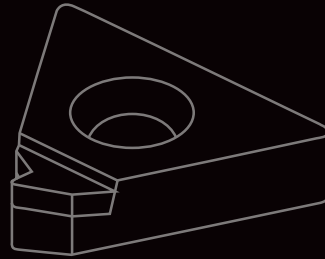




THREADING / carbide

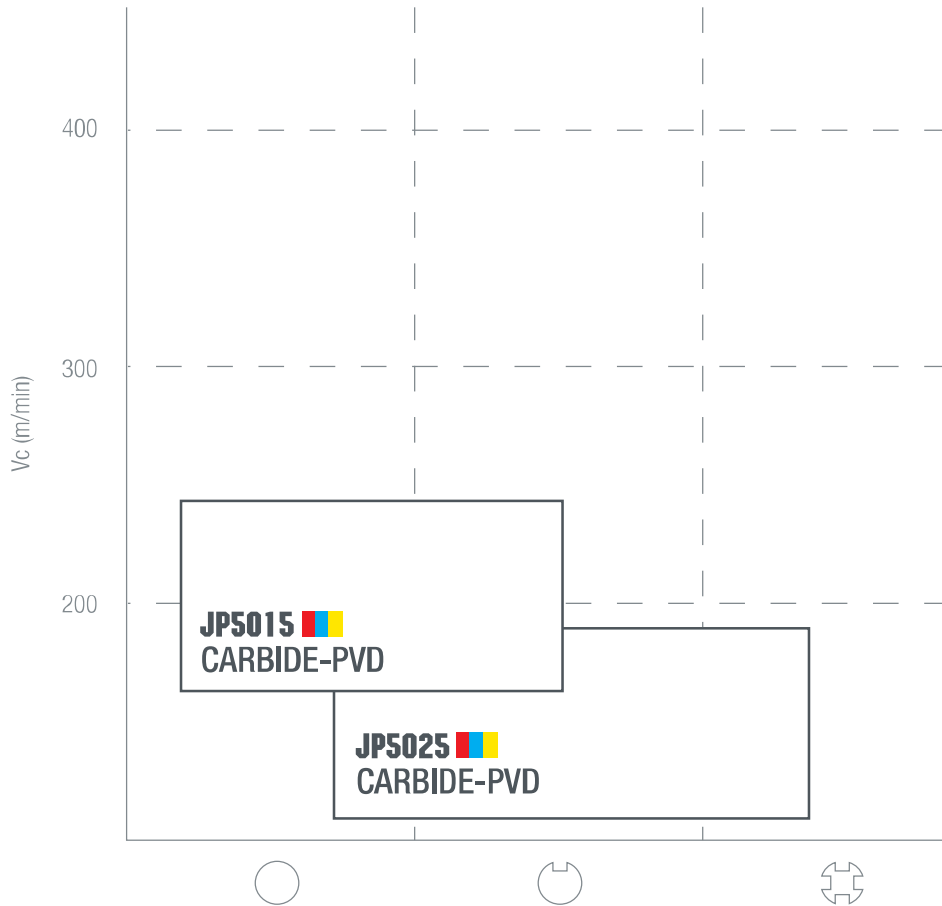


GRADES

TURNING	ISO DIN 513																			
	K					P					M									
	K01	K10	K20	K30	K40	P01	P10	P20	P30	P40	M01	M10	M20	M30	M40					
MICROBORA																				
MICROBORING																				
THREADING																				
GROOVING						JP5015					JP5015									
						JP5025					JP5025									
MILLING																				
DRILLING																				
SPARE PARTS																				
INDEX																				

RANGE ISO **K** **P** **M**

GRADES



- TURNING
- MICRONEGA
- MICROBORING
- THREADING**
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- TURNING
- MICRONEGA
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16ER

EXTERNAL METRIC

	DESCRIPTION	DIMENSIONS						CARBIDE-PVD							
			r	IC	T	Ød		JP5015	JP5025						
	16ER	100ISO-TPM	1.00	0.12	9.525	3.6	3.95	★	★						
		125ISO-TPM	1.25	0.15	9.525	3.6	3.95	★	★						
		150ISO-TPM	1.50	0.19	9.525	3.6	3.95	★	★						
		175ISO-TPM	1.75	0.22	9.525	3.6	3.95	★	★						
		200ISO-TPM	2.00	0.25	9.525	3.6	3.95	★	★						
		250ISO-TPM	2.50	0.33	9.525	3.6	3.95	★	★						
		300ISO-TPM	3.00	0.41	9.525	3.6	3.95	★	★						

16IR

INTERNAL METRIC

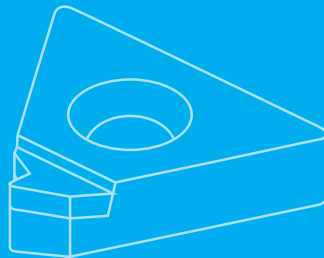
NEW

		DESCRIPTION	DIMENSIONS					CARBIDE-PVD											
				r	IC	T	Ød	JP5015	JP5025										
		16IR																	
		100ISO-TPM	1.00	0.07	9.525	3.6	3.95	★	★										
		125ISO-TPM	1.25	0.08	9.525	3.6	3.95	★	★										
		150ISO-TPM	1.50	0.11	9.525	3.6	3.95	★	★										
		175ISO-TPM	1.75	0.12	9.525	3.6	3.95	★	★										
		200ISO-TPM	2.00	0.14	9.525	3.6	3.95	★	★										
		250ISO-TPM	2.50	0.17	9.525	3.6	3.95	★	★										
300ISO-TPM	3.00	0.19	9.525	3.6	3.95	★	★												

- TURNING
- MICRONEGA
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THREADING / PCBN

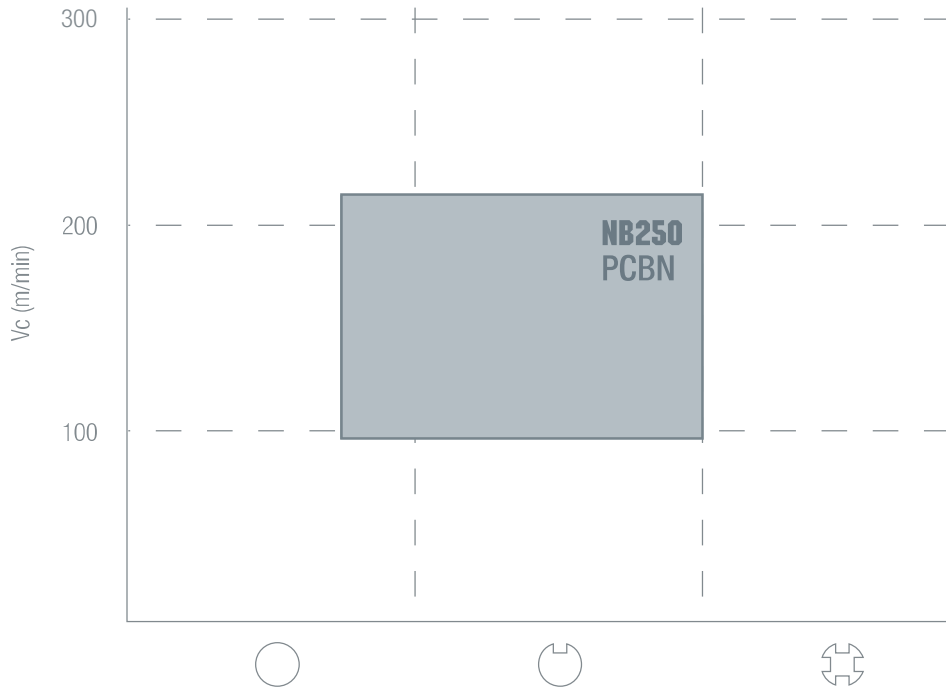


GRADES

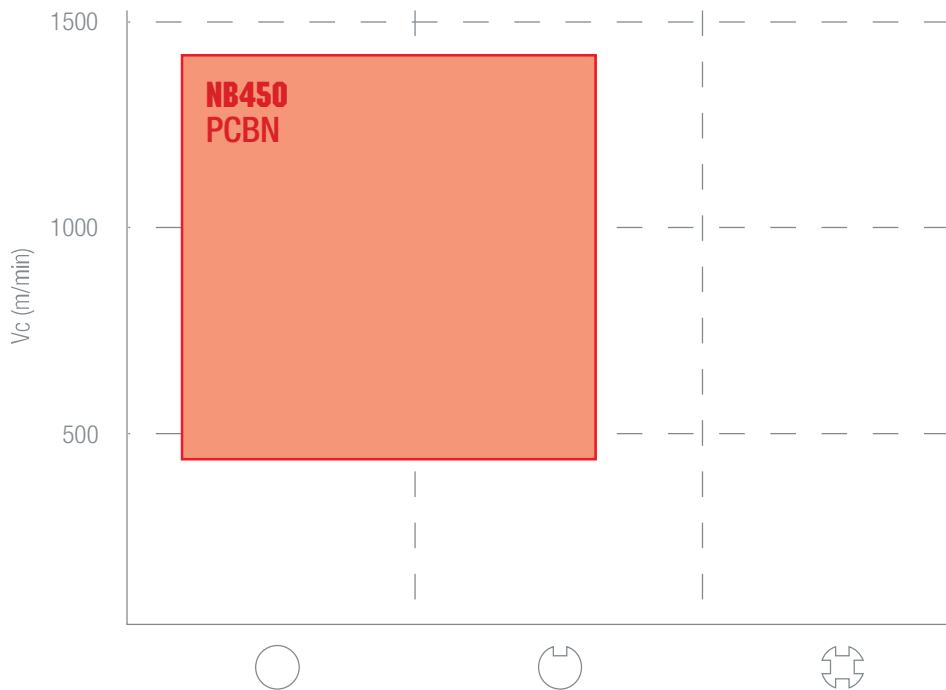
TURNING			H					K																			
MICRONEGATIVE	ISO DIN 513		←					←																			
MICROBORING			H01	H10	H20	H30	H40	K01	K10	K20	K30	K40															
THREADING	PCBN-Carbide reinforced		NB250					NB450																			
GROOVING																											
MILLING	PCBN-Vertical & Solid (NBS Series)																										
DRILLING																											
SPARE PARTS																											
INDEX																											

COATED

RANGE ISO **H** PCBN-Carbide reinforced



RANGE ISO **K** PCBN-Carbide reinforced



$V_c \cdot a_p$ 240

- TURNING
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- MICROBORING
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TURNING

MICRONEGA

MICROBORING

THREADING

GROOVING

MILLING

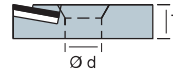
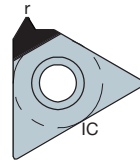
DRILLING

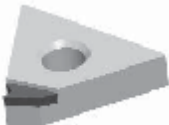
SPARE PARTS

INDEX

16ER

EXTERNAL METRIC

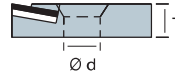
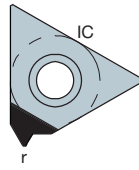


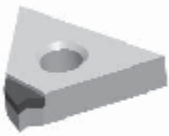
DESCRIPTION	DIMENSIONS						PCBN						
		r	IC	T	Ød	NB250U	NB450U						
 <p>16ER</p>	100ISO	1.00	0.12	9.525	3.6	3.95	●	●					
	125ISO	1.25	0.15	9.525	3.6	3.95	○	○					
	150ISO	1.50	0.19	9.525	3.6	3.95	●	●					
	175ISO	1.75	0.22	9.525	3.6	3.95	○	○					
	200ISO	2.00	0.25	9.525	3.6	3.95	●	●					
	250ISO	2.50	0.33	9.525	3.6	3.95	○	○					
	300ISO	3.00	0.41	9.525	3.6	3.95	○	○					
<p>NB250U = uncoated NB450U = uncoated</p>													

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16IR

INTERNAL METRIC



DESCRIPTION	DIMENSIONS						PCBN					
		r	IC	T	Ød	NB250U	NB450U					
	100ISO	1.00	0.07	9.525	3.6	3.95	○	○				
	125ISO	1.25	0.08	9.525	3.6	3.95	○	○				
	150ISO	1.50	0.11	9.525	3.6	3.95	○	○				
	175ISO	1.75	0.12	9.525	3.6	3.95	○	○				
	200ISO	2.00	0.14	9.525	3.6	3.95	○	○				
	250ISO	2.50	0.17	9.525	3.6	3.95	○	○				
	300ISO	3.00	0.19	9.525	3.6	3.95	○	○				
NB250U = uncoated NB450U = uncoated												

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CUTTING PARAMETERS

TURNING

MICROBORA

MICROBORING

THREADING

GROOVING

MILLING

DRILLING

SPARE PARTS

INDEX

H	HH	HARDENED STEEL
		ACCIAIO TEMPRATO
		GEHÄRTETER STAHL
		ACIER TREMPÉ
		ACERO TEMPLADO
		ЗАКАЛЁННАЯ СТАЛЬ
H	HC	CASEHARDENED STEEL
		ACCIAIO CEMENTATO
		EINGESETZTER STAHL
		ACIER CEMENTÉ
		ACERO CEMENTADO
		ЦЕМЕНТИРОВАННАЯ СТАЛЬ

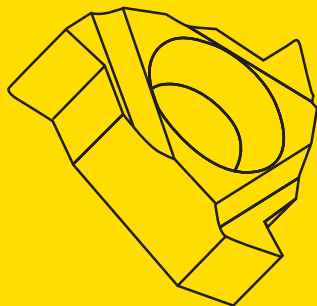
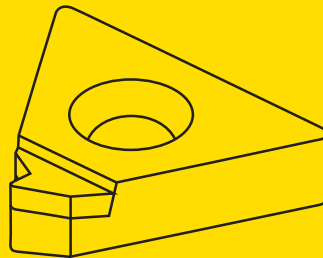
H	HB	BEARING STEEL
		ACCIAIO PER CUSCINETTI
		STAHL FÜR LAGER
		ACIER POUR ROULEMENTS
		ACERO PARA RODAMIENTOS
		СТАЛЬ ДЛЯ ПОДШИПНИКОВ
H	HM	HARD METAL (Co≥17%)
		METALLO DURO (Co≥17%)
		VHM (Co≥17%)
		CARBURE (Co≥17%)
		METAL DURO (Co≥17%)
		ТВЕРДЫЙ СПЛАВ (Co≥17%)

MATERIAL	ap (mm)	CUTTING CONDITIONS	PCBN	
			NB250U	NB450U
H	0.07 max		★ 100~180	
			80~150	★ 80~140
	0.07 max		★ 100~150	
			80~130	★ 80~120
	0.07 max		★ 100~150	
			80~130	★ 80~120
	0.07 max			★ 10~40

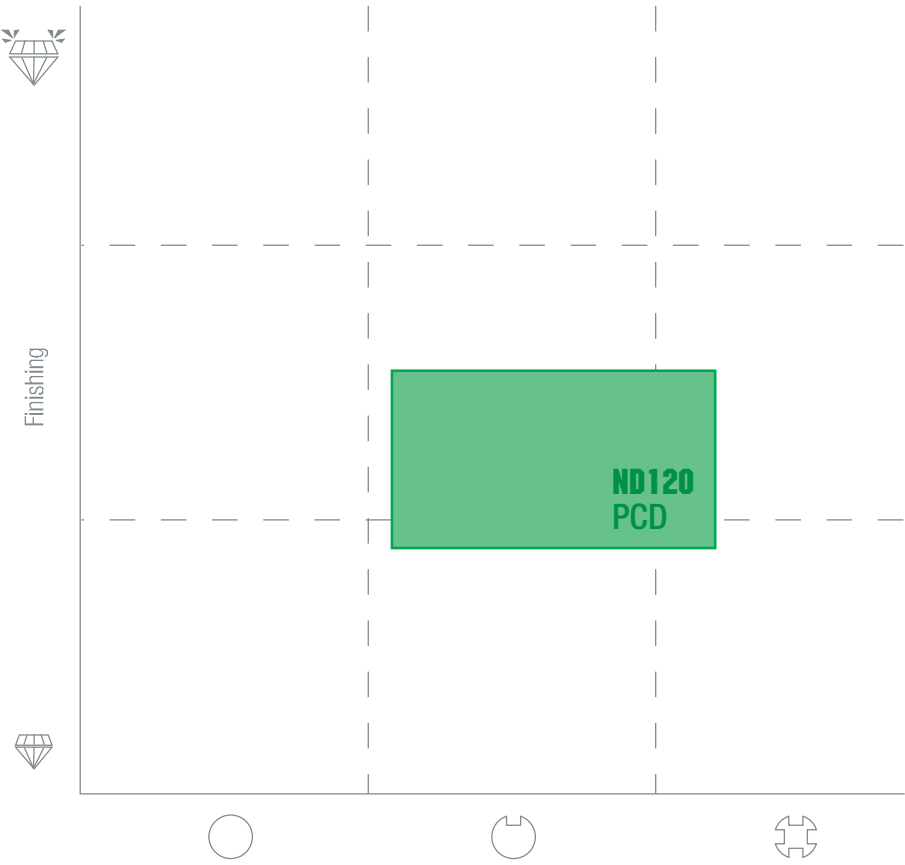
★ = 1st choice / 1^a scelta / 1. Wahl / 1^{er} choix / 1^{ra} elección / 1-й выбор



THREADING / diamond



RANGE ISO **N** DIAMOND



- TURNING
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16ER

EXTERNAL METRIC

DESCRIPTION	DIMENSIONS						PCD						
		r	IC	T	Ød	ND120							
	16ER	100ISO	1.00	0.12	9.525	3.6	3.95	●					
	125ISO	1.25	0.15	9.525	3.6	3.95	●						
	150ISO	1.50	0.19	9.525	3.6	3.95	●						
	175ISO	1.75	0.22	9.525	3.6	3.95	○						
	200ISO	2.00	0.25	9.525	3.6	3.95	●						
	250ISO	2.50	0.33	9.525	3.6	3.95	○						
	300ISO	3.00	0.41	9.525	3.6	3.95	○						

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16IR

INTERNAL METRIC

DESCRIPTION	DIMENSIONS						PCD						
		r	IC	T	Ød	ND120							
	100ISO	1.00	0.07	9.525	3.6	3.95	○						
	125ISO	1.25	0.08	9.525	3.6	3.95	○						
	150ISO	1.50	0.11	9.525	3.6	3.95	○						
	175ISO	1.75	0.12	9.525	3.6	3.95	○						
	200ISO	2.00	0.14	9.525	3.6	3.95	○						
	250ISO	2.50	0.17	9.525	3.6	3.95	○						
	300ISO	3.00	0.19	9.525	3.6	3.95	○						

- TURNING
- MICRONEGA
- MICROBORING
- THREADING**
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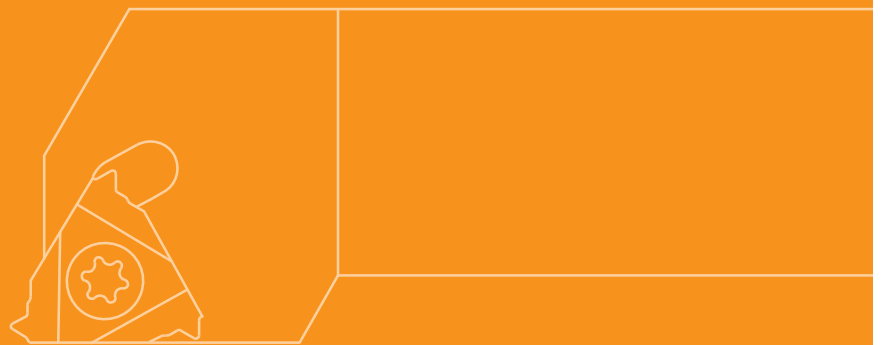
CUTTING PARAMETERS

- TURNING
- MICRONEGA
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- GROOVING
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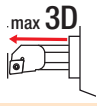






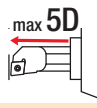




















N	NA	<ul style="list-style-type: none"> ALUMINUM ALLOYS LEGHE DI ALLUMINIO ALUMINIUMLEGIERUNGEN ALLIAGES D'ALUMINIUM ALEACIONES DE ALUMINIO СПЛАВЫ АЛЮМИНИЯ 	N	NC	<ul style="list-style-type: none"> BRONZE AND ELECTROLYTIC COPPER BRONZO E RAME ELETTROLITICO ELEKTROLYTISCHES KUPFER UND BRONZE BRONZE ET CUIVRE ÉLECTROLYTIQUE BRONCE Y COBRE ELECTROLÍTICO БРОНЗА И ЭЛЕКТРОЛИТИЧЕСКАЯ МЕДЬ
	NS	<ul style="list-style-type: none"> ALUMINUM ALLOYS (Si >15%) LEGHE DI ALLUMINIO (Si >15%) ALUMINIUMLEGIERUNGEN (Si >15%) ALLIAGES D'ALUMINIUM (Si >15%) ALEACIONES DE ALUMINIO (Si >15%) СПЛАВЫ АЛЮМИНИЯ (Si >15%) 		NG	<ul style="list-style-type: none"> GRAPHITE GRAFITE GRAPHIT GRAPHITE GRAFITO ГРАФИТ
	NH	<ul style="list-style-type: none"> ALUMINUM ALLOYS AGED AND HARDENED LEGHE DI ALLUMINIO TRATTATE ED INVECCHIATE GEALTERTE UND BEHANDELTE ALUMINIUMLEGIERUNGEN ALLIAGES D'ALUMINIUM TRAITÉES ET VIEILLIES ALEACIONES DE ALUMINIO TRATADAS Y ENVEJACIDAS СПЛАВЫ АЛЮМИНИЯ ОБРАБОТАННЫЕ И СОСТАРЕННЫЕ 		HM	<ul style="list-style-type: none"> HARD METAL (Co≤16%) METALLO DURO (Co≤16%) VHM (Co≤16%) CARBURE (Co≤16%) METAL DURO (Co≤16%) ТВЕРДЫЙ СПЛАВ (Co≤16%)
	NB	<ul style="list-style-type: none"> BRASS OTTONE MESSING LAITON LATÓN ЛАТУНЬ 		ST	<ul style="list-style-type: none"> TITANIUM ALLOYS LEGHE DI TITANIO TITAN LEGIERUNGEN ALLIAGES DE TITANE ALEACIONES DE TITANIO СПЛАВЫ ТИТАНА

MATERIAL	ap (mm)	CUTTING CONDITIONS	PCD	
			ND120	
N NA	0.07 max		600-2500	
N NS	0.07 max		500-1800	
N NH	0.07 max		400-1000	
N NB	0.07 max		400-1200	
N NC	0.07 max		300-800	
N NG	0.07 max		300-800	
H HM	0.07 max		10-40	
S ST	0.07 max		100-200	

THREADING / 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 	 <ul style="list-style-type: none">  INTERNAL HOLDERS  UTENSILI PER LAVORAZIONE INTERNA  WERKZEUG FÜR INNENBEARBEITUNGEN  OUTILS POUR USINAGE INTÉRIEUR  HERRAMIENTAS PARA MECANIZADO INTERIOR  ИНСТРУМЕНТ ДЛЯ ВНУТРЕННЕЙ ОБРАБОТКИ
MICRONEGA	 <ul style="list-style-type: none">  SCREW CLAMPING  BLOCCAGGIO A VITE  SCHRAUBSPANNUNG  FIXATION PAR VIS  AMARRE POR TORNILLO  КРЕПЛЕНИЕ ВИНТОМ 	 <ul style="list-style-type: none">  SCREW CLAMPING  BLOCCAGGIO A VITE  SCHRAUBSPANNUNG  FIXATION PAR VIS  AMARRE POR TORNILLO  КРЕПЛЕНИЕ ВИНТОМ
MICROBORING		 <ul style="list-style-type: none">  OVERHANG  SPORGENZA  UEBERSTAND  PORTE-À-FEUX  VOLADIZO  ВЫСТУП
THREADING		 <ul style="list-style-type: none">  OVERHANG  SPORGENZA  UEBERSTAND  PORTE-À-FEUX  VOLADIZO  ВЫСТУП
GROOVING		 <ul style="list-style-type: none">  INSIDE COOLANT TOOL  UTENSILE CON REFRIGERAZIONE INTERNA  WERKZEUG MIT IK  OUTIL AVEC TROUS D'HUILE  HERRAMIENTA CON SUMINISTRO INTERNO DE REFRIGERANTE  ИНСТРУМЕНТ С ВНУТРЕННИМ ОХЛАЖДЕНИЕМ
MILLING		 <ul style="list-style-type: none">  SPECIAL HEAD DESIGN TO IMPROVE CHIP EJECTION  SPECIALE GEOMETRIA DELLA TESTA PER MIGLIORARE L'EVACUAZIONE TRUCIOLLO  SPEZIALGEOMETRIE DES KOPFES UM DIE SPANABFUHR ZU VERBESSERN  GÉOMÉTRIE PARTICULIÈRE DE LA TÊTE POUR AMÉLIORER L'ÉVACUATION DES COPEAUX  GEOMETRIA ESPECIAL DE LA CABEZA PARA FAVORECER LA EXPULSIÓN DE VIRUTA  СПЕЦИАЛЬНАЯ ФОРМА ГОЛОВКИ ДЛЯ БОЛЕЕ ЭФФЕКТИВНОГО УДАЛЕНИЯ СТРУЖКИ
DRILLING		
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INDEX		