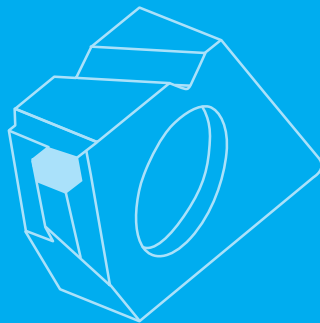


GROOVING / PCBN

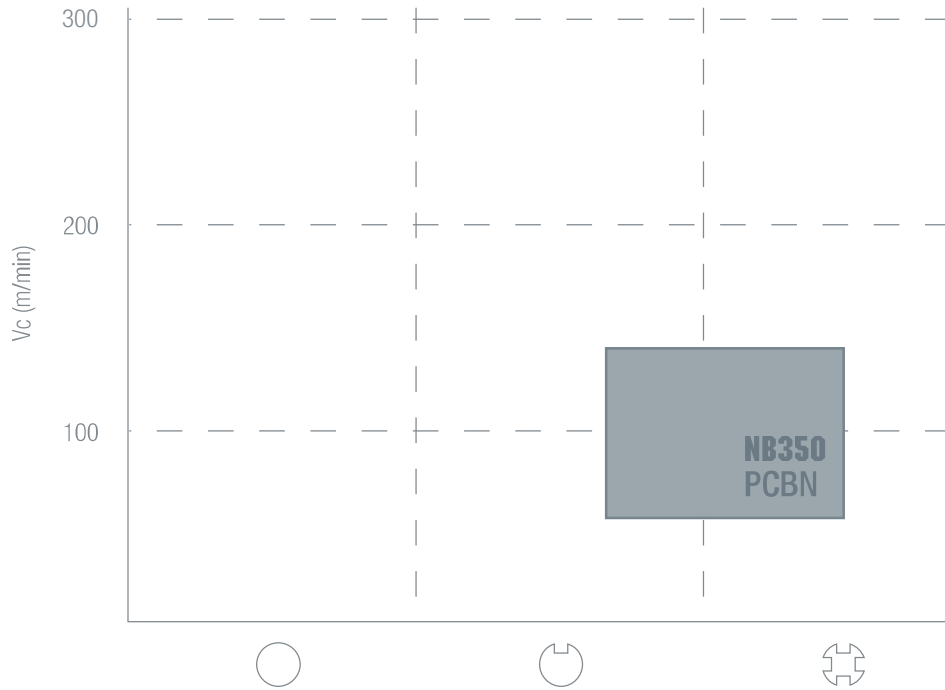


GRADES

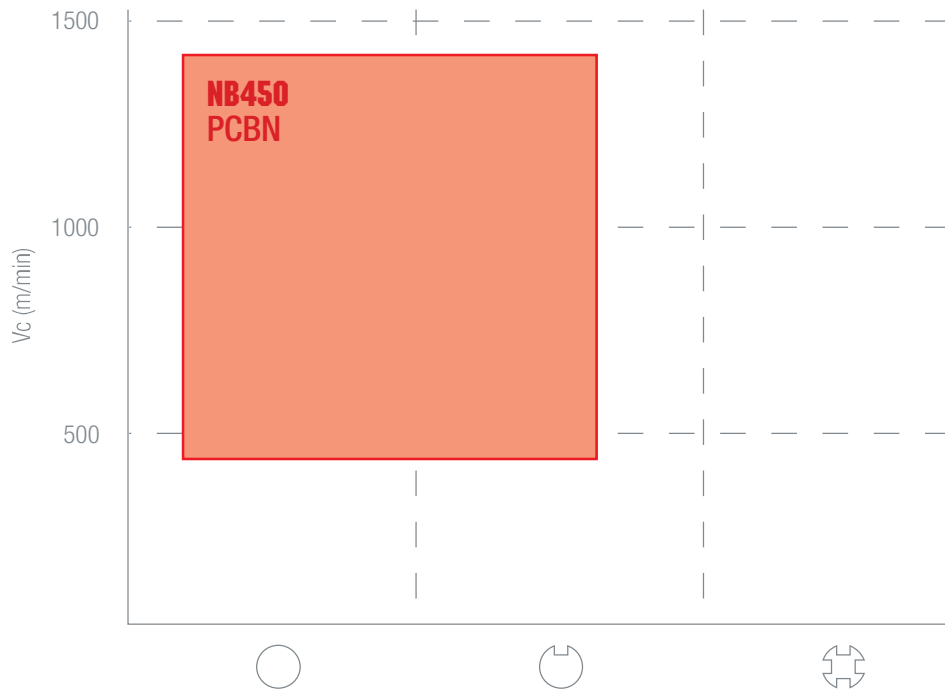
TURNING			H					K														
MICRONEGATIVE	ISO DIN 513		○	←			⊕	○	←			⊕										
MICROBORING			H01	H10	H20	H30	H40	K01	K10	K20	K30	K40										
THREADING	PCBN-Carbide reinforced																					
GROOVING			NB350					NB450														
MILLING	PCBN-Vertical & Solid (NBS Series)																					
DRILLING																						
SPARE PARTS																						
INDEX																						

COATED

RANGE ISO **H** PCBN-Carbide reinforced



RANGE ISO **K** PCBN-Carbide reinforced



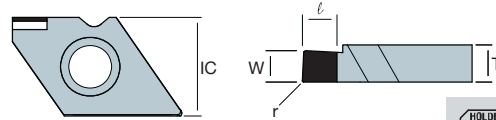
$V_c \cdot f_n$ 258

- TURNING
- MICRONEGA
- MICROBORING
- THREADING
- GROOVING**
- MILLING
- DRILLING
- SPARE PARTS
- INDEX

TURNING

BGF

FLAT



MICRONEGATIVE

MICROBORING

THREADING

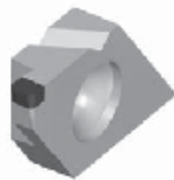
GROOVING

MILLING

DRILLING

SPARE PARTS

INDEX



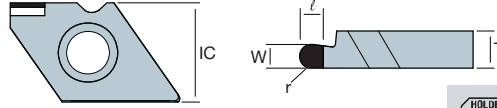
DESCRIPTION	DIMENSIONS						PCBN-Carbide reinforced							
	W ±0.05	l	r	IC	T	NB350		NB450U						
						R	L	R	L					
BGF R/L	100-010	1.00	1.8	0.10	12.70	4.76	●	●	○	○				
	120-010	1.20	1.8	0.10	12.70	4.76	●	○	○	○				
	140-010	1.40	1.8	0.10	12.70	4.76	●	○	○	○				
	150-010	1.50	2.6	0.10	12.70	4.76	●	●	○	○				
	170-010	1.70	2.6	0.10	12.70	4.76	○	○	○	○				
	185-010	1.85	2.6	0.10	12.70	4.76	○	○	○	○				
	195-010	1.95	2.6	0.10	12.70	4.76	●	○	○	○				
	200-010	2.00	3.0	0.10	12.70	4.76	●	○	○	○				
	200-020	2.00	3.0	0.20	12.70	4.76	●	●	○	○				
	225-020	2.25	3.0	0.20	12.70	4.76	○	○	○	○				
	230-020	2.30	3.0	0.20	12.70	4.76	○	○	○	○				
	250-020	2.50	3.5	0.20	12.70	4.76	●	●	○	○				
	275-020	2.75	3.5	0.20	12.70	4.76	○	○	○	○				
	280-020	2.80	3.5	0.20	12.70	4.76	○	○	○	○				
	300-020	3.00	4.5	0.20	12.70	4.76	●	●	●	●				
	330-020	3.30	4.5	0.20	12.70	4.76	○	○	○	○				
350-020	3.50	4.5	0.20	12.70	4.76	●	●	○	○					
400-020	4.00	4.5	0.20	12.70	4.76	●	●	○	○					
NB450U = uncoated														

Vc · fn

258

BGF

FULL RADIUS



DESCRIPTION	DIMENSIONS						PCBN-Carbide reinforced								
	W ±0.05	l	r	IC	T	NB350		NB450U							
						R	L	R	L						
	BGF R/L	100-050FR	1.00	1.8	0.50	12.70	4.76	○	○	○	○				
	150-075FR	1.50	2.6	0.75	12.70	4.76	○	●	○	○					
	200-100FR	2.00	3.0	1.00	12.70	4.76	●	○	○	○					
	250-125FR	2.50	3.5	1.25	12.70	4.76	○	○	○	○					
	300-150FR	3.00	4.5	1.50	12.70	4.76	●	○	○	○					
	350-175FR	3.50	4.5	1.75	12.70	4.76	○	○	○	○					
	400-200FR	4.00	4.5	2.00	12.70	4.76	●	○	○	○					
NB450U = uncoated															

- TURNING
- MICRONEGA
- MICROBORING
- THREADING
- GROOVING
- MILLING
- DRILLING
- SPARE PARTS
- INDEX

Vc · fn 258

CUTTING PARAMETERS

TURNING

MICRONEGA

MICROBORING

THREADING

GROOVING

MILLING

DRILLING

SPARE PARTS

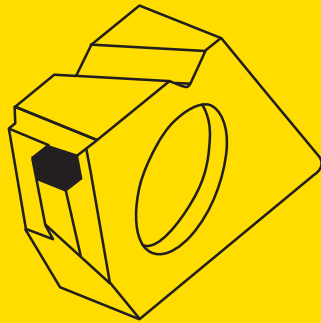
INDEX

H HH	HARDENED STEEL	H HB	BEARING STEEL
	ACCIAIO TEMPRATO		ACCIAIO PER CUSCINETTI
	GEHÄRTETER STAHL		STAHL FÜR LAGER
	ACIER TREMPÉ		ACIER POUR ROUEMENTS
	ACERO TEMPLADO		ACERO PARA RODAMIENTOS
ЗАКАЛЕННАЯ СТАЛЬ	СТАЛЬ ДЛЯ ПОДШИПНИКОВ		
H HC	CASEHARDENED STEEL		
	ACCIAIO CEMENTATO		
	EINGESETZTER STAHL		
	ACIER CEMENTÉ		
	ACERO CEMENTADO		
ЦЕМЕНТИРОВАННАЯ СТАЛЬ			

MATERIAL	W (mm)	f _n (mm/rev)	CUTTING CONDITIONS		PCBN		
					NB350	NB450U	
H HH	1.00~2.00	0.05~0.12	○	☹ ☹	*		
	2.00~3.00	0.05~0.15			80~150		
	3.00~4.00	0.08~0.15			80~150		
	1.00~2.00	0.05~0.12	⊕	☹	60~120	*	
	2.00~3.00	0.05~0.15			60~120	80~150	
	3.00~4.00	0.08~0.15			60~120	80~150	
	H HC	1.00~2.00	0.05~0.12	○	☹ ☹	*	
		2.00~3.00	0.05~0.15			80~140	
		3.00~4.00	0.08~0.15			80~140	
1.00~2.00		0.05~0.12	⊕	☹	60~100	*	
2.00~3.00		0.05~0.15			60~100	80~140	
3.00~4.00		0.08~0.15			60~100	80~140	
H HB		1.00~2.00	0.05~0.12	○	☹ ☹	*	
		2.00~3.00	0.05~0.15			80~120	
		3.00~4.00	0.08~0.15			80~120	
	1.00~2.00	0.05~0.12	⊕	☹	60~100	*	
	2.00~3.00	0.05~0.15			60~100	80~120	
	3.00~4.00	0.08~0.15			60~100	80~120	

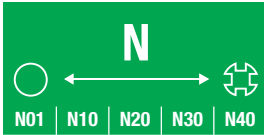
* = 1st choice / 1^a scelta / 1. Wahl / 1^{er} choix / 1^a elección / 1-й выбор

GROOVING / diamond



GRADES

	ISO DIN 513																					
	N																					
	N01	N10	N20	N30	N40																	
TURNING																						
MICRONEGATIVE																						
MICROBORING																						
THREADING																						
GROOVING																						
MILLING																						
DRILLING																						
SPARE PARTS																						
INDEX																						



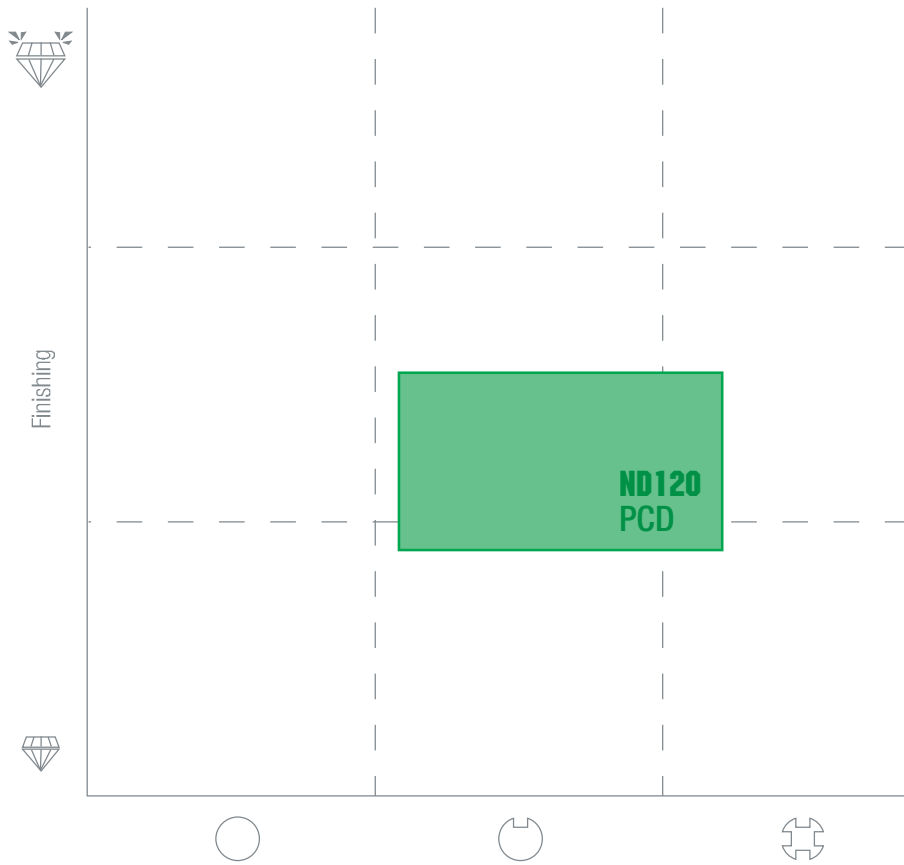
ND120

PCD

CVD

MONO

RANGE ISO **N** DIAMOND



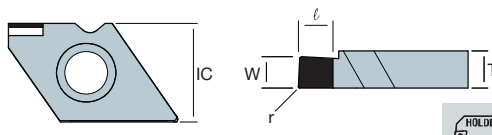
TURNING
MICRONEGA
MICROBORING
THREADING
GROOVING
MILLING
DRILLING
SPARE PARTS
INDEX


Vc · fn ▶ 264

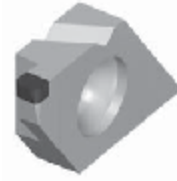
- TURNING
- MICROMEGA
- MICROBORING
- THREADING
- GROOVING**
- MILLING
- DRILLING
- SPARE PARTS
- INDEX

BGF

FLAT



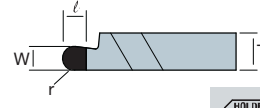
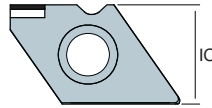


DESCRIPTION	DIMENSIONS						PCD													
	W ±0.05	l	r	IC	T	R	L													
	BGF #/L																			
	100-010	1.00	1.8	0.10	12.70	4.76	○													
	120-010	1.20	1.8	0.10	12.70	4.76	○													
	140-010	1.40	1.8	0.10	12.70	4.76	○													
	150-010	1.50	2.6	0.10	12.70	4.76	○													
	170-010	1.70	2.6	0.10	12.70	4.76	○													
	185-010	1.85	2.6	0.10	12.70	4.76	○													
	195-010	1.95	2.6	0.10	12.70	4.76	○													
	200-010	2.00	3.0	0.10	12.70	4.76	○													
	200-020	2.00	3.0	0.20	12.70	4.76	●													
	225-020	2.25	3.0	0.20	12.70	4.76	○													
	230-020	2.30	3.0	0.20	12.70	4.76	○													
	250-020	2.50	3.5	0.20	12.70	4.76	○													
	275-020	2.75	3.5	0.20	12.70	4.76	○													
	280-020	2.80	3.5	0.20	12.70	4.76	○													
	300-020	3.00	4.5	0.20	12.70	4.76	●													
330-020	3.30	4.5	0.20	12.70	4.76	○														
350-020	3.50	4.5	0.20	12.70	4.76	○														
400-020	4.00	4.5	0.20	12.70	4.76	○														

Vc · fn 264

BGF

FULL RADIUS



DESCRIPTION		DIMENSIONS					PCD									
		W ±0.05	l	r	IC	T	R	L								
	BGF R/L	100-050FR	1.00	1.8	0.50	12.70	4.76	○								
		150-075FR	1.50	2.6	0.75	12.70	4.76	○								
		200-100FR	2.00	3.0	1.00	12.70	4.76	○								
		250-125FR	2.50	3.5	1.25	12.70	4.76	○								
		300-150FR	3.00	4.5	1.50	12.70	4.76	●								
		350-175FR	3.50	4.5	1.75	12.70	4.76	○								
		400-200FR	4.00	4.5	2.00	12.70	4.76	○								

- TURNING
- MICROBORING
- MICROBORING
- THREADING
- GROOVING**
- MILLING
- DRILLING
- SPARE PARTS
- INDEX

Vc · fn ▶ 264

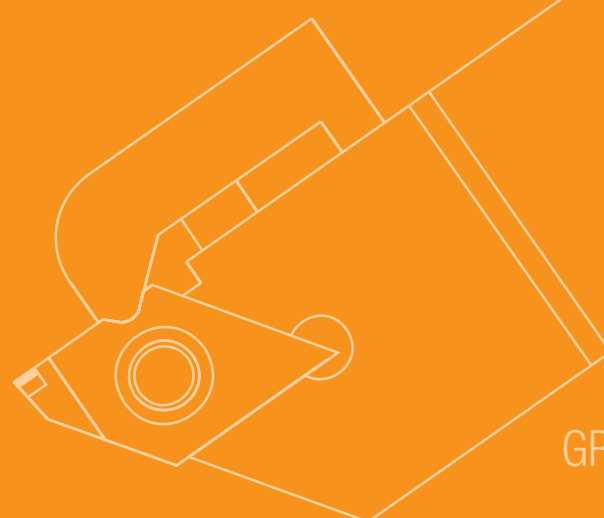
CUTTING PARAMETERS

- TURNING
- MICRONEGATIVE
- MICROBORING
- THREADING
- GROOVING**
- MILLING
- DRILLING
- SPARE PARTS
- INDEX

N	NA	ALUMINUM ALLOYS	N	NB	BRASS
		LEGHE DI ALLUMINIO			OTTONE
		ALUMINIUMLEGIERUNGEN			MESSING
		ALLIAGES D'ALUMINIUM			LAITON
		ALEACIONES DE ALUMINIO			LATÓN
		СПЛАВЫ АЛЮМИНИЯ			ЛАТУНЬ
N	NS	ALUMINUM ALLOYS (Si >15%)	N	NG	GRAPHITE
		LEGHE DI ALLUMINIO (Si >15%)			GRAFITE
		ALUMINIUMLEGIERUNGEN (Si >15%)			GRAPHIT
		ALLIAGES D'ALUMINIUM (Si >15%)			GRAPHITE
		ALEACIONES DE ALUMINIO (Si >15%)			GRAFITO
		СПЛАВЫ АЛЮМИНИЯ (Si >15%)			ГРАФИТ

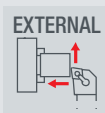













MATERIAL	W (mm)	f _n (mm/rev)	CUTTING CONDITIONS		PCD	
					ND120	
N	NA	1.00~2.00	0.05~0.12			600~2500
		2.00~3.00	0.05~0.15			600~2500
		3.00~4.00	0.08~0.15			600~2500
	NS	1.00~2.00	0.05~0.12			500~1500
		2.00~3.00	0.05~0.15			500~1500
		3.00~4.00	0.08~0.15			500~1500
	NB	1.00~2.00	0.05~0.12			400~1200
		2.00~3.00	0.05~0.15			400~1200
		3.00~4.00	0.08~0.15			400~1200
NG	1.00~2.00	0.05~0.12			300~800	
	2.00~3.00	0.05~0.15			300~800	
	3.00~4.00	0.08~0.15			300~800	

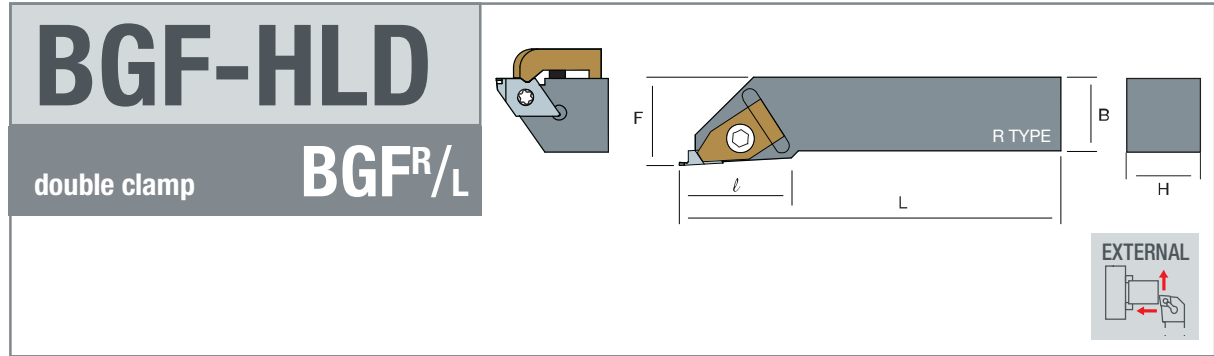
★ = 1st choice / 1^a scelta / 1. Wahl / 1^{er} choix / 1^{ra} elección / 1-й выбор



GROOVING / holders

CAPTION LEGENDA / LEGENDE / LÉGENDE / CLAVE / УСЛОВНЫЕ ОБОЗНАЧЕНИЯ

TURNING	 <ul style="list-style-type: none">  EXTERNAL HOLDERS  UTENSILI PER LAVORAZIONE ESTERNA  WERKZEUG FÜR AUSSENBEARBEITUNGEN  OUTILS POUR USINAGE EXTÉRIEUR  HERRAMIENTAS PARA MECANIZADO EXTERIOR  ИНСТРУМЕНТ ДЛЯ ВНЕШНЕЙ ОБРАБОТКИ 	
MICRONEGA		
MICROBORING	 <ul style="list-style-type: none">  DOUBLE CLAMPING  DOPPIO BLOCCAGGIO  DOPPELKLEMME  FERMETURE DOUBLE  SUJECIÓN RÍGIDA  ДВОЙНОЕ КРЕПЛЕНИЕ 	
THREADING		
GROOVING		
MILLING		
DRILLING		
SPARE PARTS		
INDEX		



BGF ^{R/L}	DESCRIPTION	STOCK		DIMENSIONS											
		R	L	H	B	L	F	ℓ							
BGF ^{R/L}	BGF-HLD	1616 ^{R/L}	●	○	16	16	150	30	44.5	NT-ST300	NT-FT15	NT-CS300 ^{R/L}	NT-SC300	NT-WR040	
		2020 ^{R/L}	●	●	20	20	150	30	44.5	NT-ST300	NT-FT15	NT-CS300 ^{R/L}	NT-SC300	NT-WR040	
		2525 ^{R/L}	●	●	25	25	150	30	44.5	NT-ST300	NT-FT15	NT-CS300 ^{R/L}	NT-SC300	NT-WR040	
		3232 ^{R/L}	○	○	32	32	170	40	44.5	NT-ST300	NT-FT15	NT-CS300 ^{R/L}	NT-SC300	NT-WR040	

- TURNING
- MICRONEGA
- MICROBORING
- THREADING
- GROOVING
- MILLING
- DRILLING
- SPARE PARTS
- INDEX

PCBN 256

diamond 262