0.03~0.08	NC9076
	Hardened steel 40~56 HRC	30~60	0.03~0.08	NC60

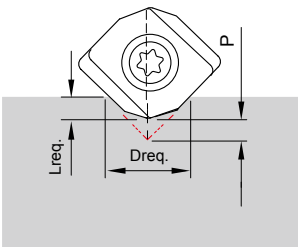
* For technical construction reasons, the insert is not located on the center of the holder.
* Inserts with supporting edges can increase feed rate 50%.

Chamfering	Work Material	Vc (m/min)	f (mm/rev.)	Grade of Insert
	Carbon Steel	150~320	0.15~0.24	NC40, NC2071
	Alloy Steel	100~250	0.12~0.20	NC40, NC2071
	Stainless Steel	65~125	0.1~0.20	NC10, NC60, NC40, NC2071
	Cast iron	150-250	0.15~0.25	NC40, NC10, NC2071
	Non-Ferrous Metal (Al, Cu)	150~320	0.15~0.25	NC10, NC9076, NC2071
	Ti, Ti-alloy	40~80	0.03~0.08	NC9076
	Hardened steel 40~56 HRC	30~60	0.03~0.08	NC60

Grooving	Work Material	Vc (m/min)	f (mm/rev.)	Grade of Insert
	Carbon Steel	150~250	0.05~0.10	NC40, NC2071
	Alloy Steel	100~200	0.04~0.08	NC40, NC2071
	Stainless Steel	65~125	0.03~0.06	NC10, NC60, NC40, NC2071
	Cast iron	80~150	0.05~0.08	NC40, NC10, NC2071
	Non-Ferrous Metal (Al, Cu)	150~320	0.05~0.08	NC10, NC9076, NC2071
	Ti, Ti-alloy	40~80	0.03~0.08	NC9076
	Hardened steel 40~56 HRC	30~60	0.03~0.08	NC60

Cutting Data

WSP Spotting >> 145°+90° W Spotting

WSP spotting	Formula
	**Lreq. = Dreq. x 0.5 - P**

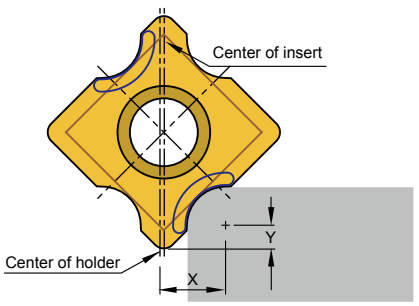
P = distance of theoretical intersection point to tip of insert.
0.5 = fixed factor for calculation
Lreq. = required drilling depth
Dreq. = required diameter

	M4	M5	M6	M8	M10	M12	M14	M16	1/4-20 UNC	5/16-18 UNC	3/8-16 UNC
P =	1.17	1.48	1.76	2.39	2.97	3.59	4.19	4.88	1.80	2.30	2.78

WSP spotting	Work Material	Vc (m/min)	f (mm/rev.)
	Carbon Steel	150 ~ 300	0.05 ~ 0.15
	Alloy Steel	120 ~ 250	0.05 ~ 0.10
	Stainless Steel	80 ~ 150	0.04 ~ 0.08
	Cast iron	100 ~ 200	0.05 ~ 0.10

N9MT-RC Insert >> Corner Rounding

Determine spindle speed and feed:
To decide running speed of the tools and feed rate, please calculate spindle speed and feed rate according to the following formula and cutting data:

Corner Rounding	Calculate spindle speed
	**d = 2 x X** mm
	S = $\frac{Vc \times 1000}{d \times \pi}$ **r.p.m.**
	F = S x f mm/min.

d = diameter of the tool for calculation purpose
X = tool radius offset (ref. page 26~28 for RC inserts)
Vc = Cutting Speed -m/min.
S = Spindle Speed -r.p.m.
F = mm/min.
f = mm/rev.

Calculate tool length offest on machining center

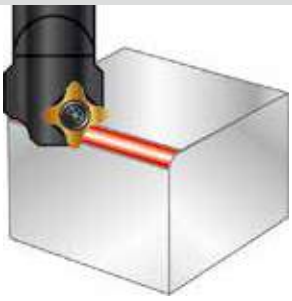
TL = TL'-Y,
H = X

X = tool radius offset (ref. page 26~28 for RC inserts)
Y = distance to the center of radius. (ref. page 26~28 for RC inserts)
TL' = tool length
TL = tool length offset.
H = tool radius offset

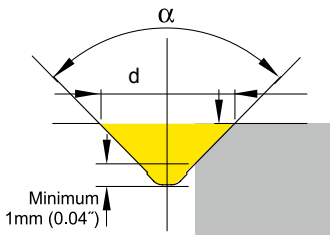
RC Insert	Work Material	Vc (m/min)	f (mm/rev.)	Grade of Insert
	Carbon Steel	150~320	0.05~0.10	NC40, NC2071
	Alloy steel	100~250	0.05~0.10	NC40, NC2071
	High alloy steel	80~150	0.04~0.08	NC40, NC2071
	Stainless Steel	65~125	0.05~0.10	NC9036
	Cast iron	150~250	0.05~0.10	NC40, NC2071
	Aluminum, Al-alloy Si < 12%	150~320	0.05~0.10	NC9036
	Al-alloy Si >12%	100~300	0.05~0.10	NC9036
	Cu	200~250	0.05~0.10	NC9036
	Brass and Bronze	150~250	0.05~0.10	NC9036

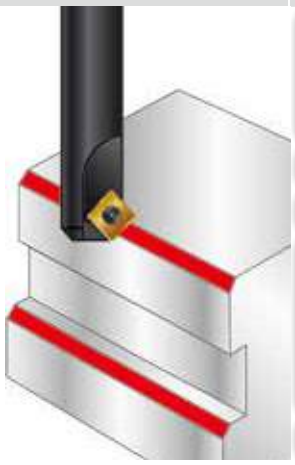
Cutting Data

N9MT-R Insert >> Corner Rounding (4 cutting edges)

R Insert	Work Material	Vc (m/min)	f (mm/rev.)	Grade of Insert
	Carbon Steel	150~320	0.05~0.10	NC2071
	Alloy steel	100~250	0.04~0.08	NC2071
	High alloy steel	60~80	0.03~0.06	NC2071
	Cast iron	150~250	0.05~0.10	NC2071

LA Insert >> 45° Chamfering

45° Chamfering	Formula	
	$S = \frac{Vc \times 1000}{d \times \pi}$ r.p.m.	**α =** point angle 90°
		d = effective diameter
		Vc = cutting speed-m/min.or ft/min.
	F = S x f mm/min.	**S =** Spindle speed
		f = feed per rev.-mm/rev.

45° Chamfering	Work Material	Vc (m/min)	f (mm/rev.)	Grade of Insert
	Carbon Steel	150-320	0.05~0.10	NC40
	Alloy Steel	100-250	0.04~0.08	NC40
	High alloy steel	60-80	0.03~0.06	NC40
	Stainless Steel	65-125	0.03~0.06	NC10
	Cast iron	150-250	0.05~0.10	NC10, NC40
	Aluminum, Al-alloy Si < 12%	150-320	0.05~0.10	NC10
	Al-alloy Si >12%	100-300	0.05~0.10	NC10
	Cu	200-250	0.05~0.10	NC10
	Brass and Bronze	150-250	0.05~0.10	NC10
	Hardened steel **40~56 HRC**	60-80	0.05~0.10	NC60

DC Slim Chuck

Extension Adaptor >>

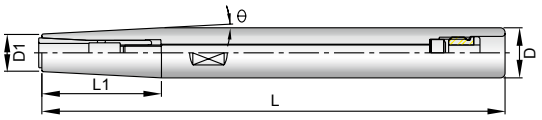
DC-E Collet

45° Engraving Tool

60° Engraving Tool

Spotting
90° Engraving Tool

* Stop Nut

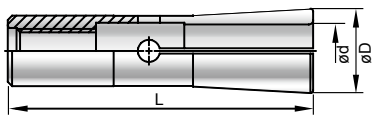


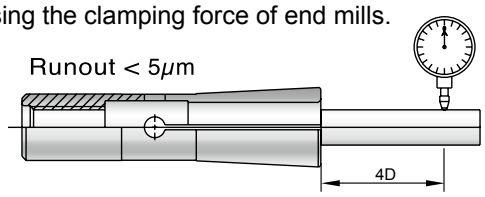
Parts No.	Type of Holder	d	L	L1	øD	D1	θ	Collet	Back Screw	Stop Screw	Hexagon Key	Stop Nut
0-329090-102	ST10-DC4-90	2~4	90	14	12	9	--	DC4	M4 * L60	--	0-301940~632	TP-M8
-112	ST12-DC4-120	2~4	120	38	12	9	3°		M4 * L85	OP-M8		--
0-329090-212	ST12-DC6-120	2~6	120	40	12	14	--	DC6	M5 * L95	--	0-301940~642	TP-M12
-222	ST16-DC6-150	2~6	150	38	16	14	3°		M5 * L100	OP-M10		--
-232	ST20-DC6-200	2~6	200	70	20	14	3°		M5 * L100	OP-M10		--
-242	ST25-DC6-250	2~6	250	115	25	14	3°		M5 * L100	OP-M10	0-301940~643	--
0-329090-322	ST20-DC8-200	3~8	200	28	20	19	2°	DC8	M6 * L120	OP-M12	0-301940~652	--
0-329090-432	ST25-DC10-250	4~10	250	28	25	24	2°	DC10	M8 * L150	OP-M16	0-301940~662	--

* Stop nut is applied when clamping and unclamping tools.

DC-E Collet >>

• The design of DC-E collets is emphasized on increasing the clamping force of end mills.





Type	DC-4E	DC-6E	DC-8E	DC-10E
D	7	9.6	15	19.1
L	31	36	45	52

DC4-E		DC6-E		DC8-E		DC10-E	
Parts No.	Size(mm)	Parts No.	Size(mm)	Parts No.	Size(mm)	Parts No.	Size(mm)
0-300090-102	2.0	0-300090-203	3.0	0-300090-303	3.0	-	-
0-300090-103	3.0	0-300090-204	4.0	0-300090-304	4.0	0-300090-404	4.0
0-300090-104	4.0	0-300090-206	6.0	0-300090-306	6.0	0-300090-406	6.0
				0-300090-308	8.0	0-300090-408	8.0
						0-300090-410	10.0

Extension Bar For NC Spot Drill

Solid Carbide Extension Bar >>

• TiN coated to identify the efficient length.

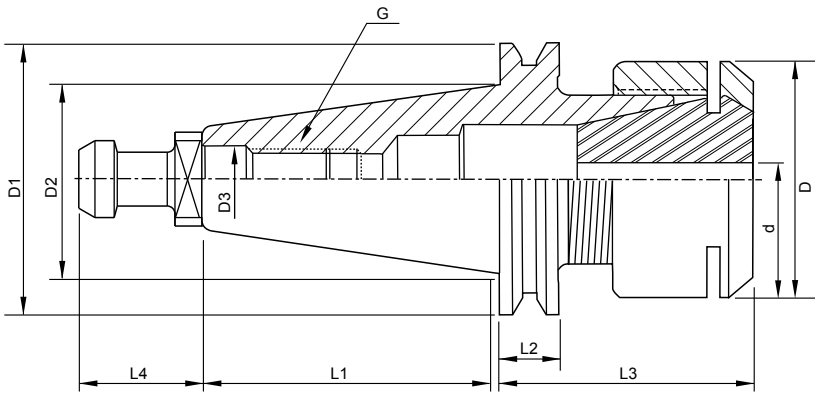
• NC Spot Drill
99616-10-M6 (P.15)
99616-14-M8 (P.17)

Order No.	Parts No.	ØD	T	L	M
00-99801-12W	BC12-100M06W	12	60	100	M6xP1.0
00-99801-14W	BC14-120M08W	14	70	120	M8xP1.25
00-99801-16W	BC16-150M08W	16	80	150	M8xP1.25

ISO 20/25 Tool Holder for Engraving Machine

Tool Holder >>

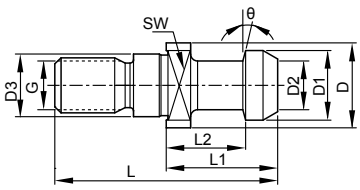
- Runout: 0.01mm (4xD).
- Max. speed: 50,000 r.p.m.
- Applied with pull stud and nut.



Taper Shank	Parts No.	Type	D1	D2	D3	D	L1	L2	L3	L4	G	Collet	Pull Stud	Clamping Nut
ISO20	0-225100-325	ISO20 ER16-R	33	22.2	8.5	22	33	8	30	12	M8	ER16	ISO20-D	CN-ER16R
ISO25	0-235100-425	ISO25 ER20-R	37	25.4	9	30	39.7	8	33	16	M8	ER20	ISO25-L	CN-ER20R

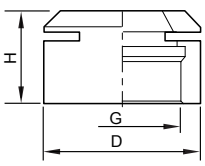
Pull Stud >>

Parts No.	Type	L	L1	L2	D	D1	D2	D3	θ	G	SW
0-220000-150	ISO20-D	26	12	9	12	9	6	8.5	15°	M8	10
0-220000-250	ISO20-L	28	14	10	11	8.5	6	8.5	15°	M8	9
0-230000-150	ISO25-D	28	12	9	13	11	7	9	15°	M8	11
0-230000-250	ISO25-L	32	16	11.5	12	10	7	9	15°	M8	10



Clamping Nut >>

Parts No.	Type	D	H	G
0-205100-302	CN-ER16R	22	19	M19X1.0P
0-205200-402	CN-ER20R	30	25	M25X1.5P



Spring Collet >>

- Concentricity (0.01mm)

Parts No: 300100-3XX	
Size	Range
ER16-3*	3-2
ER16-4	4-3
ER16-5	5-4
ER16-6	6-5
ER16-7	7-6
ER16-8	8-7
ER16-9	9-8
ER16-10	10-9

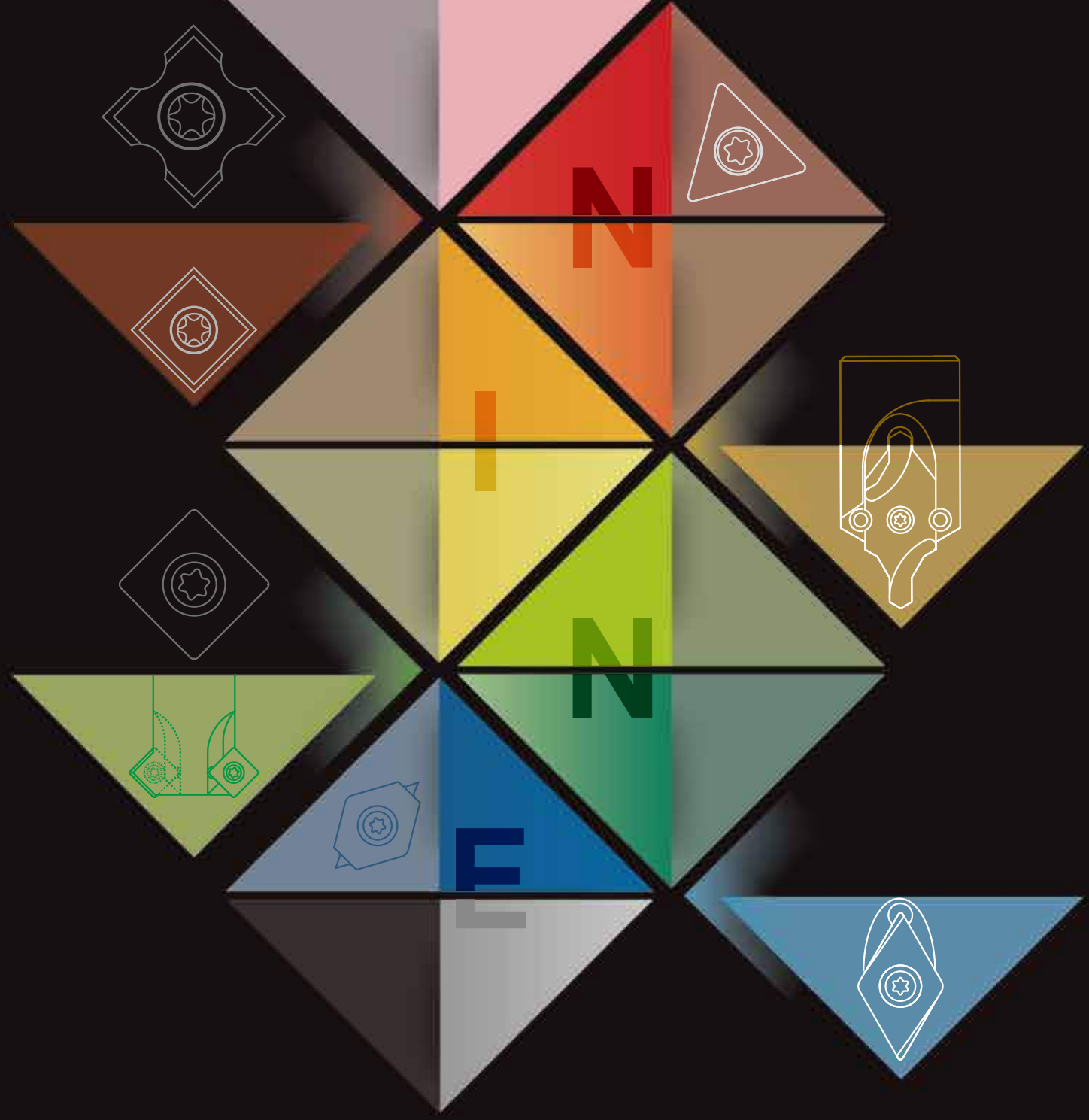
* Ordering example
ER16-3:300100-3**03**-AA

Parts No: 300100-4XX	
Size	Range
ER20-3	3-2
ER20-4	4-3
ER20-5	5-4
ER20-6	6-5
ER20-7	7-6
ER20-8	8-7
ER20-9	9-8
ER20-10*	10-9
ER20-11	11-10
ER20-12	12-11
ER20-13	13-12

* Ordering example
ER20-10:300100-4**10**-AA

You will be interested to know the whole range of Nine9 tools.

The Winner is not necessarily
the one who runs the fastest
but the one who holds on to the last



JIMMORE International Corp.

Distributor