Chamfer Mill >>>

45° Front And Back Chamfering!

Nine9 chamfer mill
is designed for chamfering and countersinking with indexable inserts.
The insert is a specifically designed for high speed machining ; the multiple flutes provide for increased feed rate, optimizing performance and reducing cutting time.

P M K N H

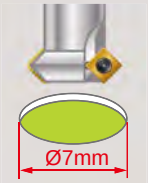
Economical

- Each insert has 4 cutting edges.
- Long tool life.

Features >>>

Excellent Repeatability

- Smallest Indexable counter sink, diameter Ø7 mm.
- The insert is dual-relief angle, specially edge honning and optimized coated for high cutting speed.
- Optimized the number of teeth on the holder to achieve higher feed rate.

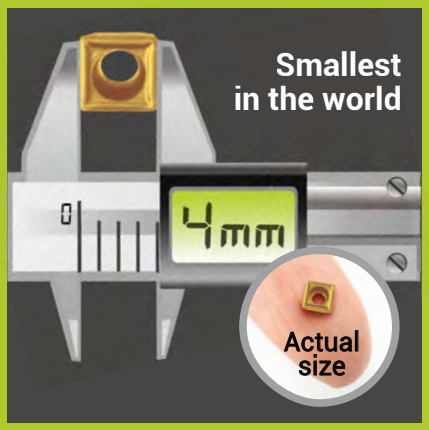


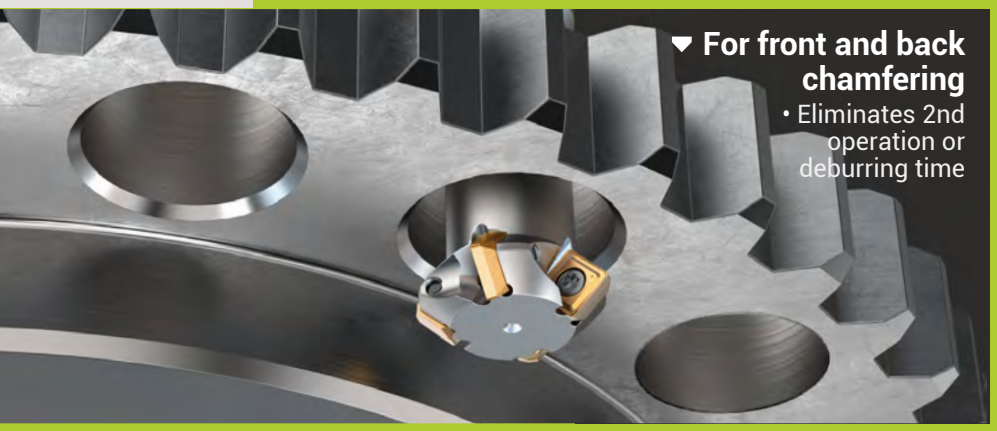
Applications

- For front and back chamfering.
- 90° counter sink and 45° chamfering.
- For counter sink, circular chamfering, contour chamfering and face milling.

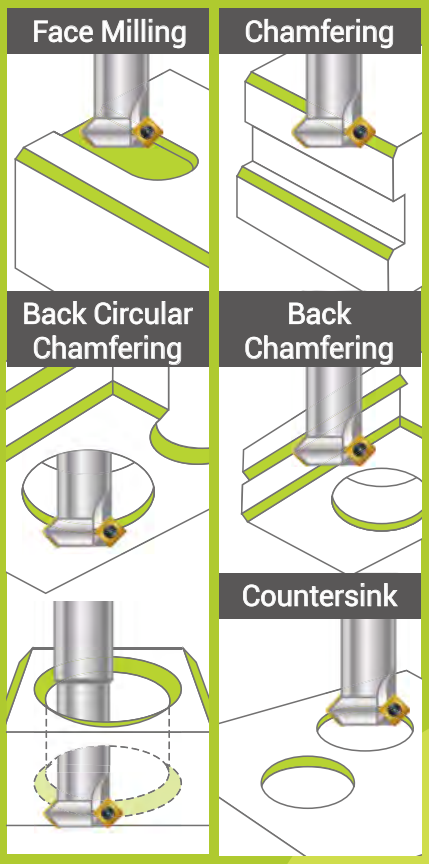
Eliminate 2nd Operation Or Deburring Time.

Applications





"
- Ultra high speed and feed rate.
- 4 times faster in cutting speed and up to 10 times higher in feed rate.
"



Indexable Chamfer Mill

Features >>

- Benefiting from the specially ground dual-relief insert and optimized coating, higher feed rate and cutting speed can be achieved on chamfering operation.
- Each insert has 4 cutting edges, reducing insert cost.
- Fine edge honning cutting edge, good chip breaking condition and long tool life.

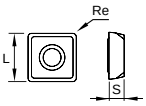
Inserts >>

NC2032: • AlTiN coating, very long tool life.
- For carbon steel, alloy steel, cast iron and hardened steel up to 56HRC
- Each insert has 4 cutting edges.

NC9071: • TiN coating, very sharp cutting edge produces excellent surface finish
- For non ferrous metal, aluminum, aluminum-alloy, brass, copper and stainless steel.
- Each insert has 4 cutting edges.


NC2032

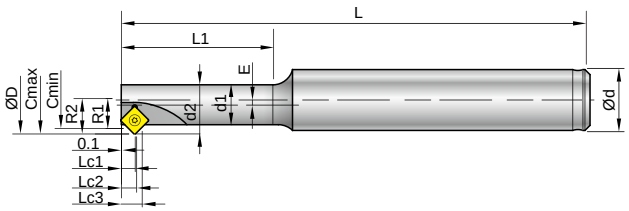

NC9071

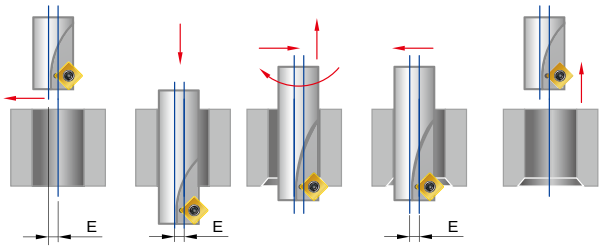
Code	Parts No.		Coating	Grade		Dimensions L	Dimensions S	Dimensions Re	Screw	Key
021401	N9GX04T002	NC2032	AlTiN	K20F		4.0	1.8	0.2	*NS-18037 0.6Nm	NK-T6
021402		NC9071	TiN							
023401	N9GX060204	NC2032	AlTiN			6.35	2.38	0.4	*NS-22055 0.9Nm	NK-T7
023402		NC9071	TiN							
025401	N9GX090308	NC2032	AlTiN			9.52	3.18	0.8	NS-30072 2.0Nm	NK-T9
025402		NC9071	TiN							

*Torque screwdriver is recommended.

Holder >>

- Made of hot working steel and hardened.
- Elliptical necked bar to optimize the tool strength.
- Shank is ground to h6 tolerance.





Code	Parts No.	Type	Cmin ø	Cmax ø	ød	ød1	ød2	øD	R1	R2	L	L1	Lc1	Lc2	Lc3	E	◇z	insert Screw / Key
701003	00-99616-C02	BC10-C02-80	6.8	8.8	10	5.25	6.5	9	3.4	4.4	80	20	2.56	2.93	3.93	1.25	1	N9GX04T002
701004	00-99616-C04	BC12-C04-100	8.5	10.8	12	6.45	8	11.1	4.25	5.4	100	25	2.51	2.98	4.13	1.55	1	*NS-18037 0.6Nm NK-T6
701005	00-99616-C06	BC12-C06-100	10.26	13.2	12	7.88	9.75	13.5	5.13	6.6	100	30	2.51	2.98	4.45	1.88	1	

*Torque screwdriver is recommended.

Holder >>

- Made from tool steel.
- Shank is ground to h6 tolerance.

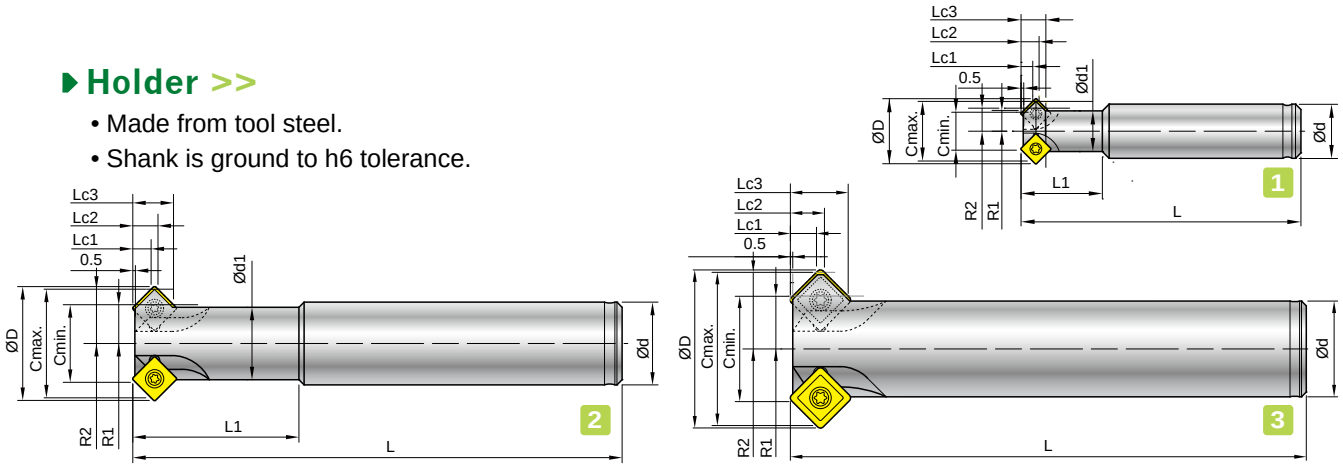
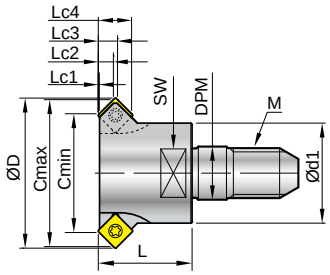


Fig	Code	Parts No.	Type	Cmin ø	Cmax ø	ød	ød1	øD	R1	R2	L	L1	Lc1	Lc2	Lc3	⟲z	insert Screw / Key
1	701001	00-99616-C10	BC10-C07-60	7	11	10	7.5	12	3.5	5.5	60	15	2.6	2.9	4.6	2	N9GX04 *NS-18037 0.6Nm NK-T6
	701002	00-99616-C20	BC12-C11-100	11	16	12	9.6	16.15	5.5	8.0	100	25	2.6	2.9	5.0	4	
2	703001	00-99616-C30	BC16-C15-120	15	21	16	14	22	7.5	10.5	120	40	3.5	4.9	7.9	4	N9GX06 *NS-22055 0.9Nm NK-T7
	703002	00-99616-C40	BC20-C19-130	19	25	20	18	26	9.5	12.5	130	50	3.5	4.9	7.9	4	
3	705001	00-99616-C50	BC20-C22-130	22	32	20	--	33	11	16	130	--	5.5	7.1	12.1	4	N9GX090 NS-30072 2.0Nm NK-T9
2	705002	00-99616-C52	BC25-C22-180	22	32	25	20	33	11	16	180	80	5.5	7.1	12.1	4	

*Torque screwdriver is recommended.

Screw Fit Cutter >>

- Quick and easy to change system and provides chamfering flexibility.
- Capable of extended overhangs by almost any kind of the screw-fit tool holder or extension bar in the market.



Code	Parts No.	Type	Cmin ø	Cmax ø	øD	M	SW	ød1	DPM	L	Lc1	Lc2	Lc3	Lc4	⟲z	insert Screw / Key
721101	00-99616-CM16-M05	M05-CM16	11	16	16.15	M5	8	10	5.5	15	0.09	2.59	2.9	5.4	3	N9GX04 *NS-18037 0.6Nm / NK-T6
721201	00-99616-CM20-M06	M06-CM20	15	20	20.15	M6	11	12	6.5	16	0.09	2.59	2.9	5.4	4	
723301	00-99616-CM23-M08	M08-CM23	19	23.5	24	M8	14	16	8.5	19	0.16	2.41	3.08	5.33	4	
723401	00-99616-CM29-M10	M10-CM29	23	29	30	M10	18	20	10.5	17	0.54	3.54	4.87	7.87	4	N9GX06 *NS-22055 0.9Nm / NK-T7

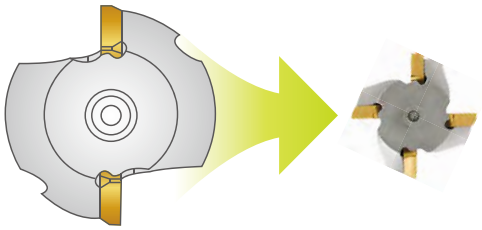
* Refer to page 9-156 for extension bars.

*Torque screwdriver is recommended.

Starter Kit >>

Fig	Code	Parts No.	Insert included	Holder included	Content
1	701201-1401	00-99616-C1020-32	N9GX04T002-NC2032	00-99616-C10 + 00-99616-C20	2 x holders + 10 inserts + 1 key
	701201-1402	00-99616-C1020-71	N9GX04T002-NC9071		
2	703201-3401	00-99616-C3040-32	N9GX060204-NC2032	00-99616-C30 + 00-99616-C40	
	703201-3402	00-99616-C3040-71	N9GX060204-NC9071		
3	705201-5401	00-99616-C5052-32	N9GX090308-NC2032	00-99616-C50 + 00-99616-C52	
	705201-5402	00-99616-C5052-71	N9GX090308-NC9071		

Performance



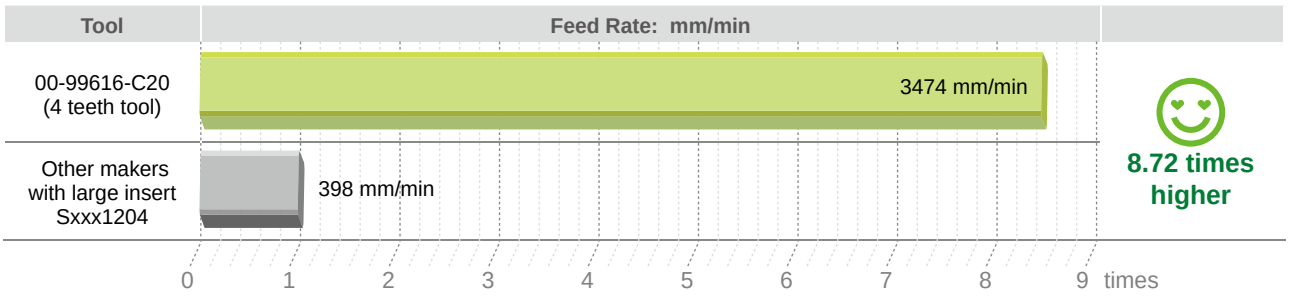
Feed Rate =
Feed per Tooth x Spindle Speed x **No. of Flute** mm/min.

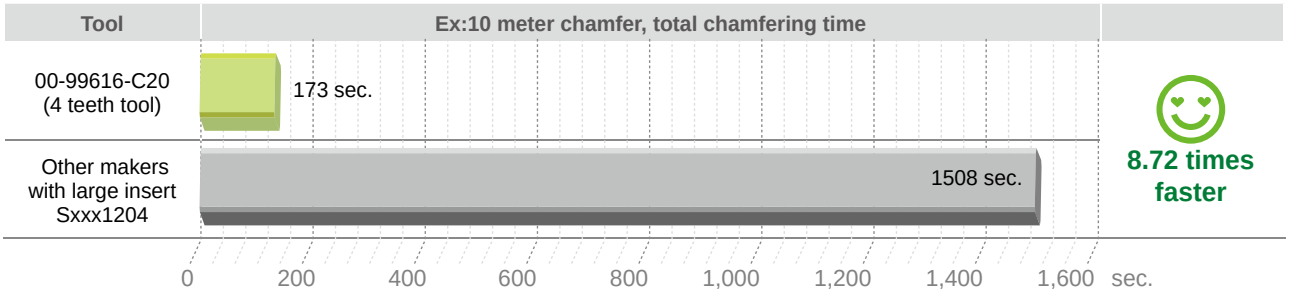
UP **Spindle Speed** = $\frac{\text{Cutting Speed x 1000}}{\pi \text{ x Cmin.}}$

Comparison >>

• Chamfer tool with larger insert(Sxxx1204) and Nine9 N9GX04 insert.

Tool			
Cutting data		**Nine 9 Chamfer mills**	**Other makers with Large insert**
Chamfering		1 mm	1 mm
Feed rate	**mm/rev.**	0.1	0.1
Dia. of cutter	**mm**	11	32
Teeth of cutter		**4**	2
Cutting Speed Vc	**m/min.**	300	200
Spindle Speed	**r.p.m.**	**8685**	1990
Feed rate	**mm/min**	**3474**	398





Cutting Data

99616-C02, C04, C06 Cutting Data >>

Workpiece Material		Sample Code (JIS)	Cutting Speed VC (m/min.)	Feed Rate (mm / tooth) N9GX04T002 Max. Chamfering 1.5mm	Grade of Insert
P	Carbon steel C<0.3%	SS400	60-80-120	0.02 ~ 0.07	NC9071
P	Carbon steel C>0.3%	S50C, P5	60-80-120	0.02 ~ 0.07	NC2032
P	Low alloy steel C<0.3%	SCM420	60-80-120	0.01 ~ 0.04	NC9071
P	High alloy steel C>0.3%	SKD11	60-80-120	0.02 ~ 0.07	NC2032
M	Stainless steel	SUS304	30-60-100	0.01 ~ 0.04	NC9071
K	Cast iron	FC25	60-80-120	0.02 ~ 0.06	NC2032
N	Al, and non-ferrous metal	A6061	80-100-150	0.03 ~ 0.10	NC9071

99616-C10~C52 Cutting Data >>

Workpiece Material		Sample Code (JIS)	Cutting Speed VC (m/min.)	Feed Rate (mm / tooth) N9GX04T002 Max. Chamfering 1.5mm	N9GX060204 Max. Chamering 2.5mm	N9GX090308 Max. Chamfering 4mm	Grade of Insert
P	Carbon steel C<0.3%	SS400	150-250-350	0.06~0.12	0.10~0.25	0.10~0.25	NC9071
P	Carbon steel C>0.3%	S50C,P5	200-300-400	0.06~0.10	0.10~0.20	0.10~0.25	NC2032
P	Low alloy steel C<0.3%	SCM420	180-240-260	0.06~0.10	0.10~0.20	0.10~0.20	NC9071
P	High alloy steel C>0.3%	SKD11	120-150-200	0.06~0.10	0.10~0.15	0.10~0.15	NC2032
M	Stainless steel	SUS304	120-150-180	0.06~0.10	0.06~0.15	0.10~0.20	NC9071
K	Casting iron	FC25	120-150-180	0.06~0.10	0.10~0.15	0.10~0.20	NC2032
N	Al, and non-ferrous metal	A6061	200-400-600	0.06~0.15	0.10~0.25	0.10~0.25	NC9071
H	Hardened steel<50 HRC	SKD61	80-90-100	0.06~0.10	0.06~0.12	0.10~0.15	NC2032