

HA (H-SERIES) CHIP BREAKER

FOR STAINLESS STEEL, SOFT STEEL, ALUMINUM



WIDE CUTTING EDGE, HIGH RAKE ANGLE

- Outstanding Chip Control
- Prevention of Built-up-edge
- Reduction of Cutting Resistance

INNOVATIVE SHAPE FOR HIGH TOUGHNESS

- Improved Strength of Cutting Edge
- Guide of Chip flow in the finishing
- Prevention of Chipping and Cracking

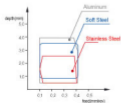
2 STEP CHIP BREAKER

- For Excellent Chip Cut
- For low resistance of Chip flow

CURVE CUTTING EDGE

- Sharp Edge for Low speed cutting
- Excellent surface finish

Chip Range as to Work-Piece



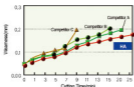
Applicable Specification

Cat. No.	CVD			PVD		Uncoated
	NC3020	NC9020	NC330	PC3030	H01	
C1MG1204-DI-HA	●	●		●	●	
C1MG1204-08-HA	●	●		●	●	
DNMG2504-DI-HA	●	●		●	●	
DNMG2504-08-HA	●	●		●	●	
SNMG1204-DI-HA	●	●		●	●	
SNMG1204-08-HA	●	●		●	●	
TNMG1604-DI-HA	●	●		●	●	
TNMG1604-08-HA	●	●		●	●	
WNMG0804-DI-HA	●	●		●	●	
WNMG0804-08-HA	●	●		●	●	

● Stock management item

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HA Wear-resistance



KORLOY HA



Competitor A

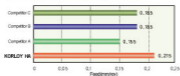


Competitor B



Competitor C

HA Chipping-resistance



Cutting Condition for Resistance

1. Work-Piece: ST5304/55CrNi198 DIN
2. Cutting Condition: V=150m/min, F=0.15mm, P=2.0mm
3. Spec: CNMG130408-HA NC330

Cutting Condition for Impact Resistance

1. Work-Piece: SM13C (X130 DIN)
2. Cutting Condition: V=130m/min, Minifeed(mm/min), P=2.0mm
3. Spec: CNMG130408-HA NC330

Recommended Cutting Condition

Work-Piece		Hardness	CB	Grade	Recommended Cutting Condition		
					Velocity(m/min)	Feed(mm/rev)	Depth(mm)
Soft Steel	SM10C, SM15C SM25C, SM40C SCM415 SCM415 etc.	≤180HB		NC330	200~350	0.1~0.4	0.8~3.5
				NC330	180~300	0.1~0.4	
Stainless Steels	Cr + Ni (Austenite) -ST5300 -ST5300	135~185HB		NC9020	130~150	0.15~0.35	0.5~2.5
				NC330	100~120	0.1~0.35	
				PC9030	100~120	0.1~0.35	
	Cr (Ferrite, Martensite) -ST5400	135~275HB		NC9020	140~170	0.2~0.4	
				NC330	130~150	0.15~0.4	
				PC9030	130~150	0.15~0.43	
Precipitated Hardening -ST5600	230~360HB		NC9020	120~140	0.15~0.25		
			NC330	100~120	0.1~0.25		
AL	Aluminum Aluminum Alloy	20~125HB		NC330	100~120	0.1~0.25	0.5~4.0
				PC9030	100~120	0.1~0.25	