









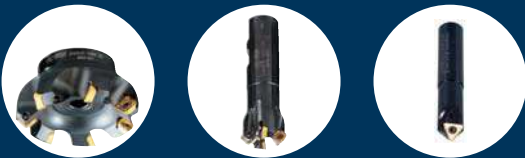




FRESATURA

MILLING / FRÄSEN / FRAISAGE / FRESADO






	FRESE INTEGRALI IN METALLO DURO	
	SOLID CARBIDE MILLING CUTTERS	
	HM FRÄSER	
	FRAISES EN CARBURE MONOBLOC	
	FRESAS INTEGRALES EN METAL DURO	

Pag. 179

	FRESE PER SPIANATURA E SMUSSI	
	FACE AND CHAMFERRING MILLING CUTTERS	
	FRÄSER ZUM PLANEN UND ZUM FASEN	
	FRAISES À SURFACER ET ARRONDIR	
	FRESAS PARA PLANEAR Y BISELES	


Pag. 340

	FRESE PER SPALLAMENTI	
	SHOULDER MILLING CUTTERS	
	ECKFRAESER	
	FRAISES À DRESSER	
	FRESAS PARA ESCUADRAR	

Pag. 356

	ELIFRESE-FRESE PER SCANALATURA FRESE FORANTI	
	HELICAL END MILLS-GROOVING END MILLS DRILLING END MILLS	
	SCHAFTSCHRUPPFÄSER ZUM NUTENFRÄSEN BORHNUTENFRÄSER, SCHEIBENFRÄSER	
	FRAISES HÉLICOÏDALES-FRAISES À CANNELER FRAISES À PERCER	
	FRESA HELICOIDALES-FRESAS PARA RANURAS FRESAS TALADRADORAS	

Pag. 384

	FRESE PER COPIATURA	
	COPY MILLING CUTTERS	
	KOPIERFRAESER	
	FRAISE À COPIAGE	
	FRESAS COPIADORAS	

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	INSERTI PER FRESATURA	
	MILLING INSERTS	
	WENDEPLATTEN ZUM FRÄSEN	
	PLAQUÉTTES DE FRAISAGE	
	PLAQUITAS DE FRESADO	

Pag. 425

**INDICAZIONI DI LETTURA
READING INSTRUCTIONS
HINWEISE ZUR ABLESUNG
INDICATIONS DE LECTURE**



- 1 = NUMERO TAGLIENTI E ANGOLO ELICA
- 2 = CARATTERISTICHE TECNICHE (PAG. 183)
- 3 = TOLLERANZE COSTRUTTIVE
- 4 = ELENCO ARTICOLI
- 5 = MISURE E DATI
- 6 = ULTERIORI DATI TECNICI E CONSIGLIO D'USO
- 1b = LAVORAZIONI ESEGUIBILI
- 2b = GRUPPI MATERIALI
- 3b = INDICAZIONE MATERIALI LAVORABILI E CAMPI D'IMPIEGO
- 4b = PARAMETRI DI LAVORO
- 5b = NOTA PER PARAMETRI EVENTUALI ALTRE LAVORAZIONI
- 6b = FORMULE E PARAMETRI



- 1 = NUMBER OF FLUTES AND HELIX ANGLE
- 2 = TECHNICAL FEATURES (PAG. 183)
- 3 = CONSTRUCTIVE TOLERANCES
- 4 = ITEM
- 5 = MEASURES AND DATA
- 6 = FURTHER TECHNICAL DATA AND SUGGESTIONS
- 1b = POSSIBLE MACHINING OPERATIONS
- 2b = MATERIAL GROUPS
- 3b = INFORMATION ON WORKABLE MATERIALS AND FIELDS OF APPLICATION
- 4b = MACHINING PARAMETERS
- 5b = NOTE ON PARAMETERS FOR POSSIBLE ADDITIONAL APPLICATIONS
- 6b = FORMULAS AND PARAMETERS



- 1 = ANZAHL SCHNEIDEN UND SPIRALWINKEL
- 2 = TECHNISCHE HAUPTMERKMALE (PAG. 183)
- 3 = KONSTRUKTIONSTOLERANZEN
- 4 = ARTIKEL
- 5 = ABMESSUNGEN UND DATEN
- 6 = WEITERE TECHNISCHE DATEN UND TIPPS
- 1b = MÖGLICHE BEARBEITUNGEN
- 2b = MATERIALGRUPPEN
- 3b = ANGABE DER BEARBEITBAREN MATERIALIEN UND ANWENDUNGSGEBIETE
- 4b = SCHNITTDATEN
- 5b = ANMERKUNG ZU DEN PARAMETERN FÜR EVENTUELLE WEITERE BEARBEITUNGEN
- 6b = FORMELN UND PARAMETER



- 1 = NOMBRE TRANCHANTS ET ANGLE HELICE
- 2 = CARACTERISTIQUES TECHNIQUES (PAG. 183)
- 3 = TOLERANCE CONSTRUCTIVES
- 4 = ARTICLES
- 5 = DIMENSIONS ET DONNEES
- 6 = ULTERIEURES DONNEES TECHNIQUE ET CONSEILLE D'USAGE
- 1b = USINAGES A EXECUTER
- 2b = GROUPES DE MATERIAUX
- 3b = INDICATION MATERIAUX A USINER ET PLACES D'APPLICATION
- 4b = PARAMETRES DE TRAVAIL
- 5b = NOTE POUR PARAMETRES EVENTUELS D'AUTRES USINAGES
- 6b = FORMULES ET PARAMETRES



- 1 = ANGOLI COSTRUTTIVI
- 2 = INSERTI CONSIGLIATI
- 3 = ELENCO ARTICOLI
- 4 = MISURE, DATI, INDICAZIONI
- 5 = ACCESSORI IN DOTAZIONE
- 6 = ACCESSORI E RICAMBI OPZIONALI A RICHIESTA
- 7 = GRANDEZZA INSERTO
- 8 = DATI TECNICI E CONSIGLI D'USO
- 9 = LAVORAZIONI POSSIBILI
- 10 = ANGOLO DI PENETR. OBLIQUA
- 1b = ELENCO INSERTI
- 2b = INDICAZIONE MATERIALI LAVORABILI E CAMPI D'IMPIEGO
- 3b = DISPONIBILITÀ GRADI
- 4b = MISURE E DATI
- 5b = USO DEL REFRIGERANTE
- 6b = SCELTA DEL GRADO (QUICK PICK)
- 7b = GRUPPI MATERIALI
- 8b = AVANZAMENTO DI BASE Fz0
- 9b = VELOCITÀ DI TAGLIO Vc
- 10b = FORMULE E PARAMETRI
- 11b = CORREZIONE AVANZAMENTO Fz0
- 12b = INTERPRETAZIONE VELOCITÀ DI TAGLIO SECONDO LA LAVORAZIONE
- 13b = INDICAZIONI ULTERIORI



- 1 = CONSTRUCTIVE ANGLES
- 2 = RECOMMENDED INSERTS
- 3 = ITEM
- 4 = MEASURES, DATA, INDICATIONS
- 5 = ACCESSORIES EQUIPMENT
- 6 = OPTIONAL ACCESSORIES AND SPARE PARTS ON REQUEST
- 7 = INSERT SIZE
- 8 = TECHNICAL DATA AND SUGGESTIONS
- 9 = POSSIBLE TYPES OF MACHINING
- 10 = OBLIQUE PENETRATION ANGLE
- 1b = AVAILABLE INSERTS
- 2b = RECOMMENDED MACHINING MATERIALS AND FIELDS OF APPLICATION
- 3b = AVAILABLE GRADES
- 4b = MEASURES AND DATA
- 5b = USE OF COOLANT
- 6b = GRADE CHOICE(QUICK PICK)
- 7b = MATERIAL GROUPS
- 8b = BASIC FEED RATE Fz0
- 9b = CUTTING SPEED Vc
- 10b = FORMULAS AND PARAMETERS
- 11b = FEED RATE CORRECTION Fz0
- 12b = CUTTING SPEED INTERPRETATION ACCORDING TO MACHINING
- 13b = FURTHER INDICATIONS

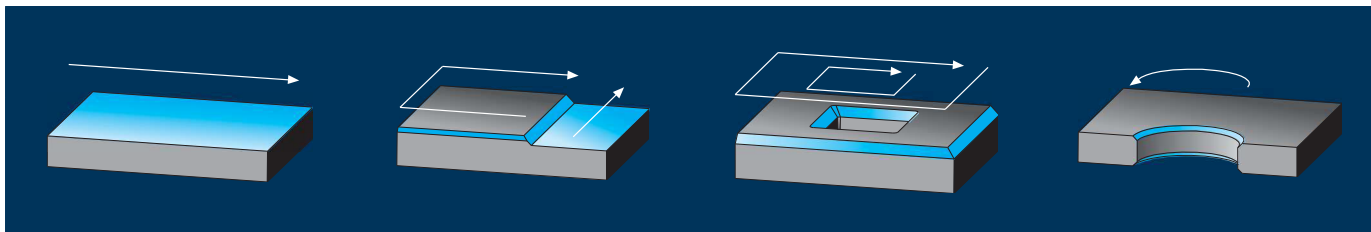


- 1 = KONSTRUKTIONSWINKEL
- 2 = EMPFOHLENE WENDESCHNEIDPLATTEN
- 3 = ARTIKEL
- 4 = ABMESSUNGEN, DATEN, HINWEISE
- 5 = ZUBEHÖRAUSSTATTUNG
- 6 = OPTIONALZUBEHÖR UND -ERSATZTEILE AUF ANFRAGE
- 7 = WENDEPLATTENGROSSE
- 8 = TECHNISCHE DATEN UND TIPPS
- 9 = MÖGLICHE BEARBEITUNGSARTEN
- 10 = EINTAUCHWINKEL
- 1b = LIEFERBARE WENDEPLATTEN
- 2b = EMPFOHLENE WERKSTOFFE UND EINSATZBEREICHE
- 3b = LIEFERBARE HM-QUALITÄTEN
- 4b = ABMESSUNGEN UND DATEN
- 5b = KÜHLMITTELVERWENDUNG
- 6b = SORTENAUSWAHL(QUICK PICK)
- 7b = MATERIALGRUPPEN
- 8b = GRUNDVORSCHUB Fz0
- 9b = SCHNITTGESCHWINDIGKEIT Vc
- 10b = FORMELN UND PARAMETER
- 11b = VORSCHUBKORREKTUR Fz0
- 12b = INTERPRETATION DER SCHNITTGESCHWINDIGKEIT NACH BEARBEITUNG
- 13b = WEITERE HINWEISE





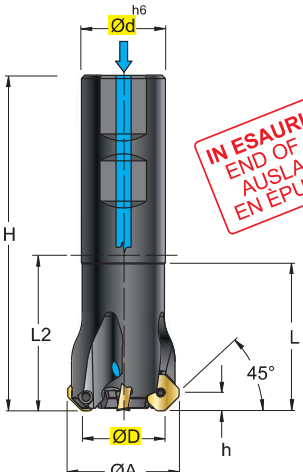
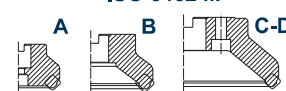
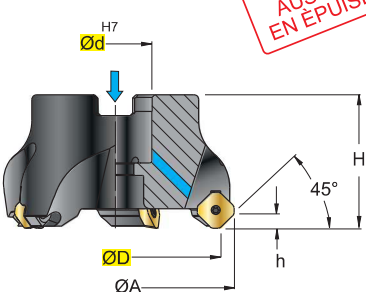



- 1 = ANGLES CONSTRUCTIVES
- 2 = PLAQUETTES CONSEILLÉES
- 3 = ARTICLES
- 4 = DIMENSIONS, DONNÉES, INDICATIONS
- 5 = ACCESSOIRES EN DOTATION
- 6 = ACCESSOIRES ET RECHANGE OPTIONNEL SUR DEMANDE
- 7 = DIMENSION DE LA PLAQUETTE
- 8 = DONNÉES TECHNIQUES ET CONSEILS D'USAGE
- 9 = USINAGES POSSIBLES
- 10 = ANGLE DE PÉNÉTRATION OBLIQUE
- 1b = PLAQUETTES DISPONIBLES
- 2b = INDICATIONS SUR LES MATERIAUX USINABLE ET CHAMPS D'USINAGE
- 3b = DISPONIBILITÉ DE DEGRÉS
- 4b = DIMENSIONS ET PARAMÈTRES
- 5b = UTILISATION DU RÉFRIGÉRANTE
- 6b = CHOIX DU DEGRÉ(QUICK PICK)
- 7b = GROUPES DE MATERIAUX
- 8b = DÉPLACEMENT Fz0
- 9b = VITESSE DE COUPE Vc
- 10b = FORMULES ET PARAMÈTRES
- 11b = CORRECTION DÉPLACEMENT Fz0
- 12b = INTERPRÉTATION VITESSE DE COUPE SELON L'USINAGE
- 13b = INDICATIONS ULTÉRIEURES

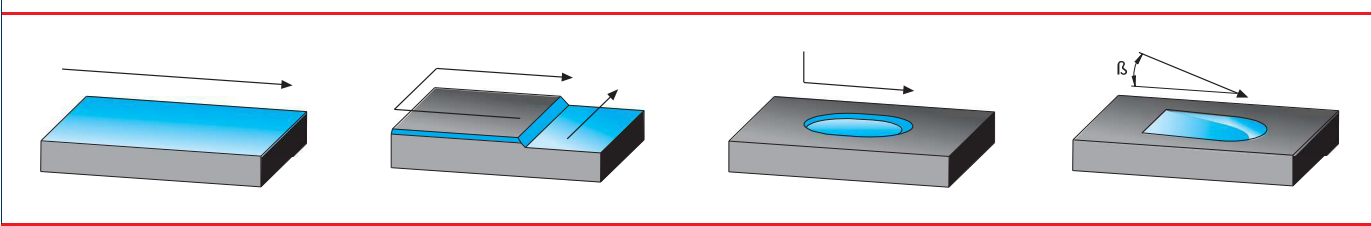
S406 Pag. 342		S409 Pag. 342		S8801-8W Pag. 348	
 <p>IN ESAURIMENTO END OF STOCK AUSLAUFEND EN ÉPUISÉMENT</p> <p>ØD = 6 - 32</p>		 <p>IN ESAURIMENTO END OF STOCK AUSLAUFEND EN ÉPUISÉMENT</p> <p>ØD = 32 - 100</p>		 <p>ØD = 50 - 250</p>	
S 406W .. 09		S 409W .. 09 S 409WF .. 09 S 409GW .. 09		S 8801-8W .. 12	
 <p>45° SD..0903 h = 4</p>		 <p>88° SN..1206 h = 11,5</p>			
S438 Pag. 344					
 <p>ØD = 50 - 315</p>					
S 438 .. 13 S 438F .. 13 S 438G .. 13					
 <p>45° SE..13T3 h = 6</p>					
S4501 Pag. 346					
 <p>ØD = 50 - 250</p>					
S 4501-8W .. 12					
 <p>45° SN..1206 h = 6</p>					



S676 Pag. 350		S678 Pag. 350		S614 Pag. 355		S614.9 Pag. 355	
	$\text{ØD} = 9 - 32$		$\text{ØD} = 9 - 32$		$\text{ØD} = 0$		$\text{ØD} = 0$
S 676W..	S 676XLZ ..	S 678W .. 12		S 614.45W-0-12		S 614.9.45W-0-12	
	45° SP..0603 SP..09T3 SP..1204	$h = 4,0$ $h = 5,8$ $h = 8,0$			43° SC..1204	$h = 7,8$	
S616 Pag. 351							
	$\text{ØD} = 16$		$\text{ØD} = 1,2 - 25$		$\text{ØD} = 5,4 - 17$		
S 616.30 ..	S 616.45 .. S 6165XLZ.4 ..	S 616.60 .. S 616XLZ.60 ..					
	30° 45° 60° TC..1102 TC..16T3 TC..2204	$h = 6,9/9,0$ $h = 7,3/13,0$ $h = 13,8$					
S618.3 Pag. 352		S618.4 Pag. 353					
	$\text{ØD} = 4,9 - 23,8$		$\text{ØD} = 7,8 - 27,2$				
S 618 ..11.3 S 618 ..16.3		S 618 ..12.4					
	10°-80° TC..1102 TC..16T3		10°-80° SC..1204				
S613 Pag. 354		S613.9 Pag. 354					
	$\text{ØD} = 0$		$\text{ØD} = 0$				
S 613.45W-0-16		S 613.9.45W-0-16					
	45° TC..16T3	$h = 10$					

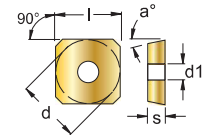
S 406W .. 09	Ø 06-32 γ_p 0°/+12° γ_f -11°/-6,5° γ_o -8°/+4°	S 409W .. 09 S 409WF .. 09 S 409GW .. 09	Ø 32-100 γ_p +12° γ_f -6,5°/-6° γ_o +4°/+5°	SDHW 0903 .Z42 SDNT 0903 .L54 SDKT 0903 .L56 SDEX 0903 .L58	   
		ISO 6462 ... 			
<div style="border: 2px solid red; padding: 5px; color: red; transform: rotate(-15deg); display: inline-block;"> IN ESAURIMENTO END OF STOCK AUSLAUFEND EN ÉPUÏSEMENT </div>		<div style="border: 2px solid red; padding: 5px; color: red; transform: rotate(-15deg); display: inline-block;"> IN ESAURIMENTO END OF STOCK AUSLAUFEND EN ÉPUÏSEMENT </div>		 INSERTI - INSERTS PAG. 453	

(mm)																			
ART.	ØD	Ød	ØA	H	h	L	L2	β	Z	kg	Nm	ISO 6462							
S 406W 006 - 09	6	16	14,2	80	4	32	32	10,5°	1	0,12	1,2±1,5	-	0903	123006	5608	-			
S 406W 012 - 09	12	16	20,2	80	4	32	32	3°	1	0,13	1,2±1,5	-							
S 406W 016 - 09	16	20	24,2	90	4	40	40	28,5°	2	0,19	1,2±1,5	-	0903	123008P	5608	-			
S 406W 020 - 09	20	20	28,2	90	4	40	40	19,5°	3	0,20	1,2±1,5	-							
S 406W 025 - 09	25	25	33,2	100	4	44	44	13,5°	4	0,35	1,2±1,5	-							
S 406W 032 - 09	32	25	40,2	95	4	39	39	9,5°	5	0,36	1,2±1,5	-							
S 409W 032 - 09	32	16	40,2	40	4	-	-	9,5°	3	0,19	1,2±1,5	A	0903	123008P	5608P	VBSF08C			
S 409W 040 - 09	40	16	48,2	40	4	-	-	7°	4	0,26	1,2±1,5	A							
S 409W 050 - 09	50	22	58,2	40	4	-	-	5,5°	6	0,37	1,2±1,5	A	0903	123008P	5608P	VBSF10			
S 409W 063 - 09	63	22	71,2	40	4	-	-	4°	8	0,55	1,2±1,5	A							
S 409W 080 - 09	80	27	88,2	50	4	-	-	3°	10	1,09	1,2±1,5	A-B	0903	123008P	5608P	VBSF12			
S 409W 100 - 09	100	32	108,2	50	4	-	-	2,5°	12	1,74	1,2±1,5	A-B	0903	123008P	5608P	AL16x35			
S 409WF 032 - 09	32	16	40,2	40	4	-	-	9,5°	5	0,19	1,2±1,5	A	0903	123008P	5608P	VBSF08C			
S 409WF 040 - 09	40	16	48,2	40	4	-	-	7°	6	0,26	1,2±1,5	A							
S 409WF 050 - 09	50	22	58,2	40	4	-	-	5,5°	8	0,36	1,2±1,5	A	0903	123008P	5608P	VBSF10			
S 409WF 063 - 09	63	22	71,2	40	4	-	-	4°	10	0,55	1,2±1,5	A							
S 409WF 080 - 09	80	27	88,2	50	4	-	-	3°	12	1,20	1,2±1,5	A-B	0903	123008P	5608P	VBSF12			
S 409WF 100 - 09	100	32	108,2	50	4	-	-	2,5°	14	1,76	1,2±1,5	A-B	0903	123008P	5608P	AL16x35			
S 409GW 063 - 09	63	22	71,2	40	4	-	-	4°	5	0,60	1,2±1,5	A	0903	123008P	5608P	VBSF10			
S 409GW 080 - 09	80	27	88,2	50	4	-	-	3°	6	1,06	1,2±1,5	A-B	0903	123008P	5608P	VBSF12			
S 409GW 100 - 09	100	32	108,2	50	4	-	-	2,5°	7	1,71	1,2±1,5	A-B	0903	123008P	5608P	AL16x35			



W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE
 G = PASSO GROSSO - LARGE TEETH DISTANCE - NORMALE ZAHNTEILUNG - GRANDE DISTANCE DENTS.
 F = PASSO FINE - FINE PITCH - FEINE ZAHNTEILUNG - PAS FIN

SCelta VELOCE - QUICK PICK



COD.	P			M			K			N			S			H			HT	HW	HC				l	d	s	d1	r	a°					
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R			DT61	N3105	T518M	F1040											
SDHW 0903 AESN .J42	●	○																	■											9,52	9,52	3,2	3,4	-	15
SDNT 0903 AESN .L54	●	○					●	●	●												■									9,52	9,52	3,2	3,4	-	15
SDKT 0903 AESN .L56	○	●	○	○	○	○	○	○	○												■									9,52	9,52	3,2	3,4	-	15
SDEX 0903 AEFN .L58										●	●								■										9,52	9,52	3,2	3,4	-	15	

**IN ESAURIMENTO
END OF STOCK
AUSLAUFEND
EN ÉPUISEMENT**

CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY		SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY	
○	○	○	○
○	○	○	○
○	○	○	○
○	○	○	○

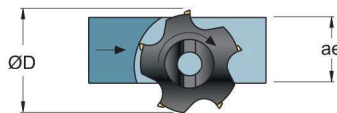
MATERIALI - MATERIALS Pag. 1063		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	fz0 mm			Vc m/min Pag. 440										
				F	M	R	DT61	F1040	N3105	T518M							
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1--5	125-300	0,1	0,2		260	260	350								
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350	0,08	0,15		250	220	270								
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	0,08	0,15		250	175	200								
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	0,06	0,12		230	110	180								
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	0,06	0,1				200								
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	0,12	0,25				280								
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	0,1	0,2				230								
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	0,1	0,2				200								
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21--25	60-130	0,06	0,15	0,25			950								
	RAME E SUE LEGHE - COPPER	26-28	90-110	0,06	0,12	0,2			475								
	NON METALLICI - PLASTICS	29-30	/	0,06	0,12	0,2			950								
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31--35	200-320	0,05	0,08												
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ⁿ⁾	0,05	0,08												
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ⁿ⁾														

$$n = \frac{Vc \cdot 1000}{\phi D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Kae = \text{mm}$$

$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$



ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%	0,02 2%
Kae	1	1,1	1,2	1,3	1,5

ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%
Vc	Vc (min)-----Vc(max)			

Pag. 440

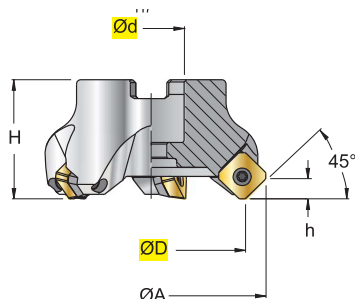
- F = FINITURA, LAV. LEGGERA - FINISHING, LIGHT MACHINING
- M = LAV. MEDIA, GENERICA - MEDIUM MACHINING, GENERIC
- R = SGROSSATURA, LAV. PESANTE - ROUGHING, HEAVY MACHINING

- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
- fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
- fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR

S 438 .. 13
S 438F .. 13
S 438G .. 13

Ø 50-315

γ_p +20°/+22,5°
 γ_f -15°/-7°
 γ_o +4°/+10°

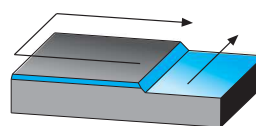
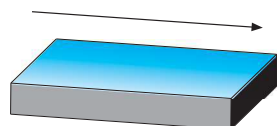


SEEX 13T3.. .M12	
SEKT 13T3.. .L44	
SEKT 13T3.. .L44	
SEKT 13T3.. .L54	
SEKT 13T3.. .L55	
SEKW 13T3.. .L51	
SEKX 1305.. .Z52	



INSERTI - INSERTS
 PAG. 454

ART.	(mm)										ISO 6462		Icons							
	ØD	Ød	ØA	H	h	Z	kg	Nm												
S 438 050 - 13	50	22	63	40	6	4	0,405	3,0+3,5	A	13T3	13T3	PA13M	BCL7	123512P	5035	5615P	AL10x30			
S 438 063 - 13	63	22	76	40	6	5	0,60	3,0+3,5	A											
S 438 080 - 13	80	27	93	50	6	6	1,120	3,0+3,5	A-B	13T3	13T3	PA13M	BCL7	123512P	5035	5615P	AL12x35			
S 438 100 - 13	100	32	113	50	6	7	1,786	3,0+3,5	A-B	13T3	13T3	PA13M	BCL7	123512P	5035	5615P	AL16x35			
S 438 125 - 13	125	40	138	63	6	8	3,310	3,0+3,5	A-B	13T3	13T3	PA13M	BCL7	123512P	5035	5615P	AL20x45			
S 438 160 - 13	160	40	173	63	6	10	4,070	3,0+3,5	C	13T3	13T3	PA13M	BCL7	123512P	5035	5615P	-			
S 438 200 - 13	200	60	213	63	6	12	6,800	3,0+3,5	D											
S 438 250 - 13	250	60	263	63	6	14	9,700	3,0+3,5	D											
S 438 315 - 13	315	60	334	80	6	18	25,30	3,0+3,5	E											
S 438F 050 - 13	50	22	63	40	6	5	0,4	3,0+3,5	A	13T3	13T3	PA13M	BCL7	123512P	5035	5615P	AL10x30			
S 438F 063 - 13	63	22	76	40	6	6	0,6	3,0+3,5	A											
S 438F 080 - 13	80	27	93	50	6	8	1,10	3,0+3,5	A-B	13T3	13T3	PA13M	BCL7	123512P	5035	5615P	AL12x35			
S 438F 100 - 13	100	32	113	50	6	10	1,74	3,0+3,5	A-B	13T3	13T3	PA13M	BCL7	123512P	5035	5615P	AL16x35			
S 438F 125 - 13	125	40	138	63	6	12	3,250	3,0+3,5	A-B	13T3	13T3	PA13M	BCL7	123512P	5035	5615P	AL20x45			
S 438G 160 - 13	160	40	173	63	6	7	4,3	3,0+3,5	C	13T3	13T3	PA13M	BCL7	123512P	5035	5615P	-			
S 438G 200 - 13	200	60	213	63	6	8	7,0	3,0+3,5	B											
S 438G 250 - 13	250	60	263	63	6	10	10,0	3,0+3,5	D											
S 438G 315 - 13	315	60	334	80	6	12	25,6	3,0+3,5	E											

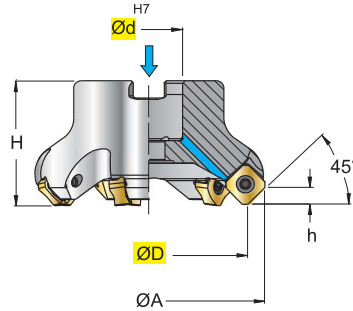
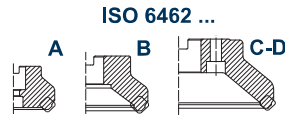


F = PASSO FINE - FINE PITCH - FEINE ZAHNTEILUNG - PAS FIN

S 4501-8W .. 12

Ø 50-250

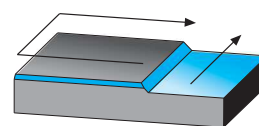
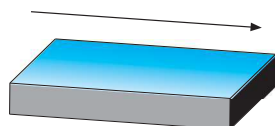
γ_p -6°
 γ_f -9°/-2°
 γ_o -11°/-6°



SNEX 1206NN .K11	
SNMX 1206NN .F51	
SNMX 1206NN .F52	
SNMX 1206NN .F53	
SNMX 1206NN .F56	
SNMX 1206NN .F58	
SNMX 120612 .F51	
SNMX 120612 .F58	

INSERTI - INSERTS
PAG. 455

ART.	(mm)						kg	Nm	ISO 6462				
	ØD	Ød	ØA	H	h	Z							
S 4501-8W-050-04-12	50	22	63,4	40	6	4	0,41	3,8+5	A	1206	124011	5620	AL10x30
S 4501-8W-050-06-12	50	22	63,4	40	6	6	0,41	3,8+5	A				
S 4501-8W-063-06-12	63	22	76,4	40	6	6	0,55	3,8+5	A				
S 4501-8W-063-08-12	63	22	76,4	40	6	8	0,55	3,8+5	A				
S 4501-8W-080-07-12	80	27	93,4	50	6	7	0,98	3,8+5	A-B	1206	124011	5620	AL12x35
S 4501-8W-080-10-12	80	27	93,4	50	6	10	0,98	3,8+5	A-B				
S 4501-8W-100-08-12	100	32	113,4	50	6	8	1,60	3,8+5	A-B	1206	124011	5620	AL16x35
S 4501-8W-100-12-12	100	32	113,4	50	6	12	1,60	3,8+5	A-B				
S 4501-8W-125-10-12	125	40	138,4	63	6	10	3,25	3,8+5	A-B	1206	124011	5620	AL20x45
S 4501-8W-125-16-12	125	40	138,4	63	6	16	3,26	3,8+5	A-B				
S 4501-8-160-12-12	160	40	173,4	63	6	12	4,14	3,8+5	C				
S 4501-8-160-20-12	160	40	173,4	63	6	20	4,16	3,8+5	C				
S 4501-8-200-18-12	200	60	213,4	63	6	18	6,69	3,8+5	D				
S 4501-8-200-26-12	200	60	213,4	63	6	26	6,81	3,8+5	D				
S 4501-8-250-20-12	250	60	263,4	63	6	20	9,40	3,8+5	D				
S 4501-8-250-30-12	250	60	263,4	63	6	30	9,51	3,8+5	D				

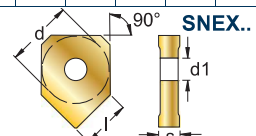
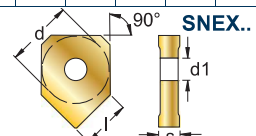


W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE

SCelta VELOCE - QUICK PICK

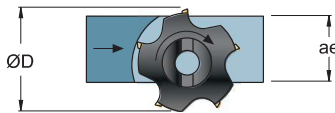


COD.	P			M			K			N			S			H			HT	HW	HC						SNMX..							
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R			CERMET	NON RIV. CEMENTED CARBIDE GRADES	F2740	T3116	F3120	F3420	T1025	T1730	F3010	F1335	l	d	s	d1
SNEX 1206NN .K11	○	○					●	●	○																				8,5	12,7	6,35	4,5	-	-
SNMX 1206NN .F51		○	○				●	●	●																				12,7	12,7	6,35	5,4	-	-
SNMX 1206NN .F52	●	●	●																										12,7	12,7	6,35	5,4	-	-
SNMX 1206NN .F53				●	●																								12,7	12,7	6,35	5,4	-	-
SNMX 1206NN .F56							○	●	●																				12,7	12,7	6,35	5,4	-	-
SNMX 1206NN .F58	●	●		○	○																								12,7	12,7	6,35	5,4	-	-
SNMX 120612 .F51							●	●																					12,7	12,7	6,35	5,4	1,2	-
SNMX 120612 .F58	●	●		○	○																								12,7	12,7	6,35	5,4	1,2	-
CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY																			○						○									
SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY																			●						●									



MATERIALI - MATERIALS Pag. 1063	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	fz0 mm			Vc m/min Pag. 440								
			F	M	R	F3010	T3116	F3120	F3420	T1025	T1730	F1335	F2740	
P ACCIAIO NON LEGATO - NOT ALLOY STEEL	1--5	125-300	0,12	0,25	0,35	200		200		240	230	220		
	6--9	180-350	0,1	0,2	0,3	200		180		240	190	180		
	10-11	200-325	0,1	0,2	0,3	180		160		220	165	160		
	12-13	200-240	0,08	0,15	0,25	120		120		160	150			
M INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	0,06	0,10	0,20						90	100		
K GHISA GRIGIA - GREY CAST IRON	15-16	180-260	0,12	0,3	0,4	290	310	280	300					
	17-18	160-250	0,12	0,25	0,35	180	180	260	170					
	19-20	130-230	0,12	0,25	0,35	260	280	240	270					
N ALLUMINIO E SUE LEGHE - ALUMINIUM	21--25	60-130												
	26--28	90-110												
	29-30	/												
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31--35	200-320												
	36-37	400-1050 ⁿ⁾												
H ACCIAIO TEMPRATO - HARDENED STEEL	38--41	45-60 ⁿ⁾												

$$n = \frac{Vc \cdot 1000}{\phi D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$



$$fz = fz0 \cdot Kae = \text{mm}$$

$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$

ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%	0,02 2%
Kae	1	1,1	1,2	1,3	1,5

ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%
Vc	Vc (min)-----Vc(max)			

Pag. 440

- F = FINITURA , LAV. LEGGERA - FINISHING , LIGHT MACHINING
- M = LAV. MEDIA , GENERIC - MEDIUM MACHINING , GENERIC
- R = SGROSSATURA , LAV. PESANTE - ROUGHING , HEAVY MACHINING

- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
- fz = mm AVANZAMENTO AL DENTE -TOOTH FEED
- fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR

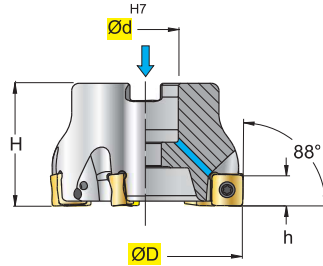
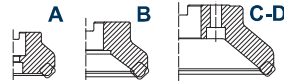
- 8 Taglienti "Utili" disponibili grazie all'inserto bilaterale.
- 8 "Useful" cutting-edges thanks to two-sided insert
- 8 "Nützliche" schneidkanten dank zweiseitiger wendeschneidplatten
- 8 Tranchants "Utiles" disponibles grace a la plaquette bilaterale

S 8801-8 .. 12
S 8801-8W .. 12

Ø 50-250

γ_p -6°
 γ_f -8°/-5,5°
 γ_o -8°/-5,5°

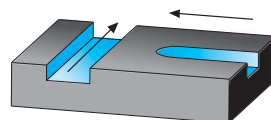
ISO 6462 ...



SNMX 1206QNN .F51		
SNMX 1206QNN .F53		
SNMX 1206QNN .F58		
SNMX 120612 .F51		
SNMX 120612 .F58		

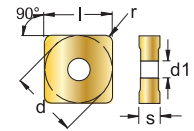
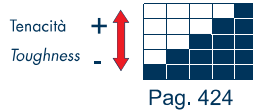
INSERTI - INSERTS
 PAG. 455

ART.	(mm)					kg	Nm	ISO 6462				
	ØD	Ød	H	h	Z							
S 8801-8W-050-04-12	50	22	40	11,5	4	0,27	3,8+5	A	1206	124011	5620	VBSF10
S 8801-8W-063-06-12	63	22	40	11,5	6	0,46	3,8+5	A	1206	124011	5620	AL12x35
S 8801-8W-080-07-12	80	27	50	11,5	7	0,94	3,8+5	A	1206	124011	5620	AL16x35
S 8801-8W-080-09-12	80	27	50	11,5	9	0,92	3,8+5	A	1206	124011	5620	AL20x45
S 8801-8W-100-08-12	100	32	50	11,5	8	1,63	3,8+5	A-B	1206	124011	5620	AL16x35
S 8801-8W-100-11-12	100	32	50	11,5	11	1,59	3,8+5	A-B	1206	124011	5620	AL20x45
S 8801-8W-125-10-12	125	40	63	11,5	10	3,05	3,8+5	A-B	1206	124011	5620	AL20x45
S 8801-8W-125-14-12	125	40	63	11,5	14	2,99	3,8+5	A-B	1206	124011	5620	AL20x45
S 8801-8-160-12-12	160	40	63	11,5	12	4,00	3,8+5	C	1206	124011	5620	-
S 8801-8-160-18-12	160	40	63	11,5	18	3,91	3,8+5	C	1206	124011	5620	-
S 8801-8-200-14-12	200	60	63	11,5	14	6,61	3,8+5	D	1206	124011	5620	-
S 8801-8-200-22-12	200	60	63	11,5	22	6,48	3,8+5	D	1206	124011	5620	-
S 8801-8-250-16-12	250	60	63	11,5	16	9,68	3,8+5	D	1206	124011	5620	-
S 8801-8-250-24-12	250	60	63	11,5	24	9,52	3,8+5	D	1206	124011	5620	-



W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE

SCelta VELOCE - QUICK PICK



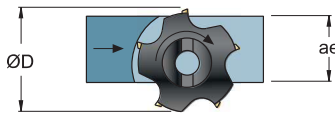
COD.	P			M			K			N			S			H			HT	HW	HC					l	d	s	d1	r	a°				
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R			CERMET	NON RIV. CEMENTED CARBIDE GRADES	F2740	T3116	F3120							T1730	F1335		
SNMX 1206QNN .F51		○	○						●													■							12,7	12,7	6,35	5,4	0,8	-	
SNMX 1206QNN .F53						●			●													■							12,7	12,7	6,35	5,4	0,8	-	
SNMX 1206QNN .F58		●	●			○																		■						12,7	12,7	6,35	5,4	0,8	-
SNMX 120612 .F51									●															■						12,7	12,7	6,35	5,4	1,2	-
SNMX 120612 .F58		●	●			○																		■						12,7	12,7	6,35	5,4	1,2	-

CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY

SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY

MATERIALI - MATERIALS Pag. 1063	VDI 3323 GR.	HB Rm(1) HRC(2)	fz0 mm			Vc m/min Pag. 440				
			F	M	R	T3116	F3120	T1730	F1335	F2740
P ACCIAIO NON LEGATO - NOT ALLOY STEEL	1--5	125-300	0,12	0,25	0,35		200	230	220	
	6--9	180-350	0,1	0,2	0,3		180	190	180	
	10-11	200-325	0,1	0,2	0,3		160	165	160	
INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	0,08	0,15	0,25		120	150		
M INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	0,06	0,10	0,15				90	100
K GHISA GRIGIA - GREY CAST IRON	15-16	180-260	0,12	0,3	0,4	310	280			
	17-18	160-250	0,12	0,25	0,35	180	260			
	19-20	130-230	0,12	0,25	0,35	280	240			
N ALLUMINIO E SUE LEGHE - ALUMINIUM	21--25	60-130								
RAME E SUE LEGHE - COPPER	26--28	90-110								
NON METALLICI - PLASTICS	29-30	/								
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31--35	200-320								
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ⁿ							
H ACCIAIO TEMPRATO - HARDENED STEEL	38--41	45-60 ⁿ								

$$n = \frac{Vc \cdot 1000}{\phi D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$



$$fz = fz0 \cdot Kae = \text{mm}$$

$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$

ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%	0,02 2%
Kae	1	1,1	1,2	1,3	1,5



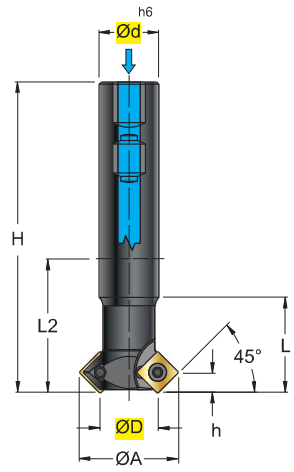
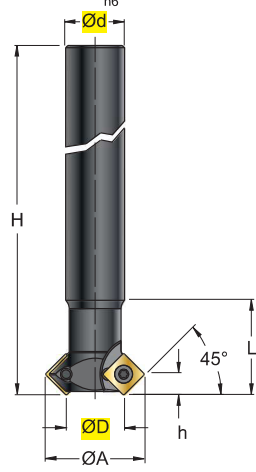
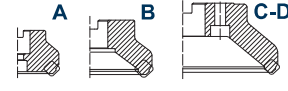

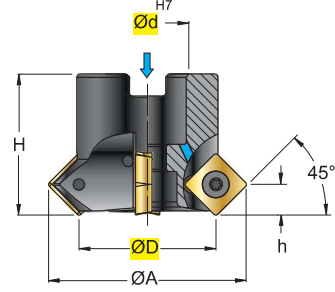

ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%
Vc	Vc (min)-----Vc(max)			




Pag. 440

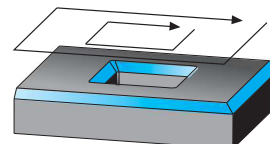
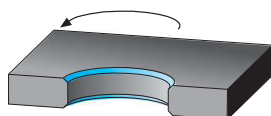
- F = FINITURA , LAV. LEGGERA - FINISHING , LIGHT MACHINING
- M = LAV. MEDIA , GENERICA - MEDIUM MACHINING , GENERIC
- R = SGROSSATURA , LAV. PESANTE - ROUGHING , HEAVY MACHINING

- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
- fz = mm AVANZAMENTO AL DENTE -TOOTH FEED
- fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR

- 8 Taglienti "Utili" disponibili grazie all'inserto bilaterale.
- 8 "Useful" cutting-edges thanks to two-sided insert
- 8 "Nützliche" schneidkanten dank zweiseitiger wendeschneidplatten
- 8 Tranchants "Utiles" disponibles grace a la plaquette bilaterale

S 676W ..	S 676XLZ ..	S 678W .. 12	SPMTN54	
Ø 09-032	Ø 09-032	Ø 040-050	SPMWN51	
		ISO 6462 ... 	SPMWN59	
				
			 INSERTI - INSERTS PAG. 457	

(mm)																
ART.	ØD	Ød	ØA	H	h	L	L2	Z	kg	Nm	ISO 6462					
S 676W 009 - 06	9	16	17,0	90	4,0	29	42	1	0,107	1,1+1,3	-	060304	12256P	5608P	-	
S 676W 016 - 09	16	20	28,0	110	5,8	42	60	2	0,209	3,0+3,5	-	09T308	123509P	5615P	-	
S 676W 025 - 12	25	25	41,5	130	8	40	74	2	0,434	4,0+5,0	-	120408	124510	5620	-	
S 676W 032 - 12	32	32	48,5	130	8	50	70	3	0,716	4,0+5,0	-					
S 676XLZ 009 - 06	9	16	17,0	150	4,0	29	-	1	0,205	1,1+1,3	-	060304	12256P	5608P	-	
S 676XLZ 016 - 09	16	20	28,0	200	5,8	42	-	2	0,444	3,0+3,5	-	09T308	123509P	5615P	-	
S 676XLZ 025 - 12	25	25	41,5	200	8	40	-	2	0,723	4,0+5,0	-	120408	124510	5620	-	
S 676XLZ 032 - 12	32	32	48,5	250	8	50	-	3	1,491	4,0+5,0	-					
S 678W 040 - 12	40	22	56,0	40	8	-	-	4	0,252	4,0+5,0	A	120408	124510	5620	VBSF10	
S 678W 050 - 12	50	22	66,0	40	8	-	-	5	0,403	4,0+5,0	A					



W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE

XLZ = EXTRALUNGA, STELO CILINDRICO - EXTRALONG, CYLINDRICAL SHANK - EXTRALANG, ZYLINDERSCHAFT - EXTRALONGUE, QUEUE CYLINDRIQUE

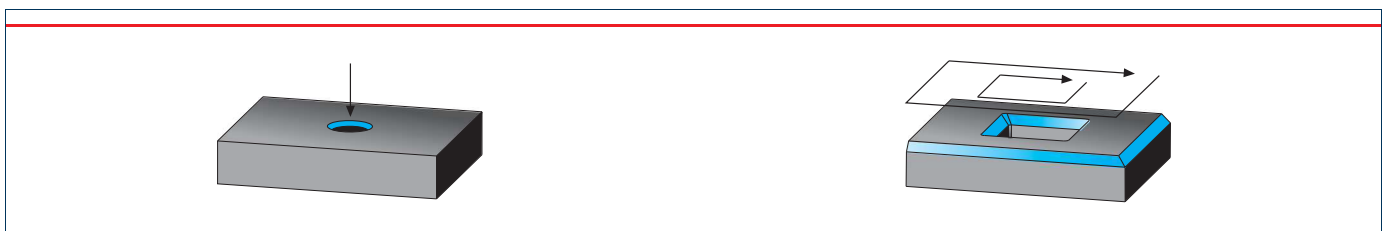
S 616.30 ..		S 616.45 ..		S 616.60 ..		TCMT 110204 .G39		
Ø 16	$\gamma_p +10^\circ$ $\gamma_f 0^\circ$ $\gamma_o +5^\circ$	Ø 1,2-25	$\gamma_p +29,5^\circ/+6^\circ$ $\gamma_f -15^\circ/-5^\circ$ $\gamma_o -15^\circ/+1^\circ$	Ø 5,4-17	$\gamma_p +8,5^\circ/+4^\circ$ $\gamma_f -15^\circ/-7^\circ$ $\gamma_o -0,5^\circ/0^\circ$	TCMTS42		
						TCMTG52		
						TCMT 220408 EN .Z52		
								INSERTI - INSERTS PAG. 457

ART.	(mm)								kg	Nm			
	ØD	Ød	ØA	H	h	L	L2	Z					
S616.30-16-16 (**)	16,0	25	42,5	95	7,5	39	39	3	0,420	3,8+5,0	16T3	1240P	5615P
S616.45-1,2-11 (*)	1,2	12	15,0	70	6,9	25	25	1	0,060	1,1+1,3	1102	12256P	5608P
S616.45-3,5-11 (*) New	3,5	12	16,0	70	6,0	25	25	1	0,060	1,1+1,3			
S616.45-6,2-11 (*)	6,2	16	21,0	80	7,3	27	32	2	0,120	1,1+1,3			
S616.45-10,4-16 (**)	10,4	25	32,0	95	10,8	39	39	2	0,352	3,8+5,0	16T3	1240P	5615P
S616.45-25-22 (***)	25,0	32	53,0	110	13,8	40	50	3	0,694	4,0+5,0	2204	124510	5620
S616XLZ.45-6,2-11 (*)	6,2	16	21,0	150	7,3	27	-	2	0,231	1,1+1,3	1102	12256P	5608P
S616XLZ.45-10,4-16 (**)	10,4	25	32,0	150	10,8	39	-	2	0,519	3,8+5,0	16T3	1240P	5615P
S616.60-5,4-11 (*)	5,4	12	16,0	70	9,0	25	25	1	0,060	1,1+1,3	1102	12256P	5608P
S616.60-14,4-11 (*)	14,4	16	24,0	80	8,5	27	32	2	0,140	1,1+1,3			
S616.60-17-16 (**)	17,0	25	32,0	95	13,0	39	39	2	0,326	3,8+5,0	16T3	1240P	5615P
S616XLZ.60-14,4-11 (*)	14,4	16	24,0	150	8,5	27	-	2	0,248	1,1+1,3	1102	12256P	5608P
S616XLZ.60-17-16 (**)	17,0	25	32,0	150	13,0	39	-	2	0,543	3,8+5,0	16T3	1240P	5615P

(*) Misure rilevate con inserto TCMT 110202
 Dimensions obtained with insert TCMT 110202
 Mit der Wendeplatte TCMT 110202 aufgenommene
 Bemessungen
 Dimensions relevées avec plaquette TCMT 110202

(**) Misure rilevate con inserto TCMT 16T304
 Dimensions obtained with insert TCMT 16T304
 Mit der Wendeplatte TCMT 16T304 aufgenommene
 Bemessungen
 Dimensions relevées avec plaquette TCMT 16T304

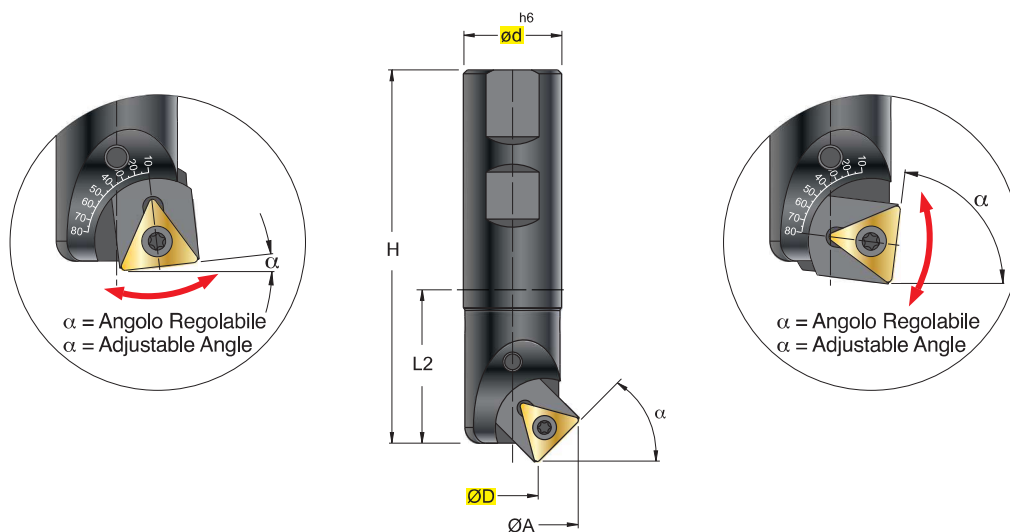
(***) Misure rilevate con inserto TCMT 220408
 Dimensions obtained with insert TCMT 220408
 Mit der Wendeplatte Tcmt 220408 aufgenommene
 Bemessungen
 Dimensions relevées avec plaquette TCMT 220408



XLZ = EXTRALUNGA , STELO CILINDRICO - EXTRALONG , CYLINDRICAL SHANK - EXTRALANG , ZYLINDERSCHAFT - EXTRALONGUE , QUEUE CYLINDRIQUE

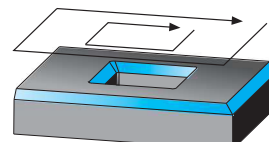
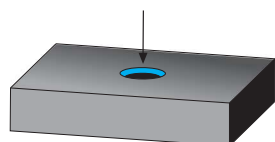
S 618 .. .3

Ø 20-25



TCMT 110204 .G39	
TCMTS42	
TCMTG52	
INSERTI - INSERTS PAG. 457	

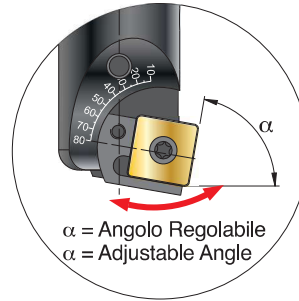
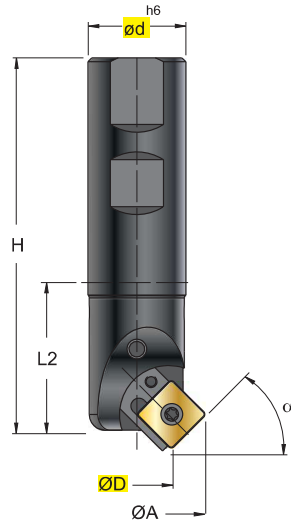
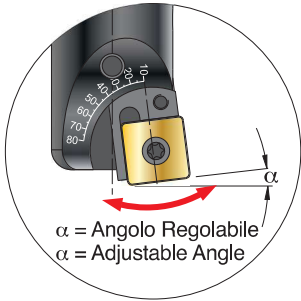
ART.		(mm)						kg	Nm					
ART.		ØD	Ød	ØA	H	L2	α							
S 618	020-11 .3	7,1	20	25,6	100	51	10°	0,213	1,1+1,3	1102	S11	12256P	5608P	FS243
		8,6	20	26,2	100	51	20°	0,213	1,1+1,3					
		10,3	20	26,5	100	51	30°	0,213	1,1+1,3					
		12,2	20	26,4	100	51	40°	0,213	1,1+1,3					
		13,2	20	26,3	100	51	45°	0,213	1,1+1,3					
		14,2	20	26,0	100	51	50°	0,213	1,1+1,3					
		16,2	20	25,3	100	51	60°	0,213	1,1+1,3					
		18,2	20	24,2	100	51	70°	0,213	1,1+1,3					
		20,1	20	22,9	100	51	80°	0,213	1,1+1,3					
S 618	025-16 .3	4,9	25	31,6	100	44	10°	0,310	3,8+5,0	16T3	S16	12409P	5515P	SM612
		7,1	25	32,6	100	44	20°	0,310	3,8+5,0					
		9,7	25	33,1	100	44	30°	0,310	3,8+5,0					
		12,4	25	33,1	100	44	40°	0,310	3,8+5,0					
		13,8	25	32,9	100	44	45°	0,310	3,8+5,0					
		15,3	25	32,6	100	44	50°	0,310	3,8+5,0					
		18,2	25	31,6	100	44	60°	0,310	3,8+5,0					
		21,0	25	30,1	100	44	70°	0,310	3,8+5,0					
		23,8	25	28,2	100	44	80°	0,310	3,8+5,0					



S 618 .. .4

Ø 20

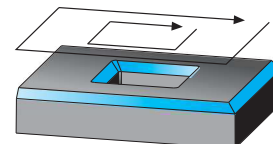
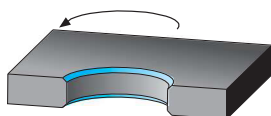
SCMT
 1204..
 .G52



INSERTI - INSERTS
 PAG. 151

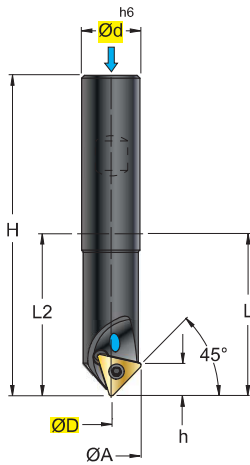
(mm)

ART.		ØD	Ød	ØA	H	L2	α	kg	Nm							
S 618	020-12 .4	7,8	20	29,5	100	51	10°	0,213	5,5+7,0	1204	S12.4	FS243	5620	SM612	5004	5015
		10,5	20	31,0	100	51	20°	0,213	5,5+7,0							
		13,3	20	32,3	100	51	30°	0,213	5,5+7,0							
		16,2	20	33,0	100	51	40°	0,213	5,5+7,0							
		17,7	20	33,1	100	51	45°	0,213	5,5+7,0							
		19,2	20	33,2	100	51	50°	0,213	5,5+7,0							
		22,1	20	32,8	100	51	60°	0,213	5,5+7,0							
		24,8	20	32,0	100	51	70°	0,213	5,5+7,0							
27,2	20	30,7	100	51	80°	0,213	5,5+7,0									



S 613.45W-0-16

Ø 0

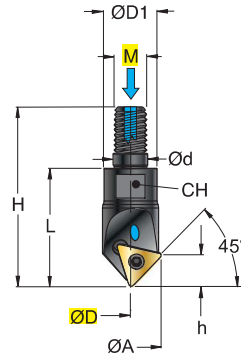


S 613.9.45W-0-16

Ø 0

NEW

DISPONIBILE DA NOVEMBRE 2017
 AVAILABLE FROM NOVEMBER 2017
 AB NOVEMBER 2017 LIEFERBAR
 DISPONIBILE À PARTIR DE NOVEMBRE 2017



TCMX 16T308ZN .S52



INSERTI - INSERTS
 PAG. 457

GRADO
 GRADE

QUICK
 PICK

MATERIALI
 MATERIALS

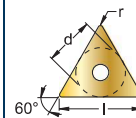
F4140



P	M	K	N	S	H
●	●	○	○	●	

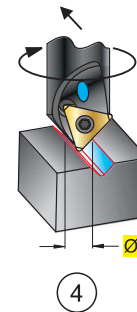
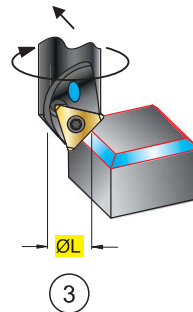
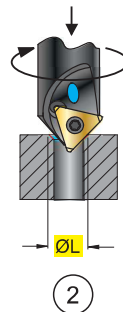
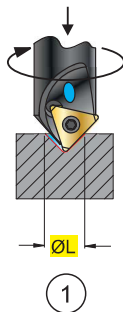
mm

l	d	S	d1	r
16,5	9,52	3,97	4,4	0,8



(mm)

ART.	ØD	M	Ød	ØD1	ØA	H	h	L	L2	Z	CH	kg	Nm	16T308	12409P	5615P
S 613.45W-0-16	0	-	20	-	21,6	110	10	50	60	1	-	0,21	3,8+5,0	16T308	12409P	5615P
S 613.9.45W-0-16	0	10	10,5	18	21,6	59	10	40	-	1	15	0,07	3,8+5,0	16T308	12409P	5615P



MATERIALI - MATERIALS Pag. 1063		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc m/min	fz mm		
				F4140	①	②-③	④
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300	120	0,02-0,04	0,05-0,2	0,03-0,08
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350	100	0,02-0,04	0,05-0,2	0,03-0,08
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	80	0,02-0,04	0,05-0,2	0,03-0,08
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	100	0,02-0,04	0,05-0,2	0,03-0,08
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	100	0,03-0,05	0,05-0,2	0,03-0,08
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	120	0,03-0,06	0,05-0,2	0,05-0,1
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	140	0,03-0,06	0,05-0,2	0,05-0,1
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	120	0,03-0,06	0,05-0,2	0,05-0,1
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	200	0,03-0,06	0,05-0,2	0,08-0,15
	RAME E SUE LEGHE - COPPER	26-28	90-110	150	0,03-0,06	0,05-0,2	0,08-0,15
S	NON METALLICI - PLASTICS	29-30	/				
	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320	50	0,01-0,06	0,03-0,07	0,05-0,1
H	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾	50	0,01-0,06	0,03-0,07	0,05-0,1
	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

$$n = \frac{Vc \cdot 1000}{\phi L \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Kae = \text{mm}$$

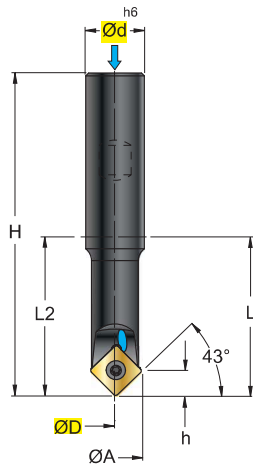
$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$

F = FINITURA, LAV. LEGGERA - FINISHING, LIGHT MACHINING
M = LAV. MEDIA, GENERICA - MEDIUM MACHINING, GENERIC
R = SGROSSATURA, LAV. PESANTE - ROUGHING, HEAVY MACHINING
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR

S 614.45W-0-12

Ø 0

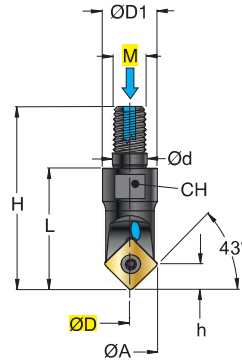


S 614.9.45W-0-12

Ø 0

NEW

DISPONIBILE DA NOVEMBRE 2017
 AVAILABLE FROM NOVEMBER 2017
 AB NOVEMBER 2017 LIEFERBAR
 DISPONIBLE A PARTIR DE NOVEMBRE 2017



SCMX 120408ZN .S52



INSERTI - INSERTS
 PAG. 453

GRADO
 GRADE

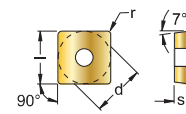
QUICK
 PICK

MATERIALI
 MATERIALS

F4140



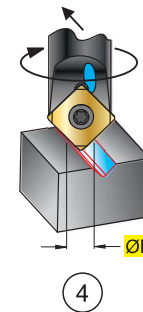
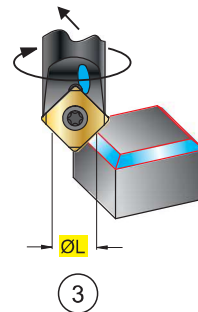
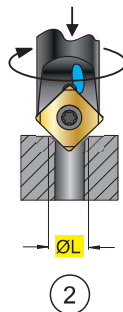
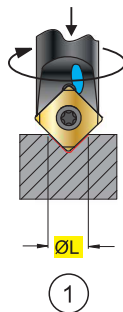
P	M	K	N	S	H
●	●	○	○	●	



mm					
l	d	S	d1	r	
12,7	12,7	4,76	5,3	0,8	

(mm)

ART.	ØD	M	Ød	ØD1	ØA	H	h	L	L2	Z	CH	kg	Nm	120408	FS242	5620
S 614.45W-0-12	0	-	20	-	18,4	110	7,8	50	60	1	-	0,21	5,5+7,0	120408	FS242	5620
S 614.9.45W-0-12	0	10	10,5	18	18,4	59	7,8	40	-	1	15	0,07	5,5+7,0	120408	FS242	5620



MATERIALI - MATERIALS Pag. 1063		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	Vc	fz		
				m/min	①	②-③	④
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300	120	0,02-0,04	0,05-0,2	0,03-0,08
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350	100	0,02-0,04	0,05-0,2	0,03-0,08
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	80	0,02-0,04	0,05-0,2	0,03-0,08
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	100	0,02-0,04	0,05-0,2	0,03-0,08
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	100	0,03-0,05	0,05-0,2	0,03-0,08
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	120	0,03-0,06	0,05-0,2	0,05-0,1
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	140	0,03-0,06	0,05-0,2	0,05-0,1
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	120	0,03-0,06	0,05-0,2	0,05-0,1
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	200	0,03-0,06	0,05-0,2	0,08-0,15
	RAME E SUE LEGHE - COPPER	26-28	90-110	150	0,03-0,06	0,05-0,2	0,08-0,15
S	NON METALLICI - PLASTICS	29-30	/				
	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320	50	0,01-0,06	0,03-0,07	0,05-0,1
H	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ⁿ⁾	50	0,01-0,06	0,03-0,07	0,05-0,1
	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾				

$$n = \frac{Vc \cdot 1000}{\phi L \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$








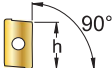
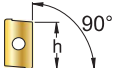
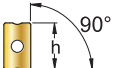

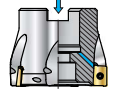






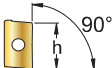
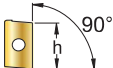


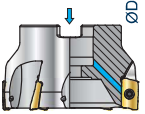
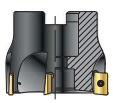
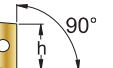


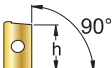
$$fz = fz0 \cdot Kae = \text{mm}$$

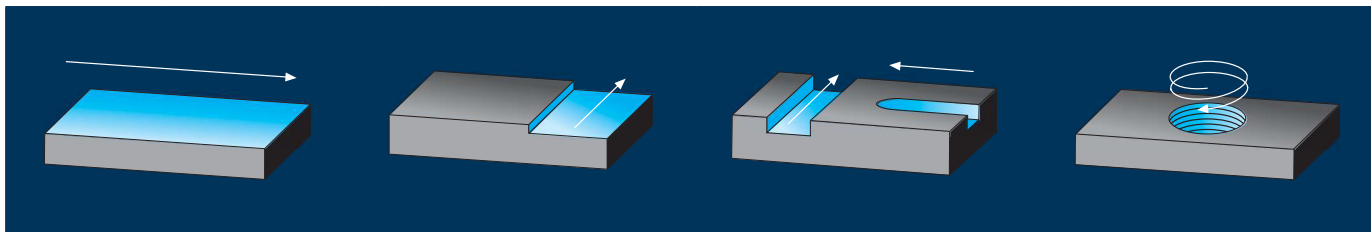
$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$

F = FINITURA, LAV. LEGGERA - FINISHING, LIGHT MACHINING
 M = LAV. MEDIA, GENERICA - MEDIUM MACHINING, GENERIC
 R = SGROSSATURA, LAV. PESANTE - ROUGHING, HEAVY MACHINING

Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
 n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
 fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
 fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
 Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
 Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR

S2000. 86..07		Pag. 358		S2000. 89..07		Pag. 358		S1086		Pag. 364		S9001- 6..-10		Pag. 370		S9001- 8W..-10		Pag. 370													
		ØD = 10 - 25				ØD = 18 - 35				ØD = 16 - 32				ØD = 10 - 32				ØD = 20 - 40				ØD = 20 - 32				ØD = 40 - 63					
S 2000.86W .. 07				S 2000.89W .. 07				S 1086 .. 10				S 1086W/GW .. 10				S 9001-6W .. -10		S 9001-6XLW .. -10		S 9001-6XLMW .. -10				S 9001-8W .. -10							
		90°		BD..0703		h = 6				90°		AP..1003		h = 10				90°		LNMM..1006		h = 9									
S2000. 86..11		Pag. 360		S2000. 88..11		Pag. 360		S2000. 89..11		Pag. 360		S1086		Pag. 366		S1087		Pag. 366		S9001- 6W..-15		Pag. 372		S9001- 8W..-15		Pag. 372					
		ØD = 16 - 40				ØD = 40 - 80				ØD = 16 - 35				ØD = 20 - 40				ØD = 10 - 32				ØD = 20 - 32				ØD = 32 - 40				ØD = 50 - 80	
S 2000.86W .. 11 S 2000.86MW .. 11 S 2000.86XLW .. 11 S 2000.86XLMW .. 11				S 2000.88W .. 11				S 2000.89W .. 11				S 1086GXL .. 10		S 1086XLZ .. 10 S 1086XLZM .. 10		S 1087 .. 10				S 9001-6W .. -15				S 9001-8W .. -15							
		90°		BD..11T3		h = 11				90°		AP..1003		h = 10				90°		LNMM..1510		h = 14									
S2000. 86..17		Pag. 362		S2000. 88..17		Pag. 362		S1088		Pag. 368																					
		ØD = 25 - 40				ØD = 25 - 40				ØD = 40 - 100				ØD = 40 - 63				ØD = 40 - 63													
S 2000.86W .. 17				S 2000.86XLMW .. 17				S 2000.88W .. 17				S 1088 .. 10		S 1088W/GW .. 10																	
		90°		BD..1704		h = 15,7				90°		AP..1003		h = 10																	
								S1089		Pag. 368																					
										ØD = 10 - 12				ØD = 16 - 32																	
								S 1089W ..																							
		90°		AP..1003		h = 10																									

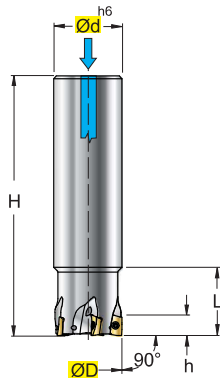


S1296		Pag. 374	S1298		Pag. 374	S1696		Pag. 376	S9003.8W		Pag. 382
	$\text{ØD} = 32 - 40$		$\text{ØD} = 32 - 40$		$\text{ØD} = 50 - 250$		$\text{ØD} = 25 - 40$		$\text{ØD} = 25 - 40$		$\text{ØD} = 50 - 125$
S 1296W .. 12		S 1296XLZ .. 12		S 1298W/GW .. 12		S 1696 .. 16		S 1696W .. 16		S 9003.8W .. 13	
	90°	SD..1205	h = 10,5		90°	AP..1604	h = 16		90°	LNMX 1313	h = 12
						S1696		Pag. 378	S1697		Pag. 378
							$\text{ØD} = 25 - 40$		$\text{ØD} = 25 - 40$		
						S 1696XLZ .. 16		S 1696XLZM .. 16			
							90°	AP..1604	h = 16		
						S1698		Pag. 380			
							$\text{ØD} = 40 - 125$		$\text{ØD} = 40 - 125$		
						S 1698 .. 16		S 1698W/GW .. 16			
							90°	AP..1604	h = 16		

S 2000.86W.. 07

Ø 10-25

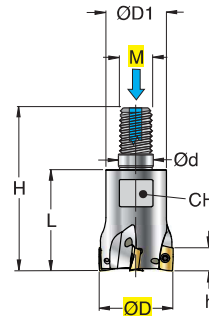
γ_p +3,5°/+7°
 γ_f -18,7°/-9,7°
 γ_o -18,7°/-9,7°



S 2000.89W.. 07

Ø 18-35

γ_p +7°
 γ_f -10,85°/-8,56°
 γ_o -10,85°/-8,56°



**BDMT 0703
.Y42**



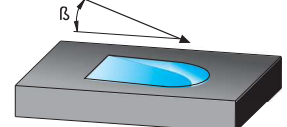
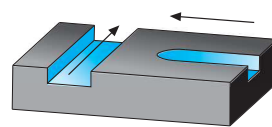
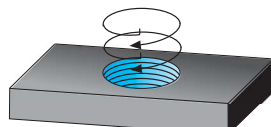
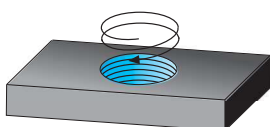
**BDMT 0703
.Y52**





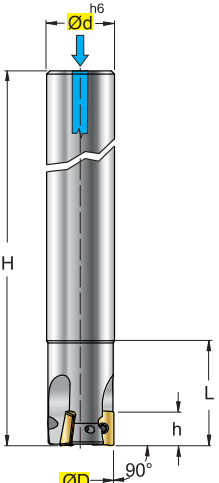
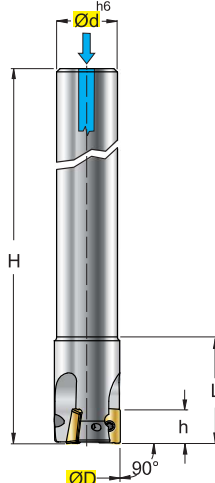
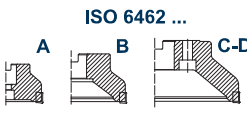
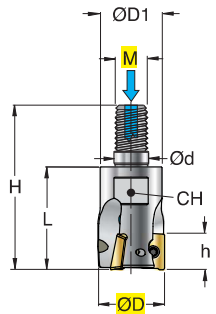


INSERTI - INSERTS
PAG. 450





(mm)

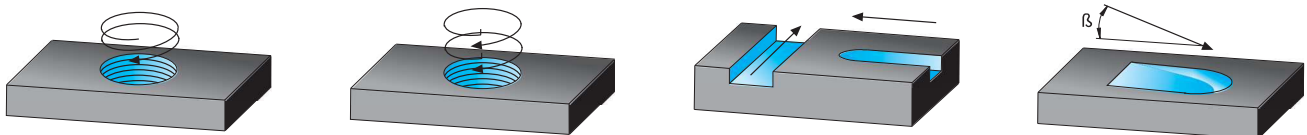
ART.	ØD	M	Ød	ØD1	H	h	L	β	Z	CH	kg	Nm			
S 2000.86W 010-01.07	10	-	10	-	80	6	17	6°	1	-	0,04	0,5+0,6	0703	122041P	5606P
S 2000.86W 012-02.07	12	-	12	-	80	6	18	3,5°	2	-	0,06	0,5+0,6			
S 2000.86W 014-02.07	14	-	12	-	80	6	18	3°	2	-	0,07	0,5+0,6			
S 2000.86W 016-03.07	16	-	16	-	85	6	20	1,8°	3	-	0,12	0,5+0,6			
S 2000.86W 020-04.07	20	-	20	-	90	6	20	1,4°	4	-	0,20	0,5+0,6			
S 2000.86W 025-05.07	25	-	25	-	95	6	25	1,0°	5	-	0,33	0,5+0,6			
S 2000.89W 018-03.07	18	8	8,5	13	42	6	25	1,6°	3	10	0,04	0,5+0,6	0703	122041P	5606P
S 2000.89W 022-03.07	22	10	10,5	18	49	6	30	1,2°	3	15	0,07	0,5+0,6			
S 2000.89W 022-04.07	22	10	10,5	18	49	6	30	1,2°	4	15	0,07	0,5+0,6			
S 2000.89W 028-05.07	28	12	12,5	21	57	6	35	0,9°	5	17	0,12	0,5+0,6			
S 2000.89W 035-07.07	35	16	17,0	29	67	6	43	0,7°	7	24	0,26	0,5+0,6			



W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE

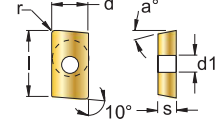
S 2000.86W..11 S2000.86XLW..11	S2000.86MW..11 S2000.86XLMW..11	S 2000.88W.. 11	S 2000.89W.. 11	BDGT 11T3 .Y57	
$\varnothing 16-40$ $\gamma_p +6,3^\circ/+11,7^\circ$ $\gamma_f -15^\circ/-7,63^\circ$ $\gamma_o -15^\circ/-7,63^\circ$	$\varnothing 16-32$ $\gamma_p +6,3^\circ/+11,7^\circ$ $\gamma_f -15^\circ/-7,63^\circ$ $\gamma_o -15^\circ/-7,63^\circ$	$\varnothing 40-80$ $\gamma_p +11^\circ/+11,7^\circ$ $\gamma_f -7^\circ/-7,5^\circ$ $\gamma_o -7^\circ/-7,5^\circ$	$\varnothing 16-35$ $\gamma_p +6,3^\circ/+10,5^\circ$ $\gamma_f -15^\circ/-8,5^\circ$ $\gamma_o -15^\circ/-8,5^\circ$	BDMT 11T3 .Y42	
		ISO 6462 ... 		BDMT 11T3 .Y52	
				 INSERTI - INSERTS PAG. 450	

ART.	(mm)										kg	Nm	ISO 6462				
	$\varnothing D$	M	$\varnothing d$	$\varnothing D1$	H	h	L	β	Z	CH							
S 2000.86W 016-02.11	16	-	16	-	100	10	30	3°	2	-	0,14	1,1+1,3	-	11T3	122555PK	5608	-
S 2000.86W 020-03.11	20	-	20	-	110	10	26	5°	3	-	0,23	1,1+1,3	-				
S 2000.86W 025-03.11	25	-	25	-	120	10	32	2,5°	3	-	0,42	1,1+1,3	-				
S 2000.86W 032-04.11	32	-	32	-	130	10	30	1,5°	4	-	0,73	1,1+1,3	-				
S 2000.86XLW 020-02-11	20	-	20	-	140	10	60	5°	2	-	0,30	1,1+1,3	-	11T3	122555PK	5608	-
S 2000.86XLW 025-02-11	25	-	25	-	160	10	60	2,5°	2	-	0,58	1,1+1,3	-				
S 2000.86XLW 032-02-11	32	-	32	-	200	10	65	1,5°	2	-	1,18	1,1+1,3	-				
S 2000.86XLW 040-02-11	40	-	32	-	240	10	65	0,7°	2	-	1,62	1,1+1,3	-				
S 2000.86XLW 040-03-11	40	-	32	-	240	10	65	0,7°	3	-	1,60	1,1+1,3	-				
S 2000.86MW 016-02.11	16	-	12	-	100	10	32	3°	2	-	0,10	1,1+1,3	-	11T3	122555PK	5608	-
S 2000.86MW 020-03.11	20	-	16	-	110	10	32	5°	3	-	0,17	1,1+1,3	-				
S 2000.86MW 025-03.11	25	-	20	-	120	10	34	2,5°	3	-	0,30	1,1+1,3	-				
S 2000.86MW 032-04.11	32	-	25	-	130	10	43	1,5°	4	-	0,52	1,1+1,3	-				
S 2000.86XLMW 018-02-11	18	-	16	-	170	10	32	3°	2	-	0,24	1,1+1,3	-	11T3	122555PK	5608	-
S 2000.86XLMW 020-02-11	20	-	16	-	170	10	32	5°	2	-	0,25	1,1+1,3	-				
S 2000.86XLMW 020-03-11	20	-	16	-	170	10	32	5°	3	-	0,24	1,1+1,3	-				
S 2000.86XLMW 022-02-11	22	-	20	-	170	10	32	2,5°	2	-	0,39	1,1+1,3	-				
S 2000.86XLMW 022-03-11	22	-	20	-	170	10	32	2,5°	3	-	0,39	1,1+1,3	-				
S 2000.86XLMW 025-02-11	25	-	20	-	210	10	34	2,5°	2	-	0,49	1,1+1,3	-				
S 2000.86XLMW 025-03-11	25	-	20	-	210	10	34	2,5°	3	-	0,48	1,1+1,3	-				
S 2000.86XLMW 032-02-11	32	-	25	-	210	10	43	1,5°	2	-	0,78	1,1+1,3	-				
S 2000.86XLMW 032-03-11	32	-	25	-	210	10	43	1,5°	3	-	0,77	1,1+1,3	-				
S 2000.88W 040-05.11	40	-	16	-	40	10	-	0,7°	5	-	0,2	1,1+1,3	A	11T3	122555PK	5608	VBSF08L
S 2000.88W 050-05.11	50	-	22	-	40	10	-	-	5	-	0,3	1,1+1,3	A	11T3	122555PK	5608	VBSF10
S 2000.88W 063-06.11	63	-	22	-	40	10	-	-	6	-	0,5	1,1+1,3	A				
S 2000.88W 080-07.11	80	-	27	-	50	10	-	-	7	-	1,0	1,1+1,3	A	11T3	122555PK	5608	VBSF12
S 2000.89W 016-02.11	16	8	8,5	13	42	10	25	3°	2	10	0,03	1,1+1,3	-	11T3	122555PK	5608	-
S 2000.89W 020-03.11	20	10	10,5	18	49	10	30	5°	3	15	0,06	1,1+1,3	-				
S 2000.89W 022-03.11	22	10	10,5	18	49	10	30	2,5°	3	15	0,06	1,1+1,3	-				
S 2000.89W 025-03.11	25	12	12,5	21	57	10	35	2,5°	3	17	0,10	1,1+1,3	-				
S 2000.89W 028-03.11	28	12	12,5	21	57	10	35	1,5°	3	17	0,10	1,1+1,3	-				
S 2000.89W 028-04.11	28	12	12,5	21	57	10	35	1,5°	4	17	0,11	1,1+1,3	-				
S 2000.89W 032-04.11	32	16	17	29	67	10	43	1,5°	4	24	0,25	1,1+1,3	-				
S 2000.89W 035-04.11	35	16	17	29	67	10	43	1°	4	24	0,27	1,1+1,3	-				
S 2000.89W 035-05.11	35	16	17	29	67	10	43	1°	5	24	0,27	1,1+1,3	-				



W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE

SCelta VELOCE - QUICK PICK



COD.	P			M			K			N			S			H			HT	HW	HC		l	d	s	d1	r	a°
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R			N3015	F3710						
BDGT 11T302FR .Y57									●	●	○	○	○						□									
BDGT 11T304FR .Y57									●	●	○	○	○						■									
BDGT 11T308FR .Y57									●	●	○	○	○						■									
BDMT 11T304ER .Y42	○	●	○	○	●	●																						
BDMT 11T308ER .Y42	○	●	○	○	●	●																						
BDMT 11T308ER .Y52							○	●	●				○	○														
BDMT 11T312ER .Y52	○	●	○	○	●	●																						
BDMT 11T316ER .Y52	○	●	○	○	●	●																						
BDMT 11T320ER .Y52	○	●	○	○	●	●																						
BDMT 11T324ER .Y52	○	●	○	○	●	●																						
BDMT 11T331ER .Y52	○	●	○	○	●	●																						

CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY

SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY

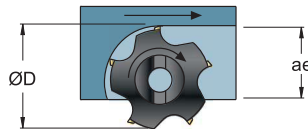
MATERIALI - MATERIALS Pag. 1063		VDI 3323 GR.	HB Rm ¹ HRC ²	fz0 mm			Vc m/min Pag. 440								
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1--5	125-300	0,08	0,15	0,25	N3015	F3710	F4725						
		ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6--9	180-350	0,08	0,15	0,2			170					
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	0,06	0,12	0,16			160						
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	0,08	0,12	0,15			140						
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	0,08	0,12	0,15			170						
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	0,08	0,18	0,25		190							
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	0,08	0,15	0,2		170							
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	0,08	0,15	0,2		150							
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21--25	60-130	0,08	0,15	0,2	950								
	RAME E SUE LEGHE - COPPER	26--28	90-110	0,08	0,15	0,2	625								
	NON METALLICI - PLASTICS	29-30	/	0,08	0,15	0,2	285								
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31--35	200-320	0,05	0,10	0,15	80								
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ⁿ	0,05	0,10	0,15	80								
H	ACCIAIO TEMPRATO - HARDENED STEEL	38--41	45-60 ⁿ												

$$n = \frac{Vc \cdot 1000}{\phi D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Kae = \text{mm}$$

$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$



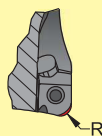
ae/D	0,5-1 50-100%	0,3 30%	0,2 20%	0,1 10%	0,05 5%	0,02 2%
Kae	1	1,2	1,5	2,1	3	4,8

ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%
Vc	Vc (min)-----Vc(max)			

Pag. 440


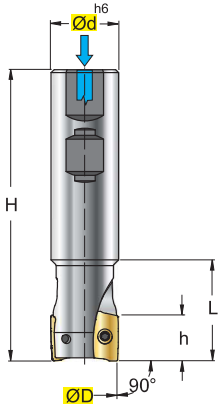
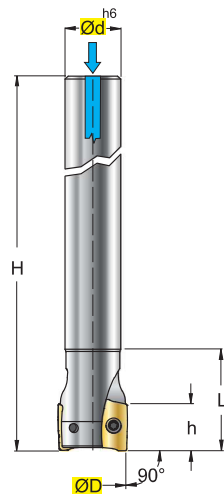
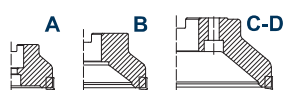
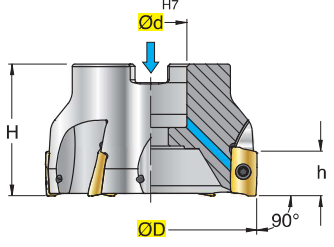



- F = FINITURA, LAV. LEGGERA - FINISHING, LIGHT MACHINING
- M = LAV. MEDIA, GENERICA - MEDIUM MACHINING, GENERIC
- R = SGROSSATURA, LAV. PESANTE - ROUGHING, HEAVY MACHINING



- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
- fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
- fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR

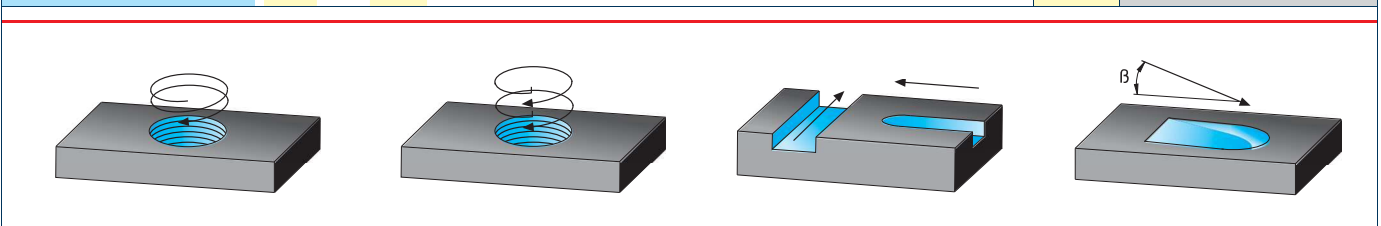


Raggio Inserto Insert Radius (mm)	Raggio Fresa Milling cutter Radius (mm)
1,6	R1,0
2,0	R1,2
2,4	R1,6
3,1	R2,5
4,0	

- Per usare inserti con r≥1,6mm, bisogna modificare il corpo fresa come indicato in figura.
- To use inserts with r≥1,6mm, it is necessary to modify the milling cutting body as illustrated in the figure
- Um wendeschneidplatten mit r≥1,6mm, muss der fräserkörper wie in der abbildung angegeben verändert werden
- Pour utiliser les plaquettes avec r≥1,6mm, il faut modifier le corps de la fraise comme il est indiqué dans l'illustration.

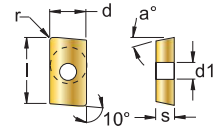
S 2000.86W.. 17		S 2000.86XLMW.. 17		S 2000.88W.. 17		BDGT 1704 .Y57	
Ø 25-40	$\gamma_p +7^\circ/+10^\circ$ $\gamma_f -11^\circ/-7^\circ$ $\gamma_o -11^\circ/-7^\circ$	Ø 25-40	$\gamma_p +7^\circ/+10^\circ$ $\gamma_f -11^\circ/-7^\circ$ $\gamma_o -11^\circ/-7^\circ$	Ø 40-100	$\gamma_p +10^\circ$ $\gamma_f -7^\circ$ $\gamma_o -7^\circ$		
				<p>ISO 6462 ...</p>  		<p>BDMT 1704 .Y42</p> 	
						<p>BDMT 1704 .Y52</p> 	
						 <p>INSERTI - INSERTS PAG. 450</p>	

(mm)												kg		Nm		ISO 6462	  			
ART.	ØD	M	Ød	ØD1	H	h	L	β	Z	CH										
S 2000.86W 025-02.17	25	-	25	-	92	15,7	36	4,5°	2	-	0,28	3,8+5,0	-	1704	C04008P	5615P	-			
S 2000.86W 032-03.17	32	-	32	-	100	15,7	40	2,5°	3	-	0,50	3,8+5,0	-							
S 2000.86W 040-04.17	40	-	32	-	110	15,7	50	2°	4	-	0,63	3,8+5,0	-							
S 2000.86XLMW 025-02-17	25	-	20	-	210	15,7	60	4,5°	2	-	0,48	3,8+5,0	-	1704	C04008P	5615P	-			
S 2000.86XLMW 032-03-17	32	-	25	-	250	15,7	65	2,5°	3	-	0,90	3,8+5,0	-							
S 2000.86XLMW 040-04-17	40	-	32	-	250	15,7	65	2°	4	-	1,49	3,8+5,0	-							
S 2000.88W 040-04.17	40	-	16	-	40	15,7	-	2°	4	-	0,17	3,8+5,0	A	1704	C04008P	5615P	VBSF08L			
S 2000.88W 050-04.17	50	-	22	-	40	15,7	-	1,5°	4	-	0,29	3,8+5,0	A	1704	C04008P	5615P	VBSF10			
S 2000.88W 050-05.17 New	50	-	22	-	40	15,7	-	1,5°	5	-	0,27	3,8+5,0	A							
S 2000.88W 063-05.17	63	-	22	-	40	15,7	-	1°	5	-	0,51	3,8+5,0	A							
S 2000.88W 063-06.17 New	63	-	22	-	40	15,7	-	1°	6	-	0,49	3,8+5,0	A							
S 2000.88W 080-06.17	80	-	27	-	50	15,7	-	1°	6	-	0,97	3,8+5,0	A-B	1704	C04008P	5615P	AL12x35			
S 2000.88W 100-07.17	100	-	32	-	50	15,7	-	0,5°	7	-	1,44	3,8+5,0	A-B	1704	C04008P	5615P	AL16x35			



W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE

SCELTA VELOCE - QUICK PICK



COD.	P			M			K			N			S			H			HT	HW	HC			l	d	s	d1	r	a°	
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R			CERMET	NON RIV. CEMENTED CARBIDE GRADES	RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS							
BDGT 170404FR .Y57																														
BDGT 170408FR .Y57																														
BDGT 170420FR .Y57																														
BDGT 170431FR .Y57																														
BDMT 170404ER .Y42																														
BDMT 170408ER .Y42																														
BDMT 170404ER .Y52																														
BDMT 170408ER .Y52																														
BDMT 170412ER .Y52																														
BDMT 170416ER .Y52																														
BDMT 170420ER .Y52																														
BDMT 170424ER .Y52																														
BDMT 170431ER .Y52																														
BDMT 170440ER .Y52																														

CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY

SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY

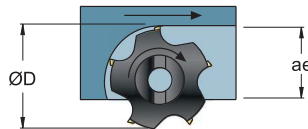
MATERIALI - MATERIALS Pag. 1063	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	fz0 mm			Vc m/min Pag. 440																								
			F	M	R	N3015	F3710	F4725																						
P ACCIAIO NON LEGATO - NOT ALLOY STEEL	1--5	125-300	0,08	0,15	0,25				200																					
P ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350	0,08	0,15	0,2				170																					
P ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	0,06	0,12	0,16				160																					
P INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	0,08	0,12	0,15				140																					
M INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	0,08	0,12	0,15				170																					
K GHISA GRIGIA - GREY CAST IRON	15-16	180-260	0,08	0,18	0,25				190																					
K GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	0,08	0,15	0,2				170																					
K GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	0,08	0,15	0,2				150																					
N ALLUMINIO E SUE LEGHE - ALUMINIUM	21--25	60-130	0,08	0,15	0,2	950																								
N RAME E SUE LEGHE - COPPER	26--28	90-110	0,08	0,15	0,2	625																								
N NON METALLICI - PLASTICS	29-30	/	0,08	0,15	0,2	285																								
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31--35	200-320	0,05	0,10	0,15	80																								
S TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ^{†)}	0,05	0,10	0,15	80																								
H ACCIAIO TEMPRATO - HARDENED STEEL	38--41	45-60 ^{‡)}																												

$$n = \frac{Vc \cdot 1000}{\phi D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Kae = \text{mm}$$

$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$



ae/D	0,5-1 50-100%	0,3 30%	0,2 20%	0,1 10%	0,05 5%	0,02 2%
Kae	1	1,2	1,5	2,1	3	4,8

ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%
Vc	Vc (min)-----Vc(max)			

Pag. 440

- F = FINITURA , LAV. LEGGERA - FINISHING , LIGHT MACHINING
- M = LAV. MEDIA , GENERIC - MEDIUM MACHINING , GENERIC
- R = SGROSSATURA , LAV. PESANTE - ROUGHING , HEAVY MACHINING

- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
- fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
- fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR



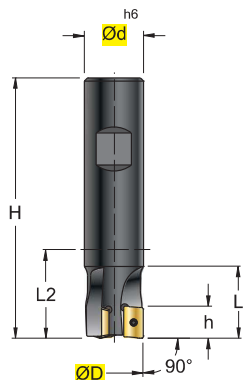
Raggio Inserto Insert Radius (mm)	Raggio Fresa Milling cutter Radius (mm)
1,6	R1,0
2,0	R1,2
2,4	R1,6
3,1	R1,6
4,0	R2,5

- Per usare inserti con r≥1,6mm, bisogna modificare il corpo fresa come indicato in figura.
- To use inserts with r≥1,6mm, it is necessary to modify the milling cutting body as illustrated in the figure
- Um wendeschneidplatten mit r≥1,6mm, muss der fräserkörper wie in der abbildung angegeben verändert werden
- Pour utiliser les plaquettes avec r≥1,6mm, il faut modifier le corps de la fraise comme il est indiqué dans l'illustration.

S 1086 .. 10

Ø 16-32

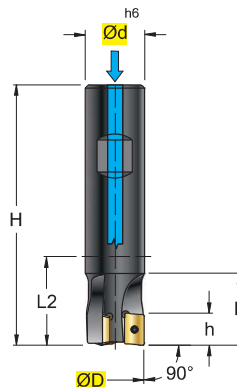
γ_p -1,5°/+10°
 γ_f -21°/-11,5°
 γ_o -21°/-11,5°



S 1086W/GW..10

Ø 10-32

γ_p -1,5°/+10°
 γ_f -21°/-11,5°
 γ_o -21°/-11,5°



APKT 1003
.I52



APKT 1003
.L52



APKT 1003
.S52



APKX 1003
.S52



APHT 1003
.Z53



APKT 1003
.Z54



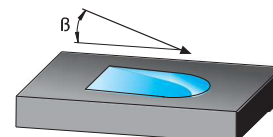
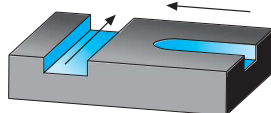
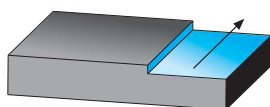
APHT 1003
.S57



INSERTI - INSERTS
PAG. 448

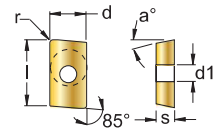
(mm)

ART.	ØD	Ød	H	h	L	L2	Z	β	kg	Nm	1003	12255P	5608P	
S 1086	016 - 10	16	16	85	10	25	37	2	3,5°	0,11	1,1+1,3			
S 1086	020 - 10	20	20	90	10	25	40	3	1,5°	0,18	1,1+1,3			
S 1086	025 - 10	25	25	95	10	25	39	4	0,9°	0,30	1,1+1,3			
S 1086	032 - 10	32	25	95	10	25	39	5	0,6°	0,33	1,1+1,3			
S 1086W	010 - 10	10	16	80	10	24	32	1	11°	0,09	1,1+1,3	1003	12255P	5608P
S 1086W	011 - 10	11	16	80	10	24	32	1	11°	0,10	1,1+1,3			
S 1086W	012 - 10	12	16	80	10	24	32	1	9°	0,10	1,1+1,3			
S 1086W	013 - 10	13	16	80	10	24	32	1	8,5°	0,10	1,1+1,3			
S 1086W	014 - 10	14	16	80	10	25	32	1	8°	0,10	1,1+1,3			
S 1086W	015 - 10	15	16	85	10	25	37	2	4°	0,10	1,1+1,3			
S 1086W	016 - 10	16	16	85	10	25	37	2	3,5°	0,11	1,1+1,3			
S 1086W	017 - 10	17	20	85	10	25	35	2	3°	0,16	1,1+1,3			
S 1086W	018 - 10	18	20	85	10	26,5	35	2	2,5°	0,16	1,1+1,3			
S 1086W	019 - 10	19	20	90	10	25	40	2	2°	0,18	1,1+1,3			
S 1086W	020 - 10	20	20	90	10	25	40	3	1,5°	0,18	1,1+1,3			
S 1086W	022 - 10	22	25	95	10	25	39	3	1,5°	0,29	1,1+1,3			
S 1086W	024 - 10	24	25	95	10	25	39	4	1°	0,29	1,1+1,3			
S 1086W	025 - 10	25	25	95	10	25	39	4	0,9°	0,30	1,1+1,3			
S 1086W	028 - 10	28	25	95	10	25	39	4	0,9°	0,32	1,1+1,3			
S 1086W	029 - 10	29	25	95	10	25	39	4	0,8°	0,32	1,1+1,3			
S 1086W	030 - 10	30	25	95	10	25	39	4	0,8°	0,33	1,1+1,3			
S 1086W	032 - 10	32	25	95	10	25	39	5	0,6°	0,33	1,1+1,3			
S 1086GW	020 - 10	20	20	90	10	25	40	2	1,5°	0,18	1,1+1,3	1003	12255P	5608P
S 1086GW	025 - 10	25	25	95	10	25	39	3	0,9°	0,30	1,1+1,3			
S 1086GW	032 - 10	32	25	95	10	25	39	4	0,6°	0,33	1,1+1,3			



W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE
G = PASSO GROSSO - LARGE TEETH DISTANCE - NORMALE ZAHNTEILUNG - GRANDE DISTANCE DENTS.

SCelta VELOCE - QUICK PICK



COD.	P			M			K			N			S			H			HT	HW	HC							l	d	s	d1	r	a°	
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R			T120	F2140	T516	T526	T528N	T530	T525							T533
APKT 1003 PDR .I52	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○											10,5	6,70	3,50	2,8	0,5	11
APKT 1003 PDER .L52	○	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○											10,5	6,70	3,50	2,8	0,5	11
APKT 1003 PDTR .S52	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○											10,5	6,70	3,50	2,8	0,5	11
APX 1003 PDR .S52	○	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○											10,5	6,70	3,50	2,8	0,5	11
APKT 1003 PDSR .Z54	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○											10,5	6,70	3,50	2,8	0,5	11
APKT 1003 PDER .Z54	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○											10,5	6,70	3,50	2,8	0,5	11
APHT 100312SR .Z53	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○											10,5	6,70	3,50	2,8	1,2	11
APHT 100320SR .Z53	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○											10,5	6,70	3,50	2,8	2,0	11
APHT 1003 PDFR .S57	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○											10,5	6,70	3,50	2,8	0,5	11

CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY

SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY

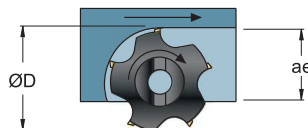
MATERIALI - MATERIALS Pag. 1063		VDI 3323 GR.	HB Rm1) HRC2)	fz0 mm			Vc m/min Pag. 440										
				F	M	R	T120	T516	T525	T526	T528N	T530	T533	F1035	F2140		
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1--5	125-300	0,1	0,15	0,2				250	220	220	230	240	125	200	
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6--9	180-350	0,06	0,1	0,15				200	160	160	180	150	120	170	
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	0,06	0,1	0,15				170	150	150	150	140	100	120	
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	0,06	0,08	0,1				150	140	140	140	160	100	120	
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	0,06	0,08	0,1	100		140	130	120	120	140		140		
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	0,1	0,15	0,2	120	250	200			180	160	160			
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	0,06	0,12	0,15	110	200	180			160	150	150			
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	0,06	0,12	0,15	120	220	200			170	160	160			
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21--25	60-130	0,06	0,15	0,2	500						600				
	RAME E SUE LEGHE - COPPER	26--28	90-110	0,06	0,12	0,18	300						300				
	NON METALLICI - PLASTICS	29-30	/	0,06	0,12	0,18											
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31--35	200-320	0,06	0,08	0,1	20		40		40	40	50		50		
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ⁿ	0,06	0,08	0,1	30		50		60	50	50		50		
H	ACCIAIO TEMPRATO - HARDENED STEEL	38--41	45-60 ⁿ	0,06	0,08	0,1			40								

$$n = \frac{Vc \cdot 1000}{\phi D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Kae = \text{mm}$$

$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$



ae/D	0,5-1 50-100%	0,3 30%	0,2 20%	0,1 10%	0,05 5%	0,02 2%
Kae	1	1,2	1,5	2,1	3	4,8

ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%
Vc	Vc (min)-----Vc(max)			

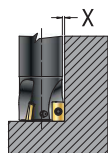
Pag. 440

- F = FINITURA, LAV. LEGGERA - FINISHING, LIGHT MACHINING
- M = LAV. MEDIA, GENERICA - MEDIUM MACHINING, GENERIC
- R = SGROSSATURA, LAV. PESANTE - ROUGHING, HEAVY MACHINING

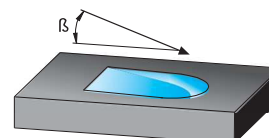
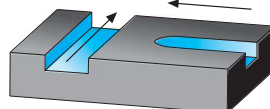
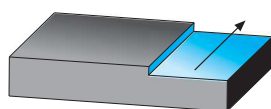
- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
- fz = mm AVANZAMENTO AL DENTE -TOOTH FEED
- fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR

S 1086GXL..10	S 1086XLZ..10	S 1086XLZM..10	S 1087..10	APKT 1003 .I52	APKT 1003 .L52	APKT 1003 .S52	APKX 1003 .S52	APHT 1003 .Z53	APKT 1003 .Z54	APHT 1003 .S57
$\text{Ø } 20-40$ $\gamma_p +7^\circ/+10^\circ$ $\gamma_f -13,5^\circ/-10^\circ$ $\gamma_o -13,5^\circ/-10^\circ$	$\text{Ø } 10-32$ $\gamma_p -1,5^\circ/+10^\circ$ $\gamma_f -21^\circ/-11,5^\circ$ $\gamma_o -21^\circ/-11,5^\circ$	$\text{Ø } 16-25$ $\gamma_p -1,5^\circ/+10^\circ$ $\gamma_f -21^\circ/-11,5^\circ$ $\gamma_o -21^\circ/-11,5^\circ$	$\text{Ø } 20-32$ $\gamma_p +7^\circ/+10^\circ$ $\gamma_f -13,5^\circ/-11,5^\circ$ $\gamma_o -13,5^\circ/-11,5^\circ$							
				INSERTI - INSERTS PAG. 448						

(mm)														kg	Nm	1003	12255P	5608P
ART.	ØD	Ød/CM	ØD1	H	h	L	L2	L3	β	Z	X							
S 1086GXL 020 - 10	20	20	-	130	10	40	80	-	1,5°	2	-	0,29	1,1+1,3					
S 1086GXL 025 - 10	25	25	-	140	10	40	84	-	0,9°	3	-	0,47	1,1+1,3					
S 1086GXL 032 - 10	32	32	-	160	10	50	100	-	0,6°	4	-	0,93	1,1+1,3					
S 1086GXL 040 - 10	40	32	-	200	10	60	140	-	-	5	-	1,23	1,1+1,3					
S 1086XLZ 010 - 10	10	20	11,5	200	10	50	-	18	11°	1	-	0,40	1,1+1,3					
S 1086XLZ 011 - 10	11	20	13,5	200	10	50	-	19	11°	1	-	0,41	1,1+1,3					
S 1086XLZ 012 - 10	12	20	13,5	200	10	50	-	21	9°	1	-	0,41	1,1+1,3					
S 1086XLZ 013 - 10	13	20	15,0	200	10	50	-	22	8,5°	1	-	0,42	1,1+1,3					
S 1086XLZ 014 - 10	14	20	15,5	200	10	50	-	21	8°	1	-	0,43	1,1+1,3					
S 1086XLZ 015 - 10	15	20	16,0	200	10	50	-	23	4°	2	-	0,42	1,1+1,3					
S 1086XLZ 016 - 10	16	20	17,0	200	10	50	-	35	3,5°	2	-	0,43	1,1+1,3					
S 1086XLZ 017 - 10	17	20	18,0	200	10	50	-	35	3°	2	-	0,44	1,1+1,3					
S 1086XLZ 018 - 10	18	20	19,0	200	10	50	-	35	2,5°	2	-	0,44	1,1+1,3					
S 1086XLZ 019 - 10	19	20	19,0	200	10	50	-	35	2°	2	-	0,45	1,1+1,3					
S 1086XLZ 020 - 10	20	20	-	200	10	50	-	50	1,5°	2	-	0,46	1,1+1,3					
S 1086XLZ 022 - 10	22	25	-	220	10	50	-	50	1,5°	2	-	0,76	1,1+1,3					
S 1086XLZ 024 - 10	24	25	-	220	10	50	-	50	1°	3	-	0,79	1,1+1,3					
S 1086XLZ 025 - 10	25	25	-	220	10	50	-	50	0,9°	3	-	0,80	1,1+1,3					
S 1086XLZ 028 - 10	28	32	-	250	10	50	-	50	0,9°	3	-	1,44	1,1+1,3					
S 1086XLZ 029 - 10	29	32	-	250	10	50	-	50	0,8°	3	-	1,46	1,1+1,3					
S 1086XLZ 030 - 10	30	32	-	250	10	50	-	50	0,8°	4	-	1,46	1,1+1,3					
S 1086XLZ 032 - 10	32	32	-	250	10	50	-	50	0,6°	4	-	1,50	1,1+1,3					
S 1086XLZM 016 - 10	16	15	-	150	10	25	-	-	1,5°	2	0,5	0,20	1,1+1,3					
S 1086XLZM 020 - 10	20	19	-	160	10	25	-	-	1,5°	2	0,5	0,34	1,1+1,3					
S 1086XLZM 025 - 10	25	24	-	200	10	25	-	-	0,9°	3	0,5	0,68	1,1+1,3					
S 1087 020 - 10	20	CM2	-	100	10	31	36	-	1,5°	3	-	0,14	1,1+1,3					
S 1087 025 - 10	25	CM3	-	124	10	38	43	-	0,9°	4	-	0,33	1,1+1,3					
S 1087 032 - 10	32	CM3	-	124	10	38	43	-	0,6°	5	-	0,35	1,1+1,3					



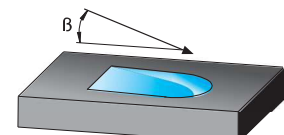
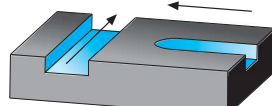
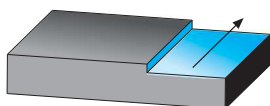
S1086 XLZM...-10



XLZ = EXTRALUNGA, STELO CILINDRICO - EXTRALONG, CYLINDRICAL SHANK - EXTRALANG, ZYLINDERSCHAFT - EXTRALONGUE, QUEUE CYLINDRIQUE
 GXL = PASSO GROSSO EXTRALUNGA - EXTRALONG WITH LARGE TEETH DISTANCE - EXTRALANG MIT NORMAL ZUHNTILUNG - EXTRALONGUE AVEC GRANDE DISTANCE DENTS

S 1088 .. 10		S 1088W .. 10 S 1088GW .. 10		S 1089W ..		APKT 1003 .I52	
Ø 40-63	$\gamma_p +11^\circ/+12^\circ$ $\gamma_f -10^\circ/-8^\circ$ $\gamma_o -10^\circ/-8^\circ$	Ø 40-63	$\gamma_p +11^\circ/+12^\circ$ $\gamma_f -10^\circ/-8^\circ$ $\gamma_o -10^\circ/-8^\circ$	Ø 10-32	$\gamma_p -1,5^\circ/+10^\circ$ $\gamma_f -21^\circ/-11,5^\circ$ $\gamma_o -21^\circ/-11,5^\circ$	APKT 1003 .L52	
ISO 6462 ...		ISO 6462 ...		FORM A		FORM B	
						INSERTI - INSERTS PAG. 448	

(mm)																				
ART.	FORM	ØD	M	Ød	ØD1	H	h	L	L3	L4	β	Z	CH	kg	Nm	ISO 6462				
S 1088	040 - 10	40	-	22	40	10	-	-	-	-	-	6	-	0,210	1,1+1,3	A	1003	12255P	5608P	VBSF10
S 1088	050 - 10	50	-	22	40	10	-	-	-	-	-	7	-	0,320	1,1+1,3	A				
S 1088	063 - 10	63	-	22	40	10	-	-	-	-	-	8	-	0,550	1,1+1,3	A				
S 1088W	040 - 10	40	-	22	40	10	-	-	-	-	-	6	-	0,210	1,1+1,3	A	1003	12255P	5608P	VBSF10
S 1088W	050 - 10	50	-	22	40	10	-	-	-	-	-	7	-	0,320	1,1+1,3	A				
S 1088W	063 - 10	63	-	22	40	10	-	-	-	-	-	8	-	0,350	1,1+1,3	A				
S 1088GW	040 - 10	40	-	22	40	10	-	-	-	-	-	5	-	0,210	1,1+1,3	A	1003	12255P	5608P	VBSF10
S 1088GW	050 - 10	50	-	22	40	10	-	-	-	-	-	6	-	0,320	1,1+1,3	A				
S 1088GW	063 - 10	63	-	22	40	10	-	-	-	-	-	7	-	0,550	1,1+1,3	A				
S 1089W	10 25 01.10	10	8	8,5	13	-	10	25	13,5	20	11°	1	10	0,017	1,1+1,3	-	1003	12255P	5608P	-
S 1089W	12 25 01.10	12	8	8,5	13	-	10	25	13	20	9°	1	10	0,020	1,1+1,3	-				
S 1089W	16 25 02.10	16	8	8,5	13	-	10	25	-	-	3,5°	2	10	0,023	1,1+1,3	-				
S 1089W	20 30 03.10	20	10	10,5	18	-	10	30	-	-	1,5°	3	15	0,049	1,1+1,3	-				
S 1089W	25 35 03.10	25	12	12,5	21	-	10	35	-	-	0,9°	3	17	0,090	1,1+1,3	-				
S 1089W	25 35 04.10	25	12	12,5	21	-	10	35	-	-	0,9°	4	17	0,089	1,1+1,3	-				
S 1089W	32 43 05.10	32	16	17	29	-	10	43	-	-	0,6°	5	24	0,212	1,1+1,3	-				

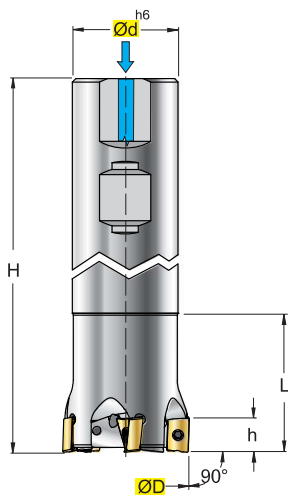


W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE
G = PASSO GROSSO - LARGE TEETH DISTANCE - NORMALE ZAHNTEILUNG - GRANDE DISTANCE DENTS.

S 9001-6W..-10

Ø 20-40

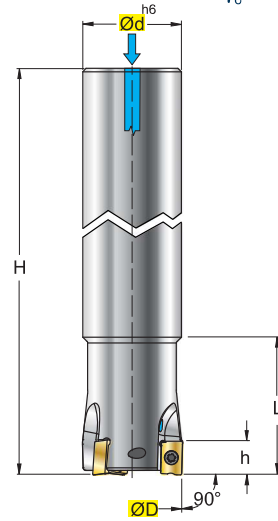
γ_p -6°
 γ_f -27°/-17,5°
 γ_o -27°/-17,5°



S 9001-6XLW..-10
S 9001-6XLMW..-10

Ø 20-32

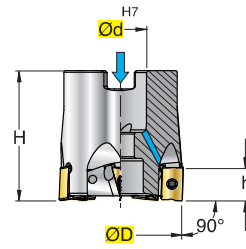
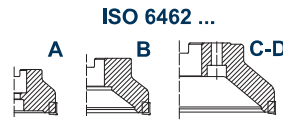
γ_p -6°
 γ_f -27°/-19°
 γ_o -27°/-19°



S 9001-8W..-10

Ø 40-63

γ_p -6,35°/-6°
 γ_f -17,5°/-13°
 γ_o -17,5°/-13°



LNMM 1006
.F56

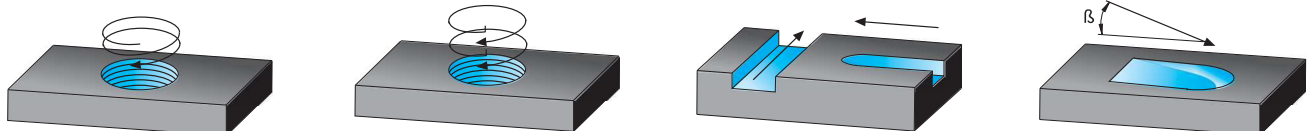


LNMM 1006
.F61



INSERTI - INSERTS
PAG. 450

ART.	(mm)							kg	Nm	ISO 6462	1006	C03007	5609	-
	ØD	Ød	H	h	L	β	Z							
S9001-6W-020-02-10	20	20	100	9	30	4°	2	0,20	1,5+2,0	-	1006	C03007	5609	-
S9001-6W-020-03-10	20	20	100	9	30	4°	3	0,20	1,5+2,0	-	1006	C03007	5609	-
S9001-6W-025-02-10	25	25	115	9	35	3,5°	2	0,41	1,5+2,0	-	1006	C03007	5609	-
S9001-6W-025-03-10	25	25	115	9	35	3,5°	3	0,41	1,5+2,0	-	1006	C03007	5609	-
S9001-6W-032-03-10	32	32	125	9	42	3°	3	0,76	1,5+2,0	-	1006	C03007	5609	-
S9001-6W-032-04-10	32	32	125	9	42	3°	4	0,76	1,5+2,0	-	1006	C03007	5609	-
S9001-6W-040-04-10	40	32	130	9	42	2°	4	0,87	1,5+2,0	-	1006	C03007	5609	-
S9001-6W-040-05-10	40	32	130	9	42	2°	5	0,87	1,5+2,0	-	1006	C03007	5609	-
S9001-6XLW-020-02-10 New	20	20	150	9	30	4°	2	0,31	1,5+2,0	-	1006	C03007	5609	-
S9001-6XLW-025-02-10 New	25	25	150	9	35	3,5°	2	0,51	1,5+2,0	-	1006	C03007	5609	-
S9001-6XLW-032-03-10 New	32	32	180	9	42	3°	3	0,99	1,5+2,0	-	1006	C03007	5609	-
S9001-6XLMW-020-02-10	20	19	150	9	30	4°	2	0,31	1,5+2,0	-	1006	C03007	5609	-
S9001-6XLMW-025-02-10	25	24	150	9	35	3,5°	2	0,51	1,5+2,0	-	1006	C03007	5609	-
S9001-6XLMW-032-03-10	32	30	180	9	42	3°	3	0,99	1,5+2,0	-	1006	C03007	5609	-
S9001-8W-040-04-10	40	16	40	9	-	2°	4	0,24	1,5+2,0	A	1006	C03007	5609	VBSF08L
S9001-8W-040-05-10	40	16	40	9	-	2°	5	0,24	1,5+2,0	A	1006	C03007	5609	VBSF10
S9001-8W-050-05-10	50	22	40	9	-	1,5°	5	0,35	1,5+2,0	A	1006	C03007	5609	VBSF10
S9001-8W-050-07-10	50	22	40	9	-	1,5°	7	0,35	1,5+2,0	A	1006	C03007	5609	VBSF10
S9001-8W-063-06-10 New	63	22	40	9	-	1°	6	0,60	1,5+2,0	A	1006	C03007	5609	VBSF10
S9001-8W-063-08-10 New	63	22	40	9	-	1°	8	0,60	1,5+2,0	A	1006	C03007	5609	VBSF10



W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE

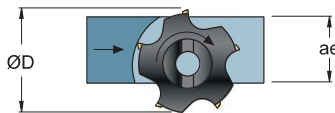
SCelta VELOCE - QUICK PICK



COD.	P			M			K			N			S			H			HT	HW	HC													
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R			CERMET	NON RIV. CEMENTED CARBIDE GRADES	T3116	F3120	F3420	F1325		F1335	F4345					
LNMM 100605 .F56	○	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				■	■	■	○	○	○	10	6,5	6,5	3,5	0,5	-	
LNMM 100605 .F61	○	○					●	●														■	■		○	○	○	10	6,5	6,5	3,5	0,5	-	
CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY																					○	○	○	○	○									
SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY																					●	●	●	●	●									

MATERIALI - MATERIALS Pag. 1063		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	fz0 mm			Vc m/min Pag. 440										
				F	M	R	T3116	F3120	F3420	F1325	F1335	F4345					
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1--5	125-300	0,08	0,15	0,25		200			230	220	200				
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6--9	180-350	0,08	0,15	0,2		180			190	180	170				
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	0,06	0,12	0,16		160			170	160	160				
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	0,08	0,12	0,15		120									
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	0,08	0,12	0,15					100	90	80				
	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	0,08	0,18	0,25	310	280	250	220							
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	0,08	0,15	0,2	180	260	260	180							
K	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	0,08	0,15	0,2	280	240	240	160							
	ALLUMINIO E SUE LEGHE - ALUMINIUM	21--25	60-130														
N	RAME E SUE LEGHE - COPPER	26--28	90-110														
	NON METALLICI - PLASTICS	29-30	/														
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31--35	200-320														
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ³⁾														
H	ACCIAIO TEMPRATO - HARDENED STEEL	38--41	45-60 ⁴⁾														

$$n = \frac{Vc \cdot 1000}{\phi D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$



$$fz = fz0 \cdot Kae = \text{mm}$$

$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$

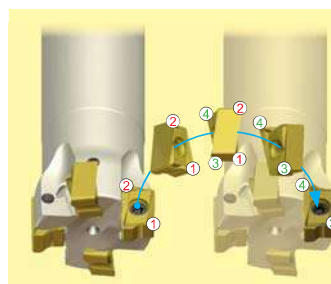
ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%	0,02 2%
Kae	1	1,1	1,2	1,3	1,5

ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%
Vc	Vc (min)-----Vc(max)			

Pag. 440

- F = FINITURA , LAV. LEGGERA - FINISHING , LIGHT MACHINING
- M = LAV. MEDIA , GENERICA - MEDIUM MACHINING , GENERIC
- R = SGROSSATURA , LAV. PESANTE - ROUGHING , HEAVY MACHINING

- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
- fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
- fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR

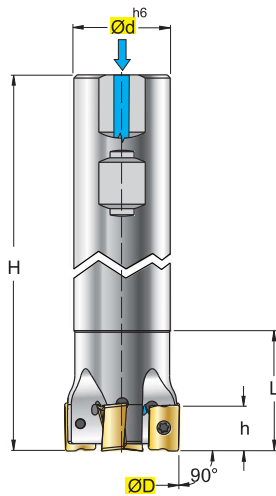


- 4 Taglienti "Utili" disponibili grazie all'inserto bilaterale.
- 4 "Useful" cutting-edges thanks to two-sided insert
- "Nützliche" schneidkanten dank zweiseitiger wendeschneidplatten
- Tranchants "Utiles" disponibles grace a la plaquette bilaterale

S 9001-6W..-15

Ø 32-40

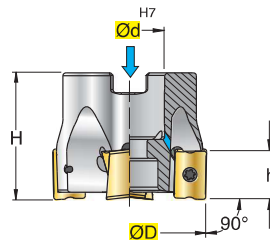
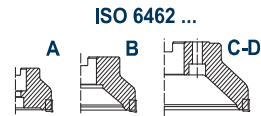
γ_p -6°
 γ_f -24°/-20°
 γ_o -24°/-20°



S 9001-8W..-15

Ø 50-80

γ_p -6,35°/-6°
 γ_f -17°
 γ_o -17°



LNMM 1510
.F56

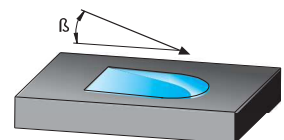
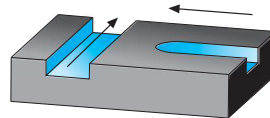
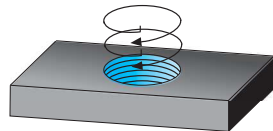
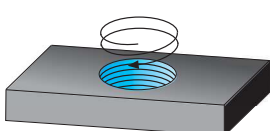


LNMM 1510
.F61



INSERTI - INSERTS
PAG. 450

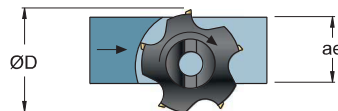
ART.	(mm)						kg	Nm	ISO 6462	1510	1240P	5615P	-	
	ØD	Ød	H	h	L	β								Z
S9001-6W-032-02-15	32	32	125	14	40	2,5°	2	0,71	3,8+5	-	1510	1240P	5615P	-
S9001-6W-032-03-15	32	32	125	14	40	2,5°	3	0,71	3,8+5	-				
S9001-6W-040-03-15	40	32	130	14	40	2°	3	0,78	3,8+5	-				
S9001-6W-040-04-15	40	32	130	14	40	2°	4	0,78	3,8+5	-				
S9001-8W-050-03-15	50	22	40	14	-	2°	3	0,31	3,8+5	A	1510	1240P	5615P	VBSF10
S9001-8W-050-04-15	50	22	40	14	-	2°	4	0,31	3,8+5	A				
S9001-8W-063-04-15	63	22	40	14	-	2°	4	0,54	3,8+5	A				
S9001-8W-063-06-15	63	22	40	14	-	2°	6	0,54	3,8+5	A				
S9001-8W-080-05-15	80	27	50	14	-	1,5°	5	1,0	3,8+5	A-B	1510	1240P	5615P	AL12x35
S9001-8W-080-07-15	80	27	50	14	-	1,5°	7	1,0	3,8+5	A-B				



SCELTA VELOCE - QUICK PICK										HT		HW	HC																															
										CERMET		NON RIV. CEMENTED CARBIDE GRADES	RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS																															
													T3116		F3120		F3420		F1325		F1335		F4345																					
													±m/z		±m/z		±m/z		±m/z		±m/z																							
COD.			P			M			K			N			S			H																										
			F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	l	d	s	d1	r	a°			
LNMM	151008	.F56	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	15	10	10	4,5	0,8	-
LNMM	151008	.F61	○	○					●	●																													15	10	10	4,5	0,8	-
CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY													○		○		○		○		○																							
SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY													●		●		●		●		●																							

MATERIALI - MATERIALS Pag. 1063			VDI 3323 GR.	HB Rm1) HRC2)	fz0 mm			Vc m/min Pag. 440											
					F	M	R	T3116	F3120	F3420	F1325	F1335	F4345						
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL		1--5	125-300	0,08	0,15	0,25		200		230	220	200						
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL		6-9	180-350	0,08	0,15	0,2		180		190	180	170						
	ACCIAIO ALTO LEGATO - ALLOY STEEL		10-11	200-325	0,06	0,12	0,16		160		170	160	160						
	INOX MARTENS. - STAINLESS STEEL MART		12-13	200-240	0,08	0,12	0,15		120										
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST		14.1-14.2	180-230	0,08	0,12	0,15				100	90	80						
K	GHISA GRIGIA - GREY CAST IRON		15-16	180-260	0,08	0,18	0,25	310	280	250	220								
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE		17-18	160-250	0,08	0,15	0,2	180	260	260	180								
	GHISA MALLEABILE - MALLEABLE CAST IRON		19-20	130-230	0,08	0,15	0,2	280	240	240	160								
N	ALLUMINIO E SUE LEGHE - ALUMINIUM		21--25	60-130															
	RAME E SUE LEGHE - COPPER		26-28	90-110															
	NON METALLICI - PLASTICS		29-30	/															
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY		31--35	200-320															
	TITANIO E SUE LEGHE - TITANIUM		36-37	400-1050 ⁿ															
H	ACCIAIO TEMPRATO - HARDENED STEEL		38-41	45-60 ⁿ															

$$n = \frac{Vc \cdot 1000}{\phi D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$



$$fz = fz0 \cdot Kae = \text{mm}$$

$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$

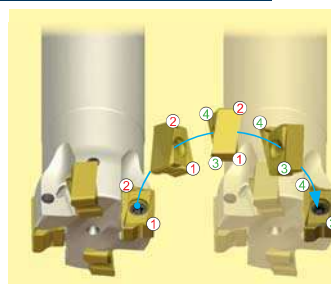
ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%	0,02 2%
Kae	1	1,1	1,2	1,3	1,5

ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%
Vc	Vc (min)-----Vc(max)			

Pag. 440

- F = FINITURA , LAV. LEGGERA - FINISHING , LIGHT MACHINING
M = LAV. MEDIA , GENERICA - MEDIUM MACHINING , GENERIC
R = SGROSSATURA , LAV. PESANTE - ROUGHING , HEAVY MACHINING

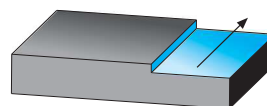
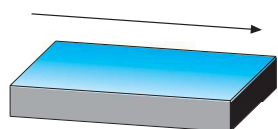
- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fz = mm AVANZAMENTO AL DENTE -TOOTH FEED
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR



- 4 Taglienti "Utili" disponibili grazie all'inserto bilaterale.
- 4 "Useful" cutting-edges thanks to two-sided insert
- 4 "Nützliche" schneidkanten dank zweiseitiger wendeschneidplatten
- 4 Tranchants "Utiles" disponibles grace a la plaquette bilaterale

S 1296W .. 12		S 1296XLZ .. 12		S 1298W ..12 S 1298GW..12 S 1298G..12		SDMT 1205 .Z51	
Ø 32-40	$\gamma_p +8^\circ/+7^\circ$ $\gamma_f -9^\circ/-8^\circ$ $\gamma_o -9^\circ/-8^\circ$	Ø 32-40	$\gamma_p +8^\circ/+7^\circ$ $\gamma_f -9^\circ/-8^\circ$ $\gamma_o -9^\circ/-8^\circ$	Ø 50-250	$\gamma_p +7^\circ/+8^\circ$ $\gamma_f -8^\circ/-1,6^\circ$ $\gamma_o -8^\circ/-1,6^\circ$	SDHT 1205 .Z57P	
				ISO 6462 ... 		SDMT 1205 .Z62	
						SDHT 1205 .Z63	
INSERTI - INSERTS PAG. 453							

ART.	(mm)							kg	Nm	ISO 6462				
	ØD	Ød	H	h	L	L2	Z							
S 1296W 032 - 12	32	32	110	10,5	40	50	2	0,545	3,8+5,0	-	1205	124011	5620	-
S 1296W 040 - 12	40	32	115	10,5	45	45	3	0,618	3,8+5,0	-				
S 1296XLZ 032 - 12	32	32	250	10,5	40	-	2	1,432	3,8+5,0	-	1205	124011	5620	-
S 1296XLZ 040 - 12	40	40	250	10,5	45	-	3	2,247	3,8+5,0	-				
S 1298W 050 - 12	50	22	40	10,5	-	-	5	0,295	3,8+5,0	A	1205	124011	5620	VBSF10
S 1298W 063 - 12	63	22	40	10,5	-	-	6	0,470	3,8+5,0	A				
S 1298W 080 - 12	80	27	50	10,5	-	-	6	1,040	3,8+5,0	A	1205	124011	5620	VBSF12
S 1298W 100 - 12	100	32	50	10,5	-	-	8	1,600	3,8+5,0	A	1205	124011	5620	VBSF16
S 1298W 125 - 12	125	40	63	10,5	-	-	9	3,300	3,8+5,0	A	1205	124011	5620	VBSF20
S 1298GW 050 - 12	50	22	40	10,5	-	-	3	0,289	3,8+5,0	A	1205	124011	5620	VBSF10
S 1298GW 063 - 12	63	22	40	10,5	-	-	4	0,474	3,8+5,0	A				
S 1298GW 080 - 12	80	27	50	10,5	-	-	5	1,04	3,8+5,0	A	1205	124011	5620	VBSF12
S 1298GW 100 - 12	100	32	50	10,5	-	-	6	1,61	3,8+5,0	A-B	1205	124011	5620	VBSF16
S 1298GW 125 - 12	125	40	63	10,5	-	-	7	3,275	3,8+5,0	A-B	1205	124011	5620	VBSF20
S 1298G 160 - 12	160	40	63	10,5	-	-	8	3,74	3,8+5,0	C	1205	124011	5620	-
S 1298G 200 - 12	200	60	63	10,5	-	-	10	7,07	3,8+5,0	D				
S 1298G 250 - 12	250	60	63	10,5	-	-	12	10,06	3,8+5,0	D				



W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE
 XLZ = EXTRALUNGA, STELO CILINDRICO - EXTRALONG, CYLINDRICAL SHANK - EXTRALANG, ZYLINDERSCHAFT - EXTRALONGUE, QUEUE CYLINDRIQUE
 G = PASSO GROSSO - LARGE TEETH DISTANCE - NORMALE ZAHNTEILUNG - GRANDE DISTANCE DENTS.

SCelta VELOCE - QUICK PICK



COD.	P			M			K			N			S			H			HT	HW	HC				l	d	s	d1	r	a°
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R			T115	F4635	F2140	T3215						
SDMT 1205ZZ SN .Z51																									12,7	12,7	5,0	5,5	0,8	15
SDHT 120508 FR .Z57P																									12,7	12,7	5,0	5,5	0,8	15
SDMT 1205ZZ SN .Z62																									12,7	12,7	5,0	5,5	0,8	15
SDHT 120512 FR .Z63																									12,7	12,7	5,0	5,5	1,2	15

CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY

SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY

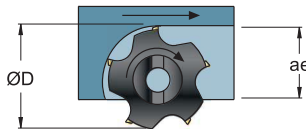
MATERIALI - MATERIALS Pag. 1063	VDI 3323 GR.	HB Rm1) HRC2)	fz0 mm			Vc m/min Pag. 440				
			F	M	R	T115	T3215	T5130	F4635	F2140
P ACCIAIO NON LEGATO - NOT ALLOY STEEL	1--5	125-300	0,1	0,2	0,3			200	200	200
	6--9	180-350	0,08	0,15	0,25			160	150	170
	10-11	200-325	0,08	0,15	0,25			140	120	120
	12-13	200-240	0,06	0,12	0,2			140	120	120
M INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	0,06	0,1	0,15				100	140
K GHISA GRIGIA - GREY CAST IRON	15-16	180-260	0,12	0,25	0,35		390	150	150	
	17-18	160-250	0,1	0,2	0,3		330	150	150	
	19-20	130-230	0,1	0,2	0,3		270	150	150	
N ALLUMINIO E SUE LEGHE - ALUMINIUM	21--25	60-130	0,06	0,2	0,3	950				
	26--28	90-110	0,06	0,18	0,25	400				
	29-30	/	0,06	0,18	0,25					
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31--35	200-320	0,05	0,08	0,12				50	
	36-37	400-1050 ⁿ	0,05	0,08	0,12				50	
H ACCIAIO TEMPRATO - HARDENED STEEL	38--41	45-60 ⁿ								

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Kae = \text{mm}$$

$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$



ae/D	0,5-1 50-100%	0,3 30%	0,2 20%	0,1 10%	0,05 5%	0,02 2%
Kae	1	1,2	1,5	2,1	3	4,8

ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%
Vc	Vc (min)-----Vc(max)			

Pag. 440

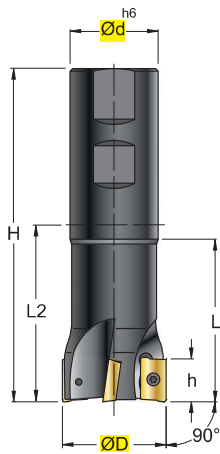
- F = FINITURA, LAV. LEGGERA - FINISHING, LIGHT MACHINING
- M = LAV. MEDIA, GENERICA - MEDIUM MACHINING, GENERIC
- R = SGROSSATURA, LAV. PESANTE - ROUGHING, HEAVY MACHINING

- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
- fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
- fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR

S 1696 .. 16

Ø 25-40

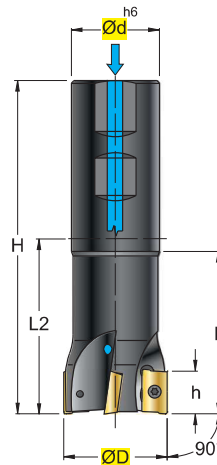
γ_p +4°/+8°
 γ_f -13,5°/-12,5°
 γ_o -13,5°/-12,5°



S 1696W .. 16

Ø 25-40

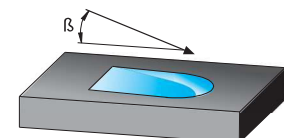
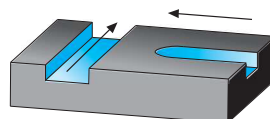
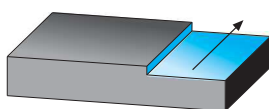
γ_p +4°/+8°
 γ_f -13,5°/-12,5°
 γ_o -13,5°/-12,5°



APKT 1604 .S51/.S54	
APKT 1604 .K52	
APKT 1604 .S52	
APMT 1604 .I52	
APKT 1604 .Z52	
APFT 1604 .S52	
APKX 1604 .S52	
APFX 1604 .S52	
APKT 1604 .Z54	
APKT 1604 .K57P	

INSERTI - INSERTS
PAG. 449

(mm)														
ART.	ØD	Ød	H	h	L	L2	β	Z	kg	Nm				
S 1696	025 - 16	25	25	100	16	44	44	3,5°	2	0,29	3,8+5,0	1604	C04008P	5615P
S 1696	032 - 16	32	32	110	16	50	50	2,0°	3	0,54	3,8+5,0	1604	C04011P	5615P
S 1696	040 - 16	40	32	115	16	55	55	1,5°	4	0,64	3,8+5,0			
S 1696W	025 - 16	25	25	100	16	44	44	3,5°	2	0,29	3,8+5,0	1604	C04008P	5615P
S 1696W	032 - 16	32	32	110	16	50	50	2,0°	3	0,54	3,8+5,0	1604	C04011P	5615P
S 1696W	040 - 16	40	32	115	16	55	55	1,5°	4	0,64	3,8+5,0			

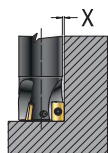


W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE

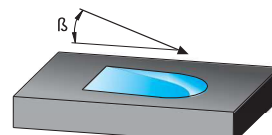
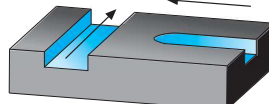
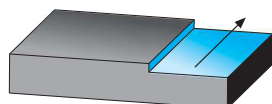
XLZ = EXTRALUNGA , STELO CILINDRICO - EXTRALONG , CYLINDRICAL SHANK - EXTRALANG , ZYLINDERSCHAFT - EXTRALONGUE , QUEUE CYLINDRIQUE

S 1696XLZ .. 16		S 1696XLZ M ..16		S 1697 .. 16		APKT 1604 .S51/.S54	
Ø 25-40	$\gamma_p +4^\circ/+8^\circ$ $\gamma_f -13,5^\circ/-12,5^\circ$ $\gamma_o -13,5^\circ/-12,5^\circ$	Ø 25-32	$\gamma_p +4^\circ/+8^\circ$ $\gamma_f -13,5^\circ/-12,5^\circ$ $\gamma_o -13,5^\circ/-12,5^\circ$	Ø 25-40	$\gamma_p +4^\circ/+8^\circ$ $\gamma_f -13,5^\circ/-12,5^\circ$ $\gamma_o -13,5^\circ/-12,5^\circ$	APKT 1604 .K52	
						APKT 1604 .S52	
						APMT 1604 .I52	
						APKT 1604 .Z52	
						APFT 1604 .S52	
						APKX 1604 .S52	
						APFX 1604 .S52	
						APKT 1604 .Z54	
						APKT 1604 .K57P	
						INSERTI - INSERTS PAG. 449	

(mm)																	
ART.	ØD	Ød/CM	H	h	L	L2	β	Z	X	kg	Nm						
S 1696XLZ 025 - 16	25	25	200	16	44	-	3,5°	2	-	0,69	3,8±5,0	1604	C04008P	5615P			
S 1696XLZ 032 - 16	32	32	250	16	50	-	2,0°	3	-	1,44	3,8±5,0	1604	C04011P	5615P			
S 1696XLZ 040 - 16	40	32	250	16	50	-	1,5°	4	-	2,30	3,8±5,0						
S 1696XLZM 025 - 16	25	24	200	16	35	-	3,5°	2	0,5	0,67	3,8±5,0	1604	C04008P	5615P			
S 1696XLZM 032 - 16	32	30	250	16	35	-	2,0°	3	1,0	1,51	3,8±5,0	1604	C04011P	5615P			
S 1697 025 - 16	25	CM3	124	16	38	43	3,5°	2	-	0,30	3,8±5,0	1604	C04008P	5615P			
S 1697 032 - 16	32	CM3	124	16	38	43	2,0°	3	-	0,34	3,8±5,0	1604	C04011P	5615P			
S 1697 040 - 16	40	CM3	135	16	49	54	1,5°	4	-	0,43	3,8±5,0						



S1696 XLZM...-16

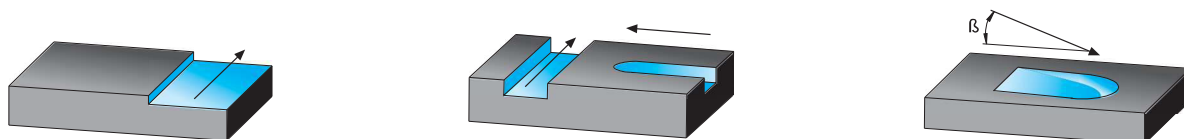


W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE

GXL = PASSO GROSSO EXTRALUNGA - EXTRALONG WITH LARGE TEETH DISTANCE - EXTRALANG MIT NORMAL ZUHNTLEUNG - EXTRALONGUE AVEC GRANDE DISTANCE DENTS

S 1698 .. 16		Ø 40-125	S 1698W ..16 S 1698GW..16		Ø 40-125	APKT 1604 .S51/.S54	
		γ_p +6°/+9° γ_f -12,5°/-3° γ_o -12,5°/-3°			γ_p +6°/+9° γ_f -12,5°/-3° γ_o -12,5°/-3°	APKT 1604 .K52	
ISO 6462 ...			ISO 6462 ...			APKT 1604 .S52	
						APMT 1604 .I52	
						APKT 1604 .Z52	
						APFT 1604 .S52	
						APKX 1604 .S52	
						APFX 1604 .S52	
						APKT 1604 .Z54	
						APKT 1604 .K57P	
						INSERTI - INSERTS PAG. 449	

ART.	(mm)							kg	Nm	ISO 6462				
	ØD	Ød	H	h	β	Z								
S 1698	040 - 16	40	16	40	16	1,8°	4	0,18	3,8+5,0	A	1604	C04011P	5615P	VBSF08
S 1698	050 - 16	50	22	40	16	1,0°	5	0,25	3,8+5,0	A	1604	C04011P	5615P	VBSF10
S 1698	063 - 16	63	22	40	16	0,7°	6	0,47	3,8+5,0	A	1604	C04011P	5615P	VBSF12
S 1698	080 - 16	80	27	50	16	0,6°	7	0,94	3,8+5,0	A-B	1604	C04011P	5615P	VBSF16
S 1698	100 - 16	100	32	50	16	0,4°	8	1,55	3,8+5,0	A-B	1604	C04011P	5615P	VBSF20
S 1698	125 - 16	125	40	63	16	0,3°	9	3,43	3,8+5,0	A-B	1604	C04011P	5615P	VBSF20
S 1698W	040 - 16	40	16	40	16	1,8°	4	0,18	3,8+5,0	A	1604	C04011P	5615P	VBSF08
S 1698W	050 - 16	50	22	40	16	1,0°	5	0,25	3,8+5,0	A	1604	C04011P	5615P	VBSF10
S 1698W	063 - 16	63	22	40	16	0,7°	6	0,47	3,8+5,0	A	1604	C04011P	5615P	VBSF12
S 1698W	080 - 16	80	27	50	16	0,6°	7	0,94	3,8+5,0	A-B	1604	C04011P	5615P	VBSF16
S 1698W	100 - 16	100	32	50	16	0,4°	8	1,55	3,8+5,0	A-B	1604	C04011P	5615P	VBSF20
S 1698W	125 - 16	125	40	63	16	0,3°	9	3,43	3,8+5,0	A	1604	C04011P	5615P	VBSF20
S 1698GW	040 - 16	40	16	40	16	1,8°	3	0,17	3,8+5,0	A	1604	C04011P	5615P	VBSF08
S 1698GW	050 - 16	50	22	40	16	1,0°	4	0,24	3,8+5,0	A	1604	C04011P	5615P	VBSF10
S 1698GW	063 - 16	63	22	40	16	0,7°	5	0,45	3,8+5,0	A	1604	C04011P	5615P	VBSF12
S 1698GW	080 - 16	80	27	50	16	0,6°	6	0,92	3,8+5,0	A-B	1604	C04011P	5615P	VBSF16
S 1698GW	100 - 16	100	32	50	16	0,4°	7	1,52	3,8+5,0	A-B	1604	C04011P	5615P	VBSF20
S 1698GW	125 - 16	125	40	63	16	0,3°	8	3,10	3,8+5,0	A-B	1604	C04011P	5615P	VBSF20



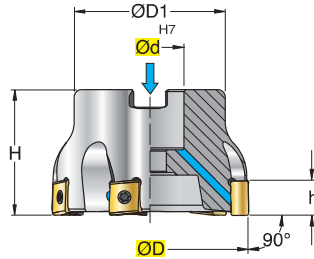
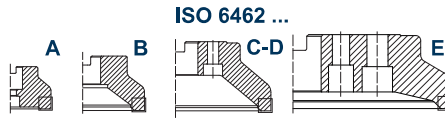
W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE
G = PASSO GROSSO - LARGE TEETH DISTANCE - NORMALE ZAHNTEILUNG - GRANDE DISTANCE DENTS.

S 9003.8W .. 13

NEW

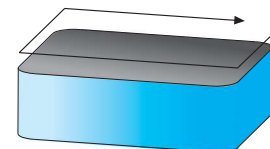
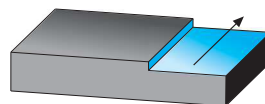
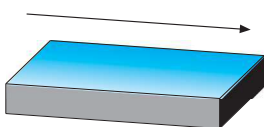
Ø 50-125

γ_p -5°
 γ_f -15,8°/-9°
 γ_o -15,8°/-9°



INSERTI - INSERTS
PAG. 451

ART.	(mm)						kg	Nm	ISO 6462	1313	1240P	5615P	VBSF10
	ØD	Ød	ØD1	H	h	Z							
S 9003.8W-050-05-13	50	22	42	40	12	5	0,30	3,8+5,0	A	1313	1240P	5615P	VBSF10
S 9003.8W-050-06-13	50	22	42	40	12	6	0,29	3,8+5,0	A	1313	1240P	5615P	VBSF10
S 9003.8W-063-06-13	63	22	48	40	12	6	0,51	3,8+5,0	A	1313	1240P	5615P	VBSF10
S 9003.8W-063-08-13	63	22	48	40	12	8	0,50	3,8+5,0	A	1313	1240P	5615P	VBSF10
S 9003.8W-080-07-13	80	27	60	50	12	7	1,00	3,8+5,0	A	1313	1240P	5615P	AL 12x35
S 9003.8W-080-10-13	80	27	60	50	12	10	1,00	3,8+5,0	A	1313	1240P	5615P	AL 16x35
S 9003.8W-100-09-13	100	32	80	50	12	9	1,66	3,8+5,0	A	1313	1240P	5615P	AL 16x35
S 9003.8W-100-13-13	100	32	80	50	12	13	1,64	3,8+5,0	A	1313	1240P	5615P	AL 20x45
S 9003.8W-125-11-13	125	40	95	63	12	11	3,20	3,8+5,0	A-B	1313	1240P	5615P	AL 20x45
S 9003.8W-125-17-13	125	40	95	63	12	17	3,17	3,8+5,0	A-B	1313	1240P	5615P	AL 20x45



W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE

SCelta VELOCE - QUICK PICK



Pag. 424

COD.	P			M			K			N			S			H			HT	HW	HC			l	d	s	d1	r	a°		
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R			CERMET	NON RIV. CEMENTED CARBIDE GRADES	RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS								
LNMX 131308 .F58	○	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				F3120				13	13	7,94	4,6	0,8	-
LNMX 131308 .F61	○	○					●	●																		13	13	7,94	4,6	0,8	-

CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY

SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY

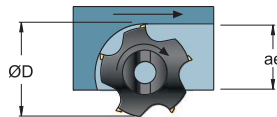
MATERIALI - MATERIALS Pag. 1063		VDI 3323 GR.	HB Rm1) HRC2)	fz0 mm			Vc m/min Pag. 440											
				F	M	R	F3120	F1325	F1335									
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1--5	125-300	0,15	0,25	0,4	200	230	220									
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6--9	180-350	0,12	0,18	0,3	180	190	180									
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	0,12	0,18	0,3	160	170	160									
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	0,1	0,14	0,25	120											
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	0,1	0,12	0,2		100	90									
	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	0,15	0,3	0,5	280	220										
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	0,15	0,25	0,4	260	180										
K	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	0,12	0,2	0,35	240	160										
	ALLUMINIO E SUE LEGHE - ALUMINIUM	21--25	60-130															
	RAME E SUE LEGHE - COPPER	26--28	90-110															
N	NON METALLICI - PLASTICS	29-30	/															
	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31--35	200-320															
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 [†]															
H	ACCIAIO TEMPRATO - HARDENED STEEL	38--41	45-60 [†]															

$$n = \frac{Vc \cdot 1000}{\phi D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Kae = \text{mm}$$

$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$



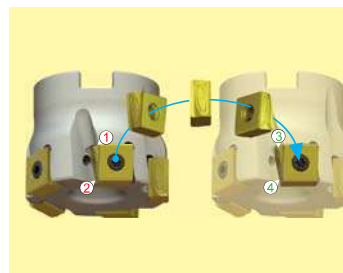
ae/D	0,5-1 50-100%	0,3 30%	0,2 20%	0,1 10%	0,05 5%	0,02 2%
Kae	1	1,2	1,5	2,1	3	4,8

ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%
Vc	Vc (min)-----Vc(max)			

Pag. 440

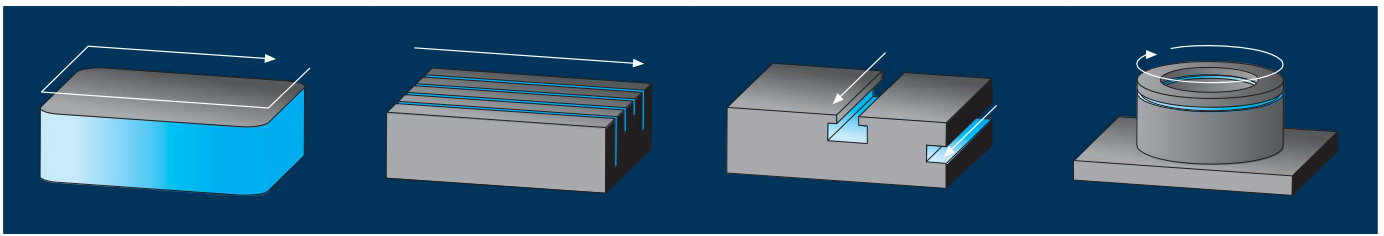
- F = FINITURA , LAV. LEGGERA - FINISHING , LIGHT MACHINING
- M = LAV. MEDIA , GENERICA - MEDIUM MACHINING , GENERIC
- R = SGROSSATURA , LAV. PESANTE - ROUGHING , HEAVY MACHINING

- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
- fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
- fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR







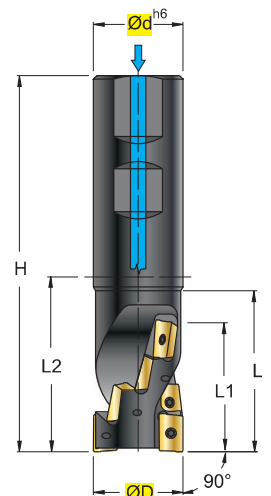


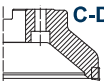
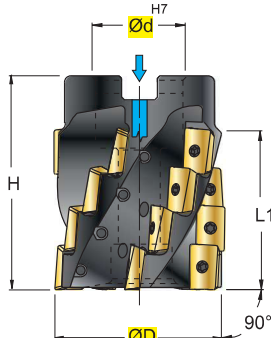



- 4 Taglienti "Utili" disponibili grazie all'inserto bilaterale.
- 4 "Useful" cutting-edges thanks to two-sided insert
- 4 "Nützliche" schneidkanten dank zweiseitiger wendeschneidplatten
- 4 Tranchants "Utiles" disponibles grace a la plaquette bilaterale

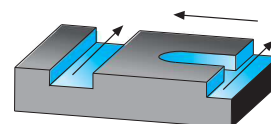
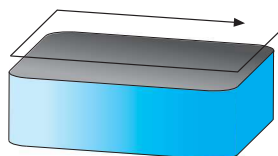
S1056	Pag. 386	S1058	Pag. 386	S666	Pag. 390	S668	Pag. 390		
	ØD = 20 - 40		ØD = 40 - 63		ØD = 19 - 34		ØD = 48 - 63		
S 1056W .. 10		S 1058W .. 10 S 1058WF .. 10		S 666 .. 16		S 668 .. 16			
	AP..1003				156.15.16..				
S1656	Pag. 388	S1658	Pag. 388	S976			Pag. 392		
	ØD = 25 - 40		ØD = 50 - 125				ØD = 21 - 50		
S 1656W .. 16		S 1658 .. 16		S 976W ..					
	AP..1604				SP..0603 SP..09T3 SP..1204				



S950		Pag. 394	S905		Pag. 400
		ØD = 63 - 250			ØD = 20 - 32
S 950 ..			S 905W ..		
	SNHX..11.. SNHX..12..			AP..1003 AP..1604	
S955		Pag. 396			
		ØD = 50 - 160			
S 955 ..					
	SNHX..11.. SNHX..12..				
S959		Pag. 398			
		ØD = 50 - 80			
S 959 ..					
	SNHX..11.. SNHX..12..				


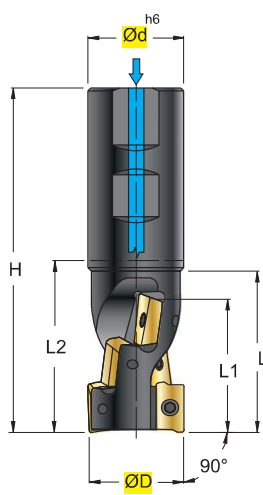
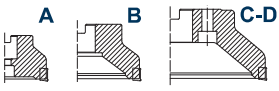

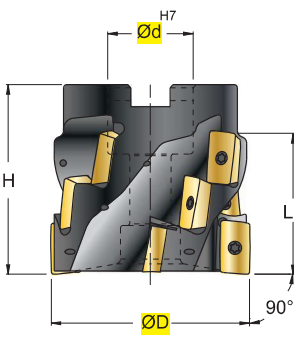






S 1056W .. 10	$\varnothing 20-40$	S 1058W .. 10 S 1058WF .. 10	$\varnothing 40-63$	<p>APKT 1003 .I52 </p> <p>APKT 1003 .L52 </p> <p>APKT 1003 .S52 </p> <p>APKX 1003 .S52 </p> <p>APKT 1003 .Z54 </p> <p>APHT 1003 .S57 </p>
		<p style="text-align: center;">ISO 6462 ...</p> <p style="text-align: center;">A  B  C-D </p> 		 INSERTI - INSERTS PAG. 448



(mm)											kg	Nm	ISO 6462				
ART.	$\varnothing D$	$\varnothing d$	H	L	L1	L2	Z	N	K								
S 1056W 020-10	20	20	87	37	28	37	2	4	1	0,200	1,1+1,3	-	1003	12255P	5608P	-	
S 1056W 020.2-10(**)	20	20	87	37	28	37	2	6	2	0,200	1,1+1,3	-					
S 1056W 025-10	25	25	105	49	37	49	2	8	2	0,340	1,1+1,3	-					
S 1056W 032-10(***)	32	32	115	55	46	55	4	12	2	0,605	1,1+1,3	-					
S 1056W 032.2-10(**)	32	32	115	55	46	55	2	10	2	0,605	1,1+1,3	-					
S 1056W 032.3-10(*)	32	32	115	55	46	55	3	15	3	0,600	1,1+1,3	-					
S 1056W 040-10	40	32	130	70	55	70	3	18	3	0,810	1,1+1,3	-					
S 1056W 040.2-10(**)	40	32	130	70	55	70	2	12	2	0,810	1,1+1,3	-					
S 1058W 040-10	40	16	50	-	37	-	3	12	3	0,250	1,1+1,3	A	1003	12255P	5608P	VBSF08L	
S 1058W 050-10	50	22	60	-	46	-	3	15	3	0,510	1,1+1,3	A	1003	12255P	5608P	VBSF10L	
S 1058W 063-10	63	27	60	-	46	-	4	20	4	0,800	1,1+1,3	A	1003	12255P	5608P	VBSF12L	
S 1058WF 040-10	40	16	50	-	37	-	5	20	5	0,240	1,1+1,3	A	1003	12255P	5608P	VBSF08L	
S 1058WF 050-10	50	22	60	-	46	-	5	25	5	0,510	1,1+1,3	A	1003	12255P	5608P	VBSF10L	
S 1058WF 063-10	63	27	60	-	46	-	7	35	7	0,840	1,1+1,3	A	1003	12255P	5608P	VBSF12L	

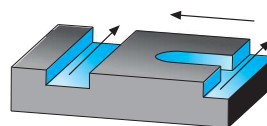
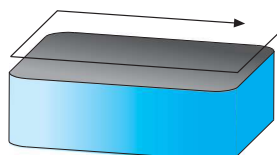


- | | | |
|----------------|-----------------|---|
| (*) 3 ELICHE | (**) 2 ELICHE | (***) 2 ELICHE N°4 INSERTI IN TESTA |
| (*) 3 FLUTES | (**) 2 FLUTES | (***) 2 FLUTES 4 FRONT INSERTS |
| (*) 3 SPIRALEN | (**) 2 SPIRALEN | (***) 2 SPIRALEN A STIRNWELENDEPLATTEN |
| (*) 3 HÉLICES | (**) 2 HÉLICES | (***) 2 HÉLICES 4 PLAQUETTES À L' EXTREMITÉ |


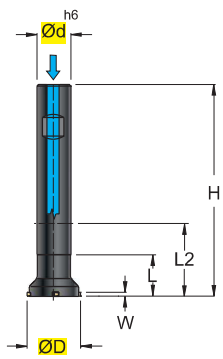
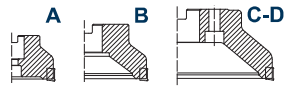

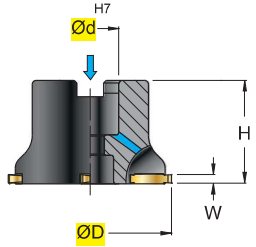


Z = Numero di eliche - Number of flutes - Spiralenanzahl - Nombre d' helices
K = Fattore d' avanzamento - Factor of feed - Vorschubfaktor - Facteur d' avance
N = Numero d' inserti - Insert number - Wendepplattenanzahl - Nombre des plaquettes
W = Foro per liquido refrigerante - Coollant bore - Kühlmittelbohrung - Trou du liquide d'arrosage
F = Passo fine - Fine pitch - Feine Zuhnteilung - Pas fin

S 1656W .. 16	\varnothing 25-40	S 1658 .. 16	\varnothing 50-125	 APKT 1604 .S51/.S54
		<p>ISO 6462 ...</p> 		 APMT 1604 .I52
				 APKT 1604 .Z52
				 APFT 1604 .S52
				 APKX 1604 .S52
				 APKT 1604 .Z54
				 APKT 1604 .K57P
				 INSERTI - INSERTS PAG. 449

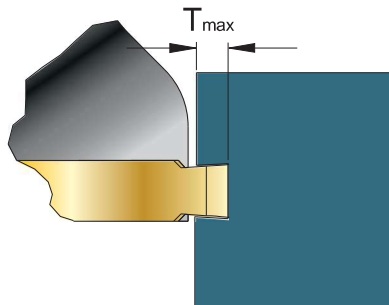
(mm)																	
ART.	\varnothing D	\varnothing d	H	L	L1	L2	Z	N	K	kg	Nm	ISO 6462					
S 1656W	025-16	25	25	95	38	29	39	1	2	1	0,29	3,8+5,0	-	1604	C04008P	5615P	-
S 1656W	032-16	32	32	115	53	44	55	2	6	2	0,52	3,8+5,0	-	1604	C04011P	5615P	-
S 1656W	040-16	40	32	130	65	58	70	2	8	2	0,73	3,8+5,0	-	1604	C04011P	5615P	-
S 1658	050-16	50	27	50	-	30	-	3	6	3	0,36	3,8+5,0	A	1604	C04011P	5615P	VBSF12
S 1658	063-16	63	27	60	-	44	-	4	12	4	0,74	3,8+5,0	A	1604	C04011P	5615P	VBSF12L
S 1658	080-16	80	32	60	-	44	-	5	15	5	1,20	3,8+5,0	A	1604	C04011P	5615P	VBSF16L
S 1658	100-16	100	40	60	-	44	-	6	18	6	1,70	3,8+5,0	A-B	1604	C04011P	5615P	VBSF20
S 1658	125-16	125	40	60	-	44	-	7	21	7	3,15	3,8+5,0	A-B	1604	C04011P	5615P	VBSF20



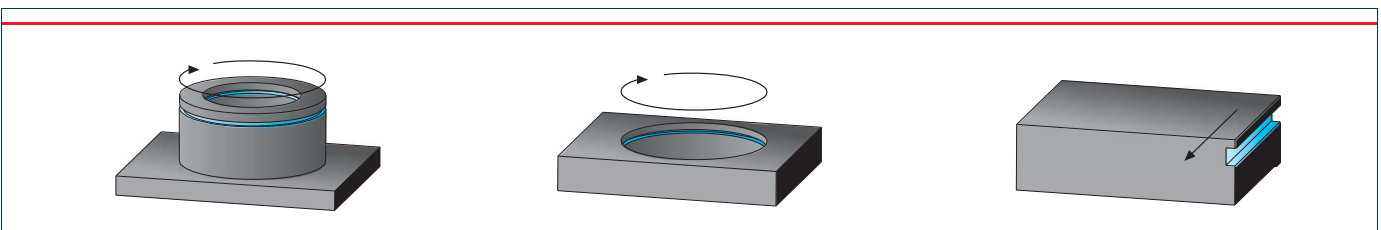
Z = Numero di eliche - Number of flutes - Spiralenanzahl - Nombre d' helices
 K = Fattore d' avanzamento - Factor of feed - Vorschubfaktor - Facteur d' avance
 N = Numero d'inserti - Insert number - Wendeplattenanzahl - Nombre des plaquettes
 W = Foro per liquido refrigerante - Coolant bore - Kühlmittelbohrung - Trou du liquide d'arrosage

S 666W .. 16	\varnothing 19-34	S 668W .. 16	\varnothing 48-63	156.15.16.. .C54	
		ISO 6462 ... 		156.15.16.. .C57	
				154.15.16..	
				 INSERTI - INSERTS PAG. 447	

		(mm)										ISO 6462				
ART.		ØD	Ød	H	L	L2	Z	K	W	kg	Nm					
S 666W	019-16	19	16	100	20	52	1	1	1,1-1,3	0,15	3,5+4,0	-	156.15-16	FS244P	5615P	-
S 666W	034-16	34	20	125	25	75	3	3	1,6-2,15	0,31	3,5+4,0	-				
S 668W	048-16	48	16	40	-	-	4	4	2,15-3,15	0,35	3,5+4,0	A	156.15-16	FS244P	5515P	VBSF08
S 668W	063-16	63	22	40	-	-	5	5	2,65-4,15	0,44	3,5+4,0	A	156.15-16	FS244P	5515P	VBSF10



ØD	T max
19	1,8
34 - 48 - 63	2,3



K = FATTORE D 'AVANZAMENTO - FACTOR OF FEED - VORSCHUBFAKTOR - FACTEUR D' AVANCE

SCelta VELOCE - QUICK PICK							Toughness + ↑ - ↓			Pag. 424		HT	HW	HC											
							CERMET	NON RIV. CEMENTED CARBIDE GRADES	RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS																
COD.	P	M	K	N	S	H	N6315			F6315															
TOLLERANZA W - W TOLERANCE +0,05 +0,01																									
156.15-16110 .C54	●	●	●																						
156.15-16130 .C54	●	●	●																						
156.15-16160 .C54	●	●	●																						
156.15-16185 .C54	●	●	●																						
156.15-16215 .C54	●	●	●																						
156.15-16265 .C54	●	●	●																						
156.15-16315 .C54	●	●	●																						
156.15-16415 .C54	●	●	●																						
156.15-16110 .C57				●																					
156.15-16130 .C57				●																					
156.15-16160 .C57				●																					
156.15-16185 .C57				●																					
156.15-16215 .C57				●																					
156.15-16265 .C57				●																					
156.15-16315 .C57				●																					
156.15-16415 .C57				●																					

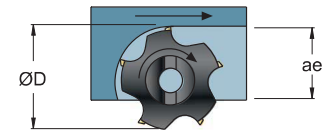
É POSSIBILE UTILIZZARE INSERTI 154.. NON RETTIFICATI, PAG 447
 154.. INSERTS CAN BE USED.. NOT GROUND, PAGE 447
 DIE VERWENDUNG NICHT GESCHLIFFENER WENDEPLATTEN 154.. IST MÖGLICH, S. SEITE 447
 IL EST POSSIBLE D'UTILISER DES PLAQUETTES 154.. NON RECTIFIÉES, PAGE 447

CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY

SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY

MATERIALI - MATERIALS		VDI 3323 GR.	HB Rm1) HRC2)	fz0 mm			Vc m/min Pag.440				
Pag. 1063				F	M	R	N6315	F6315			
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1--5	125-300	0,06	0,08	0,1		140			
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6--9	180-350	0,06	0,08	0,1		130			
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	0,06	0,08	0,1		130			
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	0,06	0,08	0,1		130			
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	0,06	0,08	0,1		110			
	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	0,08	0,1	0,12		110			
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	0,08	0,1	0,12		110			
K	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	0,08	0,1	0,12		110			
	ALLUMINIO E SUE LEGHE - ALUMINIUM	21--25	60-130	0,06	0,08	0,1	340				
	RAME E SUE LEGHE - COPPER	26--28	90-110	0,06	0,08	0,1	300				
N	NON METALLICI - PLASTICS	29-30	/	0,06	0,08	0,1	290				
	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31--35	200-320								
S	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ⁿ								
	ACCIAIO TEMPRATO - HARDENED STEEL	38--41	45-60 ⁿ								

ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%
Vc Pag. 440	Vc (min)-----Vc(max)			



ae/D	0,1 10%	0,05 5%	0,04 4%	0,03 3%	0,02 2%
Kae	2,1	3	3,5	4	4,8

$$n = \frac{Vc \cdot 1000}{\text{ØD} \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

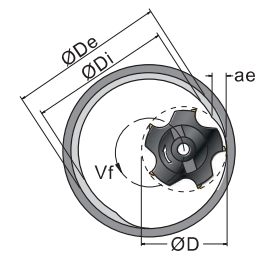
$$fz = fz0 \cdot Kae = \text{mm}$$

$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$

$$ae = \frac{\text{ØDe}^2 - \text{ØDi}^2}{4 \cdot (\text{ØDe} - \text{ØD})} = \text{mm}$$

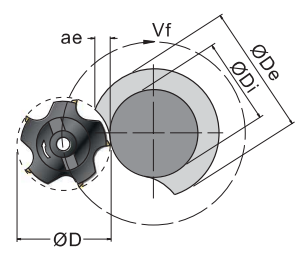
$$Vf = \left(1 - \frac{\text{ØD}}{\text{ØDe}}\right) \cdot n \cdot fz \cdot z = \text{mm/min}$$



F = FINITURA , LAV. LEGGERA - FINISHING , LIGHT MACHINING
M = LAV. MEDIA , GENERICA - MEDIUM MACHINING , GENERIC
R = SGROSSATURA , LAV. PESANTE - ROUGHING , HEAVY MACHINING
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fz = mm AVANZAMENTO AL DENTE -TOOTH FEED
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR

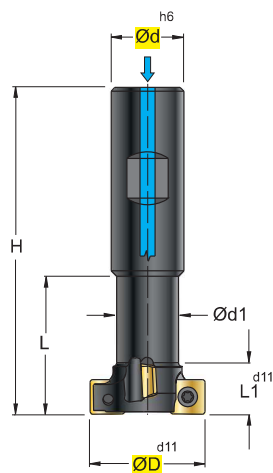
$$ae = \frac{\text{ØDe}^2 - \text{ØDi}^2}{4 \cdot (\text{ØDi} + \text{ØD})} = \text{mm}$$

$$Vf = \left(1 + \frac{\text{ØD}}{\text{ØDi}}\right) \cdot n \cdot fz \cdot z = \text{mm/min}$$



S 976W ..

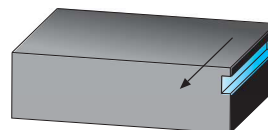
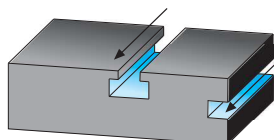
Ø 21-50



ART.		(mm)								kg	Nm			
ØD	Ød	Ød1	H	L	L1	Z	K							
S 976W	021-06	21	16	11	76	24	9	2	1	0,10	1,1+1,3	060304	12256P	5608P
S 976W	025-06	25	16	13	82	28	11	4	2	0,11	1,1+1,3			
S 976W	032-09	32	20	17	88	35	14	4	2	0,15	3,0+3,5	09T308	123509P	5615P
S 976W	040-09	40	25	21	108	44	17	4	2	0,37	3,0+3,5			
S 976W	050-12	50	32	27	120	59	21	4	2	0,65	4,0+5,0	120408	124510	5620

NOTE:

- Per cave a "T" secondo norme DIN 650-UNI 4788-ISO 299
- For "T" slot cutters according to DIN 650-UNI 4788-ISO 299 norms
- Fuer "T" Nuten nach DIN 650-UNI 4788-ISO 299 Normen
- Pour rainures à "T" selon les normes DIN 650-UNI 4788-ISO 299



Z = Numero di eliche - Number of flutes - Spiralenanzahl - Nombre d' helices
 K = Fattore d' avanzamento - Factor of feed - Vorschubfaktor - Facteur d' avance
 W = Foro per liquido refrigerante - Coolant bore - Kühlmittelbohrung - Trou du liquide d'arrosage

SCelta VELOCE - QUICK PICK



Pag. 424

COD.	P			M			K			N			S			H			HT	HW	HC		I	d	s	d1	r	a°		
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R			T3115	T528N							90°	a°
	○	○	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○			■	■								
SPMT 060304 .N54	○	○	○	●	●	●							○	○							■	■	6,35	6,35	3,18	2,8	0,4	11		
SPMT 09T308 .N54	○	○	○	●	●	●							○	○							■	■	9,52	9,52	3,97	4,5	0,8	11		
SPMT 120408 .N54	○	○	○	●	●	●							○	○							■	■	12,7	12,7	4,76	5,5	0,8	11		
SPMW 060304 .N51							○	○	○												■	■	6,35	6,35	3,18	2,8	0,4	11		
SPMW 09T308 .N51							○	○	○												■	■	9,52	9,52	3,97	4,5	0,8	11		
SPMW 120408 .N51							○	○	○												■	■	12,7	12,7	4,76	5,5	0,8	11		
SPMW 060304 .N59	○	●	●	○												○					■	■	6,35	6,35	3,18	2,8	0,4	11		
SPMW 09T308 .N59	○	●	●	○												○					■	■	9,52	9,52	3,97	4,5	0,8	11		
SPMW 120408 .N59	○	●	●	○									○								■	■	12,7	12,7	4,76	5,5	0,8	11		

CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY

SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY

MATERIALI - MATERIALS Pag. 1063	VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	fz0 mm			Vc m/min Pag. 440											
			1°	2°	3°	T3115	T528N										
			1°	2°	3°	T3115	T528N										
P ACCIAIO NON LEGATO - NOT ALLOY STEEL	1--5	125-300	0,1	0,15	0,2		220										
	6--9	180-350	0,06	0,1	0,15		220										
	10-11	200-325	0,06	0,1	0,15		180										
INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	0,06	0,08	0,12		160										
M INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	0,06	0,08	0,12		150										
K GHISA GRIGIA - GREY CAST IRON	15-16	180-260	0,1	0,15	0,2	250											
	17-18	160-250	0,08	0,12	0,16	200											
	19-20	130-230	0,08	0,12	0,16	230											
N ALLUMINIO E SUE LEGHE - ALUMINIUM	21--25	60-130															
	26--28	90-110															
	29-30	/															
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31--35	200-320	0,06	0,08	0,12		40										
	36-37	400-1050 ⁿ⁾	0,06	0,08	0,12		60										
H ACCIAIO TEMPRATO - HARDENED STEEL	38--41	45-60 ⁿ⁾															

$$n = \frac{Vc \cdot 1000}{\phi D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Kae = \text{mm}$$

$$fn = fz \cdot K = \text{mm}$$

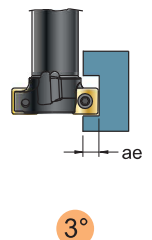
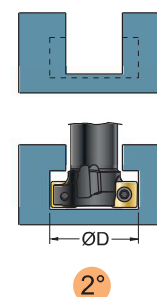
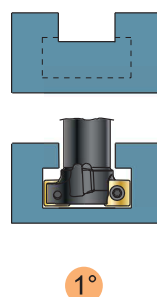
$$Vf = fz \cdot K \cdot n = \text{mm/min}$$

- F = FINITURA , LAV. LEGGERA - FINISHING , LIGHT MACHINING
- M = LAV. MEDIA , GENERICA - MEDIUM MACHINING , GENERIC
- R = SGROSSATURA , LAV. PESANTE - ROUGHING , HEAVY MACHINING

- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
- fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
- fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR

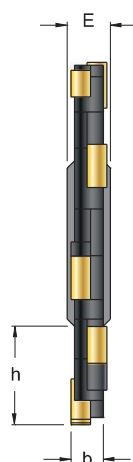
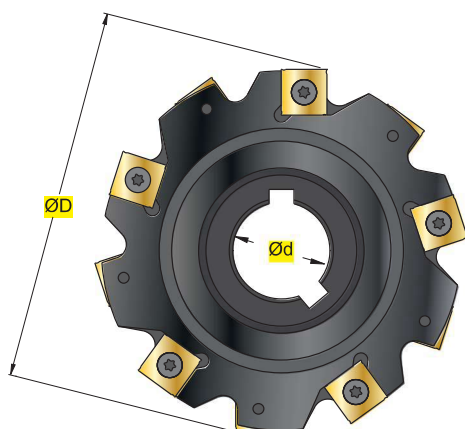
ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%
Vc	Vc (min)-----Vc(max)			

Pag. 440



S 950 ..

Ø 63-250



SNHX..
.Z47



SNHX..
.Z52

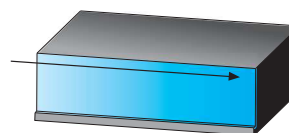
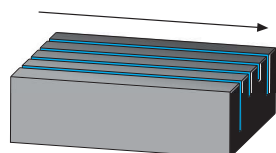


SNHX..
.Z62



INSERTI - INSERTS
PAG. 456

ART.	(mm)							kg	Nm	Icon	Key	Screw
	ØD	Ød	h	b	E	Z	K					
S 950 063 - 04	63	22	14	4	8	8	4	0,06	1,8+2,0	1102	C93504	5609
S 950 063 - 05	63	22	14	5	8	8	4	0,07	1,8+2,0	1103	C93505	5609
S 950 063 - 06	63	22	14	6	8	6	3	0,07	2,0+2,2	1203	C94005	5615
S 950 080 - 04	80	22	22	4	8	10	5	0,10	1,8+2,0	1102	C93504	5609
S 950 080 - 05	80	22	22	5	8	10	5	0,12	1,8+2,0	1103	C93505	5609
S 950 080 - 06	80	22	22	6	8	8	4	0,13	2,0+2,2	1203	C94005	5615
S 950 100 - 04	100	27	25	4	12	12	6	0,20	1,8+2,0	1102	C93504	5609
S 950 100 - 05	100	27	25	5	12	12	6	0,23	1,8+2,0	1103	C93505	5609
S 950 100 - 06	100	27	25	6	12	10	5	0,26	2,0+2,2	1203	C94005	5615
S 950 100 - 07/08	100	27	25	7/8	12	10	5	0,30	2,0+2,2	1204/12045	C94006	5615
S 950 100 - 10	100	27	25	10	12	10	5	0,37	2,0+2,2	1205	C94008	5615
S 950 125 - 04	125	40	31	4	12	12	6	0,31	1,8+2,0	1102	C93504	5609
S 950 125 - 05	125	40	31	5	12	12	6	0,35	1,8+2,0	1103	C93505	5609
S 950 125 - 06	125	40	31	6	12	12	6	0,40	2,0+2,2	1203	C94005	5615
S 950 125 - 07/08	125	40	31	7/8	12	12	6	0,45	2,0+2,2	1204/12045	C94006	5615
S 950 125 - 10	125	40	31	10	12	12	6	0,57	2,0+2,2	1205	C94008	5615
S 950 125 - 12	125	40	31	12	12	12	6	0,67	2,0+2,2	1207	C94010	5615
S 950 160 - 04	160	40	44	4	12	18	9	0,56	1,8+2,0	1102	C93504	5609
S 950 160 - 05	160	40	44	5	12	18	9	0,64	1,8+2,0	1103	C93505	5609
S 950 160 - 06	160	40	44	6	12	16	8	0,74	2,0+2,2	1203	C94005	5615
S 950 160 - 07/08	160	40	44	7/8	12	16	8	0,82	2,0+2,2	1204/12045	C94006	5615
S 950 160 - 10	160	40	44	10	12	16	8	1,03	2,0+2,2	1205	C94008	5615
S 950 160 - 12	160	40	44	12	12	16	8	1,30	2,0+2,2	1207	C94010	5615
S 950 160 - 14	160	40	44	14	14	15	5	1,50	2,0+2,2	1205	C94008	5615
S 950 200 - 04	200	50	62	4	12	18	9	0,76	1,8+2,0	1102	C93504	5609
S 950 200 - 05	200	50	62	5	12	18	9	0,89	1,8+2,0	1103	C93505	5609
S 950 200 - 06	200	50	62	6	12	18	9	1,10	2,0+2,2	1203	C94005	5615
S 950 200 - 07/08	200	50	62	7/8	12	18	9	1,30	2,0+2,2	1204/12045	C94006	5615
S 950 200 - 10	200	50	62	10	12	18	9	1,70	2,0+2,2	1205	C94008	5615
S 950 200 - 12	200	50	62	12	12	18	9	2,00	2,0+2,2	1207	C94010	5615
S 950 200 - 14	200	50	62	14	14	18	6	2,40	2,0+2,2	1205	C94008	5615
S 950 250 - 10	250	50	87	10	12	24	12	2,70	2,0+2,2	1205	C94008	5615
S 950 250 - 12	250	50	87	12	12	20	10	3,40	2,0+2,2	1207	C94010	5615



K = Fattore d'avanzamento - Factor of feed - Vorschubfaktor - Facteur d'avance

S 955 ..
S 955M ..

Ø 50-160

ISO 6462 ...

SNHX.. .Z47

SNHX.. .Z52

SNHX.. .Z62

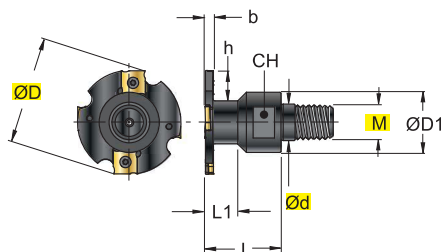
INSERTI - INSERTS
PAG. 456

ART.	ØD	Ød	b	ØdA	H	L1	h	Z	K	kg	Nm	ISO 6462					
S 955 050 - 04	50	16	4	32	50	15	8,5	4	2	0,20	1,8±2,0	-	1102	C93504	5609	VDST2008	-
S 955 050 - 05	50	16	5	32	50	15	8,5	4	2	0,21	1,8±2,0	-	1103	C93505	5609	VDST2008	-
S 955 050 - 06	50	16	6	32	50	15	8,5	4	2	0,21	2,0±2,2	-	1203	C94005	5615	VDST2008	-
S 955 050 - 07/08	50	16	7/8	32	50	15	8,5	4	2	0,22	2,0±2,2	-	1204/12045	C94006	5615	VDST2008	-
S 955 050 - 10	50	16	10	32	50	15	8,5	4	2	0,25	2,0±2,2	-	1205	C94008	5615	VDST2008	-
S 955 050 - 12	50	16	12	32	50	15	8,5	4	2	0,26	2,0±2,2	-	1207	C94010	5615	VDST2008	-
S 955 063 - 04	63	22	4	40	50	-	10,5	8	4	0,34	1,8±2,0	A	1102	C93504	5609	-	AL10x40
S 955 063 - 05	63	22	5	40	50	-	10,5	8	4	0,35	1,8±2,0	A	1103	C93505	5609	-	AL10x40
S 955 063 - 06	63	22	6	40	50	-	10,5	6	3	0,35	2,0±2,2	A	1203	C94005	5615	-	AL10x40
S 955 063 - 07/08	63	22	7/8	40	50	-	10,5	6	3	0,37	2,0±2,2	A	1204/12045	C94006	5615	-	AL10x40
S 955 063 - 10	63	22	10	40	50	-	10,5	6	3	0,39	2,0±2,2	A	1205	C94008	5615	-	AL10x40
S 955 063 - 12	63	22	12	40	50	-	10,5	6	3	0,40	2,0±2,2	A	1207	C94010	5615	-	AL10x40
S 955 063 - 14	63	22	14	40	50	-	10,5	6	2	0,43	2,0±2,2	A	1205	C94008	5615	-	AL10x40
S 955 063 - 16	63	22	16	40	50	-	10,5	6	2	0,45	2,0±2,2	A	1207	C94008	5615	-	AL10x40
S 955 080 - 04	80	22	4	40	50	-	20	10	5	0,38	1,8±2,0	A	1102	C93504	5609	-	AL10x40
S 955 080 - 05	80	22	5	40	50	-	20	10	5	0,40	1,8±2,0	A	1103	C93505	5609	-	AL10x40
S 955 080 - 06	80	22	6	40	50	-	20	8	4	0,41	2,0±2,2	A	1203	C94005	5615	-	AL10x40
S 955 080 - 07/08	80	22	7/8	40	50	-	20	8	4	0,44	2,0±2,2	A	1204/12045	C94006	5615	-	AL10x40
S 955 080 - 10	80	22	10	40	50	-	20	8	4	0,49	2,0±2,2	A	1205	C94008	5615	-	AL10x40
S 955 080 - 12	80	22	12	40	50	-	20	8	4	0,53	2,0±2,2	A	1207	C94010	5615	-	AL10x40
S 955 080 - 14	80	22	14	40	50	-	20	6	2	0,59	2,0±2,2	A	1205	C94008	5615	-	AL10x40
S 955 080 - 16	80	22	16	40	50	-	20	6	2	0,63	2,0±2,2	A	1207	C94008	5615	-	AL10x40
S 955 100 - 04	100	27	4	48	50	-	24,2	12	6	0,64	1,8±2,0	A	1102	C93504	5609	-	VBSF12L
S 955 100 - 05	100	27	5	48	50	-	24,2	12	6	0,68	1,8±2,0	A	1103	C93505	5609	-	VBSF12L
S 955 100 - 06	100	27	6	48	50	-	24,2	10	5	0,69	2,0±2,2	A	1203	C94005	5615	-	VBSF12L
S 955 100 - 07/08	100	27	7/8	48	50/50,5	-	24,2	10	5	0,73	2,0±2,2	A	1204/12045	C94006	5615	-	VBSF12L
S 955 100 - 10	100	27	10	48	50	-	24,2	10	5	0,79	2,0±2,2	A	1205	C94008	5615	-	VBSF12L
S 955 100 - 12	100	27	12	48	50	-	24,2	10	5	0,85	2,0±2,2	A	1207	C94010	5615	-	VBSF12L
S 955 100 - 14	100	27	14	48	50	-	24,2	9	3	0,95	2,0±2,2	A	1205	C94008	5615	-	VBSF12L
S 955 100 - 16	100	27	16	48	50	-	24,2	9	3	1,00	2,0±2,2	A	1207	C94008	5615	-	VBSF12L
S 955M 125 - 04 New	125	32	4	59	50	-	31	12	6	0,98	1,8±2,0	A	1102	C93504	5609	-	VBSF16
S 955M 125 - 05 New	125	32	5	59	50	-	31	12	6	1,02	1,8±2,0	A	1103	C93505	5609	-	VBSF16
S 955M 125 - 06 New	125	32	6	59	50	-	31	12	6	1,05	2,0±2,2	A	1203	C94005	5615	-	VBSF16
S 955M 125 - 07/08 New	125	32	7/8	59	50/50,5	-	31	12	6	1,09	2,0±2,2	A	1204/12045	C94006	5615	-	VBSF16
S 955M 125 - 10 New	125	32	10	59	50	-	31	12	6	1,19	2,0±2,2	A	1205	C94008	5615	-	VBSF16
S 955M 125 - 12 New	125	32	12	59	50	-	31	12	6	1,28	2,0±2,2	A	1207	C94010	5615	-	VBSF16
S 955 125 - 04	125	40	4	70	50	-	23,7	12	6	0,95	1,8±2,0	A	1102	C93504	5609	-	-
S 955 125 - 05	125	40	5	70	50	-	23,7	12	6	0,99	1,8±2,0	A	1103	C93505	5609	-	-
S 955 125 - 06	125	40	6	70	50	-	23,7	12	6	1,02	2,0±2,2	A	1203	C94005	5615	-	-
S 955 125 - 07/08	125	40	7/8	70	50/50,5	-	23,7	12	6	1,06	2,0±2,2	A	1204/12045	C94006	5615	-	-
S 955 125 - 10	125	40	10	70	50	-	23,7	12	6	1,16	2,0±2,2	A	1205	C94008	5615	-	-
S 955 125 - 12	125	40	12	70	50	-	23,7	12	6	1,25	2,0±2,2	A	1207	C94010	5615	-	-
S 955 125 - 14	125	40	14	70	50	-	23,7	12	4	1,35	2,0±2,2	A	1205	C94008	5615	-	-
S 955 125 - 16	125	40	16	70	50	-	23,7	12	4	1,43	2,0±2,2	A	1207	C94008	5615	-	-
S 955 160 - 04	160	40	4	70	50	-	41,2	16	8	1,14	1,8±2,0	B	1102	C93504	5609	-	-
S 955 160 - 05	160	40	5	70	50	-	41,2	16	8	1,21	1,8±2,0	B	1103	C93505	5609	-	-
S 955 160 - 06	160	40	6	70	50	-	41,2	16	8	1,41	2,0±2,2	B	1203	C94005	5615	-	-
S 955 160 - 07/08	160	40	7/8	70	50/50,5	-	41,2	16	8	1,41	2,0±2,2	B	1204/12045	C94006	5615	-	-
S 955 160 - 10	160	40	10	70	50	-	41,2	16	8	1,62	2,0±2,2	B	1205	C94008	5615	-	-
S 955 160 - 12	160	40	12	70	50	-	41,2	16	8	1,81	2,0±2,2	B	1207	C94010	5615	-	-
S 955 160 - 14	160	40	14	70	50	-	41,2	15	5	2,04	2,0±2,2	B	1205	C94008	5615	-	-
S 955 160 - 16	160	40	16	70	50	-	41,2	15	5	2,23	2,0±2,2	B	1207	C94008	5615	-	-

K = Fattore d'avanzamento - Factor of feed - Vorschubfaktor - Facteur d'avance

S 959 ..

Ø 50-80



SNHX..
.Z47



SNHX..
.Z52



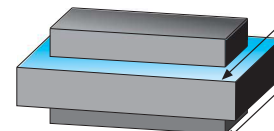
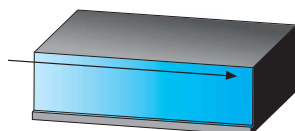
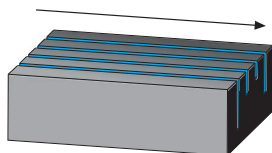
SNHX..
.Z62



INSERTI - INSERTS
PAG. 456

(mm)

ART.	ØD	M	Ød	b	ØD1	h	L	L1	Z	K	CH	kg	Nm			
S 959 050 - 04	50	16	17	4	29	14	35	15	4	2	24	0,19	1,8+2,0	1102	C93504	5609
S 959 050 - 05	50	16	17	5	29	14	35	15	4	2	24	0,20	1,8+2,0	1103	C93505	5609
S 959 050 - 06	50	16	17	6	29	14	35	15	4	2	24	0,20	2,0+2,2	1203	C94005	5615
S 959 063 - 04	63	16	17	4	29	14	35	-	8	4	24	0,26	1,8+2,0	1102	C93504	5609
S 959 063 - 05	63	16	17	5	29	14	35	-	8	4	24	0,27	1,8+2,0	1103	C93505	5609
S 959 063 - 06	63	16	17	6	29	14	35	-	6	3	24	0,28	2,0+2,2	1203	C94005	5615
S 959 080 - 04	80	16	17	4	29	22,5	35	-	10	5	24	0,31	1,8+2,0	1102	C93504	5609
S 959 080 - 05	80	16	17	5	29	22,5	35	-	10	5	24	0,32	1,8+2,0	1103	C93505	5609
S 959 080 - 06	80	16	17	6	29	22,5	35	-	8	4	24	0,34	2,0+2,2	1203	C94005	5615



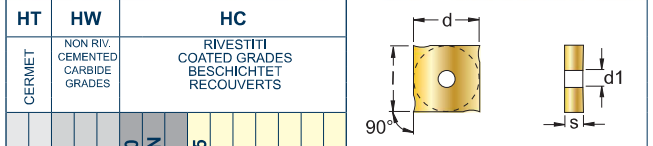
K = Fattore d'avanzamento - Factor of feed - Vorschubfaktor - Facteur d'avance

SCelta VELOCE - QUICK PICK

Tenacità + ↑
Toughness - ↓



Pag. 424



COD.	P			M			K			N			S			H			HT	HW	HC				l	d	s	d1	r	a°
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R			CERMET	T115	T5020	T528N						
SNHX 1102 .Z47							●	●	●	●	●	●	●	●	●	●	●	●	■											
SNHX 1103 .Z47							●	●	●	●	●	●	●	●	●	●	●	●	■											
SNHX 1203 .Z47							●	●	●	●	●	●	●	●	●	●	●	●	■											
SNHX 1204 .Z47							●	●	●	●	●	●	●	●	●	●	●	●	■											
SNHX 12045 .Z47							●	●	●	●	●	●	●	●	●	●	●	●	■											
SNHX 1205 .Z47							●	●	●	●	●	●	●	●	●	●	●	●	■											
SNHX 1207 .Z47							●	●	●	●	●	●	●	●	●	●	●	●	■											
SNHX 1102 .Z52		●	●				●	●	○	○				●	●				■											
SNHX 1103 .Z52		●	●				●	●	○	○				●	●				■											
SNHX 1203 .Z52		●	●				●	●	○	○				●	●				■											
SNHX 1204 .Z52		●	●				●	●	○	○				●	●				■											
SNHX 12045 .Z52		●	●				●	●	○	○				●	●				■											
SNHX 1205 .Z52		●	●				●	●	○	○				●	●				■											
SNHX 1207 .Z52		●	●				●	●	○	○				●	●				■											
SNHX 1102 .Z62																							■							
SNHX 1103 .Z62																							■							
SNHX 1203 .Z62																							■							
SNHX 1204 .Z62																							■							
SNHX 12045 .Z62																							■							
SNHX 1205 .Z62																							■							
SNHX 1207 .Z62																							■							

CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY

SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY

MATERIALI - MATERIALS Pag. 1063		VDI 3323 GR.	HB Rm1) HRC2)	fz0 mm			Vc m/min Pag. 440							
				F	M	R	T115	T5020	T528N	F1035				
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1--5	125-300	0,08	0,12	0,16		220	220	125				
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6--9	180-350	0,06	0,11	0,15		150	160	120				
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	0,06	0,11	0,15		140	150	100				
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	0,05	0,07	0,1		150	140	100				
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	0,05	0,07	0,1			120	90				
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	0,1	0,14	0,18	120	160	180					
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	0,08	0,12	0,16	120	150	160					
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	0,08	0,12	0,16	120	160	170					
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21--25	60-130	0,08	0,12	0,16	950							
	RAME E SUE LEGHE - COPPER	26--28	90-110	0,06	0,1	0,15	400							
	NON METALLICI - PLASTICS	29-30	/	0,06	0,1	0,15	300							
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31--35	200-320	0,06	0,08	0,12			40					
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ^{†)}	0,06	0,08	0,12			60					
H	ACCIAIO TEMPRATO - HARDENED STEEL	38--41	45-60 ^{†)}											

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Kae = \text{mm}$$

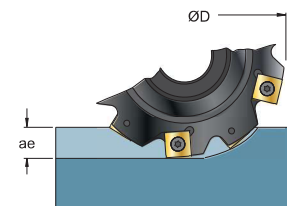
$$fn = fz \cdot K = \text{mm}$$

$$Vf = fz \cdot K \cdot n = \text{mm/min}$$

F = FINITURA, LAV. LEGGERA - FINISHING, LIGHT MACHINING
M = LAV. MEDIA, GENERICA - MEDIUM MACHINING, GENERIC
R = SGROSSATURA, LAV. PESANTE - ROUGHING, HEAVY MACHINING

Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR

ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%
Vc Pag. 440	Vc (min)-----Vc(max)			



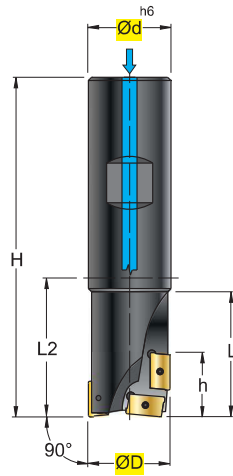
ae/D	0,3 30%	0,2 20%	0,1 10%	0,05 5%	0,02 2%
Kae	1,2	1,5	2,1	3	4,8

■ DISPONIBILI - IN STOCK - LIEFERBAR - DISPONIBLES / ■ NEW
●● APPLICAZIONE CONSIGLIATA-RECOMMENDED APPLICATION
EMPFÖHLENER EINSATZ - APPLICATION CONSEILLÉE

□ A RICHIESTA - ON REQUEST - AUF ANFRAGE - SUR DEMANDE / □ NEW
○ ○ APPLICAZIONE POSSIBILE - POSSIBLE APPLICATION
MÖGLICHE ANWENDUNG - APPLICATION POSSIBLE

S 905W ..

Ø 20-32



APKT 1003
.S52

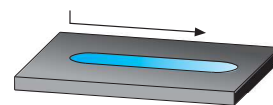
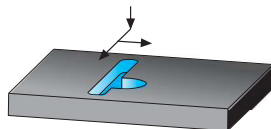


APKT 1604
.S52



INSERTI - INSERTS
PAG. 448/449

ART.	(mm)									kg	Nm	N°3	12255P	5608P
	ØD	Ød	H	h	L	L2	Z	K						
S 905W 020 - 10	20	20	90	19	35	40	2	1	0,17	1,1+1,3	N°3 1003	12255P	5608P	
S 905W 025 - 10	25	25	110	19	50	54	2	1	0,32	1,1+1,3				
S 905W 032 - 16	32	32	130	29	50	70	2	1	0,64	3,8+5,0	N°3 1604	C04011P	5615P	



Z = Numero di eliche - Number of flutes - Spiralenanzahl - Nombre d' helices
K = Fattore d' avanzamento - Factor of feed - Vorschubfaktor - Facteur d' avance
W = Foro per liquido refrigerante - Coolant bore - Kühlmittelbohrung - Trou du liquide d'arrosage



SCelta VELOCE - QUICK PICK



Pag. 424

COD.	P			M			K			N			S			H			HT	HW	HC		l	d	s	d1	r	a°	
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R			CERMET	NON RIV. CEMENTED CARBIDE GRADES							RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS
APKT 1003 PDTR .S52	○	●	○	○	●	○	○	●	○	○	○	○	○	○	○	○	○	○			T516	T530		10,5	6,70	3,5	2,8	0,5	11
APKT 1604 PDTR .S52	○	●	○	○	●	○	○	●	○	○	○	○	○	○	○	○	○	○			T516	T530		17,0	9,45	5,26	4,4	0,8	11

CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY

SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY

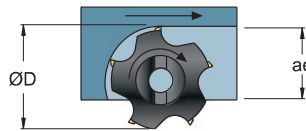
MATERIALI - MATERIALS Pag. 1063	VDI 3323 GR.	HB Rm1) HRC2)	fz0 mm			fz mm FORATURA DRILLING	Vc m/min Pag. 440	
			F	M	R		T516	T530
P ACCIAIO NON LEGATO - NOT ALLOY STEEL	1--5	125-300	0,08	0,15	0,2	0,05		230
ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6--9	180-350	0,06	0,11	0,15	0,04		180
ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	0,06	0,11	0,15	0,04		150
INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	0,05	0,07	0,1	0,04		140
M INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	0,05	0,07	0,1	0,04		120
K GHISA GRIGIA - GREY CAST IRON	15-16	180-260	0,1	0,14	0,18	0,08	250	160
GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	0,08	0,12	0,16	0,06	200	150
GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	0,08	0,12	0,16	0,06	220	160
N ALLUMINIO E SUE LEGHE - ALUMINIUM	21--25	60-130	0,08	0,12	0,16	0,08		600
RAME E SUE LEGHE - COPPER	26--28	90-110	0,06	0,1	0,15	0,08		300
NON METALLICI - PLASTICS	29-30	/	0,06	0,1	0,15	0,08		
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31--35	200-320	0,06	0,08	0,12	0,04		40
TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ⁿ	0,06	0,08	0,12	0,04		50
H ACCIAIO TEMPRATO - HARDENED STEEL	38--41	45-60 ⁿ						

$$n = \frac{Vc \cdot 1000}{\phi D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Kae = \text{mm}$$

$$fn = fz \cdot K = \text{mm}$$

$$Vf = fz \cdot K \cdot n = \text{mm/min}$$



ae/D	0,5-1 50-100%	0,3 30%	0,2 20%	0,1 10%	0,05 5%	0,02 2%
Kae	1	1,2	1,5	2,1	3	4,8

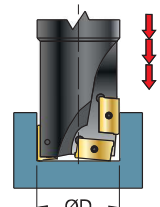
ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%
Vc	Vc (min)-----Vc(max)			




























Pag. 440

- F = FINITURA, LAV. LEGGERA - FINISHING, LIGHT MACHINING
- M = LAV. MEDIA, GENERICA - MEDIUM MACHINING, GENERIC
- R = SGROSSATURA, LAV. PESANTE - ROUGHING, HEAVY MACHINING

- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
- fz = mm AVANZAMENTO AL DENTE -TOOTH FEED
- fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR

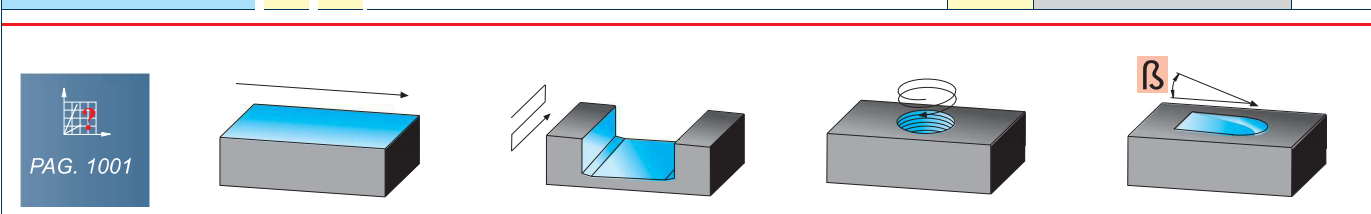
-IN FORATURA AVANZARE CON PASSI DI 1-1,5 mm PER ROMPERE IL TRUCIOLO
-FOR DRILLING FEED WITH 1-1,5 mm STEP TO BREAK THE CHIP



S846W Pag. 404			S848W Pag. 404			S849W Pag. 404			S806 Pag. 410					
 <p>ØD = 25 - 40</p>			 <p>ØD = 40 - 100</p>			 <p>ØD = 25 - 40</p>			 <p>ØD = 12,5 - 20</p>			 <p>ØD = 15 - 16</p>		
S 846LW .. 06 S 846XLW .. 06 S 846LW .. 08 S 846GLW .. 08 S 846XLW .. 08 S 846GXLW .. 08			S 848W .. 06 S 848W .. 08 S 848WF .. 08			S 849W .. 06 S 849W .. 08 S 849W .. 08			S 806W ..					
 <p>WP..06.. h = 1,5</p>			 <p>WP..08.. h = 1,5</p>			 <p>RD.. 0701 h = 3,5</p>			 <p>RD.. 0702 h = 3,5</p>			 <p>RD.. 1003 h = 5</p>		
S1502 Pag. 406			S808 Pag. 412											
 <p>ØD = 50 - 80</p>			 <p>ØD = 50 - 160</p>											
S 1502.8W ..			S 808W ..											
 <p>WN.. 1405 h = 2</p>			 <p>RD.. 12T3 h = 6</p>			 <p>RD.. 1604 h = 8</p>								
S1503.6LW Pag. 408			S1503.8W Pag. 408			S1503.9W Pag. 408			S809 Pag. 414					
 <p>NEW ØD = 16 - 35</p>			 <p>NEW ØD = 40 - 50</p>			 <p>NEW ØD = 16 - 32</p>			 <p>ØD = 10 - 32</p>			 <p>ØD = 15 - 42</p>		
S 1503.6LW ..			S 1503.8W ..			S 1503.9W ..			S 809W ..					
 <p>LNMT 060312 h = 1</p>			 <p>RD.. 0501 h = 2,5</p>			 <p>RD.. 1003 h = 5</p>			 <p>RD.. 0701 h = 3,5</p>			 <p>RD.. 12T3 h = 6</p>		
			 <p>RD.. 0702 h = 3,5</p>			 <p>RD.. 1604 h = 8</p>								

S 846..W .. 06 S 846..W .. 08	γ_p +5°/-4° γ_f -2,8° γ_o -5,8°	S 848..W .. 06 S 848..W .. 08 S 848..WF .. 08	γ_p +5° γ_f -3,5° γ_o -6,2°	S 849..W .. 06 S 849..W .. 08	γ_p +4°/+5° γ_f -2,8° γ_o -5,7°	WPMT .. .N42	
		ISO 6462 ... 				WPMW .. .N52	
INSERTI - INSERTS PAG. 458							

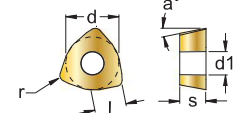
(mm)																	
ART.	ØD	M	Ød	ØD1	H	L	β	Z	CH	kg	Nm	ISO 6462					
S 846LW 025 - 06	25	-	25	-	140	60	5°	2	-	0,43	3,8+5,0	-	06...	C04008P	5615P	-	2440
S 846LW 026 - 06	26	-	25	-	140	60	4,5°	2	-	0,44	3,8+5,0	-	06...	C04008P	5615P	-	2440
S 846LW 032 - 06	32	-	32	-	150	70	3,5°	3	-	0,79	3,8+5,0	-	06...	C04008P	5615P	-	2440
S 846LW 033 - 06	33	-	32	-	150	70	3°	3	-	0,80	3,8+5,0	-	06...	C04008P	5615P	-	2440
S 846XLW 025 - 06	25	-	25	-	200	120	5°	2	-	0,60	3,8+5,0	-	06...	C04008P	5615P	-	2440
S 846XLW 026 - 06	26	-	25	-	200	120	4,5°	2	-	0,62	3,8+5,0	-	06...	C04008P	5615P	-	2440
S 846XLW 032 - 06	32	-	32	-	250	170	3,5°	3	-	1,29	3,8+5,0	-	06...	C04008P	5615P	-	2440
S 846XLW 033 - 06	33	-	32	-	250	170	3°	3	-	1,32	3,8+5,0	-	06...	C04008P	5615P	-	2440
S 846LW 032 - 08	32	-	32	-	150	50	10°	2	-	0,77	4,0+5,0	-	08...	124512P	5620P	-	2445
S 846LW 033 - 08	33	-	32	-	150	50	8°	2	-	0,78	4,0+5,0	-	08...	124512P	5620P	-	2445
S 846LW 040 - 08	40	-	32	-	150	50	6°	3	-	0,84	4,0+5,0	-	08...	124512P	5620P	-	2445
S 846GLW 040 - 08	40	-	32	-	150	50	6°	2	-	0,85	4,0+5,0	-	08...	124512P	5620P	-	2445
S 846XLW 032 - 08	32	-	32	-	250	50	10°	2	-	1,38	4,0+5,0	-	08...	124512P	5620P	-	2445
S 846XLW 033 - 08	33	-	32	-	250	50	8°	2	-	1,40	4,0+5,0	-	08...	124512P	5620P	-	2445
S 846XLW 040 - 08	40	-	32	-	250	50	6°	3	-	1,45	4,0+5,0	-	08...	124512P	5620P	-	2445
S 846GXLW 040 - 08	40	-	32	-	250	50	6°	2	-	1,46	4,0+5,0	-	08...	124512P	5620P	-	2445
S 848W 040 - 06	40	-	16	38	40	-	2°	3	-	0,21	3,8+5,0	A	06...	C04008P	5615P	VBSF08L	2440
S 848W 050 - 08	50	-	22	48	50	-	4°	3	-	0,39	4,0+5,0	A	08...	124513P	5520P	VBSF10AV	2445
S 848W 052 - 08	52	-	22	50	50	-	4°	3	-	0,45	4,0+5,0	A	08...	124513P	5520P	VBSF10	2445
S 848W 063 - 08	63	-	22	59	50	-	2,5°	4	-	0,65	4,0+5,0	A	08...	124513P	5520P	VBSF12	2445
S 848W 066 - 08	66	-	27	63	50	-	2,5°	4	-	0,70	4,0+5,0	A	08...	124513P	5520P	VBSF12L	2445
S 848W 080 - 08	80	-	27	76	63	-	1,5°	5	-	1,47	4,0+5,0	A	08...	124513P	5520P	VBSF16L	2445
S 848W 100 - 08	100	-	32	96	63	-	1°	6	-	2,45	4,0+5,0	A	08...	124513P	5520P	VBSF16L	2445
S 848WF 050 - 08	50	-	22	48	50	-	4°	4	-	0,38	4,0+5,0	A	08...	124513P	5520P	VBSF10AV	2445
S 848WF 052 - 08	52	-	22	50	50	-	4°	4	-	0,43	4,0+5,0	A	08...	124513P	5520P	VBSF10	2445
S 848WF 063 - 08	63	-	22	59	50	-	2,5°	5	-	0,67	4,0+5,0	A	08...	124513P	5520P	VBSF12	2445
S 848WF 066 - 08	66	-	27	63	50	-	2,5°	5	-	0,73	4,0+5,0	A	08...	124513P	5520P	VBSF12L	2445
S 848WF 080 - 08	80	-	27	76	63	-	1,5°	6	-	1,51	4,0+5,0	A	08...	124513P	5520P	VBSF12L	2445
S 848WF 100 - 08	100	-	32	96	63	-	1°	8	-	2,49	4,0+5,0	A	08...	124513P	5520P	VBSF16L	2445
S 849W 025 - 06	25	12	12,5	21	-	35	5°	2	17	0,09	3,8+5,0	-	06...	C04008P	5615P	-	2440
S 849W 026 - 06	26	12	12,5	21	-	35	4,5°	2	17	0,09	3,8+5,0	-	06...	C04008P	5615P	-	2440
S 849W 032 - 06	32	16	17	29	-	43	3,5°	3	24	0,20	3,8+5,0	-	06...	C04008P	5615P	-	2440
S 849W 033 - 06	33	16	17	29	-	43	3°	3	24	0,20	3,8+5,0	-	06...	C04008P	5615P	-	2440
S 849W 032 - 08	32	16	17	29	-	43	10°	2	24	0,17	4,0+5,0	-	08...	124512P	5620P	-	2445
S 849W 033 - 08	33	16	17	29	-	43	8°	2	24	0,18	4,0+5,0	-	08...	124512P	5620P	-	2445
S 849W 040 - 08	40	16	17	29	-	43	6°	3	24	0,22	4,0+5,0	-	08...	124512P	5620P	-	2445
S 849GW 040 - 08	40	16	17	29	-	43	6°	2	24	0,24	4,0+5,0	-	08...	124512P	5620P	-	2445



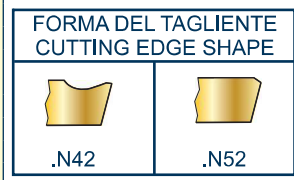
PAG. 1001

W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE
 G = PASSO GROSSO - LARGE TEETH DISTANCE - NORMALE ZAHNTEILUNG - GRANDE DISTANCE DENTS.
 L = LUNGA, STELO CILINDRICO - LONG, CYLINDRICAL SHANK - LANG, ZYLINDERSCHAFT - LONGUE, QUEUE CYLINDRIQUE
 XL = EXTRALUNGA, STELO CILINDRICO - EXTRALONG, CYLINDRICAL SHANK - EXTRALANG, ZYLINDERSCHAFT - EXTRALONGUE, QUEUE CYLINDRIQUE

SCelta VELOCE - QUICK PICK



COD.	P			M			K			N			S			H			HT	HW	HC		l	d	s	d1	r	a°
	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R			F4140	T5120						
WPMT 06X415 ZSR .N42	●	○		●	○		○														■		6	9,52	4,20	4,3	1,5	11°
WPMT 080615 ZSR .N42	●	○		●	○		○														■		8	12,7	6,35	5,4	1,5	11°
WPMW 06X415 ZSR .N52	●	○		●	○		○														■		6	9,52	4,20	4,3	1,5	11°
WPMW 080615 ZSR .N52	●	○		●	○		○														■		8	12,7	6,35	5,4	1,5	11°



CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY

SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY

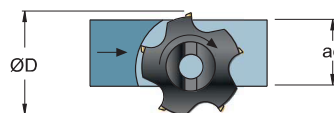
MATERIALI - MATERIALS Pag. 1063	VDI 3323 GR.	HB Rm1) HRC2)	fz0 mm		fz mm	Vc m/min Pag. 440	
			WP..06	WP..08		T5120	F4140
P ACCIAIO NON LEGATO - NOT ALLOY STEEL	1--5	125-300	0,5-1,5	0,5-2	0,2	250	290
ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6--9	180-350	0,5-1,5	0,5-2	0,2	250	240
ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	0,4-0,8	0,5-1	0,15	230	205
INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	0,5-1,5	0,5-2	0,2	180	170
M INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	0,5-1,3	0,5-1,8	0,2		150
K GHISA GRIGIA - GREY CAST IRON	15-16	180-260	0,8-2	1-2,5	0,2	250	180
GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	0,8-2	1-2,5	0,2	220	150
GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	0,8-2	1-2,5	0,2	200	110
N ALLUMINIO E SUE LEGHE - ALUMINIUM	21--25	60-130					
RAME E SUE LEGHE - COPPER	26--28	90-110					
NON METALLICI - PLASTICS	29-30	/					
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31--35	200-320					
TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ⁿ					
H ACCIAIO TEMPRATO - HARDENED STEEL	38--41	45-60 ⁿ	0,3-0,6	0,4-0,8	0,1	140	

$$n = \frac{Vc \cdot 1000}{\phi D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Kae = \text{mm}$$

$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$

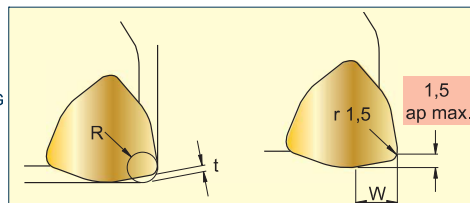


ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%	0,02 2%
Kae	1	1,1	1,2	1,3	1,5

ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%
Vc (min)-----Vc(max)				
Vc Pag. 440				

- F = FINITURA , LAV. LEGGERA - FINISHING , LIGHT MACHINING
- M = LAV. MEDIA , GENERICA - MEDIUM MACHINING , GENERIC
- R = SGROSSATURA , LAV. PESANTE - ROUGHING , HEAVY MACHINING

- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
- fz = mm AVANZAMENTO AL DENTE -TOOTH FEED
- fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR



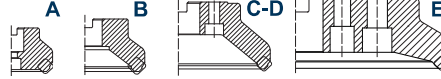
Inserto Insert	W (mm)	t (mm)	R (mm)
WPM..06	4,3	0,7	2,5
WPM..08	5,7	0,7	2,0

t = Materiale residuo ap = Profondità massima di passata
t = Residual Material ap = Maximum cutting depth

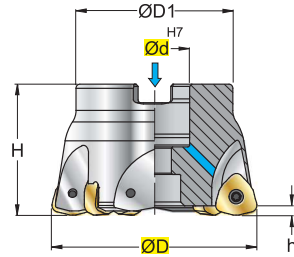
S 1502.8W .. 14

Ø 50-80

γ_p +15°
 γ_f -12°/-9°
 γ_o +12°

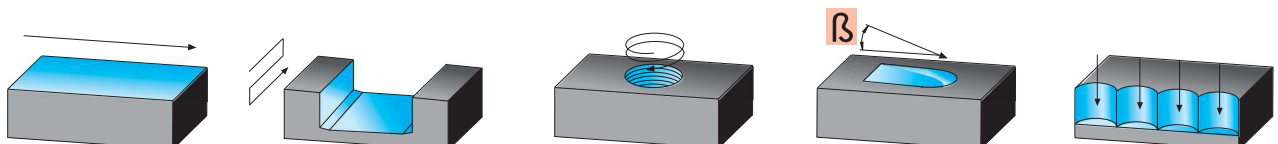


WNMT
 1405..
 .X52



INSERTI - INSERTS
 PAG. 458

ART.	(mm)							kg	Nm	ISO 6462	1405	C04011P	5615P	VBSF10
	ØD	Ød	ØD1	H	h	β	Z							
S 1502.8W-050-03-14	50	22	40	40	2	4,3°	3	0,24	3,8+5,0	A	1405	C04011P	5615P	VBSF10
S 1502.8W-050-04-14	50	22	40	40	2	4,3°	4	0,21	3,8+5,0	A	1405	C04011P	5615P	VBSF10
S 1502.8W-052-03-14	52	22	40	40	2	4°	3	0,27	3,8+5,0	A	1405	C04011P	5615P	VBSF10
S 1502.8W-052-04-14	52	22	40	40	2	4°	4	0,24	3,8+5,0	A	1405	C04011P	5615P	VBSF10
S 1502.8W-063-04-14	63	22	49	40	2	2,7°	4	0,44	3,8+5,0	A	1405	C04011P	5615P	VBSF10
S 1502.8W-063-05-14	63	22	49	40	2	2,7°	5	0,42	3,8+5,0	A	1405	C04011P	5615P	VBSF10
S 1502.8W-066-04-14	66	22	49	40	2	2,5°	4	0,48	3,8+5,0	A	1405	C04011P	5615P	VBSF10
S 1502.8W-066-05-14	66	22	49	40	2	2,5°	5	0,46	3,8+5,0	A	1405	C04011P	5615P	VBSF10
S 1502.8W-080-05-14	80	27	60	50	2	1,9°	5	1,02	3,8+5,0	A	1405	C04011P	5615P	VBSF12
S 1502.8W-080-06-14	80	27	60	50	2	1,9°	6	0,99	3,8+5,0	A	1405	C04011P	5615P	VBSF12



W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE

SCelta VELOCE - QUICK PICK



Pag. 424

COD.			P			M			K			N			S			H			HT	HW	HC												
			F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	CERMET	NON RIV. CEMENTED CARBIDE GRADES	RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS		l	d	s	d1	r	a°		
WNMT	140525	.X52	●	●	●	●	●	●	○	○	○													■			■			7	13,7	5,5	4,9	2,5	-
CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY																																			
SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY																																			

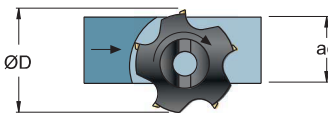
MATERIALI - MATERIALS Pag. 1063		VDI 3323 GR.	HB Rm ¹ HRC ²	fz0 mm	fz mm	Vc m/min Pag. 440							
						T5120	F4130						
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1--5	125-300	0,3-1,5	0,06-0,1	250	240						
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6--9	180-350	0,3-1,5	0,06-0,1	250	220						
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	0,3-1,0	0,06-0,1	230	200						
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	0,3-1,0	0,06-0,1	180	180						
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	0,3-0,7	0,06-0,1		170						
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	0,4-1,5	0,06-0,1	250	190						
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	0,4-1,5	0,06-0,1	220	170						
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	0,4-1,5	0,06-0,1	200	130						
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21--25	60-130										
	RAME E SUE LEGHE - COPPER	26--28	90-110										
	NON METALLICI - PLASTICS	29-30	/										
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31--35	200-320										
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾										
H	ACCIAIO TEMPRATO - HARDENED STEEL	38--41	45-60 ²⁾	0,2-0,7	0,06-0,1	50							

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Kae = \text{mm}$$

$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$



ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%	0,02 2%
Kae	1	1,1	1,2	1,3	1,5

ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%
Vc (min)-----Vc(max)				
Vc Pag. 440				

- F = FINITURA, LAV. LEGGERA - FINISHING, LIGHT MACHINING
- M = LAV. MEDIA, GENERICA - MEDIUM MACHINING, GENERIC
- R = SGROSSATURA, LAV. PESANTE - ROUGHING, HEAVY MACHINING

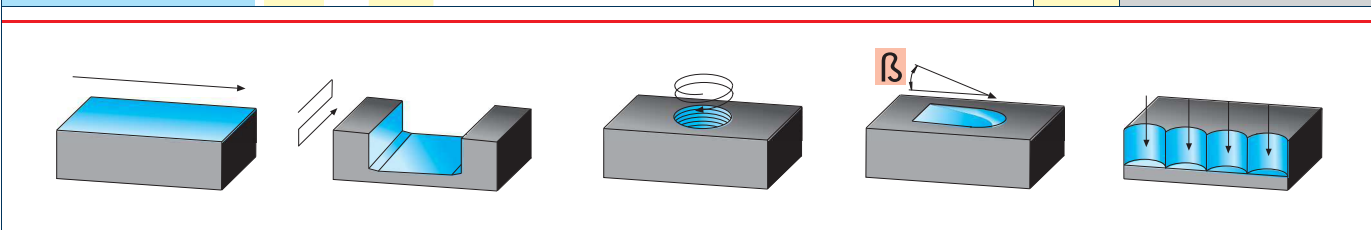
- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
- fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
- fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR

Inserto Insert	W (mm)	t (mm)	R (mm)
WNMT 14	6,6	0,85	3,5

t = Materiale residuo ap = Profondità massima di passata
t = Residual Material ap = Maximum cutting depth

S 1503.6LW .. 06	S 1503.8W .. 06	S 1503.9W .. 06	LNMT 060312 .X52
<p>NEW</p> <p>Ø 16-35</p> <p>$\gamma_p +14^\circ$ $\gamma_f -13^\circ/-10^\circ$ $\gamma_o +1^\circ/+3^\circ$</p>	<p>NEW</p> <p>Ø 40-50</p> <p>$\gamma_p +14^\circ$ $\gamma_f -10^\circ/-9,5^\circ$ $\gamma_o +3^\circ$</p> <p>ISO 6462 ...</p> <p>A B C-D</p>	<p>NEW</p> <p>Ø 16-32</p> <p>$\gamma_p +14^\circ$ $\gamma_f -13^\circ/-10^\circ$ $\gamma_o +1^\circ/+3^\circ$</p>	<p>NEW</p>
			<p>INSERTI - INSERTS PAG. 451</p>

ART.	(mm)										kg	Nm	ISO 6462				
	ØD	M	Ød	ØD1	H	L	h	β	Z	CH							
S 1503.6LW-016-02-06	16	-	16	-	100	30	1	3,5°	2	-	0,13	1,1+1,3	-	0603	122555PK	5608	-
S 1503.6LW-018-02-06	18	-	16	-	100	30	1	2,7°	2	-	0,14	1,1+1,3	-	0603	122555PK	5608	VBSF08L
S 1503.6LW-020-03-06	20	-	20	-	130	50	1	2,3°	3	-	0,26	1,1+1,3	-	0603	122555PK	5608	VBSF10L
S 1503.6LW-020-04-06	20	-	20	-	130	50	1	2,3°	4	-	0,26	1,1+1,3	-	0603	122555PK	5608	VBSF10L
S 1503.6LW-022-03-06	22	-	20	-	130	50	1	1,9°	3	-	0,27	1,1+1,3	-	0603	122555PK	5608	-
S 1503.6LW-022-04-06	22	-	20	-	130	50	1	1,9°	4	-	0,28	1,1+1,3	-	0603	122555PK	5608	-
S 1503.6LW-025-04-06	25	-	25	-	140	60	1	1,6°	4	-	0,46	1,1+1,3	-	0603	122555PK	5608	-
S 1503.6LW-025-05-06	25	-	25	-	140	60	1	1,6°	5	-	0,45	1,1+1,3	-	0603	122555PK	5608	-
S 1503.6LW-028-04-06	28	-	25	-	140	60	1	1,3°	4	-	0,48	1,1+1,3	-	0603	122555PK	5608	-
S 1503.6LW-028-05-06	28	-	25	-	140	60	1	1,3°	5	-	0,48	1,1+1,3	-	0603	122555PK	5608	-
S 1503.6LW-030-04-06	30	-	32	-	150	70	1	1,2°	4	-	0,80	1,1+1,3	-	0603	122555PK	5608	-
S 1503.6LW-030-05-06	30	-	32	-	150	70	1	1,2°	5	-	0,80	1,1+1,3	-	0603	122555PK	5608	-
S 1503.6LW-032-05-06	32	-	32	-	150	70	1	1,1°	5	-	0,81	1,1+1,3	-	0603	122555PK	5608	-
S 1503.6LW-032-06-06	32	-	32	-	150	70	1	1,1°	6	-	0,81	1,1+1,3	-	0603	122555PK	5608	-
S 1503.6LW-035-05-06	35	-	32	-	150	35	1	1,0°	5	-	0,88	1,1+1,3	-	0603	122555PK	5608	-
S 1503.6LW-035-06-06	35	-	32	-	150	35	1	1,0°	6	-	0,88	1,1+1,3	-	0603	122555PK	5608	-
S 1503.8W-040-06-06	40	-	16	35	50	-	1	0,8°	6	-	0,21	1,1+1,3	A	0603	122555PK	5608	VBSF08L
S 1503.8W-040-08-06	40	-	16	35	50	-	1	0,8°	8	-	0,20	1,1+1,3	A	0603	122555PK	5608	VBSF10L
S 1503.8W-050-07-06	50	-	22	48	50	-	1	0,6°	7	-	0,46	1,1+1,3	A	0603	122555PK	5608	VBSF10L
S 1503.8W-050-09-06	50	-	22	48	50	-	1	0,6°	9	-	0,45	1,1+1,3	A	0603	122555PK	5608	-
S 1503.9W-016-02-06	16	8	8,5	13	42	25	1	3,5°	2	10	0,03	1,1+1,3	-	0603	122555PK	5608	-
S 1503.9W-018-02-06	18	8	8,5	13	42	25	1	2,7°	2	10	0,03	1,1+1,3	-	0603	122555PK	5608	-
S 1503.9W-020-03-06	20	10	10,5	17,8	49	30	1	2,3°	3	15	0,06	1,1+1,3	-	0603	122555PK	5608	-
S 1503.9W-020-04-06	20	10	10,5	17,8	49	30	1	2,3°	4	15	0,05	1,1+1,3	-	0603	122555PK	5608	-
S 1503.9W-022-03-06	22	10	10,5	18	49	30	1	1,9°	3	15	0,06	1,1+1,3	-	0603	122555PK	5608	-
S 1503.9W-022-04-06	22	10	10,5	18	49	30	1	1,9°	4	15	0,06	1,1+1,3	-	0603	122555PK	5608	-
S 1503.9W-025-04-06	25	12	12,5	21	57	35	1	1,6°	4	17	0,10	1,1+1,3	-	0603	122555PK	5608	-
S 1503.9W-025-05-06	25	12	12,5	21	57	35	1	1,6°	5	17	0,09	1,1+1,3	-	0603	122555PK	5608	-
S 1503.9W-028-04-06	28	12	12,5	21	57	35	1	1,3°	4	17	0,11	1,1+1,3	-	0603	122555PK	5608	-
S 1503.9W-028-05-06	28	12	12,5	21	57	35	1	1,3°	5	17	0,10	1,1+1,3	-	0603	122555PK	5608	-
S 1503.9W-030-04-06	30	16	17	27	64	40	1	1,2°	4	24	0,20	1,1+1,3	-	0603	122555PK	5608	-
S 1503.9W-030-05-06	30	16	17	27	64	40	1	1,2°	5	24	0,19	1,1+1,3	-	0603	122555PK	5608	-
S 1503.9W-032-05-06	32	16	17	29	64	40	1	1,1°	5	24	0,21	1,1+1,3	-	0603	122555PK	5608	-
S 1503.9W-032-06-06	32	16	17	29	64	40	1	1,1°	6	24	0,21	1,1+1,3	-	0603	122555PK	5608	-



W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE
L = LUNGA , STELO CILINDRICO - LONG , CYLINDRICAL SHANK - LANG , ZYLINDERSCHAFT - LONGUE , QUEUE CYLINDRIQUE

SCELTA VELOCE - QUICK PICK										HT		HW	HC																	
										CERMET		NON RIV. CEMENTED CARBIDE GRADES	RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS																	
COD.			P		M		K		N		S		H																	
			F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R	F	M	R				
LNMT	060312	.X52	●	●	●	●	●	●	○			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY												○									○									
SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY												●									○									

MATERIALI - MATERIALS Pag. 1063		VDI 3323 GR.	HB Rm ¹⁾ HRC ²⁾	fz0 mm	fz mm	Vc m/min Pag. 440						
						T5120	F4130					
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300	0,5-2	0,1-0,15	250	240					
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350	0,5-2	0,1-0,15	250	220					
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	0,3-1,5	0,1-0,15	230	200					
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	0,3-1,5	0,1-0,15	180	180					
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	0,3-1,5	0,1-0,15		170					
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	0,5-1,8	0,1-0,2	250	190					
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	0,5-1,8	0,1-0,2	220	170					
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	0,5-1,8	0,1-0,2	200	130					
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130									
	RAME E SUE LEGHE - COPPER	26-28	90-110									
	NON METALLICI - PLASTICS	29-30	/									
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320	0,3-0,7	0,03-0,05							
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾	0,1-0,3	0,06-0,08							
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾	0,05-0,3	0,05-0,08		100					



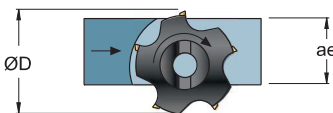
- SE LA SPORGENZA DELLA FRESA É >3xD RIDURRE I PARAMETRI DI LAVORO: Vc, fz, ap DEL 30%
- IF THE PROTRUSION OF THE CUTTER IS >3xD, REDUCE CUTTING PARAMETERS: Vc, fz, ap BY 30%

$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Kae = \text{mm}$$

$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$

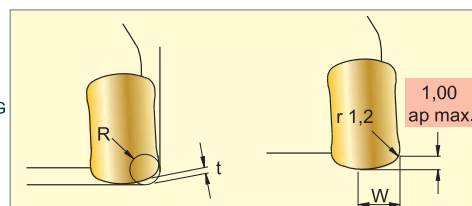


ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%	0,02 2%
Kae	1	1,1	1,2	1,3	1,5

ae/D	0,5-1 50-100%	0,2 20%	0,1 10%	0,05 5%
Vc (min)-----Vc(max)				
Vc Pag. 440				

- F = FINITURA, LAV. LEGGERA - FINISHING, LIGHT MACHINING
- M = LAV. MEDIA, GENERICA - MEDIUM MACHINING, GENERIC
- R = SGROSSATURA, LAV. PESANTE - ROUGHING, HEAVY MACHINING

- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
- fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
- fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR



t = Materiale residuo / Residual Material
ap = Profondità massima di passata / Maximum cutting depth

Inserto Insert	W (mm)	t (mm)	R (mm)
LNMT 06	3,2	0,3	1,65

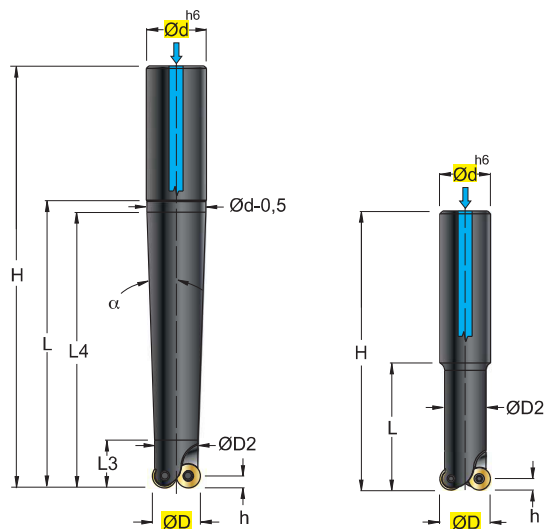
S 806W ..

Ø 12,5-20

FORM A

FORM B

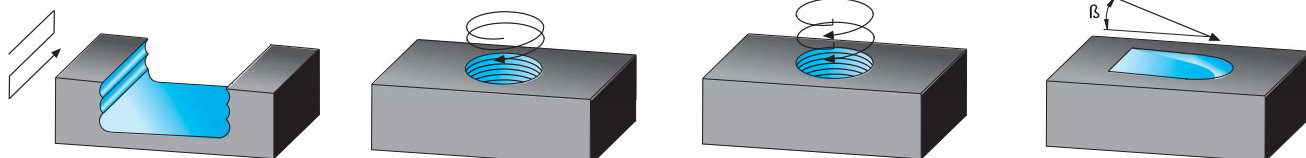
γ_p 0°
 γ_f 0°



INSERTI - INSERTS
PAG. 452

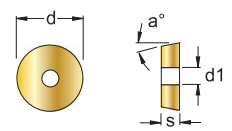
(mm)

ART.	FORM	ØD	Ød	ØD2	H	h	L	L3	L4	α	β	Z	kg	Nm			
S 806W 12,5 40 02.71 New	A	12,5	16	10	88	3,5	40	20	35	10,4°	22,7°	2	0,102	1,0+1,2	07T1	12253	5607
S 806W 12,5 60 02.71 New	A	12,5	16	10	108	3,5	60	20	55	4,3°	22,7°	2	0,120	1,0+1,2			
S 806W 12,5 80 02.71 New	A	12,5	16	10	128	3,5	80	20	75	2,9°	22,7°	2	0,139	1,0+1,2			
S 806W 15 40 02.72	B	15	16	13	88	3,5	40	-	-	-	20°	2	0,106	1,0+1,2	0702	12253	5607
S 806W 15 60 02.72	A	15	16	13	108	3,5	60	20	55	2,0°	20°	2	0,135	1,0+1,2			
S 806W 15 80 02.72	A	15	20	13	130	3,5	80	20	75	3,4°	20°	2	0,232	1,0+1,2			
S 806W 15 100 02.72	A	15	20	13	150	3,5	100	20	95	2,5°	20°	2	0,263	1,0+1,2			
S 806W 15 120 02.72	A	15	25	13	176	3,5	120	20	115	3,5°	20°	2	0,447	1,0+1,2			
S 806W 16 40 02.72	B	16	16	13	88	3,5	40	-	-	-	16,8°	2	0,107	1,0+1,2	0702	12253	5607
S 806W 16 60 02.72	A	16	16	13	108	3,5	60	20	55	2,0°	16,8°	2	0,135	1,0+1,2			
S 806W 16 80 02.72	A	16	20	13	130	3,5	80	20	75	3,4°	16,8°	2	0,232	1,0+1,2			
S 806W 16 100 02.72	A	16	20	13	150	3,5	100	20	95	2,5°	16,8°	2	0,263	1,0+1,2			
S 806W 16 120 02.72	A	16	25	13	176	3,5	120	20	115	3,5°	16,8°	2	0,449	1,0+1,2			
S 806W 20 40 02.10	A	20	20	18	90	5	40	20	35	2,9°	39°	2	0,181	3,0+3,5	1003	123507	5615
S 806W 20 60 02.10	A	20	20	18	110	5	60	20	55	1,3°	39°	2	0,222	3,0+3,5			
S 806W 20 80 02.10	A	20	25	18	136	5	80	20	75	3,4°	39°	2	0,396	3,0+3,5			
S 806W 20 100 02.10	A	20	25	18	156	5	100	20	95	2,5°	39°	2	0,450	3,0+3,5			
S 806W 20 120 02.10	A	20	25	18	176	5	120	20	115	2,0°	39°	2	0,503	3,0+3,5			



W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE

SCelta VELOCE - QUICK PICK

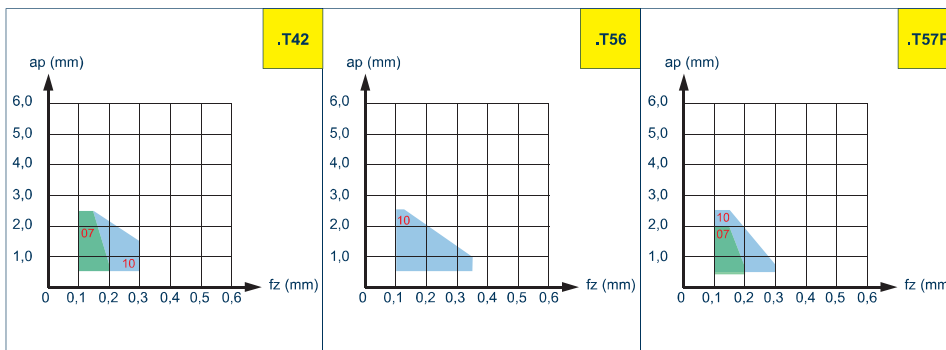


COD.	P		M		K		N		S		H		HT	HW	HC		l	d	s	d1	r	a°
	F	M	HSC	F	M	HSC	F	M	HSC	F	M	HSC			N3620	F5105						
RDHX 07T1 MOT .T42	●	●															-	7,0	1,98	2,8	-	15
RDHX 0702 MOT .T42	●	●															-	7,0	2,38	2,8	-	15
RDHX 1003 MOT .T42	●	●															-	10,0	3,18	3,9	-	15
RDET 1003 MOSN .T56																	-	10,0	3,18	4,4	-	15
RDEW 1003 MOSN .T56																	-	10,0	3,18	4,4	-	15
RDHT 07T1 MO .T57P																	-	7,0	1,98	2,8	-	15
RDHT 0702 MO .T57P																	-	7,0	2,38	2,8	-	15
RDHT 1003 MO .T57P																	-	10,0	3,18	3,9	-	15

CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY

SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY

MATERIALI - MATERIALS Pag. 1063	VDI 3323 GR.	HB Rm ¹ HRC ²	Km	F5105 Vc (m/min)			N3620 Vc (m/min)			F4325 Vc (m/min)			F4330 Vc (m/min)		
				F	R	HSC	F	R	HSC	F	R	HSC	F	R	HSC
P ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300	1	260	220	310							250	210	300
P ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350	0,9	280	270	300							265	250	280
P ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	0,8	230	210	250							200	180	225
P INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	1	200	150	180							130	110	150
M INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	1							120	100	160	140	110	180
K GHISA GRIGIA - GREY CAST IRON	15-16	180-260	1	300	260	330									
K GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	1,1	240	230	280									
K GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	1,2	260	230	280									
N ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	1,3				430	400	450						
N RAME E SUE LEGHE - COPPER	26-28	90-110	1,2				280	250	335						
N NON METALLICI - PLASTICS	29-30	/	1,3				380	350	400						
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320	0,9							50	25	70			
S TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾	0,8							80	40	95			
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾	0,8	120	80	140									



$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

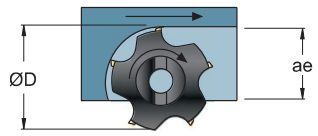
$$fz = fz0 \cdot Kae \cdot Km = \text{mm}$$

$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$

ae/D	0,5-1	0,2	0,1	0,05	0,02
Kae	50-100%	20%	10%	5%	2%
Kae	1	1,2	1,5	1,8	2

- F = FINITURA, LAV. LEGGERA - FINISHING, LIGHT MACHINING
- R = SGROSSATURA, LAV. PESANTE - ROUGHING, HEAVY MACHINING
- HSC = LAVORAZIONE ALTA VELOCITÀ - HIGH SPEED CUTTING
- Km = FATTORE DI AVANZAMENTO PER MATERIALE - FEED FACTOR FOR MATERIAL
- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REV.
- fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
- fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR

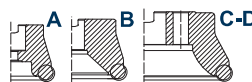


S 808W ..

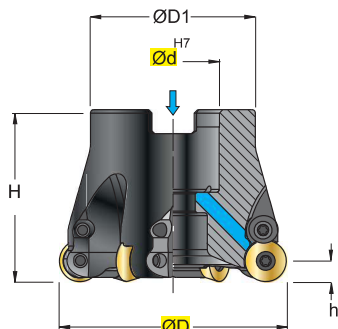
Ø 50-160

γ_p 0°
 γ_f 0°

ISO 6462 ...

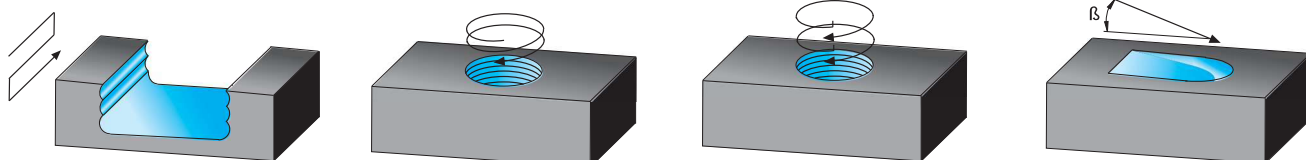


INSERTI - INSERTS
PAG. 452



ART.	(mm)							kg	Nm	ISO 6462			*		
	ØD	Ød	ØD1	H	h	β	Z								
S 808W 50 50 05.12	50	22	40	50	6	6,1°	5	0,308	3,0+3,5	A	12T3	123509P	2435	5615P	VBSF10
S 808W 52 50 05.12	52	22	40	50	6	5,7°	5	0,337	3,0+3,5	A					
S 808W 63 50 06.12	63	27	48	50	6	4,3°	6	0,477	3,0+3,5	A					
S 808W 66 50 06.12	66	27	48	50	6	4,1°	6	0,524	3,0+3,5	A					
S 808W 80 52 07.12	80	27	60	52	6	3,2°	7	0,889	3,0+3,5	A-B					
S 808W 50 50 04.16	50	22	40	50	8	9,5°	4	0,273	4,0+5,0	A	1604	124510	2445	5620	VBSF10
S 808W 52 50 04.16	52	22	40	50	8	8,8°	4	0,299	4,0+5,0	A					
S 808W 63 50 05.16	63	27	48	50	8	7,1°	5	0,443	4,0+5,0	A					
S 808W 66 50 05.16	66	27	48	50	8	6,0°	5	0,493	4,0+5,0	A					
S 808W 80 52 06.16	80	27	60	52	8	4,5°	6	0,833	4,0+5,0	A-B					
S 808W 100 52 07.16	100	32	75	52	8	3,7°	7	1,276	4,0+5,0	A-B	1604	124510	2445	5620	VBSF16
S 808W 125 63 08.16	125	40	90	63	8	2,8°	8	2,664	4,0+5,0	A-B	1604	124510	2445	5620	VBSF20
S 808 160 63 09.16	160	40	120	63	8	1,8°	9	4,183	4,0+5,0	C	1604	124510	2445	5620	-

- * CON INSERTI RDET..T56 / RDEX..T56 / RDHT..T57P NON È POSSIBILE UTILIZZARE LA STAFFA 24..
- * WITH RDET..T56 / RDEX..T56 / RDHT..T57P INSERTS THE CLAMPING SCREW 24.. CANNOT BE USED.
- * MIT RDET..T56 / RDEX..T56 / RDHT..T57P-WENDEPLATTEN IST DIE AUFSPANNSCHRAUBE 24.. NICHT EINSETZBAR.
- * AVEC LES PLAQUETTES RDET..T56 / RDEX..T56 / RDHT..T57P ON NE PEUT PAS UTILISER LA VIS DE BRIDAGE 24..



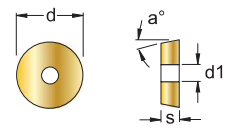
W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE

SCelta VELOCE - QUICK PICK

Tenacità + ↑
Toughness - ↓

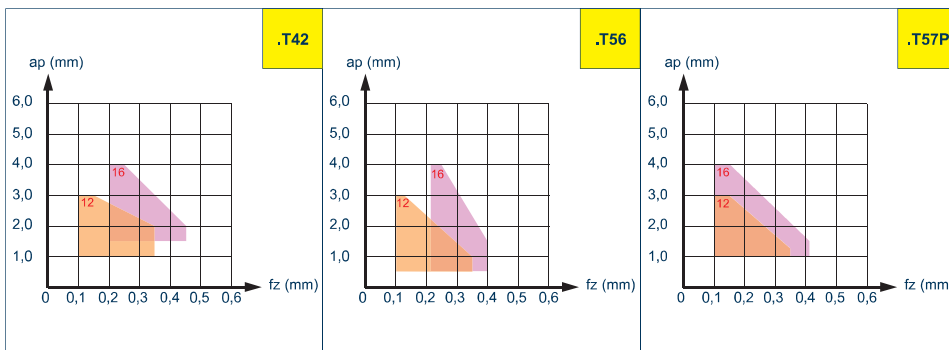


Pag. 424



COD.	P		M		K		N		S		H		HT	HW	HC				l	d	s	d1	r	a°																		
	F	M	HSC	F	M	HSC	F	M	HSC	F	M	HSC			N3620	F5105	F4325	F4330																								
RDHX 12T3 MOT .T42	●	●																																								
RDHX 1604 MOT .T42	●	●																																								
RDET 12T3 MOSN .T56				●	●	●																																				
RDEX 1604 MOSN .T56				●	●	●																																				
RDEW 12T3 MOSN .T56				●	●	●																																				
RDEW 1604 MOSN .T56				●	●	●																																				
RDHT 12T3 MO .T57P									●	●																																
RDHT 1604 MO .T57P									●	●																																
CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY																																										
SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY																																										

MATERIALI - MATERIALS Pag. 1063	VDI 3323 GR.	HB Rm ¹ HRC ²	Km	F5105 Vc (m/min)			N3620 Vc (m/min)			F4325 Vc (m/min)			F4330 Vc (m/min)			F5105 Vc (m/min)												
				F	R	HSC	F	R	HSC	F	R	HSC	F	R	HSC	F	R	HSC										
P ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300	1	260	220	310																						
P ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350	0,9	280	270	300																						
P ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	0,8	230	210	250																						
P INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	1	200	150	180																						
M INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	1										120	100	160	140	110	180										
K GHISA GRIGIA - GREY CAST IRON	15-16	180-260	1	300	260	330																						
K GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	1,1	240	230	280																						
K GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	1,2	260	230	280																						
N ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	1,3				430	400	450																			
N RAME E SUE LEGHE - COPPER	26-28	90-110	1,2				280	250	335																			
N NON METALLICI - PLASTICS	29-30	/	1,3				380	350	400																			
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320	0,9										50	25	70													
S TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾	0,8										80	40	95													
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾	0,8	120	80	140																						



$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

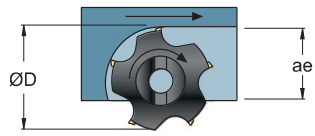
$$fz = fz0 \cdot Kae \cdot Km = \text{mm}$$

$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$

ae/D	0,5-1	0,2	0,1	0,05	0,02
Kae	50-100%	20%	10%	5%	2%

F = FINITURA, LAV. LEGGERA - FINISHING, LIGHT MACHINING
R = SGROSSATURA, LAV. PESANTE - ROUGHING, HEAVY MACHINING
HSC = LAVORAZIONE ALTA VELOCITÀ - HIGH SPEED CUTTING
Km = FATTORE DI AVANZAMENTO PER MATERIALE - FEED FACTOR FOR MATERIAL
Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REV.
fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR



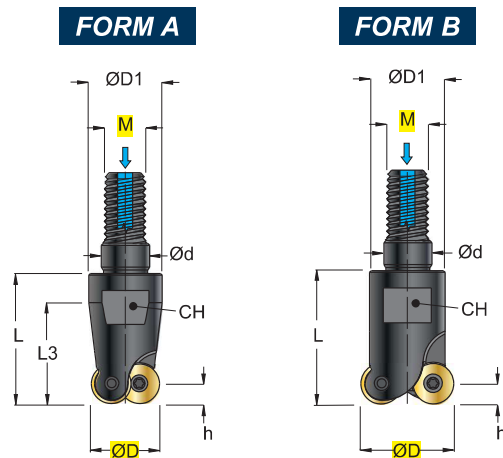
S 809W ..

Ø 10-42

IT * CON INSERTI RDET.. T56 / RDEX.. T56 / RDHT.. T57P NON È POSSIBILE UTILIZZARE LA STAFFA 24..
UK * WITH RDET.. T56 / RDEX.. T56 / RDHT.. T57P INSERTS THE CLAMPING SCREW 24.. CANNOT BE USED.D..
DE * MIT RDET.. T56 / RDEX.. T56 / RDHT.. T57P-WENDEPLATTEN IST DIE AUFSPANNSCHRAUBE 24.. NICHT EINSETZBAR.
FR * AVEC LES PLAQUETTES RDET.. T56 / RDEX.. T56 / RDHT.. T57P ON NE PEUT PAS UTILISER LA VIS DE BRIDAGE 24..

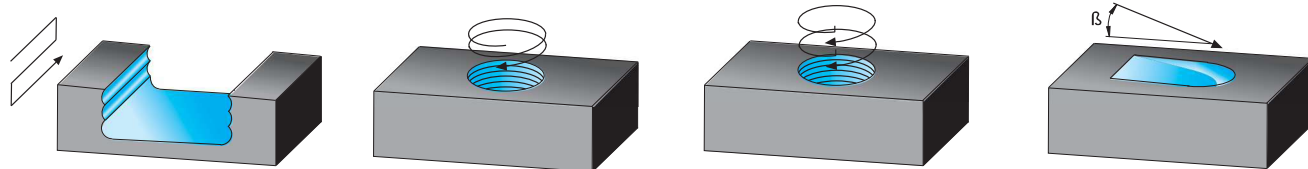
γ_p 0°
 γ_f 0°

RDHX.. .T42		NEW
RDET.. .T56		NEW
RDEX.. .T56		NEW
RDEW.. .T56		NEW
RDHT.. .T57P		NEW



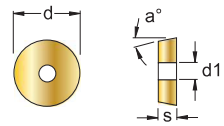
INSERTI - INSERTS
PAG. 452

ART.	FORM	ØD	M	Ød	ØD1	h	L	L3	β	Z	CH	kg	Nm				
S 809W 10 23 02.05	A	10	8	8,5	13	2,5	23	17	28,9°	2	10	0,019	0,4+0,5	0501	121837	-	5606
S 809W 12 23 03.05	A	12	8	8,5	13	2,5	23	17	13,8°	3	10	0,020	0,4+0,5				
S 809W 15 23 04.05	B	15	8	8,5	13	2,5	23	-	8,6°	4	10	0,023	0,4+0,5				
S 809W 16 23 04.05	B	16	8	8,5	13	2,5	23	-	7,7°	4	10	0,025	0,4+0,5				
S 809W 20 30 05.05	B	20	10	10,5	18	2,5	30	-	6,9°	5	15	0,059	0,4+0,5				
S 809W 25 35 06.05	B	25	12	12,5	21	2,5	35	-	4,0°	6	17	0,099	0,4+0,5				
S 809W 12,5 23 02.71 New	A	12,5	8	8,5	13	3,5	23	17	22,7°	2	10	0,019	1,0+1,2	07T1	12253	-	5607
S 809W 15 23 02.72	B	15	8	8,5	13	3,5	23	-	20,0°	2	10	0,020	1,0+1,2	0702	12253	-	5607
S 809W 15 23 03.72	B	15	8	8,5	13	3,5	23	-	20,0°	3	10	0,021	1,0+1,2				
S 809W 16 23 02.72	B	16	8	8,5	13	3,5	23	-	16,8°	2	10	0,022	1,0+1,2				
S 809W 16 23 03.72	B	16	8	8,5	13	3,5	23	-	16,8°	3	10	0,022	1,0+1,2				
S 809W 20 30 04.72	B	20	10	10,5	18	3,5	30	-	11,0°	4	15	0,054	1,0+1,2				
S 809W 25 35 05.72	B	25	12	12,5	21	3,5	35	-	7,3°	5	17	0,093	1,0+1,2				
S 809W 30 43 05.72	A	30	16	17	29	3,5	43	43	5,4°	5	24	0,208	1,0+1,2				
S 809W 32 43 06.72	B	32	16	17	29	3,5	43	-	4,9°	6	24	0,219	1,0+1,2				
S 809W 35 43 06.72	B	35	16	17	29	3,5	43	-	4,3°	6	24	0,233	1,0+1,2				
S 809W 20 30 02.10	B	20	10	10,5	18	5	30	-	39,0°	2	15	0,048	3,0+3,5				
S 809W 25 35 03.10	B	25	12	12,5	21	5	35	-	14,3°	3	17	0,083	3,0+3,5				
S 809W 30 43 04.10	A	30	16	17	29	5	43	43	9,3°	4	24	0,196	3,0+3,5				
S 809W 32 43 04.10	A	32	16	17	29	5	43	43	8,6°	4	24	0,200	3,0+3,5				
S 809W 35 43 04.10	B	35	16	17	29	5	43	-	7,3°	4	24	0,215	3,0+3,5				
S 809W 35 43 05.10	B	35	16	17	29	5	43	-	7,3°	5	24	0,216	3,0+3,5				
S 809W 40 43 05.10	B	40	16	17	29	5	43	-	5,8°	5	24	0,232	3,0+3,5				
S 809W 42 43 05.10	B	42	16	17	29	5	43	-	5,4°	5	24	0,243	3,0+3,5				
S 809W 42 43 06.10	B	42	16	17	29	5	43	-	5,4°	6	24	0,245	3,0+3,5				
S 809W 25 35 02.12	B	25	12	12,5	21	6	35	-	26,0°	2	17	0,076	3,0+3,5	12T3	123509P	2435	5615
S 809W 32 43 03.12	A	32	16	17	29	6	43	43	14,3°	3	24	0,178	3,0+3,5				
S 809W 35 43 03.12	B	35	16	17	29	6	43	-	11,9°	3	24	0,194	3,0+3,5				
S 809W 40 43 04.12	B	40	16	17	29	6	43	-	9,3°	4	24	0,212	3,0+3,5				
S 809W 42 43 04.12	B	42	16	17	29	6	43	-	8,3°	4	24	0,224	3,0+3,5				
S 809W 32 43 02.16	A	32	16	17	29	8	43	43	29,6°	2	24	0,169	4,0+5,0	1604	124510	2445	5620
S 809W 40 43 02.16	B	40	16	17	29	8	43	-	15°	2	24	0,226	4,0+5,0				



W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE

SCelta VELOCE - QUICK PICK

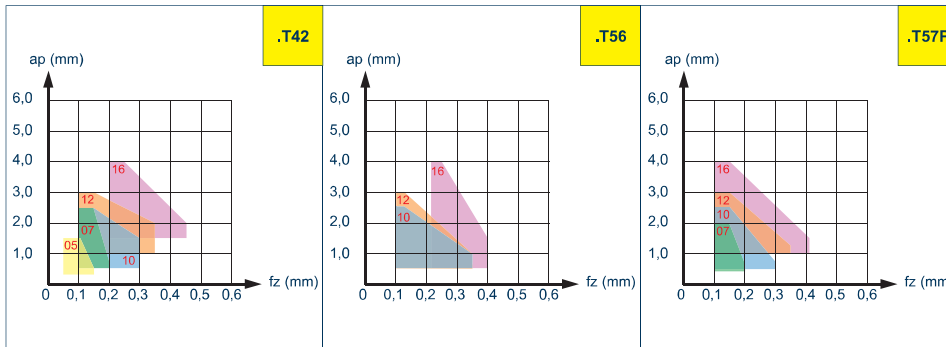


COD.	P		M		K		N		S		H		HT	HW	HC		l	d	s	d1	r	a°
	F	M	F	M	F	M	F	M	F	M	F	M			N3620	F5105						
RDHX 0501 MOE .T42	●	●			●	●											-	5,0	1,51	2,2	-	15
RDHX 07T1 MOT .T42	●	●			●	●											-	7,0	1,98	2,8	-	15
RDHX 0702 MOT .T42	●	●			●	●											-	7,0	2,38	2,8	-	15
RDHX 1003 MOT .T42	●	●			●	●											-	10,0	3,18	3,9	-	15
RDHX 12T3 MOT .T42	●	●			●	●											-	12,0	3,97	3,9	-	15
RDHX 1604 MOT .T42	●	●			●	●											-	16,0	4,76	5,2	-	15
RDET 1003 MOSN .T56		●	●	●						●	●						-	10,0	3,18	4,4	-	15
RDET 12T3 MOSN .T56		●	●	●						●	●						-	12,0	3,97	4,4	-	15
RDEX 1604 MOSN .T56		●	●	●						●	●						-	16,0	4,76	5,5	-	15
RDEW 1003 MOSN .T56		●	●	●													-	10,0	3,18	4,4	-	15
RDEW 12T3 MOSN .T56		●	●	●													-	12,0	3,97	4,4	-	15
RDEW 1604 MOSN .T56		●	●	●													-	16,0	4,76	5,5	-	15
RDHT 07T1 MO .T57P								●	●				■	■			-	7,0	1,98	2,8	-	15
RDHT 0702 MO .T57P								●	●				■	■			-	7,0	2,38	2,8	-	15
RDHT 1003 MO .T57P								●	●				■	■			-	10,0	3,18	3,9	-	15
RDHT 12T3 MO .T57P								●	●				■	■			-	12,0	3,97	3,9	-	15
RDHT 1604 MO .T57P								●	●				■	■			-	16,0	4,76	5,2	-	15

CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY

SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY

MATERIALI - MATERIALS Pag. 1063	VDI 3323 GR.	HB Rm ¹ HRC ²	Km	F5105 Vc (m/min)			N3620 Vc (m/min)			F4325 Vc (m/min)			F4330 Vc (m/min)		
				F	R	HSC	F	R	HSC	F	R	HSC	F	R	HSC
P ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300	1	260	220	310							250	210	300
P ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350	0,9	280	270	300							265	250	280
P ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	0,8	230	210	250							200	180	225
P INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	1	200	150	180							130	110	150
M INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	1							120	100	160	140	110	180
K GHISA GRIGIA - GREY CAST IRON	15-16	180-260	1	300	260	330									
K GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	1,1	240	230	280									
K GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	1,2	260	230	280									
N ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	1,3				430	400	450						
N RAME E SUE LEGHE - COPPER	26-28	90-110	1,2				280	250	335						
N NON METALLICI - PLASTICS	29-30	/	1,3				380	350	400						
S LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320	0,9							50	25	70			
S TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾	0,8							80	40	95			
H ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾	0,8	120	80	140									



$$n = \frac{Vc \cdot 1000}{\varnothing D \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Kae \cdot Km = \text{mm}$$

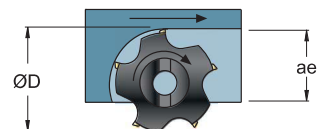
$$fn = fz \cdot z = \text{mm}$$

$$Vf = fz \cdot z \cdot n = \text{mm/min}$$

ae/D	0,5-1	0,2	0,1	0,05	0,02
Kae	50-100%	20%	10%	5%	2%
Kae	1	1,2	1,5	1,8	2

- F = FINITURA, LAV. LEGGERA - FINISHING, LIGHT MACHINING
- R = SGROSSATURA, LAV. PESANTE - ROUGHING, HEAVY MACHINING
- HSC = LAVORAZIONE ALTA VELOCITÀ - HIGH SPEED CUTTING
- Km = FATTORE DI AVANZAMENTO PER MATERIALE - FEED FACTOR FOR MATERIAL
- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED

- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REV.
- fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
- fn = mm AVANZAMENTO AL GIRO - FEED / REVOLUTION
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Kae = FATTORE DI CORREZIONE - CORRECTION FACTOR



■ DISPONIBILI - IN STOCK - LIEFERBAR - DISPONIBLES / ■ NEW
●● APPLICAZIONE CONSIGLIATA - RECOMMENDED APPLICATION
EMPFÖHLENER EINSATZ - APPLICATION CONSEILLÉE

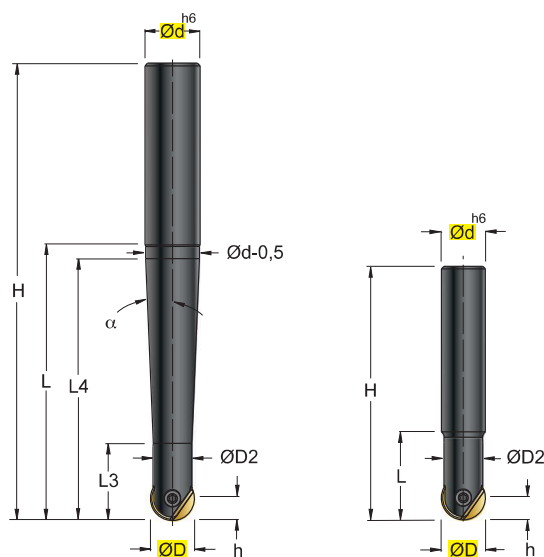
□ A RICHIESTA - ON REQUEST - AUF ANFRAGE - SUR DEMANDE / □ NEW
○ ○ APPLICAZIONE POSSIBILE - POSSIBLE APPLICATION
MÖGLICHE ANWENDUNG - APPLICATION POSSIBLE

S 926 ..

FORM A

FORM B

Ø 8-32



INSERTI - INSERTS
 PAG. 452

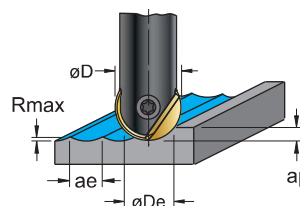
ART.	FORM	ØD	Ød	ØD2	H	h	L	L3	L4	α	N	Z	kg	Nm	Ø	12RA	54
S 926 08 35 12	A	8	12	6,5	92	4	35	19	35	9,8°	1	2	0,062	0,8+1,0	08	12RA08	5407
S 926 08 53 12	A	8	12	6,5	110	4	53	19	48	5,0°	1	2	0,072	0,8+1,0			
S 926 08 75 12	A	8	12	6,5	132	4	75	19	70	2,8°	1	2	0,083	0,8+1,0			
S 926 10 35 12	A	10	12	8	92	5	35	22	35	8,9°	1	2	0,065	1,8+2,0	10	12RA10	5408
S 926 10 53 12	A	10	12	8	110	5	53	22	48	3,9°	1	2	0,076	1,8+2,0			
S 926 10 75 12	A	10	12	8	132	5	75	22	70	2,1°	1	2	0,088	1,8+2,0			
S 926 12 26 12	B	12	12	10	83	6	26	-	-	-	1	2	0,062	2,8+3,0	12	12RA12	5410
S 926 12 53 12	B	12	12	10	110	6	53	-	-	-	1	2	0,078	2,8+3,0			
S 926 12 85 16	A	12	16	10	145	6	85	22	80	2,8°	1	2	0,167	2,8+3,0			
S 926 16 32 16	B	16	16	14	92	8	32	-	-	-	1	2	0,123	4,5+5,5	16	12RA16	5415
S 926 16 63 16	B	16	16	14	123	8	63	-	-	-	1	2	0,159	4,5+5,5			
S 926 16 100 20	A	16	20	14	166	8	100	28	95	2,4°	1	2	0,312	4,5+5,5			
S 926 20 38 20	B	20	20	17	104	10	38	-	-	-	1	2	0,211	5,5+7,0	20	12RA20	5420
S 926 20 75 20	B	20	20	17	141	10	75	-	-	-	1	2	0,277	5,5+7,0			
S 926 20 115 25	A	20	25	17	191	10	115	34	110	2,8°	1	2	0,553	5,5+7,0			
S 926 25 45 25	B	25	25	21	121	12,5	45	-	-	-	1	2	0,379	10+13	25	12RA25	5430
S 926 25 90 25	B	25	25	21	166	12,5	90	-	-	-	1	2	0,501	10+13			
S 926 25 135 32	A	25	32	21	215	12,5	135	41	130	2,9°	1	2	0,962	10+13			
S 926 32 53 32	B	32	32	26	133	16	53	-	-	-	1	2	0,660	24+30	32	12RA32	5440
S 926 32 106 32	B	32	32	26	186	16	106	-	-	-	1	2	0,879	24+30			
S 926 32 160 32	A	32	32	26	240	16	160	49	155	1,5°	1	2	1,207	24+30			

$$n = \frac{Vc \cdot 1000}{\text{ØDe} \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Km = \text{mm}$$

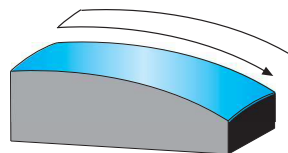
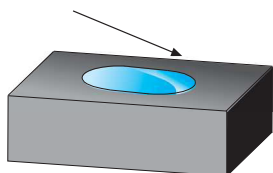
$$Vf = fz0 \cdot Km \cdot z \cdot n = \text{mm/min}$$

- F = FINITURA, LAV. LEGGERA - FINISHING, LIGHT MACHINING
- HSC = LAVORAZIONE ALTA VELOCITÀ - HIGH SPEED CUTTING
- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
- fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Km = FATTORE DI AVANZAMENTO PER MATERIALE - FEED FACTOR FOR MATERIAL
- De = mm DIAMETRO EFFETTIVO - EFFECTIVE DIAMETER
- Rmax = mm RUGOSITÀ TEORICA MASSIMA - THEORICAL MAXIMUM ROUGHNESS



$$\text{ØDe} = 2 \cdot \sqrt{D \cdot ap - ap^2} = \text{mm}$$

$$Rmax = 0,5 \cdot (\text{ØD} - \sqrt{\text{ØD}^2 - ae^2}) = \text{mm}$$



N = NUMERO D'INSERTI / INSERT NUMBER / WENDEPLATTENANZAHL / NOMBRE DES PLAQUETTES
 Z = NUMERO TAGLIENTI / NUMBER OF CUTTING EDGES / SCHNEIDENANZAHL / NOMBRE DU COUPANTS

SCelta VELOCE - QUICK PICK

Tenacità + ↑
Toughness - ↓



Pag. 424

COD.	P		M		K		N		S		H		HT CERMET	HW NON RIV. CEMENTED CARBIDE GRADES	HC RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS		RA			RAET			
	F	HSC	F	HSC	F	HSC	F	HSC	F	HSC	F	HSC			T500	F7115	d	s	d1	H	r	a°	
	RA 08.04 .K32W	●	●	○	○	●	●	○	○	○	○	○			○						8,0	2,4	2,5
RA 10.04 .K32W	●	●	○	○	●	●	○	○	○	○	○	○						10,0	2,6	3,0	8,5	5	-
RA 12.04 .K32W	●	●	○	○	●	●	○	○	○	○	○	○						12,0	3,0	3,5	10	6	-
RA 16.04 .K32W	●	●	○	○	●	●	○	○	○	○	○	○						16,0	4,0	4,0	12	8	-
RA 20.04 .K32W	●	●	○	○	●	●	○	○	○	○	○	○						20,0	5,0	5,0	15	10	-
RA 25.04 .K32W	●	●	○	○	●	●	○	○	○	○	○	○						25,0	6,0	6,0	18,5	12,5	-
RA 32.04 .K32W	●	●	○	○	●	●	○	○	○	○	○	○						32,0	7,0	8,0	23,5	16	-
RAET 100008 .P42	●	●	○	○	●	●	○	○	○	○	●	●						10,0	2,6	3,0	8,5	0,8	-
RAET 120010 .P42	●	●	○	○	●	●	○	○	○	○	●	●						12,0	3,0	3,5	10	1,0	-
RAET 120020 .P42	●	●	○	○	●	●	○	○	○	○	●	●						12,0	3,0	3,5	10	2,0	-
RAET 160013 .P42	●	●	○	○	●	●	○	○	○	○	●	●						16,0	4,0	4,0	12	1,3	-
RAET 160030 .P42	●	●	○	○	●	●	○	○	○	○	●	●						16,0	4,0	4,0	12	3,0	-
RAET 200016 .P42	●	●	○	○	●	●	○	○	○	○	●	●						20,0	5,0	5,0	15	1,6	-
RAET 200040 .P42	●	●	○	○	●	●	○	○	○	○	●	●						20,0	5,0	5,0	15	4,0	-
RAET 250020 .P42	●	●	○	○	●	●	○	○	○	○	●	●						25,0	6,0	6,0	18,5	2,0	-

CON ADDUZIONE LUBROREFRIGERANTE - WITH COOLANT SUPPLY

SENZA ADDUZIONE LUBROREFRIGERANTE - WITHOUT COOLANT SUPPLY

TOLLERANZE TOLERANCE RANGE	D
RA..	± 0,01
RAET..	± 0,025



CON GLI INSERTI RAET.. PER OTTENERE UN BLOCCAGGIO OTTIMALE LA MARCATURA DELL' INSERTO DEVE ESSERE ORIENTATA VERSO LA TESTA DELLA VITE

FOR BEST CLAMPING WITH RAET INSERTS, DIRECT THE MARK TOWARDS THE SCREW HEAD

MATERIALI - MATERIALS Pag. 1063		VDI 3323 GR.	HB Rm1) HRC2)	Km	ap		ae		T500 Vc (m/min)		F7115 Vc (m/min)		D fz0 mm			
					F	HSC	F	HSC	F	HSC	F	HSC	D	F	R	HSC
P	ACCIAIO NON LEGATO - NOT ALLOY STEEL	1-5	125-300	1	D/15	0,1-0,3	D/15	D/50	300	400	250	400	8	0,15		0,2
	ACCIAIO POCO LEGATO - LOW ALLOY STEEL	6-9	180-350	1	D/15	0,1-0,3	D/15	D/50	250	350	250	350	10	0,2		0,2
	ACCIAIO ALTO LEGATO - ALLOY STEEL	10-11	200-325	0,8	D/20	0,1-0,3	D/20	D/50	230	350	150	350	12	0,2		0,25
	INOX MARTENS. - STAINLESS STEEL MART	12-13	200-240	0,8	D/20	0,1-0,2	D/20	D/50	210	280	150	280	16	0,25		0,3
M	INOX AUST. DUPLEX - STAINLESS STEEL AUST	14.1-14.2	180-230	0,8	D/20	0,1-0,2	D/20	D/50	190	250	150	250	20	0,25		0,3
K	GHISA GRIGIA - GREY CAST IRON	15-16	180-260	1,2	D/10	0,1-0,3	D/10	D/40	250	340	200	340	25	0,3		0,35
	GHISA SFEROIDALE - SPHEROIDAL GRAPHITE	17-18	160-250	1,2	D/10	0,1-0,3	D/10	D/40	230	310	200	340	32	0,3		0,35
	GHISA MALLEABILE - MALLEABLE CAST IRON	19-20	130-230	1,2	D/10	0,1-0,3	D/10	D/40	270	380	200	380				
N	ALLUMINIO E SUE LEGHE - ALUMINIUM	21-25	60-130	1,4	D/6	0,1-0,5	D/6	D/40	450	650	300	650				
	RAME E SUE LEGHE - COPPER	26-28	90-110	1,4	D/10	0,1-0,5	D/10	D/40	180	350	300	350				
	NON METALLICI - PLASTICS	29-30	/	1,4	D/6	0,1-0,5	D/6	D/40	400		300					
S	LEGHE RESIST. CALORE - HIG. TEMP. ALLOY	31-35	200-320	0,8	D/30	0,1-0,2	D/30	D/50	50	90						
	TITANIO E SUE LEGHE - TITANIUM	36-37	400-1050 ¹⁾	0,8	D/20	0,1-0,2	D/20	D/50	60	100						
H	ACCIAIO TEMPRATO - HARDENED STEEL	38-41	45-60 ²⁾	0,8	D/30	0,1-0,2	D/30	D/50	90	150	100	150				
G	GRAFITE - GRAPHITE	45	/	1,6	D/5	0,1-0,5	D/5	D/40								
R	RESINA PER MODELLI, LEGNO - RESIN, WOOD	43	/	1,5	D/3	0,1-0,5	D/3	D/40								

■ DISPONIBILI - IN STOCK - LIEFERBAR - DISPONIBLES / ■ NEW
●● APPLICAZIONE CONSIGLIATA - RECOMMENDED APPLICATION
EMPFÖHLENER EINSATZ - APPLICATION CONSEILLÉE

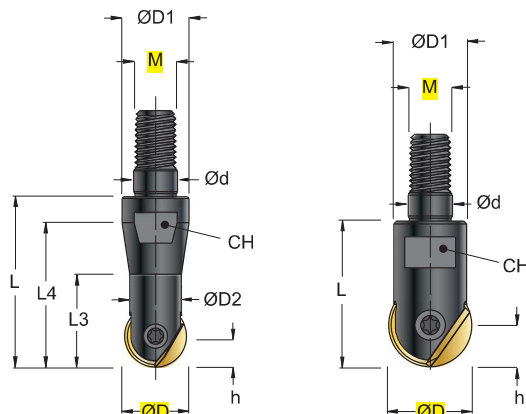
□ A RICHIESTA - ON REQUEST - AUF ANFRAGE - SUR DEMANDE / □ NEW
○ ○ APPLICAZIONE POSSIBILE - POSSIBLE APPLICATION
MÖGLICHE ANWENDUNG - APPLICATION POSSIBLE

S 929 ..

FORM A

FORM B

Ø 10-32



INSERTI - INSERTS
 PAG. 452

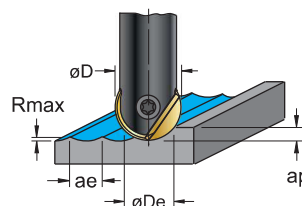
ART.	FORM	(mm)											kg	Nm	ØD	12RA	54	
		ØD	M	Ød	ØD1	ØD2	h	L	L3	L4	N	Z						CH
S 929 10 33 08	A	10	8	8,5	13	8	5	33	18	28	1	2	10	0,022	1,8+2,0	10	12RA10	5408
S 929 12 33 08	A	12	8	8,5	13	10	6	33	18	28	1	2	10	0,026	2,8+3,0	12	12RA12	5410
S 929 16 28 08	B	16	8	8,5	14	14	8	28	-	-	1	2	10	0,029	4,5+5,5	16	12RA16	5415
S 929 20 28 10	B	20	10	10,5	17	17	10	28	-	-	1	2	15	0,042	5,5+7,0	20	12RA20	5420
S 929 25 41 12	B	25	12	12,5	21	21	12,5	41	-	-	1	2	17	0,093	10+13	25	12RA25	5430
S 929 32 49 16	B	32	16	17	26	26	16	49	-	-	1	2	24	0,174	24+30	32	12RA32	5440

$$n = \frac{V_c \cdot 1000}{\text{ØDe} \cdot 3,14} = \text{giri/min (min}^{-1}\text{)}$$

$$fz = fz0 \cdot Km = \text{mm}$$

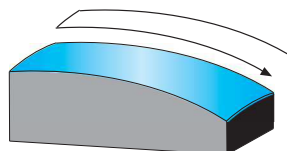
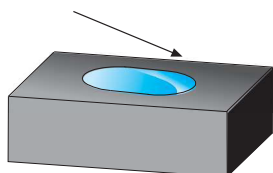
$$Vf = fz0 \cdot Km \cdot z \cdot n = \text{mm/min}$$

- F = FINITURA, LAV. LEGGERA - FINISHING, LIGHT MACHINING
- HSC = LAVORAZIONE ALTA VELOCITÀ - HIGH SPEED CUTTING
- Vc = m/min VELOCITÀ DI TAGLIO - CUTTING SPEED
- n = giri/min (min⁻¹) NUMERO DI GIRI - NUMBER OF REVOLUTIONS
- fz = mm AVANZAMENTO AL DENTE - TOOTH FEED
- Vf = mm/min VELOCITÀ DI AVANZAMENTO - FEED SPEED
- Km = FATTORE DI AVANZAMENTO PER MATERIALE - FEED FACTOR FOR MATERIAL
- De = mm DIAMETRO EFFETTIVO - EFFECTIVE DIAMETER
- Rmax = mm RUGOSITÀ TEORICA MASSIMA - THEORETICAL MAXIMUM ROUGHNESS



$$\text{ØDe} = 2 \cdot \sqrt{D \cdot ap - ap^2} = \text{mm}$$

$$R_{\text{max}} = 0,5 \cdot \left(\text{ØD} - \sqrt{\text{ØD}^2 - ae^2} \right) = \text{mm}$$

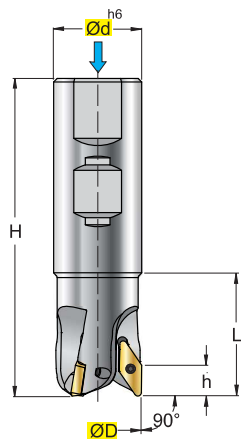


N = NUMERO D'INSERTI / INSERT NUMBER / WENDEPLATTENANZAHL / NOMBRE DES PLAQUETTES
 Z = NUMERO TAGLIANTI / NUMBER OF CUTTING EDGES / SCHNEIDENANZAHL / NOMBRE DU COUPANTS

S9002-6W...-11

Ø 16-25

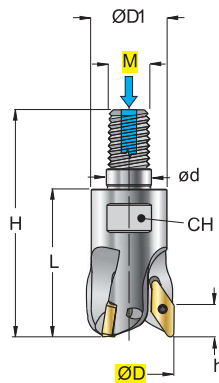
$\gamma_p +10^\circ$
 $\gamma_f -8^\circ/-11^\circ$
 $\gamma_o -8^\circ/-11^\circ$



S9002-9W...-11

Ø 16-25

$\gamma_p +10^\circ$
 $\gamma_f -8^\circ/-11^\circ$
 $\gamma_o -8^\circ/-11^\circ$

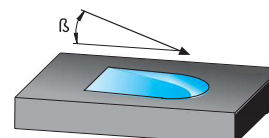
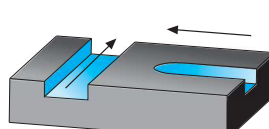
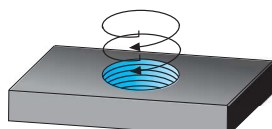
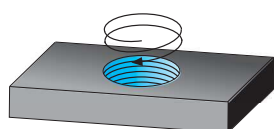


VDKT
 11T2..
 .K57P



INSERTI - INSERTS
 PAG. 458

ART.	(mm)										kg	Nm	ISO 6462			
	ØD	M	Ød	ØD1	H	h	L	β	Z	CH						
S9002-6W-016-02-11	16	-	16	-	80	8	30	35°	2	-	0,10	1+1,2	-	11T2..	122545	5607
S9002-6W-020-02-11	20	-	20	-	85	8	35	26°	2	-	0,15	1+1,2	-	11T2..	122555PK	5608
S9002-6W-025-03-11	25	-	25	-	90	8	35	19,5°	3	-	0,25	1+1,2	-			
S9002-9W-016-02-11	16	8	8,5	12,7	52	8	35	35°	2	10	0,03	1+1,2	-	11T2..	122545	5607
S9002-9W-020-02-11	20	10	10,5	17,7	54	8	35	26°	2	15	0,05	1+1,2	-	11T2..	122555PK	5608
S9002-9W-025-03-11	25	12	12,5	20,7	57	8	35	19,5°	3	17	0,07	1+1,2	-			

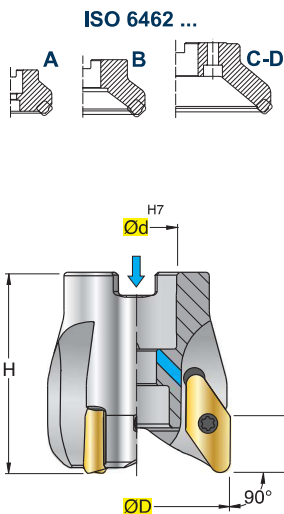


W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE

S9002-8W...-22

Ø 42-80

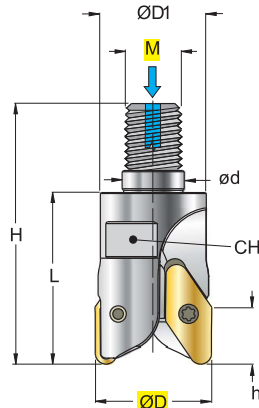
γ_p 0°
 γ_f -2,5°/-6°
 γ_o -2,5°/-6°



S9002-9W...-22

Ø 32-42

γ_p 0°
 γ_f -5°/-6°
 γ_o -5°/-6°

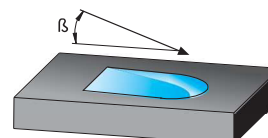
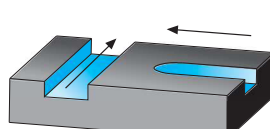
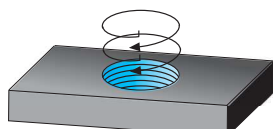
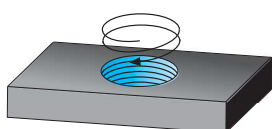


VCKT
2205..
.K57P



INSERTI - INSERTS
PAG. 458

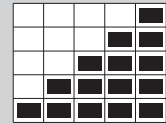
ART.	(mm)											ISO 6462					
	ØD	M	Ød	ØD1	H	h	L	β	Z	CH	kg						Nm
S9002-8W-042-03-22	42	-	16	-	55	15	-	23°	3	-	0,20	4+5	A	2205..	124511P	5620P	VBSF08L
S9002-8W-052-03-22	52	-	22	-	55	15	-	17°	3	-	0,35	4+5	A	2205..	124511P	5620P	VBSF10
S9002-8W-066-04-22	66	-	27	-	56	15	-	12,5°	4	-	0,55	4+5	A	2205..	124511P	5620P	VBSF12
S9002-8W-080-04-22	80	-	27	-	56	15	-	10°	4	-	0,95	4+5	A				
S9002-9W-032-02-22	32	16	17	29	71	15	47	35°	2	24	0,15	4+5	-	2205..	124511P	5620P	-
S9002-9W-042-03-22	42	16	17	29	71	15	47	23°	3	24	0,20	4+5	-				



W = FORO PER LIQUIDO REFRIGERANTE - COOLANT BORE - KÜHLMITTELBOHRUNG - TROU DU LIQUIDE D'ARROSAGE

SCelta VELOCE QUICK PICK

Tenacità +
Toughness -



- METODO PER LA SCELTA VELOCE DEL GRADO DI METALLO DURO PIÙ IDONEO. CONTARE IL NUMERO DI RETTANGOLI COLORATI
- METHOD FOR A QUICK CHOICE OF THE MOST SUITABLE SOLID CARBIDE GRADE. COUNT THE NUMBER OF COLORED RECTANGLES
- METHODE ZUR RASCHEN AUSWAHL DER GEEIGNETSTEN HARTMETALLSORTE. DIE ANZAHL DER BUNTEN RECH TECKEZAHLN
- METHODE POUR CHOISIR RAPIDEMENT LE DEGRÉ LE PLUS APPROPRIÉ DU METAL DUR. COMPTER LES RECTANGLES EN COULEURS
- METODO PARA LA ELECCION RAPIDA DE EL GRADO MAS ADECUADO DE METAL DURO. CONTAR LOS NUMEROS DE RECTANGULOS COLORAEDOS



- GRADO MOLTO RESISTENTE ALL'USURA, SOLO PER FINITURA, LAVORAZIONI AD ALTE VELOCITÀ DI TAGLIO E CONDIZIONI MOLTO RIGIDE E STABILI
- GRADE WITH HIGH RESISTANCE TO WEAR; ONLY FOR FINISHING, MACHINING AT HIGH CUTTING SPEEDS, AND VERY RIGID AND STABLE CONDITIONS



- GRADO CON ALTA RESISTENZA ALL'USURA, DISCRETA TENACITÀ PER LAVORAZIONI A VELOCITÀ MEDIO ALTE ED AVANZAMENTI MEDI, IN CONDIZIONI NORMALI
- GRADE WITH HIGH RESISTANCE TO WEAR, GOOD TOUGHNESS, FOR MEDIUM-HIGH MACHINING AND MEDIUM FEED UNDER NORMAL CONDITIONS



- GRADO CON BUONA RESISTENZA ALL'USURA UNITA A BUONA TENACITÀ, PER LAVORAZIONI GENERICHE IN CONDIZIONI NORMALI
- GRADE WITH GOOD RESISTANCE TO WEAR; COMBINED WITH A GOOD DEGREE OF TOUGHNESS, FOR GENERAL MACHINING UNDER NORMAL CONDITIONS



- GRADO CON OTTIMA TENACITÀ PER LAVORAZIONI MEDIO PESANTI O IN CONDIZIONI POCO STABILI
- GRADE WITH EXCELLENTE TOUGHNESS, FOR MEDIUM HEAVY MACHINING OR MACHINING UNDER CONDITIONS OF LOW STABILITY



- GRADO CON ECCEZIONALE TENACITÀ PER LAVORAZIONI PESANTI CON BASSE VELOCITÀ DI TAGLIO, ALTI AVANZAMENTI O IN CONDIZIONI SFAVOREVOLI
- GRADE WITH EXCELLENTE TOUGHNESS, FOR HEAVY MACHINING WITH LOW CUTTING SPEEDS, HIGH FEED, OR UNDER UNFAVORABLE CONDITIONS

GUIDA FACILE EASY GUIDE

APKT 1604 PDTR .S54
T525

F	M	R	Material	Vc
●	○	○	P	100-200 m/min
○	○	○	M	90-160 m/min
○	○	○	K	120-250 m/min
			N	
			S	
			H	

fz = 0,1-0,3 mm



APKT 1604 PDTR .S54 - T525

P15-35 / M20-35/ K30-40



T525

- GUIDA ALL'USO DELL'INSERTO. PRESENTE ANCHE SU OGNI ETICHETTA
- GUIDE FOR THE USE OF THE INSERT. ALSO LISTED ON EACH LABEL
- LEITFADEN ZUR VERWENDUNG DER WENDEPLATTE, AUCH AUF JEDEM AUFKLEBER VORHANDEN
- INSTRUCTIONS POUR L'UTILISATION DE LA PLAQUETTE. SE TROUVANT EGALEMENT SUR CHAQUE ETIQUETTE
- GUIA POR EL UTILIZO DE LA PLAQUITA, PRESENTE TAMBIEN EN CADA ETIQUETA

GR. VDI 3323	6	P
	14.1	M
	16	K
	21	N
	33	S
MATERIALI MATERIALS Pag. 1063	38	H



- = ACCIAIO BASSO LEGATO HB 180
- = ACCIAIO INOSSIDABILE AUSTENITICO HB 180
- = GHISA GRIGIA HB 260
- = LEGHE DI ALLUMINIO HB 60
- = LEGHE RESISTENTI AL CALORE (INCONEL) HB 250
- = ACCIAIO TEMPRATO HRC 55



- LOW STEEL ALLOY
- AUSTENITIC STAINLESS STEEL HB 180
- GRAY CAST IRON HB 260
- ALUMINUM ALLOYS HB 60
- HEAT RESISTANT ALLOYS (INCONEL) HB 250
- TEMPERED STEEL HRC 55

- F = FINITURA, LAVORAZIONI LEGGERE
- M = LAVORAZIONI MEDIE, IMPIEGO GENERICO
- R = SGROSSATURA, LAVORAZIONI PESANTI

- FINISHING, LIGHT MACHINING
- MEDIUM MACHINING, GENERAL USE
- ROUGHING, HEAVY MACHINING

- fn (mm) = AVANZAMENTO PER TORNITURA
- fz (mm/z) = AVANZAMENTO PER FRESATURA
- Vc (m/min) = VELOCITÀ DI TAGLIO

- FEED FOR TOURNING

- FEED FOR MILLING

- CUTTING SPEED

- = APPLICAZIONE CONSIGLIATA
- = APPLICAZIONE POSSIBILE

- RECOMMENDED APPLICATION
- POSSIBLE APPLICATION

INSERTI PER FRESATURA

MILLING INSERTS / WENDEPLATTEN ZUM FRÄSEN
PLAQUÉTTES DE FRAISAGE / PLAQUITAS DE FRESADO





	COME SCEGLIERE I PARAMETRI DI LAVORO	Pag. 427
	PANORAMICA QUALITÀ DI FRESATURA	Pag. 429
	IMPIEGO DELLE QUALITÀ DI FRESATURA	Pag. 430
	VELOCITÀ DI TAGLIO DELLE QUALITÀ DI FRESATURA	Pag. 440
	DENOMINAZIONI DEGLI INSERTI PER FRESATURA	Pag. 446
	CATALOGO DISPONIBILITÀ INSERTI	Pag. 447

	HOW TO CHOOSE CUTTING DATA	Pag. 427
	GENERAL VIEW OF THE MILLING GRADE	Pag. 429
	APPLICATION OF THE MILLING GRADE	Pag. 430
	CUTTING SPEED OF MILLING GRADES	Pag. 440
	INSERTS DESIGNATION FOR MILLING	Pag. 446
	INSERTS STOCK CATALOGUE	Pag. 447

	EINSTELLUNG DER SCHNITTDATEN	Pag. 427
	FRÄSSORTEN-ÜBERSICHT	Pag. 429
	EINSATZ DER FRÄSSORTEN	Pag. 430
	SCHNITTGESCHWINDIGKEIT DER FRÄSSORTEN (VC)	Pag. 440
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**COME SCEGLIERE I PARAMETRI DI LAVORO
HOW TO CHOOSE CUTTING DATA
EINSTELLUNG DER SCHNITTDATEN
COMMENT CHOISIR LES PARAMETRES DE SERVICE**

FASE 1 - PHASE 1

SCelta GR. VDI IN FUNZIONE DEL MATERIALE
CHOICE OF VDI GR. DEPENDING ON MATERIAL
WAHL VDI-SORTE JE NACH WERKSTOFF
CHOIX GR. VDI EN FONCTION DU MATERIEL

Tabella comparativa dei materiali - Materials comparison table
Materiál Vergleichstabelle - Tableau comparatif des matériaux

UNI	WISTOFF	DIN	AFSI	BS	AFNOR	JIS	kc1.1	mc	VDI 3323 GR.
ACCIAIO NON LEGATO RICOTTO									
ANNEALED NOT-ALLOY STEEL									
C < 0,15% 125 HB									
CF 10 SPb 20	1,0722	10 SPb 20	11 L 08	-	10 PFC 2	-	-	1350	-
CF 9 SMn 28	1,0715	9 SMn 28	1213	230 M 07	S 250	-	-	BUM22	0,22
CF 8 SMn 36	1,0726	8 SMn 36	1215	240 M 07	S 300	-	-	BUM22	0,22
CF 9 SMnPo 28	1,0718	9 SMnPo 28	12 L 13	-	S 250 Pb	-	-	BUM22	0,22
CF 8 SMnPo 36	1,0727	8 SMnPo 36	12 L 14	-	S 300 Pb	-	-	BUM22	0,22
C15; C18	1,0401	C 15	1015	080 M 15	AF 3 C 12; XC 18	B1570	-	-	0,22
C20; C21	1,0402	C 22	1020	090 A 20	AF 42 C 20	B1570	-	-	0,22
-	1,1541	CA 15	1015	080 M 15	XC 15; XC 18	B1570	-	-	0,22
ACCIAIO NON LEGATO RICOTTO									
ANNEALED NOT-ALLOY STEEL									
C 0,15-0,55% 180 HB									
-	-	150 M 6	1330	150 M 28	20 M 5	-	-	1450	0,22
-	-	150 M 9	1140	212 M 36	35 MF 4	-	-	1450	0,22
-	-	150 M 12	1039	150 M 36	35 M 4	-	-	1450	0,22
-	-	150 M 14	1039	150 M 36	35 M 4	-	-	1450	0,22
-	-	150 M 18	1045	080 M 45	AF 65 C 20	-	-	1450	0,22
-	-	150 M 24	1045	080 M 45	AF 65 C 20	-	-	1450	0,22
-	-	150 M 28	1045	080 M 45	AF 65 C 20	-	-	1450	0,22
-	-	150 M 36	1045	080 M 45	AF 65 C 20	-	-	1450	0,22
ACCIAIO NON LEGATO RICOTTO									
ANNEALED NOT-ALLOY STEEL									
C 0,15-0,55% 250 HB									
-	-	150 M 6	1330	150 M 28	20 M 5	-	-	1600	0,22
-	-	150 M 9	1140	212 M 36	35 MF 4	-	-	1600	0,22
-	-	150 M 12	1039	150 M 36	35 M 4	-	-	1600	0,22
-	-	150 M 14	1039	150 M 36	35 M 4	-	-	1600	0,22
-	-	150 M 18	1045	080 M 45	AF 65 C 20	-	-	1600	0,22
-	-	150 M 24	1045	080 M 45	AF 65 C 20	-	-	1600	0,22
-	-	150 M 28	1045	080 M 45	AF 65 C 20	-	-	1600	0,22
-	-	150 M 36	1045	080 M 45	AF 65 C 20	-	-	1600	0,22
ACCIAIO NON LEGATO RICOTTO									
ANNEALED NOT-ALLOY STEEL									
C > 0,55% 300 HB									
C 36 KU	1,1545	-	W 110	-	-	SK3	-	1600	0,24
C 35	1,1683	-	W 112	-	-	SK2	-	1600	0,24
C 50	1,2023	-	W 112	-	-	SK2	-	1600	0,24
C 80	1,2221	-	W 112	-	-	SK2	-	1600	0,24
C 90	1,2221	-	W 112	-	-	SK2	-	1600	0,24
C 100	1,2221	-	W 112	-	-	SK2	-	1600	0,24
-	1,5710	36 NCr 6	3136	840 A 35	35 NC 6	SNC238	-	1600	0,24
-	1,5720	38 MnSi 4	-	-	-	SNC238	-	1600	0,24
ACCIAIO NON LEGATO RICOTTO									
ANNEALED NOT-ALLOY STEEL									
C > 0,55% 300 HB									
C 36 KU	1,1545	C 105 W1	W 110	-	-	SK3	-	1700	0,24
C 35	1,1683	C 125 W	W 112	-	-	SK2	-	1700	0,24
C 50	1,2023	C 50	1060	070 M 55	CC 55	SK4	-	1700	0,24
C 80	1,2221	CA 80	1060	080 A 62	CC 55	SK4	-	1700	0,24
C 90	1,2221	CA 90	1060	080 A 62	CC 55	SK4	-	1700	0,24
C 100	1,2221	CA 100	1060	080 A 62	CC 55	SK4	-	1700	0,24
-	1,5710	36 NCr 6	3136	840 A 35	35 NC 6	SNC238	-	1700	0,24
-	1,5720	38 MnSi 4	-	-	-	SNC238	-	1700	0,24
ACCIAIO DEBOLMENTE LEGATO RICOTTO									
ANNEALED LOW-ALLOY STEEL									
180 HB									
-	1,2087	100Cr 6	L 9	8L 3	Y 100 C 8	-	-	1700	0,24
-	1,2419	105 WCr 6	-	-	105 WC 13	-	-	1700	0,24
-	1,2380	12 CrMo 9 10	A 18C-F22	100H-622 D-31	10 CD 9, 10	-	-	1700	0,24
-	1,2325	15 CrMo 4 4	A 18C-F11	100H-620 D-21	15 CD 9, 5	-	-	1700	0,24
-	1,7715	14 MoV 6 3	A 350-LF 5	100H-600-40	-	-	-	1700	0,24
-	1,5622	14 Ni 15	-	-	16 N 6	-	-	1700	0,24
-	1,5732	14 NiCr 10	3415	-	14 NC 11	SNC4150	-	1700	0,24
-	1,5732	14 NiCr 14	2310-314	655 M 13	15 NC 15	SNC4150	-	1700	0,24
-	1,6657	14 NiCrMo 34	-	832 M15	-	SNC4150	-	1700	0,24
-	1,7015	15 Cr 5	6015	522 M 15	12 C 3	SCH1501	-	1700	0,24

FASE 2 - PHASE 2

SCelta INSERTO IN FUNZIONE DEL MATERIALE
CHOICE OF INSERT DEPENDING ON MATERIAL
WAHL DER WENDEPLATTE JE NACH WERKSTOFF
CHOIX PLAQUETTE EN FONCTION DU MATERIEL

Fresatura - Milling - Fräsen - Fraisage - Fresado

SEKX	HT	VDI	SEKX	HT	VDI
s	dt	r	s	dt	r
SEKT 13T3 AZEN	3,97	4,1	-	20	-
SEKT 13T3 AZEN	3,97	4,1	-	20	-
SEKX 13T3 AGTR	3,97	4,1	1,5	20	-
SEKT 13T3 AZTN	4,55	13,4	3,97	4,1	-
SEKX 13T3 AZTN	4,55	13,4	3,97	4,1	-
SEKX 1305 AGDR	252	3,9	15,17	5,58	4,1

F7010
 T9219
 T518M
 T509N
 F1040

P ACCIAIO - STEEL - T
 M ACCIAIO INOX - ALU
 K GHISA - CAST

FASE 3 - PHASE 3

SCelta VELOCE DEI PARAMETRI
 QUICK CHOICE OF PARAMETERS
 SCHNELLWAHL DER PARAMETER
 TRIAGE RAPIDE DES PARAMÈTRES

Scelta dell'inserto e parametri di lavoro - Choice of the insert and machining parameters
 Auswahl der Platte und Schnittdaten - Choix de la plaque et de paramètres de travail

SCELTA VELOCE - QUICK PICK

CON INSERTI SEKK 1305...Z52 PROFONDITÀ MASSIMA DI LAVORO = 2 (mm) PER ALTI AVANZAMENTI
 WITH INSERTS SEKK 1305...Z52 MAXIMUM MACHINING DEPTH = 2 (mm) FOR HIGH FEED

VDI 3323 GR
 HB 220-260
 HRC 20-25
 Fz (mm) 0.12, 0.15, 0.19
 Vc (min) 150
 Vc (max) 1089

FASE 4 - PHASE 4

SCelta DI VC IN FUNZIONE DEL GR. VDI
 CHOICE OF VC DEPENDING ON VDI GR.
 WAHL VC JE NACH WERKSTOFF
 CHOIX DE VC EN FONCTION DU GR. VDI

VC(m/min)

Cutting speed of the milling grades
 Vitesse de coupe de la queue de plaquettes de fraisage

VDI 3323 GR
 HB 220-260
 HRC 20-25
 F4140
 T528
 T530
 F2430
 F4130
 T5130
 F1135
 F1040
 T1425

P 1 125 210-345 120-250
 2 180 210-345 120-250
 3 250 210-345 120-250
 4 270 175-290 120-250
 5 300 175-290 120-250


SAU	DIN ISO 513		MATERIALE - MATERIAL MATERIALE - MATÉRIEAUX PAG. 1063						QUICK PICK PAG. 424	 Tenacità + Toughness -		 INDICAZIONI - USO
			P	M	K	N	S	H				
			ACCIAI STEELS STAHL ACIER	ACCIAI INOX STAINLESS STEELS ROSTFREIER STAHL ACIER INOXYDABLE	GHISA CAST IRON GRAUGUSS FONTE GRISE	MATERIALI NON FERROSI NON FERROUS MAT. NICHT-EISENMATERIALIEN MAT. FERREUX	MATERIALI DIFFICILI DIFFICULT MATERIAL SCHWERIGE MATERIALIEN MAT. DIFFICILES	MATERIALI DURI HARD MATERIALS HARTE MATERIALIEN MATERIAUX DURS				
C4010	HT	P10-20 M05-15 K05-15	○	●	○						- QUALITÀ UNIVERSALE - ALTA RESISTENZA AL CALORE E ALL'USURA, BUONA TENACITÀ - INDICATO PER LE ALTE VELOCITÀ DI TAGLIO	
DT61	HT	P05-20 M05-15 K01-15	●	●	○						- ALTA RESISTENZA AL CALORE, ALL'USURA E BUONA TENACITÀ - INDICATO PER ALTE VELOCITÀ DI TAGLIO IN FINITURA. IDONEO ANCHE PER ASPORTAZIONE MEDIO-LEGGERA	
DT63	HT	P05-20 M05-20 K05-20	●	●	●						- QUALITÀ MICROGRANO MOLTO RESISTENTE ALLA ROTTURA ED ALL'USURA - INDICATO PER MEDIO-ALTE VELOCITÀ DI TAGLIO IN FINITURA.	
N3005	HW	K01-10			●						-QUALITÀ ADATTA ALLA LAVORAZIONE DELLE GHISE IN GENERE -INDICATO PER LAVORAZIONI DI FINITURA A TAGLIO CONTINUO	
N3105	HW	N01-12			○	●					-LEGA UTILIZZATA PER LAVORAR ALLUMINIO E GHISA IN GENERE. -PUO' LAVORAR CON O SENZA AUSILIO DI REFRIGERANTE	
N3015	HW	N01-20 S05-25				●	○				- QUALITÀ ADATTA ALLA LAVORAZIONE DI LEGHE IN ALLUMINIO	
N6315	HW	N05-25				●					- QUALITÀ PER LA LAVORAZIONE DI MATERIALI NON FERROSI	
N3620 NEW	HW	N10-30				●					- SUBSTRATO IN NANOSTRUTTURA NON RIVESTITO. - INDICATO PER LAVORAZIONI CON SEZIONE DEL TRUCIOLO MEDIO, CON CONDIZIONI DI TAGLIO STABILE.	
N3440	HW	K20-40 N20-30			●	●					- QUALITÀ UNIVERSALE PER GHISA E MATERIALI NON FERROSI - OTTIME PRESTAZIONI A UMIDO	
T110	HW	K05-15			○	●					- QUALITÀ MICROGRANO CON ALTA RESISTENZA ALL' USURA E OTTIMA STABILITÀ DEI TAGLIENTI - INDICATO PER MEDIE VELOCITÀ DI TAGLIO SU GHISA GRIGIA E ALTE PER MATERIALI NON FERROSI. PER ASPORTAZIONI MEDIE IN SGROSSATURA	
T115	HW	K10-25			●	●					- QUALITÀ MICROGRANO CON ALTA RESISTENZA ALL' USURA E BUONA TENACITÀ - INDICATO PER MEDIO-BASSE VELOCITÀ DI TAGLIO SU GHISA GRIGIA E MEDIO-ALTE PER MATERIALI NON FERROSI. PER ASPORTAZIONI MEDIE IN SGROSSATURA	
T120	HW	M10-20 K10-25		○	●	●	○				- QUALITÀ MICROGRANO CON ELEVATA RESISTENZA ALL' USURA E BUONA TENACITÀ - INDICATO PER MEDIO-BASSE VELOCITÀ DI TAGLIO SU ACCIAI INOSSIDABILI AUSTENITICI E MEDIE PER GHISE GRIGIE E MATERIALI NON FERROSI. PER ASPORTAZIONI MEDIE IN SGROSSATURA	
T500	HC CVD	P05-15 K05-15	●	○	●	●	○	●			- QUALITÀ MICROGRANO CON ALTA RESISTENZA ALL'USURA - INDICATO PER MEDIO-ALTE VELOCITÀ DI TAGLIO IN SEMIFINITURA E FINITURA	
F2425	HC PVD	P30-40 M15-35	○	●							- SUBSTRATO DI CARBURO APPPOSITAMENTE SVILUPPATO, RIVESTIMENTO IN PVD INNOVATIVO. - QUALITÀ CON UN'ECCELLENTI ROBUSTEZZA SENZA PREGIUDICARE LA DUREZZA A CALDO E LA RESISTENZA ALL'USURA SIA A BASSE CHE AD ALTE VELOCITÀ DI TAGLIO	

● APPLICAZIONE CONSIGLIATA
RECOMMENDED APPLICATION
EMPFOHLENER EINSATZ
APPLICATION CONSEILLÉE

○ APPLICAZIONE POSSIBILE
POSSIBLE APPLICATION
MÖGLICHE ANWENDUNG
APPLICATION POSSIBLE

● APPLICAZIONE CONSIGLIATA
RECOMMENDED APPLICATION
EMPFOHLENER EINSATZ
APPLICATION CONSEILLÉE

○ APPLICAZIONE POSSIBILE
POSSIBLE APPLICATION
MÖGLICHE ANWENDUNG
APPLICATION POSSIBLE

 INDICATIONS - USE	 GEBRAUCHSANWEISUNGEN	 INDICATION - USAGE
<ul style="list-style-type: none"> - UNIVERSAL GRADE - HIGH HEAT AND WEAR RESISTANCE, GOOD TOUGHNESS - SUITABLE FOR HIGH CUTTING SPEEDS 	<ul style="list-style-type: none"> - UNIVERSALSORTE - HOHE HITZE- UND VERSCHLEISSBESTÄNDIGKEIT, GUTE ZÄHIGKEIT - FÜR HOHE SCHNITTGESCHWINDIGKEITEN GEEIGNET 	<ul style="list-style-type: none"> - QUALITE UNIVERSELLE - HAUTE RESISTANCE A LA CHALEUR ET A L'USURE, BONNE TENACITE - INDIQUE POUR LES HAUTES VITESSES DE COUPE
<ul style="list-style-type: none"> -HIGH RESISTANCE TO HEAT AND TO WEAR,GOOD TOUGHNESS -SUITABLE FOR HIGH CUTTING SPEEDS FOR FINISHING, ALSO SUITABLE FOR MEDIUM LIGHT REMOVAL OF MATERIAL 	<ul style="list-style-type: none"> -HOHE WÄRME-VERSCHLEISSBESTÄNDIGKEIT UND GUTE ZÄHIGKEIT -FÜR HOHE SCHNITTGESCHWINDIGKEITEN BEIM SCHLICHTEN, SOWIE F'R MITTEL-LEICHTE ZERSPANUNG GEEIGNET 	<ul style="list-style-type: none"> - HAUTE RÉSISTANCE À LA CHALEUR, À L'USURE ET BONNE TENACITÉ - INDIQUÉE POUR HAUTE VITESSE DE COUPE EN FINISSAGE, INDIQUÉ AUSSI POUR EMPORTATION MOYENNE-LÉGÈRE
<ul style="list-style-type: none"> -MICROGRAIN GRADE WITH VERY HIGH ULTIMATE STRENGHT AND RESISTANCE TO WEAR -SUITABLE FOR MEDIUM-HIGH CUTTING SPEEDS FOR FINISHING 	<ul style="list-style-type: none"> -MIKROKORNSORTE MIT SEHR HOHER BRUCH – UND VERSCHLEISSFESTIGKEIT -FÜR HOHE SCHNITTGESCHWINDIGKEITEN BEIM SCHLICHTEN GEEIGNET 	<ul style="list-style-type: none"> -QUALITÉ DE MICROGRAIN TRÈS RÉSISTANT À LA RUPTURE ET À L'USURE -INDIQUÉE POUR HAUTE VITESSE DE COUPE EN FINISSAGE
<ul style="list-style-type: none"> - GRADE SUITABLE FOR CAST IRON IN GENERAL - SUITABLE FOR FINISHING WITH CONTINUOUS CUT 	<ul style="list-style-type: none"> - ALLGEMEINE SORTE ZUR GUSSBEARBEITUNG - ZUM BEARBEITUNGEN MIT UNUNTERBROCHENEM SCHNITT GEEIGNET 	<ul style="list-style-type: none"> - QUALITÉ INDIQUÉ POUR USINAGE DE LA FONTE EN GENERAL - INDIQUÉE POUR FINISSAGE À COUPE CONTINU
<ul style="list-style-type: none"> - ALLOY USED FOR MACHINING ALUMINIUM AND CAST IRON IN GENERAL - POSSIBLE TO WORK WITH OR WITHOUT THE AID OF A COOLANT 	<ul style="list-style-type: none"> - LEGIERUNG, DIE ZUR BEARBEITUNG VON ALUMINIUM UND GUSS IM ALLGEMEINEN BENUTZT WIRD. - KANN MIT ODER OHNE VERWENDUNG VON KÜHLMITTEL ARBEITEN 	<ul style="list-style-type: none"> - ALLIAGE UTILISÉ POUR USINER ALUMINIUM ET FONTE EN GÉNÉRAL. - PEUT TRAVAILLER AVEC OU SANS RÉFRIGÉRANT
<ul style="list-style-type: none"> - GRADE SUITABLE FOR ALUMINUM ALLOYS 	<ul style="list-style-type: none"> - SORTE FÜR ALUMINIUMLEGIERUNGEN GEEIGNET 	<ul style="list-style-type: none"> - QUALITÉ INDIQUÉE POUR L'USINAGE DES ALLIAGE D'ALLUMINIUM
<ul style="list-style-type: none"> - DEGREE FOR NON-FERROUS MATERIALS 	<ul style="list-style-type: none"> - SORTE FÜR NICHTEISENMATERIALIEN 	<ul style="list-style-type: none"> - QUALITÉ POUR L'USINAGE DE MATERIAUX NON FERREUX
<ul style="list-style-type: none"> - UNCOATED NANOSTRUCTURE SUBSTRATE. - SUITABLE FOR MEDIUM SECTION CHIP MACHINING, UNDER STABLE CUTTING CONDITIONS. 	<ul style="list-style-type: none"> - UNBESCHICHTETES NANOSTRUKTURIERTES SUBSTRAT. - FÜR BEARBEITUNGEN MIT MITTLEREM SPANQUERSCHNITT, UNTER STABILEN SCHNITTBEDINGUNGEN GEEIGNET. 	<ul style="list-style-type: none"> - SUBSTRAT EN NANOSTRUCTURE NON REVETU. - INDIQUE POUR DES USINAGES AVEC SECTION DU COPEAU MOYENNE, AVEC DES CONDITIONS DE COUPE STABLE.
<ul style="list-style-type: none"> - ALL-PURPOSE QUALITY FOR CAST IRON AND NON-FERROUS MATERIALS - EXCELLENT WET PERFORMANCE 	<ul style="list-style-type: none"> - UNIVERSALE QUALITÄT FÜR GUSS UND NICHTEISENMATERIALIEN - AUSGEZEICHNETE NASSLEISTUNGEN 	<ul style="list-style-type: none"> - QUALITÉ UNIVERSELLE POUR FONTE ET MATÉRIAUX NON FERREUX - PERFORMANCES EXCEPTIONNELLES À L'EAU
<ul style="list-style-type: none"> -MICROGRAIN GRADE WITH HIGH RESISTANCE TO WEAR AND EXCELLENT STABILITY OF THE CUTTING EDGES -SUITABLE FOR MEDIUM CUTTING SPEEDS ON GRAY IRON AND HIGH CUTTING SPEEDS ON NONFERROUS MATERIALS, FOR ROUGHING WITH MEDIUM REMOVAL OF MATERIAL. 	<ul style="list-style-type: none"> -MIKROKORNSORTE MIT HOHER VERSCHLEISSFESTIGKEIT UND AUSGEZEICHNETER STABILITÄT DER SCHNEIDEN -FÜR MITTLERE SCHNITTGESCHWINDIGKEITEN BEI GRAUGUSS UND FÜR HOHE SCHNITTGESCHWINDIGKEITEN BEI NE- MATERIALIEN FÜR MITTLERE ZERSPANUNG BEIM SCHRUPPEN GEEIGNET. 	<ul style="list-style-type: none"> -QUALITÉ DE MICROGRAIN AVEC HAUTE RÉSISTANCE À L'USURE ET TRÈS BONNE STABILITÉ DE LES COUPANTS. -INDIQUÉE POUR MOYENNE VITESSE DE COUPE SUR FONTE GRISE ET HAUTE SUR MATERIAL NON FERROUX, POUR MOYEN EMPORTATION EN ÉBAUCHAGE
<ul style="list-style-type: none"> -MICROGRAIN GRADE WITH HIGH RESISTANCE TO WEAR AND GOOD TOUGHNESS -SUITABLE FOR MEDIUM – LOW CUTTING SPEEDS ON AUSTENITIC STAINLESS STEEL AND MEDIUM-HIGH CUTTING SPEEDS FOR GRAY IRON AND NONFERROUS MATERIALS, FOR ROUGHING WITH MEDIUM REMOVAL OF MATERIAL. 	<ul style="list-style-type: none"> -MIKROKORNSORTE MIT HOHER VERSCHLEISSFESTIGKEIT UND GUTER ZÄHIGKEIT -FÜR MITTEL-NIEDRIGE SCHNITTGESCHWINDIGKEITEN BEI GRAUGUSS UND FÜR MITTEL-HOHE SCHNITTGESCHWINDIGKEITEN BEI NE-MATERIALIEN FÜR MITTLERE ZERSPANUNG BEIM SCHRUPPEN GEEIGNET 	<ul style="list-style-type: none"> -QUALITÉ DE MICROGRAIN AVEC HAUTE RÉSISTANCE À L'USURE ET BONNE TENACITÉ -INDIQUÉE POUR MOYENNE – FAIBLE VITESSE DE COUPE SUR ACIER INOX AUSTÉNITIQUE, MOYENNE-HAUTE POUR FONTE GRISE ET MATERIAL NON FERROUX, POUR MOYEN EMPORTATION EN ÉBAUCHAGE
<ul style="list-style-type: none"> - MICROGRAIN GRADE WITH HIGH RESISTANCE TO WEAR AND GOOD TOUGHNESS -SUITABLE FOR MEDIUM – LOW CUTTING SPEEDS ON AUSTENITIC STAINLESS STEEL AND MEDIUM CUTTING SPEEDS FOR GRAY IRON AND NONFERROUS MATERIALS, FOR ROUGHING WITH MEDIUM REMOVAL OF MATERIAL. 	<ul style="list-style-type: none"> -MIKROKORNSORTE MIT SEHR HOHER BRUCH UND GUTE ZÄHIGKEIT -SUITABLE FOR MEDIUM – LOW CUTTING SPEEDS ON AUSTENITIC STAINLESS STEEL AND MEDIUM CUTTING SPEEDS FOR GRAY IRON AND NONFERROUS MATERIALS, FOR ROUGHING WITH MEDIUM REMOVAL OF MATERIAL. 	<ul style="list-style-type: none"> -QUALITÉ DE MICROGRAIN AVEC HAUTE RÉSISTANCE À L'USURE ET BONNE TENANCITÉ -QUALITÉ DE MICROGRAIN AVEC HAUTE RÉSISTANCE À L'USURE ET BONNE TENANCITÉ
<ul style="list-style-type: none"> -MICROGRAIN GRADE WITH HIGH RESISTANCE TO WEAR -SUITABLE FOR MEDIUM – HIGH CUTTING SPEEDS FOR FINISHING AND SEMIFINISHING 	<ul style="list-style-type: none"> -MIKROKORNSORTE MIT HOHER VERSCHLEISSFESTIGKEIT -FÜR MITTEL – HOHE SCHNITTGESCHWINDIGKEITEN BEIM SCHLICHTEN UND HALBSCHLICHTEN GEEIGNET 	<ul style="list-style-type: none"> -QUALITÉ DE MICROGRAIN AVEC HAUTE RÉSISTANCE À L'USURE -INDIQUÉE POUR MOYENNE – HAUTE VITESSE DE COUPE EN FINISSAGE ET SEMIFINISSAGE.
<ul style="list-style-type: none"> - SPECIALLY DEVELOPED CARBIDE SUBSTRATE, INNOVATIVE PVD COATING - GRADE WITH EXCELLENT TOUGHNESS WHICH DOES NOT AFFECT RED HARDNESS AND WEAR RESISTANCE. AT BOTH LOW AND HIGH CUTTING SPEEDS 	<ul style="list-style-type: none"> - SPEZIELL ENTWICKELTES KARBIDSUBSTRAT, INNOVATIVE PVD-BESCHICHTUNG. - SORTE MIT HERRVORRAGENDER ROBUSTHEIT BEI UNVERÄNDERTER WARMHÄRTE UND VERSCHLEISSBESTÄNDIGKEIT SOWOHL MIT NIEDRIGEN ALS AUCH MIT HOHEN SCHNITTGESCHWINDIGKEITEN 	<ul style="list-style-type: none"> - SUBSTRAT DE CARBURE SPÉCIALEMENT DÉVELOPPÉ, REVÊTEMENT EN PVD INNOVANT. - QUALITÉ AVEC UNE ROBUSTESSE EXCELLENTE SANS PORTER PRÉJUDICE À LA DURETÉ À CHAUD ET À LA RÉSISTANCE À L'USURE À BASSES VITESSES COMME À HAUTES VITESSES DE COUPE

HT CERMET

HW

METALLO DURO NON RICOPERTO
UNCOATED CARBIDE
UNBESCHICHTETES HARTMETALL
MÉTAL DUR PAS RECOUVERT

HC

METALLO DURO RICOPERTO
COATED CARBIDE
BESCHICHTETES HARTMETALL
MÉTAL DUR RECOUVERT

SAU	DIN ISO 513		MATERIALE - MATERIAL MATERIALEN - MATÉRIAUX						QUICK PICK PAG. 424	INDICAZIONI - USO	
			P	M	K	N	S	H			
			ACCIAI STEEELS STAHL ACIER	ACCIAI INOX STAINLESS STEELS ROSTFREIER STAHL ACIER INOXYDABLE	GHISA CAST IRON GRAUGUSS FONTE GRISE	MATERIALI FERROSI NON FERROUS MAT. NICHT-EISENMATERIALIEN MAT. FERREUX	MATERIALI DURI HARD MATERIALS HARTE MATERIALIEN MATERIAUX DURS				
F2435	HC	P35-45 M25-45	○	●							<ul style="list-style-type: none"> - SUBSTRATO DI CARBURO APPPOSITAMENTE SVILUPPATO - RIVESTIMENTO IN PVD INNOVATIVO, FORNISCE UN'ECCELLENTI ROBUSTEZZA E OTTIMA TENACITÀ SENZA PREGIUDICARE LA DUREZZA A CALDO SIA A BASSE CHE AD ALTE VELOCITÀ DI TAGLIO
	PVD										
F4635 NEW	HC	P25-45 M20-35	●	●	○						<ul style="list-style-type: none"> - GRADO MOLTO TENACE, INDICATO PER LAVORAZIONE DI ACCIAI GENERICI E ACCIAI INOX FERRITICI. - INDICATO PER LAVORAZIONI GRAVOSE ANCHE CON TAGLIO INSTABILE.
	PVD	K20-35									
F2140 NEW	HC	P35-45 M35-45	○	●				○			<ul style="list-style-type: none"> - CON LA SUA STRUTTURA TENACE IN MICROGRANO È INDICATO ALLA LAVORAZIONE DI ACCIAI AUSTENICI. - OTTIMO COMPORTAMENTO ANCHE AD ALTE VELOCITÀ DI TAGLIO DOVE SI CONSIGLIA LA LAVORAZIONE A SECCO.
	PVD										
F2740 NEW	HC	M30-45		●							<ul style="list-style-type: none"> - GRADO IN MICROGRANO MOLTO TENACE, PERFORMANTE IN LAVORAZIONI DI SGROSSATURA A TAGLIO INTERROTTO. - INDICATO PER LA LAVORAZIONE DI ACCIAI INOSSIDABILI AUSTENITICI. - INDICATO PER LAVORAZIONI A UMIDO ANCHE MQL.
	PVD										
F5105 NEW	HC	P01-10	●		●				●		<ul style="list-style-type: none"> - SUBSTRATO IN MICROGRANO CON RIVESTIMENTO MULTISTRATO TiAlSiN. - INDICATO IN CONDIZIONI DI TAGLIO STABILE PER LAVORAZIONI MEDIE E DI FINITURA.
	PVD	K01-10 H05-15									
F3710 NEW	HC				●			○			<ul style="list-style-type: none"> - ALTA RESISTENZA ALL' USURA E BUONA TENACITÀ - INDICATO PER MEDIO-ALTE VELOCITÀ DI TAGLIO IN FINITURA E SGROSSATURA PREVALENTEMENTE SU GHISA GRIGIA
	PVD										
F7010	HC				●	○					<ul style="list-style-type: none"> -QUALITÀ MICROGRANO CON ALTA RESISTENZA ALL'USURA, PER BASSE ASPORTAZIONI DI TRUCCIOLO. -GRADO VERSATILE, LAVORA SU ACCIAIO, INOX, GHISA E LEGHE RESISTENTI AL CALORE
	PVD	K01-20 N01-20									
T1415	HC	P05-25	●		○						<ul style="list-style-type: none"> - GRADO INSERTO IDEALE PER LA PRODUZIONE AD ALTO VOLUME - BUONA RESISTENZA AL CALORE CHE LO RENDE PERFETTAMENTE ADATTO PER LA LAVORAZIONE A SECCO ANCHE AD ALTE VELOCITÀ DI TAGLIO
	CVD	K10-35									
T3115	HC				●						<ul style="list-style-type: none"> - ALTA RESISTENZA ALL' USURA E BUONA TENACITÀ - INDICATO PER MEDIO-ALTE VELOCITÀ DI TAGLIO IN FINITURA E SGROSSATURA PREVALENTEMENTE SU GHISA
	CVD	K05-20									
T3215	HC				●						<ul style="list-style-type: none"> - QUALITÀ PER LAVORAZIONE DI GHISA BUONA RESISTENZA ALL'USURA E ALL'ABRAZIONE
	CVD	K05-25									
F7115 NEW	HC	P05-15 K05-15	●	○	●	○			○		<ul style="list-style-type: none"> - QUALITÀ CON SUBSTRATO IN MICROGRANO ULTRAFINE, ADATTO PER LA FINITURA DEGLI STAMPI.
	PVD										
T516	HC				●						<ul style="list-style-type: none"> - ALTA RESISTENZA ALL' USURA E BUONA TENACITÀ - INDICATO PER MEDIO-ALTE VELOCITÀ DI TAGLIO IN FINITURA E SGROSSATURA PREVALENTEMENTE SU GHISA GRIGIA
	CVD	K05-25									
T3116 NEW	HC				●						<ul style="list-style-type: none"> - MATERIE PRIME SELEZIONATE, PER GARANTIRE UN SUBSTRATO DURO E RESISTENTE ALL'USURA. - RIVESTIMENTO MULTISTRATO, LE MIGLIORI PRESTAZIONI SI OTTENGONO LAVORANDO A SECCO.
	CVD	K10-20									
T518M	HC	P05-25 M10-20	●	●	●						<ul style="list-style-type: none"> - MEDIA RESISTENZA ALL' USURA E TENACITÀ - INDICATO PER MEDIO-ALTE VELOCITÀ DI TAGLIO IN FINITURA E SGROSSATURA ANCHE IN CONDIZIONI INSTABILI
	CVD	K05-20									

- APPLICAZIONE CONSIGLIATA
RECOMMENDED APPLICATION
EMPFOHLENER EINSATZ
APPLICATION CONSEILLÉE
- APPLICAZIONE POSSIBILE
POSSIBLE APPLICATION
MÖGLICHE ANWENDUNG
APPLICATION POSSIBLE
- APPLICAZIONE CONSIGLIATA
RECOMMENDED APPLICATION
EMPFOHLENER EINSATZ
APPLICATION CONSEILLÉE
- APPLICAZIONE POSSIBILE
POSSIBLE APPLICATION
MÖGLICHE ANWENDUNG
APPLICATION POSSIBLE

 INDICATIONS - USE	 GEBRAUCHSANWEISUNGEN	 INDICATION - USAGE
<ul style="list-style-type: none"> - SPECIALLY DEVELOPED CARBIDE SUBSTRATE - INNOVATIVE PVD COATING PROVIDING EXCELLENT STRENGTH AND VERY GOOD TOUGHNESS WITHOUT AFFECTING RED HARDNESS AT BOTH LOW AND HIGH CUTTING SPEED 	<ul style="list-style-type: none"> - SPEZIELL ENTWICKELTES KARBID-SUBSTRAT - INNOVATIVE PVD-BESCHICHTUNG FÜR EXCELLENTE ROBUSTHEIT UND OPTIMALE ZÄHIGKEIT OHNE BEEINTRÄCHTIGUNG DER WÄRMHÄRTE BEI SOWOHL HOHEN ALS AUCH NIEDRIGEN SCHNITTGESCHWINDIGKEITEN 	<ul style="list-style-type: none"> - SUBSTRAT DE CARBURE SPECIALEMENT DEVELOPPE - REVETEMENT EN PVD INNOVANT, FOURNIT UNE ROBUSTESSE ET TENACITE EXCELLENTE, SANS POUR AUTANT PORTER PREJUDICE A LA DURETE A CHAUD A DE BASSES COMME A DE HAUTES VITESSES DE COUPE.
<ul style="list-style-type: none"> - VERY TOUGH GRADE, SUITABLE FOR STANDARD AND FERRITIC STAINLESS STEEL. - SUITABLE FOR HEAVY-DUTY MACHINING, ALSO UNDER UNSTABLE CUTTING CONDITIONS. 	<ul style="list-style-type: none"> - SEHR ZÄHE SORTE, ZUR BEARBEITUNG VON STANDARD- UND FERRITISCHEM EDELSTAHL GEEIGNET. - FÜR ANSPRUCHVOLLE BEARBEITUNGEN GEEIGNET, AUCH BEI INSTABILEN SCHNITTBEDINGUNGEN. 	<ul style="list-style-type: none"> - DEGRE TRES TENACE INDIQUE POUR L'USINAGE DES ACIERS GENERIQUES ET ACIERS INOXYDABLES FERRITIQUES - INDIQUE POUR LES USINAGES LOURDS MEME AVEC UNE COUPE INSTABLE.
<ul style="list-style-type: none"> - WITH ITS MICRO GRAIN STRUCTURE IT IS SUITABLE FOR AUSTENITIC STEEL. - EXCELLENT PERFORMANCE ALSO WITH HIGH CUTTING SPEED, WHERE DRY MACHINING IS RECOMMENDED. 	<ul style="list-style-type: none"> - DANK DER ZÄHEN MIKROKORN-STRUKTUR AUCH ZUR BEARBEITUNG VON AUSTENITISCHEN STÄHLEN GEEIGNET. - SEHR GUTES VERHALTEN AUCH BEI HOHEN SCHNITTGESCHWINDIGKEITEN, WO DIE TROCKENBEARBEITUNG EMPFOHLEN IST. 	<ul style="list-style-type: none"> - SA STRUCTURE TENACE EN MICROGRAIN LE REND PARTICULIEREMENT INDIQUE POUR L'USINAGE DES ACIERS AUSTENIQUES - COMPORTEMENT EXCELLENT MEME A DES VITESSES DE COUPE ELEVEES, OU L'USINAGE A SEC EST CONSEILLE.
<ul style="list-style-type: none"> - VERY TOUGH MICROGRAIN GRADE, PERFORMING IN INTERRUPTED-CUTTING ROUGHING MACHINING. - SUITABLE FOR THE MACHINING OF AUSTENITIC STAINLESS STEEL. - SUITABLE FOR WET GRINDING ALSO MQL. 	<ul style="list-style-type: none"> - SEHR ZÄHE MIKROKORNSORTE MIT HOHER LEISTUNG BEIM SCHRUPPEN IM UNTERBROCHENEN SCHNITT. - GEEIGNET FÜR DIE BEARBEITUNG VON ROSTFREIEN, AUSTENITISCHEN STÄHLEN. - GEEIGNET FÜR NASSBEARBEITUNGEN, AUCH BEI MINIMALSCHMIERUNG MQL. 	<ul style="list-style-type: none"> - DEGRÉ EN MICRO GRAIN TRÈS TENACE, PERFORMANT DANS LES USINAGES DE DÉGROSSISSAGE À COUPE INTERROMPUE. - INDIQUÉ POUR L'USINAGE D'ACIERS INOXYDABLES AUSTÉNITIQUES. - INDIQUÉ POUR LES USINAGES PAR VOIE HUMIDE MÊME MQL.
<ul style="list-style-type: none"> - MICROGRAIN SUBSTRATE WITH MULTILAYER TiAlSiN₂ COATING. - SUITABLE FOR MEDIUM APPLICATIONS AND FINISHING UNDER STABLE CUTTING CONDITIONS. 	<ul style="list-style-type: none"> - MIKROKORNSUBSTRAT MIT MEHRFACH- TiAlSiN₂ - BESCHICHTUNG. - FÜR MITTLERE- BIS SCHLICHTBEARBEITUNGEN UNTER STABILEN BEDINGUNGEN GEEIGNET. 	<ul style="list-style-type: none"> - SUBSTRAT EN MICROGRAIN AVEC REVETEMENT MULTICOUCHE TiAlSiN₂. - INDIQUE DANS DES CONDITIONS DE COUPE STABLE POUR USINAGES MOYENS ET DE FINITION.
<ul style="list-style-type: none"> -HIGH RESISTANCE TO WEAR, GOOD TOUGHNESS -SUITABLE FOR MEDIUM – HIGH CUTTING SPEEDS FOR FINISHING AND ROUGHING MAINLY ON GRAY IRON 	<ul style="list-style-type: none"> -HOHE VERSCHLEISSFESTIGKEIT UND GUTE ZÄHIGKEIT -FÜR MITTEL – HOHE SCHNITTGESCHWINDIGKEITEN BEIM SCHLICHTEN UND SCHRUPPEN, ÜBERWIEGEND BEI GRAUGUSS, GEEIGNET 	<ul style="list-style-type: none"> -HAUTE RESISTANCE À L'USURE ET BONNE TENACITÉ -INDIQUÉE POUR MOYENNE – HAUTE VITESSE DE COUPE EN FINISSAGE ET ÉBAUCHAGE SURTOUT POUR FONTE GRISE
<ul style="list-style-type: none"> - HIGH WEAR RESISTANT MICRO GRAIN QUALITY WHEN SMALL QUANTITIES OF CHIPS NEED REMOVING - VERSATILE GRADE, WORKS ON STEEL, STAINLESS STEEL, CAST IRON AND HEAT RESISTANT ALLOYS 	<ul style="list-style-type: none"> - MIKROKORNSORTE MIT HOHER VERSCHLEISSFESTIGKEIT, FÜR NIEDRIGE ZERSPANUNG. - VIELSEITIGE SORTE, ARBEITET MIT STAHL, EDELSTAHL, GUSS UND WÄRMESTÄNDIGEN LEGIERUNGEN 	<ul style="list-style-type: none"> - QUALITÉ MICROGRAIN AVEC HAUTE RÉSIDANCE À L'USURE, POUR DES ENLÈVEMENTS DE COPEAU MODIQUES. - DEGRÉ ÉCLECTIQUE, PEUT USINER ACIER, INOX, FONTE ET ALLIAGES RÉSIDANTS À LA CHALEUR
<ul style="list-style-type: none"> - IDEAL GRADE FOR HIGH VOLUME MACHINING - GOOD HEAT RESISTANCE AND THEREFORE PERFECTLY SUITABLE FOR DRY MACHINING, EVEN AT HIGH CUTTING SPEEDS 	<ul style="list-style-type: none"> - IDEALE SORTE FÜR HOCHVOLUMENFERTIGUNG - GUTE HITZEBESTÄNDIGKEIT UND DAHER PERFEKT FÜR DIE TROCKENBEARBEITUNG, AUCH MIT HOHEN SCHNITTGESCHWINDIGKEITEN 	<ul style="list-style-type: none"> - DEGRÉ PLAQUETTE IDÉAL POUR LA PRODUCTION À HAUT VOLUME - BONNE RÉSIDANCE À LA CHALEUR, QUI LE REND PARFAITEMENT INDIQUÉ POUR L'USINAGE À SEC MEME A DE HAUTES VITESSES DE COUPE
<ul style="list-style-type: none"> - EXTREMELY TOUGH WITH HIGH WEAR RESISTANCE - IDEAL FOR MEDIUM TO HIGH CUTTING SPEEDS FOR FINISHING AND ROUGHING WORK MAINLY ON CAST IRON 	<ul style="list-style-type: none"> - HOHE VERSCHLEISSFESTIGKEIT UND GUTE ZÄHIGKEIT - GEEIGNET FÜR MITTELHOHE UND HOHE SCHNITTGESCHWINDIGKEIT BEIM SCHLICHTEN UND SCHRUPPEN, ÜBERWIEGEND BEI GUSS 	<ul style="list-style-type: none"> - HAUTE RÉSIDANCE À L'USURE ET BONNE TÉNACITÉ - INDIQUÉ POUR DES VITESSES HAUTES ET MOYENNES DE COUPE EN FINITION ET DÉGROSSISSAGE PRINCIPALEMENT SUR FONTE
<ul style="list-style-type: none"> - QUALITY CAST IRON MACHINING, GOOD WEAR AND ABRASION RESISTANCE 	<ul style="list-style-type: none"> - QUALITÄT ZU BEARBEITUNG VON GUSS, GUTE VERSCHLEISS- UND ABRIEBFESTIGKEIT 	<ul style="list-style-type: none"> - QUALITÉ POUR USINAGE DE FONTE BONNE RÉSIDANCE À L'USURE ET À L'ABRASION
<ul style="list-style-type: none"> - GRADE WITH ULTRAFINE MICRO GRAIN SUBSTRATE, SUITABLE FOR MOLD FINISHING. 	<ul style="list-style-type: none"> - SORTE MIT ULTRAFINEM MIKROKORN-SUBSTRAT, ZUM FORMENSCHLICHTEN GEEIGNET. 	<ul style="list-style-type: none"> - QUALITE AVEC SUBSTRAT EN MICROGRAIN ULTRAFIN, INDIQUE DANS LA FINITION DES MOULES.
<ul style="list-style-type: none"> -HIGH RESISTANCE TO WEAR, GOOD TOUGHNESS -SUITABLE FOR MEDIUM – HIGH CUTTING SPEEDS FOR FINISHING AND ROUGHING MAINLY ON GRAY IRON 	<ul style="list-style-type: none"> -HOHE VERSCHLEISSFESTIGKEIT UND GUTE ZÄHIGKEIT -FÜR MITTEL – HOHE SCHNITTGESCHWINDIGKEITEN BEIM SCHLICHTEN UND SCHRUPPEN, ÜBERWIEGEND BEI GRAUGUSS, GEEIGNET 	<ul style="list-style-type: none"> -HAUTE RESISTANCE À L'USURE ET BONNE TENACITÉ -INDIQUÉE POUR MOYENNE – HAUTE VITESSE DE COUPE EN FINISSAGE ET ÉBAUCHAGE SURTOUT POUR FONTE GRISE
<ul style="list-style-type: none"> - CHOICE RAW MATERIALS, TO GUARANTEE A HARD AND WEAR-RESISTANT SUBSTRATE. - MULTILAYER COATING , BEST PERFORMANCE IS ACHIEVED THROUGH DRY-MACHINING. 	<ul style="list-style-type: none"> - AUSGEWÄHLTE ROHSTOFFE, UM EIN HARTES UND VERSCHLEISSFESTES SUBSTRAT ZU GEWÄHRLEISTEN. - MEHRSCICHT-BESCHICHTUNG, BESTE LEISTUNGEN WERDEN BEI TROCKENBEARBEITUNGEN ERZIELT. 	<ul style="list-style-type: none"> - MATIÈRES PREMIÈRES SÉLECTIONNÉES, AFIN D'ASSURER UN SUBSTRAT DUR ET RÉSIDANT À L'USURE. - REVÊTEMENT MULTICOUCHE, LES MEILLEURES PERFORMANCES SONT OBTENUES, EN TRAVAILLANT À SEC.
<ul style="list-style-type: none"> -MEDIUM RESISTANCE TO WEAR AND TOUGHNESS -SUITABLE FOR MEDIUM – LOW CUTTING SPEEDS, FOR FINISHING AND ROUGHING WITH MEDIUM REMOVAL OF MATERIAL, EVEN UNDER UNSTABLE CONDITIONS. 	<ul style="list-style-type: none"> -MITTEL VERSCHLEISSFESTIGKEIT UND ZÄHIGKEIT -FÜR MITTEL – NIEDRIGE SCHNITTGESCHWINDIGKEITEN UND MITTLERE ZERSPANUNGEN BEIM SCHLICHTEN UND SCHRUPPEN, AUCH UNTER UNSTABILEN BEDINGUNGEN, GEEIGNET 	<ul style="list-style-type: none"> -MOYENNE RÉSIDANCE À L'USURE ET À L'ÉBRÈCHEMENT -INDIQUÉE POUR MOYENNE – FAIBLE VITESSE DE COUPE, POUR MOYEN EMPORTATION EN FINISSAGE ET ÉBAUCHAGE, MEME AVEC CONDITIONS INSTABLES.

HT CERMET

HW

METALLO DURO NON RICOPERTO
UNCOATED CARBIDE
UNBESCHICHTETES HARTMETALL
MÉTAL DUR PAS RECOUVERT

HC

METALLO DURO RICOPERTO
COATED CARBIDE
BESCHICHTETES HARTMETALL
MÉTAL DUR RECOUVERT

 INDICATIONS - USE	 GEBRAUCHSANWEISUNGEN	 INDICATION - USAGE
<ul style="list-style-type: none"> - THIS COATING IS FREQUENTLY USED FOR CAST IRON MACHINING, ALSO WITH LONG PROJECTIONS. - GOOD MACHINABILITY OF HARD STEEL. 	<ul style="list-style-type: none"> - BESCHICHTUNG, DIE HÄUFIG ZUR BEARBEITUNG VON GUSS, AUCH MIT GROSSEM ÜBERSTAND, VERWENDET WIRD. - GUTE BEARBEITBARKEIT VON HARTSTÄHLEN. 	<ul style="list-style-type: none"> - REVÊTEMENT ÉPAIS S'ADAPTANT SOUVENT À L'USINAGE DE FONTES MÊME DANS LE CAS DE LONGUES SAILLIES. - BONNE MANIABILITÉ D'ACIERS DURS.
<ul style="list-style-type: none"> - GRADO DA TORNITURA PER LA LAVORAZIONE DELLA GHIA GRIGIA E SFEROIDALE 	<ul style="list-style-type: none"> - TURNING GRADE FOR GREY CAST IRON AND NODULAR CAST IRON 	<ul style="list-style-type: none"> - DEGRE DE TOURNAGE POUR L'USINAGE DE LA FONTE GRISE ET SPHEROIDALE
<ul style="list-style-type: none"> - DEGREE WITH HIGH RESISTANCE TO WEAR, SUITABLE FOR HIGH CUTTING SPEEDS - IDEAL FOR NODULAR CAST IRON 	<ul style="list-style-type: none"> - SORTE MIT HOHER VERSCHLEISSFESTIGKEIT, FÜR HOHE SCHNITTGESCHWINDIGKEITEN GEEIGNET - IDEAL FÜR DIE BEARBEITUNG VON SPHÄROGUSS 	<ul style="list-style-type: none"> - QUALITE AVEC RESISTANCE ELEVEE A L'USURE, INDIQUE POUR DE HAUTES VITESSES DE COUPE - IDEAL POUR L'USINAGE DE FONTE SPHEROIDALE
<ul style="list-style-type: none"> - GRADE WITH HIGH RESISTANCE TO WEAR. - SUITABLE FOR ROUGHING AND MEDIUM MACHINING UNDER STABLE CONDITIONS AND AT HIGH CUTTING SPEEDS 	<ul style="list-style-type: none"> - SORTE MIT HOHER VERSCHLEIßBESTÄNDIGKEIT - ZUM SCHRUPPEN UND ZUR MITTLEREN ZERSPANUNG UNTER STABILEN BEDINGUNGEN UND MIT HOHEN SCHNITTGESCHWINDIGKEITEN 	<ul style="list-style-type: none"> - QUALITÉ AVEC HAUTE RÉSISTANCE À L'USURE - INDIQUÉE POUR ÉBAUCHAGE ET USINAGES MOYENS AVEC CONDITIONS STABLES ET ÉLEVÉE VITESSE DE COUPE.
<ul style="list-style-type: none"> - WEAR RESISTANT QUALITY INSERT - IDEAL FOR HIGH CUTTING SPEED WORK 	<ul style="list-style-type: none"> - VERSCHLEISSFESTE WENDEPLATTE - IDEAL FÜR BEARBEITUNGEN MIT HOHER SCHNITTGESCHWINDIGKEIT 	<ul style="list-style-type: none"> - DEGRÉ PLAQUETTE RÉSISTANT À L'USURE - IDÉAL EN CAS D'USINAGES À DES VITESSES DE COUPE ÉLEVÉES
<ul style="list-style-type: none"> - WIDE RANGE OF APPLICATIONS, IDEAL FOR ALL STEEL AND CAST IRON ALLOYS, GOOD PERFORMANCE ALSO ON INOX 	<ul style="list-style-type: none"> - HOHE VIELSEITIGKEIT, IDEAL FÜR ALLE STAHL- UND GUSSLEGIERUNGEN, GUTE LEISTUNG AUCH MIT INOXSTAHL 	<ul style="list-style-type: none"> - VASTE GAMME D'EMPLOIS, IDÉAL POUR TOUS LES ALLIAGES EN ACIER ET FONTE, BONNES PERFORMANCES MÊME SUR INOX
<ul style="list-style-type: none"> - HIGH TOUGHNESS AND EXCELLENT RESISTANCE TO THERMAL WEAR DUE TO THE SPECIAL COATING - SUITABLE FOR FINISHING AND ROUGHING AT MEDIUM CUTTING SPEEDS 	<ul style="list-style-type: none"> - HOHE ZÄHIGKEIT UND SEHR GUTE BESTÄNDIGKEIT GEGEN THERMISCHEN VERSCHLEIß AUFGRUND DER SPEZIALBESCHICHTUNG - FÜR MITTLERE SCHNITTGESCHWINDIGKEITEN ZUM SCHLICHTEN UND SCHRUPPEN GEEIGNET 	<ul style="list-style-type: none"> - HAUTE TÉNACITÉ ET TRÈS BONNE RÉSISTANCE À L'USURE THERMIQUE DÙ À UN SPÉCIAL REVÊTEMENT - INDIQUÉE POUR MOYENNE VITESSE DE COUPE EN FINISSAGE ET ÉBAUCHAGE
<ul style="list-style-type: none"> - HIGH TOUGHNESS, RESISTANCE TO WEAR AND TO THERMAL SHOCK - SUITABLE FOR MEDIUM – HIGH CUTTING SPEEDS AND WITH MEDIUM FEED UNDER NORMAL CONDITIONS - EXCELLENT ON STEEL ALLOYS AND SPHEROIDAL CAST IRON 	<ul style="list-style-type: none"> - HOHE ZÄHIGKEIT, VERSCHLEISSFESTIGKEIT UND TEMPERATURWECHSELBESTÄNDIGKEIT - FÜR MITTEL-HOHE SCHNITTGESCHWINDIGKEITEN UND BEI MITTLEREN VORSCHÜBEN UNTER NORMALEN BEDINGUNGEN GEEIGNET - FÜR EDELSTAHL UND SPHÄROGUSS OPTIMAL GEEIGNET 	<ul style="list-style-type: none"> - HAUTE TENACITÉ, RÉSISTANCE À L'USURE ET AU SHOCK THERMIQUE - INDIQUÉE POUR MOYENNE – HAUTE VITESSE DE COUPE ET MOYEN DÉPLACEMENT EN CONDITIONS NORMAUX - OPTIMUM SUR ACIER ALLIÉ ET FONTE SPHÉROÏDAL
<ul style="list-style-type: none"> - HIGH TOUGHNESS, EXCELLENT THERMAL SHOCK AND WEAR RESISTANCE - SUITABLE FOR MEDIUM-LOW CUTTING SPEEDS AND WITH MEDIUM-HIGH FEED FACTORS, ALSO UNDER STABLE MACHINING CONDITIONS FOR FINISHING AND ROUGHING 	<ul style="list-style-type: none"> - HOHE ZÄHIGKEIT, SEHR GUTE TEMPERATURWECHSELBESTÄNDIGKEIT UND VERSCHLEIßFESTIGKEIT - GEEIGNET FÜR MITTLERE BIS GERINGE SCHNITTGESCHWINDIGLEITEN UND MITTLERE UND HOHE VORSCHÜBE, AUCH UNTER STABILEN BEARBEITUNGSBEDINGUNGEN ZUM SCHLICHTEN UND SCHRUPPEN 	<ul style="list-style-type: none"> - HAUTE TENACITÉ, TRÈS BONNE RÉSISTANCE AU CHOC THERMIQUE ET À L'USURE - INDIQUÉE POUR MOYENNE BASSES VITESSE DE COUPE ET AVEC MOYENNES HAUTES AVANCES MÊME AVEC DE CONDITIONS STABLES EN FINISSAGE ET DÉGROSSISSAGE
<ul style="list-style-type: none"> - GOOD TOUGHNESS AND RESISTANCE TO CHIPPING - SUITABLE FOR MEDIUM-LOW CUTTING SPEEDS AND HIGH FEED 	<ul style="list-style-type: none"> - GUTER ZÄHIGKEIT UND AUSBRUCHFESTIGKEIT - FÜR MITTEL-NIEDRIGE SCHNITTGESCHWINDIGKEITEN UND HOHE VORSCHÜBE GEIGNET 	<ul style="list-style-type: none"> - BONNE TENACITÉ ET RÉSISTANCE À L'ÉBRÈCHEMENT - INDIQUÉE POUR MOYENNE-FAIBLE VITESSE DE COUPE
<ul style="list-style-type: none"> - UNIVERSAL GRADE SUITABLE FOR FACE MILLING, ENSURING MACHINING STABILITY GIVEN ITS TOUGHNESS. - HIGHLY PERFORMING ON CASE-HARDENED STEEL WITH DRY-MACHINING, WHILE IT IS ADVISABLE TO USE THE EMULSION ON TOUGH STEELS. 	<ul style="list-style-type: none"> - UNIVERSALE, ZUM PLANFRÄSEN GEEIGNETE SORTE, DIE AUFGRUND IHRER ZÄHHEIT DIE BEARBEITUNGSSTABILITÄT GARANTIERT. - HOHE LEISTUNGEN BEI EINSATZSTAHL MIT TROCKENBEARBEITUNG; BEI ZÄHEN STÄHLEN WIRD HINGEGEN DER GEBRAUCH DER EMULSION EMPFOHLEN. 	<ul style="list-style-type: none"> - DEGRÉ UNIVERSEL INDIQUÉ POUR LE PLANAGE, ÉTANT TENACE IL GARANTIT UNE STABILITÉ D'USINAGE. - TRÈS PERFORMANT SUR ACIER CÉMENTÉ AVEC USINAGE À SEC, TANDIS QUE SUR DES ACIERS TENACES IL EST CONSEILLÉ D'AVOIR RECOURS À L'ÉMULSION.
<ul style="list-style-type: none"> - HIGH WEAR RESISTANCE QUALITY 	<ul style="list-style-type: none"> - HOCH VERSCHLEISSFESTE QUALITÄT 	<ul style="list-style-type: none"> - QUALITÉ HAUTEMENT RÉSISTANTE À L'USURE
<ul style="list-style-type: none"> - EXCELLENT FOR DRY MACHINING ON STEEL WITH LARGE CHIP REMOVAL VOLUME 	<ul style="list-style-type: none"> - SEHR GUT FÜR DIE TROCKENBEARBEITUNG VON STAHL MIT HOHEM ZERSPANVOLUMEN 	<ul style="list-style-type: none"> - PARFAIT POUR LES USINAGES A SEC SUR ACIER AVEC DES VOLUMES D'ENLEVEMENT ELEVES
<ul style="list-style-type: none"> - SPECIAL PVD COATING THAT OPTIMISES THE FORMATION OF CHIPS 	<ul style="list-style-type: none"> - BESONDERE PVD-BESCHICHTUNG, DIE DIE SPANBILDUNG OPTIMIERT 	<ul style="list-style-type: none"> - REVÊTEMENT SPÉCIAL EN PVD OPTIMISANT LA FORMATION DU COPEAU

HT CERMET

HW



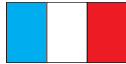
METALLO DURO NON RICOPERTO
UNCOATED CARBIDE
UNBESCHICHTETES HARTMETALL
MÉTAL DUR PAS RECOUVERT

HC

METALLO DURO RICOPERTO
COATED CARBIDE
BESCHICHTETES HARTMETALL
MÉTAL DUR RECOUVERT

SAU	DIN ISO 513	MATERIALE - MATERIAL MATERIALEN - MATÉRIAUX						QUICK PICK PAG. 424	 Tenacità + Toughness -		 INDICAZIONI - USO
		P	M	K	N	S	H				
		ACCIAI STEELS STAHL ACIER	ACCIAI INOX STAINLESS STEELS ROSTFREIER STAHL ACIER INOXYDABLE	GHISA CAST IRON GRAUGUSS FONTE GRISE	MATERIALI FERROSI NON FERROUS MAT. NICHTEISENMATERIALIEN MAT. FERREUX	MATERIALI DURI HARD MATERIALS HARTE MATERIALIEN MATERIAUX DURS	MATERIALI DURI HARD MATERIALS HARTE MATERIALIEN MATERIAUX DURS				
F4140	HC	P30-50 M25-40	●	●	○	○	●			- QUALITÀ PER FINITURA E MEDIA SGROSSATURA. PRIMA SCELTA PER OPERAZIONI CON BASSI AVANZAMENTI E/O BASSE VELOCITÀ DI TAGLIO. - ECCELLENTE PER LAVORAZIONI IN CONDIZIONI POCO STABILI E CON REFRIGERANTE. - CONSIGLIATO PER LAVORARE LE SUPERLEGHE	
	PVD	S20-30									
F4340	HC	P20-40 M20-30	●	●						- PER LA LAVORAZIONE DI ACCIAI E ACCIAI INOSSIDABILI A BASSE VELOCITÀ DI TAGLIO, CON AMPIO CAMPO APPLICATIVO - OTTIME PRESTAZIONI A UMIDO	
	PVD										
T1435 NEW	HC	P25-45 M20-30	●	○						- GRADO INSERTO TENACE, PER LAVORAZIONI DIFFICILI IN CONDIZIONI INSTABILI E A TAGLIO INTERROTTO	
	CVD										
F3010	HC	K05-20			●					- QUALITÀ PER LA FRESATURA DI GHISE - RIVESTIMENTO ULTRAFINE PER ELEVATE VELOCITÀ DI TAGLIO ADATTO ANCHE IN CONDIZIONI DI TAGLIO INSTABILI	
	PVD										
F6315	HC	P10-30 M05-25 K05-25	●	●	●					- OTTIMA RESISTENZA ALL'USURA - QUALITÀ UNIVERSALE PER VARI TIPI DI MATERIALE - INDICATO PER MEDIE-ALTE VELOCITÀ DI TAGLIO	
	PVD										
F8015	HC	S10-20					●			- NUOVO RIVESTIMENTO CON BUONA RESISTENZA ALL'USURA E OTTIMA LUBRIFICAZIONE - QUALITÀ SPECIFICA PER FRESATURA DI LEGHE E SUPER LEGHE RESISTENTI AL CALORE	
	PVD										
F8115	HC	M10-20 K05-25 S05-15		○		○	●			- LEGA IN MICROGRANO RIVESTITA - IDEALE PER OPERAZIONI CHE NECESSITANO DI TAGLIANTI AFFILATI	
	PVD										
T5120	HC	P10-30	●		●					- QUALITÀ PER SGROSSATURA E MEDIA SGROSSATURA CON CONDIZIONI STABILI AD ELEVATE VELOCITÀ DI TAGLIO. - QUALITÀ ECCELLENTE PER ACCIAI DURI. OTTIMO COMPORTAMENTO ANCHE NELLA SGROSSATURA DI GHISA GRIGIA E GHISA SFEROIDALE	
	CVD	K15-35					○				
T525	HC	P15-35 M20-35 K30-40	●	●	○		○			- OTTIMO EQUILIBRIO TRA TENACITÀ E RESISTENZA ALL'USURA - INDICATO PER MEDIE VELOCITÀ DI TAGLIO E CON AVANZAMENTI MEDIO ALTI IN SGROSSATURA ANCHE IN CONDIZIONI INSTABILI	
	CVD										
F1325 NEW	HC	P15-30 M20-30 K20-30	●	○	○					- LAVORAZIONE GENERICHE DI ACCIAIO, ACCIAIO INOX E ANCHE BUONA LAVORABILITÀ PER GHISA. - CONSIGLIATO PER LA LAVORAZIONE CON VELOCITÀ DI TAGLIO ELEVATE SE IN CONDIZIONI DI LAVORO STABILI.	
	PVD										
F4325 NEW	HC	M20-40		●			●			- SUBSTRATO IN NANOSTRUTTURA CON RIVESTIMENTO AD ALTO CONTENUTO DI AL. - SI PUÒ UTILIZZARE IN CONDIZIONI DI TAGLIO INSTABILE, INDICATO PER LAVORAZIONI CON ELEVATE SOLLECITAZIONI SUL TAGLIANTE. - IMPEGO PER LAVORAZIONI A BASSE VELOCITÀ DI TAGLIO.	
	PVD	S20-30									
F4330 NEW	HC	P20-40 M20-35	●	●						- SUBSTRATO IN NANOSTRUTTURA CON RIVESTIMENTO AD ALTO CONTENUTO DI AL. - SI PUÒ UTILIZZARE IN CONDIZIONI DI TAGLIO INSTABILE. - INSERTO CON BUONA RESISTENZA ALL'ABRAZIONE E BUONA AFFIDABILITÀ	
	PVD										
T533	HC	P10-35 M10-30 K15-25	●	●	○		●			- BUONA TENACITÀ E RESISTENZA ALL'USURA - INDICATO PER MEDIE VELOCITÀ DI TAGLIO IN SEMIFINITURA E FINITURA E PER MATERIALI CHE CREANO IL TAGLIANTE DI RIPORTO	
	CVD										
F1035	HC	P25-40 M20-35	●	○			○			- QUALITÀ MOLTO TENACE - OTTIMA RESISTENZA ALL'USURA	
	PVD										

- APPLICAZIONE CONSIGLIATA
RECOMMENDED APPLICATION
EMPFOHLENER EINSATZ
APPLICATION CONSEILLÉE
- APPLICAZIONE POSSIBILE
POSSIBLE APPLICATION
MÖGLICHE ANWENDUNG
APPLICATION POSSIBLE
- APPLICAZIONE CONSIGLIATA
RECOMMENDED APPLICATION
EMPFOHLENER EINSATZ
APPLICATION CONSEILLÉE
- APPLICAZIONE POSSIBILE
POSSIBLE APPLICATION
MÖGLICHE ANWENDUNG
APPLICATION POSSIBLE

 INDICATIONS - USE	 GEBRAUCHSANWEISUNGEN	 INDICATION - USAGE
<ul style="list-style-type: none"> - PREMIUM QUALITY FOR MEDIUM ROUGHING AND FINISHING, FIRST CHOICE FOR SLOW FEED AND/OR SLOW CUTTING SPEEDS - OUTSTANDING FOR WORKING IN UNSTABLE CONDITIONS WITH COOLANT - RECOMMENDED FOR MACHINING SUPER ALLOYS 	<ul style="list-style-type: none"> - QUALITÄT ZUM SCHLICHTEN UND MITTLEREM SCHRUPPEN, ERSTE WAHL FÜR ARBEITSSCHRITTE MIT NIEDRIGEM VORSCHUB U/O NIEDRIGER SCHNITTGESCHWINDIGKEIT. - AUSGEZEICHNET FÜR BEARBEITUNGEN UNTER UNSTABILEN BEDINGUNGEN UND MIT KÜHLMITTEL. - EMPFOHLEN ZUR BEARBEITUNG VON SUPERLEGIERUNGEN 	<ul style="list-style-type: none"> - QUALITÉ POUR FINITION ET DÉGROSSISSAGE MOYEN, PREMIER CHOIX POUR DES OPÉRATIONS AVEC DES AVANCES MODIQUES ET/OU DE FAIBLES VITESSES DE COUPE. - PARFAIT POUR DES USINAGES DANS DES CONDITIONS PEU STABLES ET AVEC RÉFRIGÉRANT. - CONSEILLÉ POUR USINER LES SUPERALLIAGES
<ul style="list-style-type: none"> - FOR MACHINING STEELS AND STAINLESS STEELS AT SLOW CUTTING SPEEDS FOR A VAST RANGE OF APPLICATIONS - EXCELLENT WET PERFORMANCE 	<ul style="list-style-type: none"> - FÜR DIE BEARBEITUNG VON STAHL UND EDELSTAHL MIT NIEDRIGER SCHNITTGESCHWINDIGKEIT, GROSSER ANWENDUNGSBEREICH - AUSGEZEICHNETE NASSLEISTUNGEN 	<ul style="list-style-type: none"> - POUR L'USINAGE D'ACIERS ET ACIERS INOXYDABLES À DE FAIBLES VITESSES DE COUPE, AVEC AMPLÉ PLAGE D'APPLICATION - PERFORMANCES EXCEPTIONNELLES À L'EAU
<ul style="list-style-type: none"> - TOUGH DEGREE FOR DIFFICULT MACHINING UNDER UNSTABLE CONDITIONS AND WITH INTERRUPTED CUT 	<ul style="list-style-type: none"> - ZÄHE SORTE FÜR SCHWERE BEARBEITUNGEN UNTER UNSTABILEN BEDINGUNGEN UND MIT UNTERBROCHENEM SCHNITT 	<ul style="list-style-type: none"> - DEGRÉ PLAQUETTE TENACE POUR USINAGES DIFFICILES DANS DES CONDITIONS INSTABLES ET À COUPE INTERROMPUE
<ul style="list-style-type: none"> - MILLING GRADE FOR CAST-IRON - ULTRA-FINE COATING FOR HIGH CUTTING SPEEDS, ALSO SUITABLE UNDER UNSTABLE CUTTING CONDITIONS 	<ul style="list-style-type: none"> - SORTE ZUM FRÄSEN VON GUSSEISEN - ULTRAFEINE BESCHICHTUNG FÜR HOHE SCHNITTGESCHWINDIGKEITEN, AUCH UNTER UNSTABILEN SCHNITTBEDINGUNGEN GEEIGNET 	<ul style="list-style-type: none"> - QUALITÉ POUR LE FRAISAGE DES FONTES - REVÊTEMENT TRÈS FINE POUR ÉLEVÉE VITESSE DE COUPE APPROPRIÉ MÊME AVEC CONDITIONS DE COUPE INSTABLES
<ul style="list-style-type: none"> - EXCELLENT RESISTANCE TO WEAR - UNIVERSAL DEGREE FOR DIFFERENT TYPES OF MATERIALS - SUITABLE FOR MEDIUM TO HIGH CUTTING SPEEDS 	<ul style="list-style-type: none"> - SEHR HOHE VERSCHLEISSFESTIGKEIT - UNIVERSALSORTE FÜR VERSCHIEDENE MATERIALIEN - FÜR MITTLERE BIS HOHE SCHNITTGESCHWINDIGKEITEN GEEIGNET 	<ul style="list-style-type: none"> - RESISTANCE EXCELLENTE A L'USURE - QUALITÉ UNIVERSELLE POUR DIFFÉRENTS TYPES DE MATERIAU - INDIQUE EN CAS DE VITESSES DE COUPE HAUTES-MOYENNES
<ul style="list-style-type: none"> - NEW COATING WITH GOOD RESISTANCE TO WEAR AND EXCELLENT LUBRICATION - SPECIFIC MILLING GRADE FOR HEAT-RESISTANT ALLOYS AND SUPER-ALLOYS 	<ul style="list-style-type: none"> - NEUE BESCHICHTUNG MIT GUTER VERSCHLEISSFESTIGKEIT UND SEHR GUTER SCHMIERUNG - SPEZIALSORTE ZUM FRÄSEN VON HITZEBESTÄNDIGEN LEGIERUNGEN UND SUPERLEGIERUNGEN 	<ul style="list-style-type: none"> - NOUVEAU REVÊTEMENT AVEC BONNE RÉSISTANCE À L'USURE ET TRÈS BONNE LUBRIFICATION - QUALITÉ SPÉCIFIQUE POUR LE FRAISAGE DE ALLIAGES ET SUPER-ALLIAGES RÉSISTANTES À LA CHALEUR
<ul style="list-style-type: none"> - ALLOY IN COATED MICRO GRAIN - IDEAL WHEN SHARP CUTTING EDGES ARE A MUST 	<ul style="list-style-type: none"> - LEGIERUNG AUS BESCHICHTETEM MIKROKORN - IDEAL FÜR ARBEITEN, WO SCHARFE SCHNEIDEN BENÖTIGT WERDEN 	<ul style="list-style-type: none"> - ALLIAGE EN MICROGRAIN REVÊTU - IDEAL POUR DES OPÉRATIONS REQUÉRANT DES TRANCHANTS AFFÛTÉS
<ul style="list-style-type: none"> - QUALITY FOR ROUGHING AND MEDIUM ROUGHING IN STABLE CONDITIONS WITH HIGH CUTTING SPEEDS - OUTSTANDING QUALITY FOR HARD STEELS, EXCELLENT BEHAVIOUR ALSO IN ROUGHING GREY CAST IRON AND SPHEROIDAL GRAPHITE CAST IRON 	<ul style="list-style-type: none"> - QUALITÄT ZUM SCHRUPPEN UND MITTLEREM SCHRUPPEN UNTER STABILEN BEDINGUNGEN UND BEI HOHER SCHNITTGESCHWINDIGKEIT. - HERVORRAGENDE QUALITÄT FÜR HARTSTAHL. - AUSGEZEICHNETES VERHALTEN AUCH BEIM SCHRUPPEN VON GRAUGUSS UND SPHÄROGUSS 	<ul style="list-style-type: none"> - QUALITÉ POUR DÉGROSSISSAGE ET DÉGROSSISSAGE MOYEN DANS DES CONDITIONS STABLES À DES VITESSES DE COUPE ÉLEVÉES. - QUALITÉ EXCELLENTE POUR ACIERS DURS. COMPORTEMENT PARFAIT MÊME DANS LE DÉGROSSISSAGE DE FONTE GRISE ET FONTE SPHÉROÏDALE
<ul style="list-style-type: none"> - EXCELLENT BALANCE BETWEEN TOUGHNESS AND RESISTANCE TO WEAR - SUITABLE FOR MEDIUM CUTTING SPEEDS AND WITH MEDIUM-HIGH FEED FOR ROUGHING UNDER STABLE CONDITIONS 	<ul style="list-style-type: none"> - OPTIMALE AUSGEWOGENHEIT ZWISCHEN ZÄHIGKEIT UND VERSCHLEISSFESTIGKEIT - FÜR MITTEL SCHNITTGESCHWINDIGKEITEN UND BEI MITTEL-GROSSEN VORSCHÜBEN UNTER STABILEN BEDINGUNGEN, ZUM SCHRUPPEN GEEIGNET 	<ul style="list-style-type: none"> - TRÈS BON ÉQUILIBRE ENTRE TENACITÉ ET RÉSISTANCE À L'USURE - INDIQUÉE POUR MOYENNE VITESSE DE COUPE ET MOYENNE-HAUT DÉPLACEMENT POUR ÉBAUCHAGE EN CONDITION STABLE
<ul style="list-style-type: none"> - GENERAL MACHINING OF STEEL, STAINLESS STEEL AND GOOD MACHINABILITY FOR CAST IRON. - RECOMMENDED FOR HIGH CUTTING SPEED UNDER STABLE MACHINING CONDITIONS. 	<ul style="list-style-type: none"> - ALLGEMEINE BEARBEITUNG VON STAHL, EDELSTAHL UND GUTE BEARBEITBARKEIT VON GUSS. - EMPFOHLEN ZUR BEARBEITUNG MIT HOHEN SCHNITTGESCHWINDIGKEITEN, WENN DIE ARBEITSBEDINGUNGEN STABIL SIND. 	<ul style="list-style-type: none"> - USINAGES GÉNÉRIQUES D'ACIER, ACIER INOX ET ÉGALEMENT BONNE MANIABILITÉ POUR LA FONTE. - CONSEILLÉ POUR L'USINAGE AVEC DES VITESSES DE COUPE ÉLEVÉES, DANS LE CAS DE CONDITIONS DE TRAVAIL STABLES.
<ul style="list-style-type: none"> - NANOSTRUCTURE SUBSTRATE WITH HIGH AI CONTENT COATING. - IT CAN BE USED UNDER UNSTABLE CUTTING CONDITIONS, SUITABLE FOR APPLICATIONS WITH HIGH STRESS ON THE CUTTING EDGE. - USED FOR LOW CUTTING SPEED MACHINING. 	<ul style="list-style-type: none"> - NANOSTRUKTURIERTES SUBSTRAT MIT BESCHICHTUNG MIT HOHEM ALUMINIUMGEHALT - UNTER UNSTABILEN SCHNITTBEDINGUNGEN EINSETZBAR, FÜR BEARBEITUNGEN MIT HOHEN BELASTUNGEN AN DER SCHNEIDKANTE GEEIGNET. - ANWENDUNG FÜR BEARBEITUNGEN MIT NIEDRIGEN SCHNITTGESCHWINDIGKEITEN. 	<ul style="list-style-type: none"> - SUBSTRAT EN NANOSTRUCTURE AVEC REVÊTEMENT A HAUT CONTENU EN ALUMINIUM. - ON PEUT L'UTILISER DANS DES CONDITIONS DE COUPE INSTABLE, INDIQUE POUR DES USINAGES AVEC DES CONTRAINTES ÉLEVÉES SUR LE TRANCHANT. - PREVU POUR DES USINAGES A FAIBLE VITESSE DE COUPE.
<ul style="list-style-type: none"> - NANOSTRUCTURE SUBSTRATE WITH HIGH AI CONTENT COATING. - IT CAN BE USED UNDER UNSTABLE CUTTING CONDITIONS - INSERT WITH GOOD RESISTANCE TO ABRASION AND GOOD RELIABILITY 	<ul style="list-style-type: none"> - NANOSTRUKTURIERTES SUBSTRAT MIT BESCHICHTUNG MIT HOHEM ALUMINIUMGEHALT. - UNTER UNSTABILEN SCHNITTBEDINGUNGEN EINSETZBAR - WENDEPLATTE MIT GUTER ABRIEFESTIGKEIT UND ZUVERLÄSSIGKEIT 	<ul style="list-style-type: none"> - SUBSTRAT EN NANOSTRUCTURE AVEC REVÊTEMENT A HAUT CONTENU EN ALUMINIUM. - ON PEUT L'UTILISER DANS DES CONDITIONS DE COUPE INSTABLE. - PLAQUETTE AVEC UN BONNE RESISTANCE A L'ABRASION ET UNE BONNE FIABILITE
<ul style="list-style-type: none"> - GOOD TOUGHNESS AND RESISTANCE TO WEAR - SUITABLE FOR MEDIUM CUTTING SPEEDS FOR SEMIFINISHING AND FINISHING AND FOR MATERIALS THAT FORM A BUILT - UP EDGE 	<ul style="list-style-type: none"> - HOHE ZÄHIGKEIT UND VERSCHLEISSFESTIGKEIT - FÜR MITTLERE SCHNITTGESCHWINDIGKEITEN BEIM HALBSCHLICHTEN UND SCHLICHTEN, SOWIE FÜR MATERIALIEN, DIE EINE AUFBAUSCHNEIDE BILDEN, GEEIGNET 	<ul style="list-style-type: none"> - BONNE TENACITÉ ET RÉSISTANCE À L'USURE - INDIQUÉE POUR MOYENNE VITESSE DE COUPE EN SEMIFINISSAGE ET FINISSAGE ET POUR MATERIAUX QUI CRÉENT LE COUPANT DE RAPPORT
<ul style="list-style-type: none"> - VERY TOUGH GRADE - EXCELLENT RESISTANCE TO WEAR 	<ul style="list-style-type: none"> - SEHR ZÄHE SORTE - OPTIMALE VERSCHLEISSFESTIGKEIT 	<ul style="list-style-type: none"> - QUALITÉ TRÈS TENACE - TRÈS BONNE RESISTANCE À L'USURE

HT CERMET

HW

METALLO DURO NON RICOPERTO
UNCOATED CARBIDE
UNBESCHICHTETES HARTMETALL
MÉTAL DUR PAS RECOUVERT

HC

METALLO DURO RICOPERTO
COATED CARBIDE
BESCHICHTETES HARTMETALL
MÉTAL DUR RECOUVERT



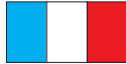
SAU	DIN ISO 513	MATERIALE - MATERIAL MATERIELLEN - MATÉRIAUX						QUICK PICK PAG. 424	Tenacità + Toughness -		 INDICAZIONI - USO
		P	M	K	N	S	H				
		ACCIAI STEELS STAHL ACIER	ACCIAI INOX STAINLESS STEELS ROSTFREIER STAHL ACIER INOXYDABLE	GHISA CAST IRON GRAUGUSS FONTE GRISE	MATERIALI NON FERROSI NON FERROUS MAT. NICHT-EISENMATERIALIEN MAT. FERREUX	MATERIALI DIFFICILI DIFFICULT MATERIAL SCHWERGE MATERIALIEN MAT. DIFICILES	MATERIALI DURI HARD MATERIALS HARTE MATERIALIEN MATERIAUX DURS				
F1335 NEW	HC	P25-45	●	○						- LAVORAZIONI DI ACCIAIO GENERICHE SPECIALMENTE INDICATO ALLE APPLICAZIONI DI FRESATURA A 90°. - INDICATO PER LAVORAZIONI SUI PIÙ COMUNI ACCIAI A MEDIO BASSE VELOCITÀ DI TAGLIO E IN CONDIZIONI DI INSTABILITÀ.	
	PVD	M30-40									
T540	HC	P25-45	●	●		○	○			- ALTA TENACITÀ , BUONA RESISTENZA ALL' USURA E ALLO SHOCK TERMICO - INDICATO PER BASSE VELOCITÀ DI TAGLIO E ALTI AVANZAMENTI IN SGROSSATURA E SGROSSATURA PESANTE ANCHE IN CONDIZIONI PRECARI	
	CVD	M25-40									
T544	HC	P20-40	●	●	○	○	●			- ALTA TENACITÀ MEDIA RESISTENZA ALL' USURA - INDICATO PER MEDIO-BASSE VELOCITÀ DI TAGLIO IN MEDIA SGROSSATURA ANCHE IN CONDIZIONI INSTABILI	
	CVD	M20-35									
F4345 NEW	HC	P35-45	●	○						- GRADO MOLTO TENACE PER LAVORAZIONE DI INSTABILITÀ E LAVORAZIONE A TAGLIO MOLTO INTERROTTO. - INDICATO PER SGROSSATURA DI ACCIAI GENERICI.	
	PVD	M40-45									

● APPLICAZIONE CONSIGLIATA
RECOMMENDED APPLICATION
EMPFOHLENER EINSATZ
APPLICATION CONSEILLÉE

○ APPLICAZIONE POSSIBILE
POSSIBLE APPLICATION
MÖGLICHE ANWENDUNG
APPLICATION POSSIBLE

● APPLICAZIONE CONSIGLIATA
RECOMMENDED APPLICATION
EMPFOHLENER EINSATZ
APPLICATION CONSEILLÉE

○ APPLICAZIONE POSSIBILE
POSSIBLE APPLICATION
MÖGLICHE ANWENDUNG
APPLICATION POSSIBLE

 INDICATIONS - USE	 GEBRAUCHSANWEISUNGEN	 INDICATION - USAGE
<ul style="list-style-type: none"> - GENERAL MACHINING OF STEEL. SPECIALLY RECOMMENDED FOR 90° MILLING. - SUITABLE FOR MACHINING THE MOST COMMON STEEL TYPES WITH LOW-MEDIUM CUTTING SPEED UNDER STABLE MACHINING CONDITIONS. 	<ul style="list-style-type: none"> - ALLGEMEINE STAHLBEARBEITUNG, BESONDERS FÜR 90°-FRÄSEN EMPFOHLEN. - GEEIGNET FÜR DIE BEARBEITUNG DER GÄNGIGSTEN STAHLSORTEN MIT NIEDRIG-MITTLEREN SCHNITTGESCHWINDIGKEITEN UNTER STABILEN ARBEITSBEDINGUNGEN. 	<ul style="list-style-type: none"> - USINAGES D'ACIER GÉNÉRIQUES, SPÉCIALEMENT INDIQUÉ AUX APPLICATIONS DE FRAISAGE À 90°. - PRÉVU POUR DES USINAGES SUR LES ACIERS LES PLUS COMMUNS À DES VITESSES DE COUPE BASSES-MOYENNES ET DANS UN ÉTAT D'INSTABILITÉ.
<ul style="list-style-type: none"> -HIGH TOUGHNESS, RESISTANCE TO WEAR AND TO THERMAL SHOCK -SUITABLE FOR LOW CUTTING SPEEDS AND HIGH FEED FOR ROUGHING AND HEAVY ROUGHING, EVEN UNDER UNSTABLE CONDITIONS 	<ul style="list-style-type: none"> -FÜR MITTEL-HOHE SCHNITTGESCHWINDIGKEITEN UND BEI MITTLEREN VORSCHÜBEN UNTER NORMALEN BEDINGUNGEN GEEIGNET -FÜR NIEDRIGE SCHNITTGESCHWINDIGKEITEN UND GROSSVORSCHÜBE BEIM SCHRUPPEN UND STARKEN SCHRUPPEN, AUCH UNTER UNSTABILEN BEDINGUNGEN, GEEIGNET. 	<ul style="list-style-type: none"> -HAUTE TENACITÉ, RÉSISTANCE À L'USURE ET AU SHOCK THERMIQUE -INDIQUÉE POUR FAIBLE VITESSE DE COUPE ET HAUT DÉPLACEMENT POUR ÉBAUCHAGE ET ÉBAUCHAGE LOURD, MÊME AVEC CONDITIONS INSTABLES.
<ul style="list-style-type: none"> -HIGH TOUGHNESS, MEDIUM RESISTANCE TO WEAR -SUITABLE FOR MEDIUM – LOW CUTTING SPEEDS FOR MEDIUM ROUGHING, EVEN UNDER UNSTABLE CONDITIONS 	<ul style="list-style-type: none"> -FÜR MITTEL-HOHE SCHNITTGESCHWINDIGKEITEN UND BEI MITTLEREN VORSCHÜBEN -FÜR MITTEL – NIEDRIGE SCHNITTGESCHWINDIGKEITEN BEIM MITTEL – STARKEN SCHRUPPEN, AUCH UNTER UNSTABILEN BEDINGUNGEN, GEEIGNET 	<ul style="list-style-type: none"> -HAUTE TENACITÉ, MOYENNE RÉSISTANCE À L'USURE -INDIQUÉE POUR MOYENNE – FAIBLE VITESSE DE COUPE EN ÉBAUCHAGE MOYEN MÊME AVEC CONDITIONS INSTABLES
<ul style="list-style-type: none"> - VERY TOUGH GRADE FOR INSTABILITY MACHINING AND VERY INTERRUPTED-CUTTING MACHINING. - SUITABLE FOR ROUGHING OF GENERAL STEELS. 	<ul style="list-style-type: none"> - SEHR ZÄHE SORTE FÜR INSTABILE BEARBEITUNGEN UND BEARBEITUNGEN MIT STARK UNTERBROCHENEM SCHNITT. - GEEIGNET ZUM SCHRUPPEN VON ALLGEMEINEN STÄHLEN. 	<ul style="list-style-type: none"> - DEGRÉ TRÈS TENACE POUR L'USINAGE D'INSTABILITÉ ET L'USINAGE À COUPE TRÈS INTERROMPUE. - INDIQUÉ POUR LE DÉGROSSISSAGE D'ACIERS GÉNÉRIQUES.

HT CERMET

HW

METALLO DURO NON RICOPERTO
UNCOATED CARBIDE
UNBESCHICHTETES HARTMETALL
MÉTAL DUR PAS RECOUVERT

HC

METALLO DURO RICOPERTO
COATED CARBIDE
BESCHICHTETES HARTMETALL
MÉTAL DUR RECOUVERT

MATERIALE MATERIAL MATERIALIEN MATÉRIAUX PAG 1063	VDI 3323 GR.	HB HRC Rm	C4010	DT61	DT63	N3105	N3015	N6315	N3620 NEW	N3440	T110	T115	T120
P ACCIAI STEELS STAHL ACIER	1	125	300-420	150-400	310-400								
	2	180	280-350	150-350	260-350								
	3	250	220-320	150-320	220-300								
	4	220	250-300	140-280	220-330								
	5	300	180-260	120-250	180-280								
	6	180	140-200	120-380	250-400								
	7-8	250-300	160-220	120-360	200-350								
	9	350	100-160	120-340	150-220								
	10	200	100-160	120-380	200-350								
	11	350	240-350	120-320	150-220								
	12	200	140-250	120-340									
	13	330	140-250	120-300									
	M ACCIAI INOX STAINLESS STEELS ROSTFREIER STAHL ACIER INOXYDABLE	14.1	180	100-280	120-360								
14.2		230-260	100-220	120-250									
K GHISA CAST IRON GRAUGUSS FONTE GRISE	15	180	180-400		200-300	200-280				100-200	90-160	90-160	90-145
	16	260	180-400		150-260					90-150	80-130	80-130	90-135
	17	160	150-250	100-480	180-300					100-180	90-160	100-160	90-135
	18	250	150-300	100-420	150-240					70-140	70-150	90-150	70-100
	19	130	150-300	100-600	170-280					90-180	90-160	100-160	90-145
	20	230	150-300	100-500	150-220					70-160	70-150	70-150	80-120
N MAT.NON FERROSI NONFERROUS MAT. NICHT-EISENMATERIALIEN MAT. FERREUX	21	60				400-950	200-800	250-350	400-450	100-800	200-950	200-950	300-950
	22	100				400-950	200-800	250-350	400-450	80-800	200-950	200-950	300-950
	23	75				400-950	200-800	250-350	400-450	80-500	200-950	200-950	300-950
	24	90				400-950	200-800	250-350	400-450	100-450	200-950	200-950	300-800
	25	130				400-950	200-800	250-350	400-450	100-450	200-950	200-950	300-600
	26	110				400-950	200-300	250-350	250-335	80-400	200-600	200-600	150-500
	27	90				400-950	200-300	250-350	250-335	200-600	250-950	250-950	300-600
	28	100				400-950	200-300	250-350	250-335	100-300	150-600	150-600	150-450
	29					450-950	200-300	250-350	350-400	80-500	70-500	70-500	
	30					450-950	200-300	250-350	350-400	100-250	80-300	80-300	
S MAT.DIFFICILI DIFFICULT MATERIAL SCHWIERIGE MATERIALIEN MAT. DIFCILES	31	200					30-130						
	32	280					30-130				20-30		
	33	250					30-130				16-24		20-25
	34	350					30-130				13-20		10-20
	35	320					30-130						10-20
	36	Rm400					30-130						25-30
	37	Rm1050					30-130						
H MATERIALI DURI HARD MATERIALS HARTE MATERIALIEN MATÉRIAUX DURS	38	55HRC											25-30
	39	60HRC											
	40	400											
	41	55HRC											

MATERIALE MATERIAL MATERIALIEN MATÉRIAUX PAG 1063	VDI 3323 GR.	HB HRC Rm	T500	F2425	F2435	F4635 NEW	F2140 NEW	F2740 NEW	F5105 NEW	F3710 NEW	F7010	T1415	T3115
P ACCIAI STEELS STAHL ACIER	1	125	305-410	130-250	170-190	120-260	100-250		220-310			220-400	
	2	180	270-370	130-250	170-190	120-260	100-250		220-310			220-400	
	3	250	250-330	130-250	170-190	120-260	100-250		220-310			220-400	
	4	220	220-310	130-250	170-190	120-260	100-250		220-310			220-400	
	5	300	180-250	130-250	170-190	120-260	100-250		220-310			220-400	
	6	180	210-280	130-250	90-150	120-220	80-200		270-300			220-400	
	7-8	250-300	150-200	60-180	90-150	100-180	80-200		270-300			200-320	
	9	350	120-170	60-180	90-150	100-180	80-200		270-300			200-320	
	10	200	160-220	80-200	120-200	80-150	80-150		210-250			180-320	
	11	350	120-170	80-200	120-200	80-150	80-150		210-250			180-320	
	12	200	200-280	120-250	140-180	80-150	80-150		150-200			200-320	
	13	330	120-200	120-250	140-180	80-150	80-150		150-200			200-320	
	M ACCIAI INOX STAINLESS STEELS ROSTFREIER STAHL ACIER INOXYDABLE	14.1	180	150-230	100-250	110-200	90-120	90-170	100-160				
14.2		230-260	100-150	40-160	55-150	80-140	90-170	70-120					
K GHISA CAST IRON GRAUGUSS FONTE GRISE	15	180	250-350			110-190			260-330	120-250	140-290	140-370	180-350
	16	260	180-280			110-190			260-330	120-250	140-290	140-370	140-250
	17	160	200-300			110-190			230-280	120-250	100-240	190-430	130-250
	18	250	180-250			110-190			230-280	100-200	100-240	190-430	100-200
	19	130	250-380			110-190			230-280	100-200	100-220	180-520	150-320
	20	230	180-250			110-190			230-280	100-200	100-220	180-520	120-250
N MAT. NON FERROSI NON FERROUS MAT. NICH- EISEN MATERIALIEN MAT. FERREUX	21	60	300-950										
	22	100	300-700										
	23	75	300-700										
	24	90	300-400										
	25	130	240-350										
	26	110	400-500										
	27	90	250-350										
	28	100	150-400										
	29		100-500										
	30		100-300										
S MAT. DIFFICILI DIFFICULT MATERIAL SCHWIERIGE MATERIALIEN MAT. DIFICILES	31	200	70-110				30-70			30-70			
	32	280	70-110				30-70			30-70			
	33	250	60-100				30-70			30-70			
	34	350	60-90				30-70			30-70			
	35	320	60-90				30-70			30-70			
	36	Rm400	50-80				30-70			30-70			
	37	Rm1050	50-70				30-70			30-70			
H MATERIALI DURI HARD MATERIALS HARTE MATERIALIEN MATERIAUX DURS	38	55HRC	70-110						80-140				
	39	60HRC	50-80						80-140				
	40	400	80-150						80-140				
	41	55HRC	60-130						80-140				

MATERIALE MATERIAL MATERIALIEN MATÉRIAUX PAG 1063	VDI 3323 GR.	HB HRC Rm	T3215	F7115 NEW	T516	T3116 NEW	T518M	F3120 NEW	T3220	F3420	T5020	T1025	T1425
P ACCIAI STEELS STAHL ACIER	1	125		100-250			220-330	200-300	200-340		150-250	120-240	170-240
	2	180		100-250			200-300	200-300	200-340		150-250	120-240	170-240
	3	250		100-250			130-280	200-300	200-340		150-250	150-220	170-240
	4	220		100-250			160-270	200-300	200-340		150-250	110-190	170-240
	5	300		100-250			120-240	200-300	200-340		150-250	110-190	170-240
	6	180		100-250			130-250	180-250	200-340		150-250	110-190	170-240
	7-8	250-300		100-250			110-220	180-250	150-290		150-250	100-220	100-190
	9	350		80-150			80-120	180-250	150-290		150-250	80-180	130-210
	10	200		80-150			110-200	160-220	160-290		150-250	70-160	130-210
	11	350		80-150			80-120	160-220	160-290		150-250	70-160	130-220
	12	200		80-150			140-240	120-180	160-290		150-250	90-160	130-220
	13	330		80-150				120-180	160-290		150-250	90-160	130-220
	M ACCIAI INOX STAINLESS STEELS ROSTFREIER STAHL ACIER INOXYDABLE	14.1	180		80-150			120-260					
14.2		230-260		80-150			100-180						70-100
K GHISA CAST IRON GRAUGUSS FONTE GRISE	15	180	150-390	100-200	180-350	180-360	180-300	150-320	150-400	200-320	100-250		130-210
	16	260	150-390	100-200	140-280	180-360	120-180	150-320	150-400	160-250	100-250		130-210
	17	160	120-330	100-200	130-250	140-230	140-260	150-320	200-450	180-350	100-250		120-240
	18	250	120-330	100-200	100-200	140-250	100-180	110-180	200-450	180-340	100-250		120-240
	19	130	105-270	100-200	150-320	110-220	130-240	110-180	200-550	180-340	100-250		150-250
	20	230	105-270	100-200	120-250	110-220	100-160	110-180	200-550	150-300	100-250		150-250
N MAT.NON FERROSI NONFERROUS MAT. NICHTEISENMATERIALIEN MAT. FERREUX	21	60		200-300									
	22	100		200-300									
	23	75		200-300									
	24	90		200-300									
	25	130		200-300									
	26	110		200-300									
	27	90		200-300									
	28	100		200-300									
	29			200-300									
	30			200-300									
S MAT.DIFFICILI DIFFICULT MATERIAL SCHWIERIGE MATERIALIEN MAT. DIFCILES	31	200					30-60						
	32	280					30-60						
	33	250					20-40						
	34	350					20-40						
	35	320					20-40						
	36	Rm400					50-100						
	37	Rm1050					30-50						
H MATERIALI DURI HARD MATERIALS HARTE MATERIALIEN MATÉRIAUX DURS	38	55HRC		100-150									
	39	60HRC		100-150									
	40	400		100-150									
	41	55HRC		100-150									

MATERIALE MATERIAL MATERIALIEN MATÉRIAUX PAG 1063	VDI 3323 GR.	HB HRC Rm	F4725 NEW	T526	T528N	T530	T1730 NEW	F4130	T5130 NEW	F1040	F4140	F4340	T1435 NEW
P ACCIAI STEELS STAHL ACIER	1	125	120-250	130-350	160-260	170-260	150-230	180-300	120-280	130-300	210-345	150-300	170-190
	2	180	120-250	110-320	130-220	150-240	150-230	180-300	100-250	130-300	210-345	100-250	170-190
	3	250	120-250	90-280	90-160	130-180	150-230	180-300	100-200	130-260	210-345	100-200	170-190
	4	220	120-250	100-280		120-170	150-230	180-300	120-250	130-260	175-290	100-220	170-190
	5	300	120-250	90-250		120-160	130-180	180-300	100-200	130-260	175-290	70-170	170-190
	6	180	120-250	80-250	150-220	140-200	130-180	130-250	80-180	100-230	145-240	100-220	170-190
	7-8	250-300	120-250	60-210	110-190	120-180	130-180	130-250	80-180	100-230	145-240	100-180	90-150
	9	350	100-220	60-180	90-160	100-120	130-180	130-250	80-180	75-175	145-240	100-160	120-200
	10	200	100-220	60-210	120-200	110-160	110-160	150-250	70-150	75-175	125-205	90-150	120-200
	11	350	100-220	60-170	90-140	80-100	110-160	150-250	70-150	75-175	125-205	70-150	140-180
	12	200	80-180	80-190	110-220	120-150	110-160	130-190	70-150	50-110	105-170	120-250	140-180
	13	330	80-180	70-170	90-180	80-120	110-160	130-190	70-150	50-110	105-170	60-120	140-200
	M ACCIAI INOX STAINLESS STEELS ROSTFREIER STAHL ACIER INOXYDABLE	14.1	180	120-250	110-200	120-180	100-150		130-270		110-270	110-235	80-160
14.2		230-260	120-250	120-210	80-120	80-120		100-180		100-230	85-150	70-130	
K GHISA CAST IRON GRAUGUSS FONTE GRISE	15	180		120-220	160-220	160-190		120-220	150-300		110-180		
	16	260		80-170	120-180	100-120		120-220	100-200		110-180		
	17	160		80-200	110-210	140-180		120-220	100-200		95-150		
	18	250		70-180	90-180	120-150		120-220	100-200		95-150		
	19	130		70-180	90-180	140-200		100-170	100-200		85-130		
	20	230		70-160	80-160	130-165		100-170	100-200		85-110		
N MAT. NON FERROSI NON FERROUS MAT. NICH EISEN MATERIALIEN MAT. FERREUX	21	60				300-1000					500-900		
	22	100				300-1000					500-900		
	23	75				150-1000					500-900		
	24	90				150-1000					500-700		
	25	130				150-700					500-700		
	26	110				100-400					330-550		
	27	90				100-400					330-550		
	28	100				100-400					330-550		
	29										500-900		
	30										500-900		
S MAT. DIFFICILI DIFFICULT MATERIAL SCHWERIGE MATERIALIEN MAT. DIFICILES	31	200		60-90	40-70						30-50		
	32	280		60-90	30-40						30-50		
	33	250			30-50	40-60					30-50		
	34	350			30-50	30-40					25-50		
	35	320			40-50	40-50					25-50		
	36	Rm400			60-80	40-70					50-80		
	37	Rm1050				30-50					50-80		
H MATERIALI DURI HARD MATERIALS HARTE MATERIALIEN MATERIAUX DURS	38	55HRC						40-90			100-140		
	39	60HRC						30-60			80-110		
	40	400		70-130				50-100			100-140		
	41	55HRC						40-90			100-140		

MATERIALE MATERIAL MATERIALIEN MATERIAUX PAG 1063	VDI 3323 GR.	HB HRC Rm	F3010	F6315	F8015	F8115	T5120	T525	F1325 NEW	F4325 NEW	F4330 NEW	T533	F1035
P ACCIAI STEELS STAHL ACIER	1	125		110-160			200-400	200-400	175-265		220-310	140-300	70-180
	2	180		110-160			200-400	170-320	175-265		220-310	130-280	70-180
	3	250		110-160			200-400	170-280	175-265		220-310	110-250	70-180
	4	220		110-160			200-400	180-280	175-265		220-310	110-300	70-180
	5	300		110-160			190-270	140-230	145-215		220-310	110-250	70-170
	6	180		110-160			190-270	190-310	145-215		250-280	110-220	70-170
	7-8	250-300		110-160			190-270	130-240	145-215		250-280	100-180	70-170
	9	350		110-160			190-270	100-170	145-215		250-280	80-120	70-170
	10	200		110-160			170-240	170-240	130-190		180-225	110-200	60-140
	11	350		110-160			170-240	100-160	130-190		180-225	60-120	60-140
	12	200		110-160			150-220	200-300	130-190		110-150	120-240	60-140
	13	330		110-160			150-220	100-150	130-190		110-150	110-180	60-140
	M ACCIAI INOX STAINLESS STEELS ROSTFREIER STAHL ACIER INOXYDABLE	14.1	180		90-120		100-200		160-260	90-150	110-180	100-160	120-230
14.2		230-260		90-120		50-150		130-220	60-110	110-180	100-160	80-150	40-140
K GHISA CAST IRON GRAUGUSS FONTE GRISE	15	180	130-200	80-120		140-250	200-280	150-250	140-300			160-250	
	16	260	130-200	80-120		140-230	200-280	150-200	140-300			110-200	
	17	160	130-200	80-120		140-230	190-240	150-220	140-300			150-225	
	18	250	130-200	80-120		140-230	160-230	120-160	140-300			80-140	
	19	130	100-150	80-120		100-220	150-220	150-240	100-160			140-205	
	20	230	100-150	80-120		70-200	150-220	120-180	100-160			100-150	
N MAT/NOI FERROSI NONFERROUS MAT. NICHTEISENMATERIALIEN MAT. FERREUX	21	60				400-950							
	22	100				400-950							
	23	75				400-950							
	24	90				400-950							
	25	130				250-500							
	26	110				250-500							
	27	90				400-950							
	28	100				400-950							
	29					400-950							
	30					400-950							
S MAT/DIFFICILI DIFFICULT MATERIAL SCHWERIGE MATERIALIEN MAT. DIFCILES	31	200			30-60					25-70		35-100	
	32	280			30-60					25-70		35-70	
	33	250			30-60			35-40		25-70		20-60	
	34	350			30-60			35-40		25-70		20-60	
	35	320			30-60			35-40		25-70		20-60	
	36	Rm400			30-50			50-75		40-95		35-60	
	37	Rm1050			30-50					40-95		35-60	
H MATERIALI DURI HARD MATERIALS HARTE MATERIALIEN MATERIAUX DURS	38	55HRC						40-70					
	39	60HRC											
	40	400											
	41	55HRC											

MATERIALE MATERIAL MATERIALIEN MATERIAUX PAG 1063	VDI 3323 GR.	HB HRC Rm	F1335 NEW	T540	T544	F4345 NEW							
P ACCIAI STEELS STAHL ACIER	1	125	150-230	170-250	170-260	100-220							
	2	180	150-230	140-200	150-240	100-220							
	3	250	150-230	120-150	130-180	100-220							
	4	220	150-230	110-150	120-170	100-220							
	5	300	130-180	100-120	120-160	140-215							
	6	180	130-180	140-200	140-200	140-215							
	7-8	250-300	130-180	100-140	120-180	140-215							
	9	350	130-180	70-100	100-120	140-215							
	10	200	110-160	90-130	110-160	130-190							
	11	350	110-160	60-100	80-100	130-190							
	12	200	110-160	120-170	120-150	130-190							
	13	330	110-160	80-130	80-120	130-190							
	M ACCIAI INOX STAINLESS STEELS ROSTFREIER STAHL ACIER INOXYDABLE	14.1	180	80-140	70-180	100-150	70-130						
14.2		230-260	80-140	60-130	80-120								
K GHISA CAST IRON GRAUGUSS FONTE GRISE	15	180			160-190								
	16	260			100-120								
	17	160			140-180								
	18	250			120-150								
	19	130			140-200								
	20	230			130-165								
N MAT. NON FERROSI NON FERROUS MAT. NICHT-EISENMATERIALIEN MAT. FERREUX	21	60		300-1000	300-1000								
	22	100		300-700	300-1000								
	23	75		300-700	150-1000								
	24	90		300-500	150-1000								
	25	130		250-350	150-700								
	26	110		400-500	100-400								
	27	90		250-350	100-400								
	28	100			100-400								
	29												
	30												
S MAT. DIFFICILI DIFFICULT MATERIAL SCHWERIGE MATERIALIEN MAT. DIFCILES	31	200		35-100									
	32	280		35-70									
	33	250			40-60								
	34	350		20-60	30-40								
	35	320		40-60	40-50								
	36	Rm400		40-60	40-70								
	37	Rm1050			30-50								
H MATERIALI DURI HARD MATERIALS HARTE MATERIALIEN MATERIAUX DURS	38	55HRC											
	39	60HRC											
	40	400											
	41	55HRC											

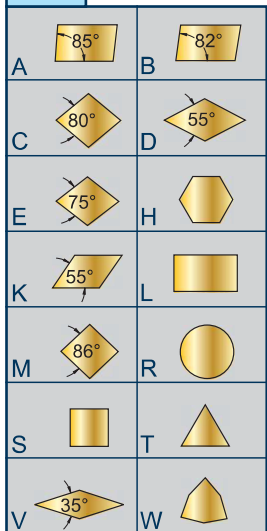
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10	03
5	6

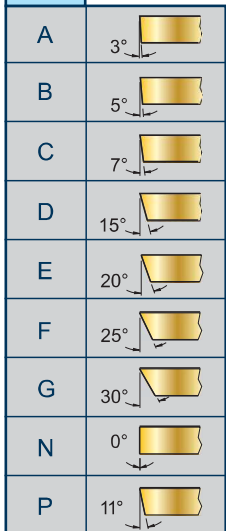
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7a/7b	8	9	

-	-	-	P
10	11	12	13

1 FORMA INSERTO
SHAPE OF INSERT



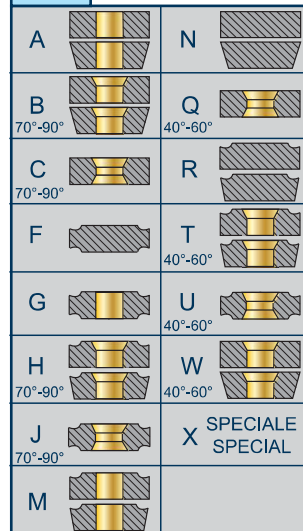
2 SPOGLIA INFER.
RELIEF ANGLE



3 TOLLERANZA+/- (mm)
TOLERANCE+/- (mm)

	m	s	d
A	+/-0,005	+/-0,025	+/-0,025
C	+/-0,013	+/-0,025	+/-0,025
E	+/-0,025	+/-0,025	+/-0,025
F	+/-0,005	+/-0,025	+/-0,013
G	+/-0,025	+/-0,05 +/-0,13	+/-0,025
H	+/-0,013	+/-0,025	+/-0,013
J	+/-0,005	+/-0,025	+/-0,05 +/-0,13
K	+/-0,013	+/-0,025	+/-0,05 +/-0,13
L	+/-0,05	+/-0,013	+/-0,025
M	+/-0,08 +/-0,18	+/-0,13	+/-0,05 +/-0,18
N	+/-0,08 +/-0,18	+/-0,025	+/-0,05 +/-0,13
U	+/-0,13 +/-0,38	+/-0,05 +/-0,13	+/-0,08 +/-0,32

4 TIPO INSERTO
TYPE OF INSERT



5 LUNGHEZZA TAGLIANTE
CUTTING EDGE LENGTH

Ød CERCHIO INSCRITTO INSCRIBED CIRCLE	A	C	D	E	K	L	M	R	S	T	V	W
3,97												02
4,76										08		02-03
5,56		05								09		
6,00												03
6,35			06	07	06		06	06	06	11	11	04
6,70	10											
7,94									07			
8,00				08								05
9,45	16											
9,52	15-16	09	11	09	16	15	09		09	16	16	06
10,00								10				06
11,00									11			
11,50						12						
12,00								12				07
12,62						18						
12,70		12	15	12		15-20			12	22		08
15,87		16							15			
19,05		19							19			

6 SPESSORE
THICKNESS

S	mm
01	1,59
T1	1,97
02	2,38
T2	2,78
03	3,18
T3	3,97
04	4,76
05	5,56
06	6,35
07	7,94
09	9,52

7a RAGGIO
RADIUS

MO (mm)	r (mm)
02	r=0,2
04	r=0,4
05	r=0,5
06	r=0,6
08	r=0,8
10	r=1,0
12	r=1,2
16	r=1,6

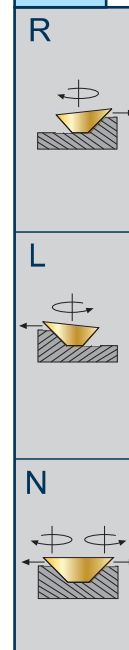
7b SMUSSO
CHAMFER

K°	X°
A=45°	D=15°
D=60°	E=20°
E=75°	F=25°
F=85°	N=0°
P=90°	P=11°
Z=SPEC	Z=SPEC

8



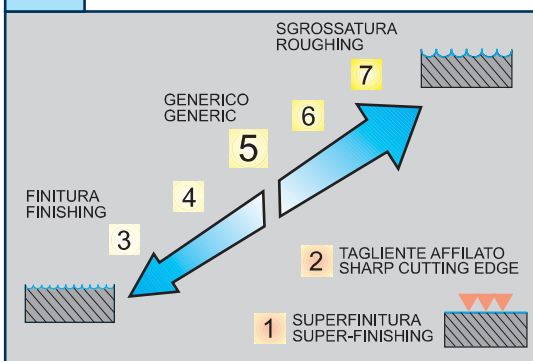
9



10 LETTERA DI IDENTIF.
IDENTIFICATION LETTER

A	N
C	P
D	R
E	S
H	T
I	U
J	W
K	Y
L	Z
M	

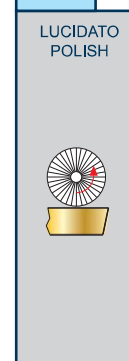
11 CAMPO DI LAVORAZIONE
MACHINING TYPES



12 PREPARAZIONE TAGLIANTE
CUTTING EDGE PREPARATION

1 =	SPECIFICO PER GHISA SPECIFIC FOR CAST IRON
3 =	SPECIFICO PER ACCIAIO INOX SPECIFIC FOR STAINLESS STEEL
7 =	SPECIFICO PER LEGHE DI ALLUMINIO SPECIFIC FOR ALUMINIUM ALLOYS
9 =	SPECIFICO PER ACCIAIO SPECIFIC FOR STEEL
2 =	
4 =	
5 =	INTERMEDI DI USO GENERIC INTERMEDIATE FOR GENERAL USE
6 =	
8 =	

13



APK. APHT									HT	HW	HC									
									CERMET	NON RIVESTITI CEMENTED CARBIDE GRADES	RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS									
ART.	COD.	l	d	s	d1	r	a°	T120	F2140 <small>≤m2</small>	T516	T526	T528N	T530	T525	T533	F1035				
.I52	APKT 1003 PDR .I52	10,5	6,70	3,5	2,8	0,5	11													
.L52	APKT 1003 PDER .L52	10,5	6,70	3,5	2,8	0,5	11													
.S52	APKT 1003 PDTR .S52	10,5	6,70	3,5	2,8	0,5	11													
.S52	APKX 1003 PDR .S52	10,5	6,70	3,5	2,8	0,5	11													
.Z53	APHT 100312 SR .Z53	10,5	6,70	3,5	2,8	1,2	11													
	APHT 100320 SR .Z53	10,5	6,70	3,5	2,8	2,0	11													
.Z54	APKT 1003 PDER .Z54	10,5	6,70	3,5	2,8	0,5	11													
	APKT 1003 PDSR .Z54	10,5	6,70	3,5	2,8	0,5	11													
.S57	APHT 1003 PDFR .S57	10,5	6,70	3,5	2,8	0,5	11													
MATERIALE - MATERIAL - MATERIALIEN - MATÉRIAUX								T120	F2140 <small>≤m2</small>	T516	T526	T528N	T530	T525	T533	F1035				
P	ACCIAIO - STEEL - STAHL - ACIER																			
M	ACCIAIO INOX - STAINLESS STEEL - ROSTFREIER STAHL - ACIER INOXIDABLE																			
K	GHISA - CAST IRON - GRAUGUSS - FONTE GRISE																			
N	LEGHE DI ALLUMINIO - ALUMINIUM ALLOYS - ALUMINIUM-LEGIERUNGEN - ALLIAGES D'ALUMINIUM																			
S	LEGHE RESISTENTI AL CALORE - HEAT RESISTANT ALLOYS - WÄRMEBESTÄNDIGE LEGIERUNGEN - ALLIAGES RÉISTANTES À LA CHALEUR																			
H	MATERIALI DURI E TEMPRATI - HARD AND HARDENED MATERIAL - HARTE UND GEHÄRTETE MATERIALIEN - MATERIAUX DURS ET TREMPÉS																			

■ DISPONIBILI - IN STOCK - LIEFERBAR - DISPONIBLES / ■ NEW
 ● APPLICAZIONE CONSIGLIATA-RECOMMENDED APPLICATION-
 EMPFOHLENER EINSATZ - APPLICATION CONSEILLÉE

□ A RICHIESTA - ON REQUEST - AUF ANFRAGE - SUR DEMANDE / □ NEW
 ○ APPLICAZIONE POSSIBILE - POSSIBLE APPLICATION -
 MÖGLICHE ANWENDUNG - APPLICATION POSSIBLE

APK. APF. APM.										HT	HW		HC							
										CERMET	NON RIVESTITI CEMENTED CARBIDE GRADES		RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS							
ART.	COD.	l	d	s	d1	r	a°	T110	T120	F4635 <small>€12</small>	T516	T526	T528N	T530	F8015	T525	T544			
.S51	APKT 1604 PDR .S51	17,0	9,45	5,26	4,4	0,4	11		■											
.I52	APMT 1604 PDR .I52	17,0	9,45	5,26	4,4	0,8	11					■								
.K52	APKT 1604 PDSR .K52	17,0	9,45	5,26	4,4	0,8	11								■					
.S52	APKT 1604 PDTR .S52	17,0	9,45	5,26	4,4	0,8	11					■	■							
.Z52	APKT 1604 PDSR .Z52	17,0	9,45	5,26	4,4	0,8	11			■										
.S52	APFT 1604 PDTR .S52	17,0	9,45	4,76	4,4	0,8	11									■				
.S52	APKX 1604 PDR .S52	17,0	9,45	5,76	4,4	0,8	11					■				■	■			
.S52	APFX 160416R .S52	17,0	9,45	4,76	4,4	1,6	11									■				
	APFX 160424R .S52	17,0	9,45	4,76	4,4	2,4	11									■				
	APFX 160430R .S52	17,0	9,45	4,76	4,4	3,0	11									■				
	APFX 160440R .S52	17,0	9,45	4,76	4,4	4,0	11									■				
	APFX 160448R .S52	17,0	9,45	4,76	4,4	4,8	11									■				
	APFX 160460R .S52	17,0	9,45	4,76	4,4	6,0	11									■				
.S54	APKT 1604 PDTR .S54	17,0	9,45	5,26	4,4	0,4	11									■				
.Z54	APKT 1604 PDSR .Z54	17,0	9,45	5,26	4,4	0,8	11					■								
.K57P	APKT 1604 PDFR .K57P	16,4	9,53	4,76	4,4	0,2	11	■												
MATERIALE - MATERIAL - MATERIALIEN - MATÉRIAUX										T110	T120	F4635 <small>€12</small>	T516	T526	T528N	T530	F8015	T525	T544	
P	ACCIAIO - STEEL - STAHL - ACIER										●	●	●	●		●	●			
M	ACCIAIO INOX - STAINLESS STEEL - ROSTFREIER STAHL - ACIER INOXYDABLE								○		●	○	○	●		●	●			
K	GHISA - CAST IRON - GRAUGUSS - FONTE GRISE								●		○	●	●	○		○	○			
N	LEGHE DI ALLUMINIO - ALUMINIUM ALLOYS - ALUMINIUM-LEGIERUNGEN - ALLIAGES D'ALUMINIUM							●	○				○			○				
S	LEGHE RESISTENTI AL CALORE - HEAT RESISTANT ALLOYS - WÄRMEBESTÄNDIGE LEGIERUNGEN - ALLIAGES RÉSISTANTES À LA CHALEUR							○				○	○	○		●	○			
H	MATERIALI DURI E TEMPRATI - HARD AND HARDENED MATERIAL - HARTE UND GEHÄRTETE MATERIALIEN - MATERIAUX DURS ET TREMPÉS															○				

■ DISPONIBILI - IN STOCK - LIEFERBAR - DISPONIBLES / ■ NEW
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○ APPLICAZIONE POSSIBILE - POSSIBLE APPLICATION -
MÖGLICHE ANWENDUNG - APPLICATION POSSIBLE

RA..		RAET..		RD..		HT	HW	HC			
						CERMET	NON RIVESTITI CEMENTED CARBIDE GRADES	RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS			
ART	COD.	d	s	d1	H	r	a°	N3620 $\leq m/z$	T500	F5105 $\leq m/z$ F7115 $\leq m/z$	F4325 $\leq m/z$ F4330 $\leq m/z$
	RA 08.04 .K32W	8,0	2,4	2,5	7	4	-				
	RA 10.04 .K32W	10,0	2,6	3,0	8,5	5	-				
	RA 12.04 .K32W	12,0	3,0	3,5	10	6	-				
	RA 16.04 .K32W	16,0	4,0	4,0	12	8	-				
	RA 20.04 .K32W	20,0	5,0	5,0	15	10	-				
	RA 25.04 .K32W	25,0	6,0	6,0	18,5	12,5	-				
	RA 32.04 .K32W	32,0	7,0	8,0	23,5	16	-				
NEW											
	RAET 100008 .P42	10,0	2,6	3,0	8,5	0,8	-				
	RAET 120010 .P42	12,0	3,0	3,5	10	1,0	-				
	RAET 120020 .P42	12,0	3,0	3,5	10	2,0	-				
	RAET 160013 .P42	16,0	4,0	4,0	12	1,3	-				
	RAET 160030 .P42	16,0	4,0	4,0	12	3,0	-				
	RAET 200016 .P42	20,0	5,0	5,0	15	1,6	-				
	RAET 200040 .P42	20,0	5,0	5,0	15	4,0	-				
	RAET 250020 .P42	25,0	6,0	6,0	18,5	2,0	-				
	RDHX 0501 MOE .T42	5,0	1,51	2,2	-	-	15				
	RDHX 07T1 MOT .T42	7,0	1,98	2,8	-	-	15				
	RDHX 0702 MOT .T42	7,0	2,38	2,8	-	-	15				
	RDHX 1003 MOT .T42	10,0	3,18	3,9	-	-	15				
	RDHX 12T3 MOT .T42	12,0	3,97	3,9	-	-	15				
	RDHX 1604 MOT .T42	16,0	4,76	5,2	-	-	15				
	NEW										
	RDET 1003 MOSN .T56	10,0	3,18	4,4	-	-	15				
	RDET 12T3 MOSN .T56	12,0	3,97	4,4	-	-	15				
NEW											
	RDEX 1604 MOSN .T56	16,0	4,76	5,5	-	-	15				
NEW											
	RDEW 1003 MOSN .T56	10,0	3,18	4,4	-	-	15				
	RDEW 12T3 MOSN .T56	12,0	3,97	4,4	-	-	15				
	RDEW 1604 MOSN .T56	16,0	4,76	5,5	-	-	15				
NEW											
	RDHT 07T1 MO .T57P	7,0	1,98	2,8	-	-	15				
	RDHT 0702 MO .T57P	7,0	2,38	2,8	-	-	15				
	RDHT 1003 MO .T57P	10,0	3,18	3,9	-	-	15				
	RDHT 12T3 MO .T57P	12,0	3,97	3,9	-	-	15				
	RDHT 1604 MO .T57P	16,0	4,76	5,2	-	-	15				
NEW											

MATERIALE - MATERIAL - MATERIALIEN - MATÉRIAUX

P	ACCIAIO - STEEL - STAHL - ACIER										
M	ACCIAIO INOX - STAINLESS STEEL - ROSTFREIER STAHL - ACIER INOXYDABLE										
K	GHISA - CAST IRON - GRAUGUSS - FONTE GRISE										
N	LEGHE DI ALLUMINIO - ALUMINIUM ALLOYS - ALUMINIUM-LEGIERUNGEN - ALLIAGES D'ALUMINIUM										
S	LEGHE RESISTENTI AL CALORE - HEAT RESISTANT ALLOYS - WÄRMEBESTÄNDIGE LEGIERUNGEN - ALLIAGES RÉSISTANTES À LA CHALEUR										
H	MATERIALI DURI E TEMPRATI - HARD AND HARDENED MATERIAL - HARTE UND GEHÄRTETE MATERIALIEN - MATERIAUX DURS ET TREMPÉS										

■ DISPONIBILI - IN STOCK - LIEFERBAR - DISPONIBLES / ■ NEW
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MÖGLICHE ANWENDUNG - APPLICATION POSSIBLE

SEEX	Diagram 1		SEKX	Diagram 2		HT		HW		HC									
	d	a°		d	a°	CERMET	NON RIVESTITI CEMENTED CARBIDE GRADES		RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS										
ART	COD.	l	d	s	d1	r	a°	DT63	N3005	N3105	F7010	T3215	T518M	T528N	F1040	F8115	T533		
.M12	SEEX 13T3 AGTR .M12	8,2	13,4	3,97	4,1	1,5	20	■	■										
.L44	SEKT 13T3 AZFN .L44	13,4	13,4	3,97	4,1	-	20		■										
.L44	SEKT 13T3 AZEN .L44	13,4	13,4	3,97	4,1	-	20											■	
.L54	SEKT 13T3 AZEN .L54	13,4	13,4	3,97	4,1	-	20					■	■					■	
.L55	SEKT 13T3 AZTN .L55	13,4	13,4	3,97	4,1	-	20					■							
.L51	SEKW 13T3 AZTN .L51	13,4	13,4	3,97	4,1	-	20					■							
.Z52	SEKX 1305 AGSR .Z52	3,9	15,17	5,58	4,1	1,0	20						■						
MATERIALE - MATERIAL - MATERIALIEN - MATÉRIAUX								DT63	N3005	N3105	F7010	T3215	T518M	T528N	F1040	F8115	T533		
P	ACCIAIO - STEEL - STAHL - ACIER							●				●	●	●				●	
M	ACCIAIO INOX - STAINLESS STEEL - ROSTFREIER STAHL - ACIER INOXIDABLE											●	○	●				○	
K	GHISA - CAST IRON - GRAUGUSS - FONTE GRISE							●	●	○	●	●	○	○				○	
N	LEGHE DI ALLUMINIO - ALUMINIUM ALLOYS - ALUMINIUM-LEGIERUNGEN - ALLIAGES D'ALUMINIUM								●			○						○	
S	LEGHE RESISTENTI AL CALORE - HEAT RESISTANT ALLOYS - WÄRMEBESTÄNDIGE LEGIERUNGEN - ALLIAGES RÉSISTANTES À LA CHALEUR											○	○					●	
H	MATERIALI DURI E TEMPRATI - HARD AND HARDENED MATERIAL - HARTE UND GEHÄRTETE MATERIALIEN - MATERIAUX DURS ET TREMPÉS																	●	

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SPM.	ART.	COD.	TCMT		TCMX		HT		HW		HC															
			l	d	s	d1	r	a°	C4010	T120	F2425	F2435	T1415	T3115	T3220	T1425	T528N	F4140	T1435	T540						
 .N54	SPMT 060304	.N54	6,35	6,35	3,18	2,8	0,4	11																		
	SPMT 09T308	.N54	9,52	9,52	3,97	4,5	0,8	11																		
	SPMT 120408	.N54	12,7	12,7	4,76	5,5	0,8	11																		
	NEW																									
	 .N51	SPMW 060304	.N51	6,35	6,35	3,18	2,8	0,4	11																	
		SPMW 09T308	.N51	9,52	9,52	3,97	4,5	0,8	11																	
		SPMW 120408	.N51	12,7	12,7	4,76	5,5	0,8	11																	
	NEW																									
	 .N59	SPMW 060304	.N59	6,35	6,35	3,18	2,8	0,4	11																	
SPMW 09T308		.N59	9,52	9,52	3,97	4,5	0,8	11																		
SPMW 120408		.N59	12,7	12,7	4,76	5,5	0,8	11																		
NEW																										
 .G39	TCMT 110204	.G39	11,0	6,35	2,38	2,8	0,4	11																		
	NEW																									
 .S42	TCMT 110202	.S42	11,0	6,35	2,38	2,8	0,2	7																		
	TCMT 110204	.S42	11,0	6,35	2,38	2,8	0,4	7																		
	TCMT 16T304	.S42	16,5	9,52	3,97	4,4	0,4	7																		
	TCMT 16T308	.S42	16,5	9,52	3,97	4,4	0,8	7																		
	TCMT 220404	.S42	22,0	12,7	4,76	5,6	0,4	7																		
 .G52	TCMT 110204	.G52	11,0	6,35	2,38	2,8	0,4	7																		
	TCMT 110208	.G52	11,0	6,35	2,38	2,8	0,8	7																		
	TCMT 16T304	.G52	16,5	9,52	3,97	4,4	0,4	7																		
	TCMT 16T308	.G52	16,5	9,52	3,97	4,4	0,8	7																		
	TCMT 16T312	.G52	16,5	9,52	3,97	4,4	1,5	7																		
 .Z52	TCMT 220408 EN	.Z52	22,0	12,7	4,76	5,6	0,8	7																		
	NEW																									
 .S52	TCMX 16T308ZN	.S52	16,5	9,52	3,97	4,4	0,8	7																		
	NEW																									
MATERIALE - MATERIAL - MATERIALIEN - MATÉRIAUX									C4010	T120	F2425	F2435	T1415	T3115	T3220	T1425	T528N	F4140	T1435	T540						
P	ACCIAIO - STEEL - STAHL - ACIER								○			○	○	●	○	●	●	●			○	●				
M	ACCIAIO INOX - STAINLESS STEEL - ROSTFREIER STAHL - ACIER INOXYDABLE								●	○		●	●		○	○	○	○			○	●				
K	GHISA - CAST IRON - GRAUGUSS - FONTE GRISE								○	●				○	●	○										
N	LEGHE DI ALLUMINIO - ALUMINIUM ALLOYS - ALUMINIUM-LEGIERUNGEN - ALLIAGES D'ALUMINIUM									○											○					
S	LEGHE RESISTENTI AL CALORE - HEAT RESISTANT ALLOYS - WÄRMEBESTÄNDIGE LEGIERUNGEN - ALLIAGES RÉSISTANTES À LA CHALEUR									○							○	●			○					
H	MATERIALI DURI E TEMPRATI - HARD AND HARDENED MATERIAL - HARTE UND GEHÄRTETE MATERIALIEN - MATERIAUX DURS ET TREMPÉS																									

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VDKT VCKT	WDM.	WPM.	VDKT VCKT						HT	HW	HC
			HT	HW	HC						
ART	COD.	l	d	s	d1	r	a°	CERMET	NON RIVESTITI CEMENTED CARBIDE GRADES	RIVESTITI COATED GRADES BESCHICHTET RECOUVERTS	
.K57P	VDKT 11T210 N .K57P	11	6,35	2,87	2,8	1	7	■	T110	F4130 F4140	T5120
.K57P	VCKT 220530 .K57P	20,1	12,7	5,56	5,6	3,0	15	■			
.X52	WNMT 140525 .X52	7	13,7	5,5	4,9	2,5	-			■	■
.N42	WPMT 06X415 ZSR .N42	6	9,52	4,20	4,3	1,5	11			■	
	WPMT 080615 ZSR .N42	8	12,7	6,35	5,4	1,5	11			■	
.N52	WPMW 06X415 ZSR .N52	6	9,52	4,20	4,3	1,5	11			■	■
	WPMW 080615 ZSR .N52	8	12,7	6,35	5,4	1,5	11			■	■
MATERIALE - MATERIAL - MATERIALIEN - MATÉRIAUX									T110	F4130 F4140	T5120
P	ACCIAIO - STEEL - STAHL - ACIER									● ●	●
M	ACCIAIO INOX - STAINLESS STEEL - ROSTFREIER STAHL - ACIER INOXIDABLE									● ●	
K	GHISA - CAST IRON - GRAUGUSS - FONTE GRISE							○		○ ○	●
N	LEGHE DI ALLUMINIO - ALUMINIUM ALLOYS - ALUMINIUM-LEGIERUNGEN - ALLIAGES D'ALUMINIUM							●			
S	LEGHE RESISTENTI AL CALORE - HEAT RESISTANT ALLOYS - WÄRMEBESTÄNDIGE LEGIERUNGEN - ALLIAGES RÉISTANTES À LA CHALEUR									○	
H	MATERIALI DURI E TEMPRATI - HARD AND HARDENED MATERIAL - HARTE UND GEHÄRTETE MATERIALIEN - MATERIAUX DURS ET TREMPÉS									○	○

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