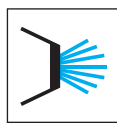
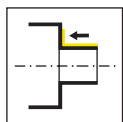


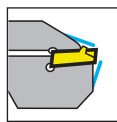
Copiage et chariotage extérieur
Tornitura in copiatura esterna



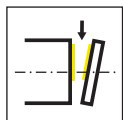
Arrosage inter
Refrigerante interno



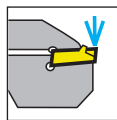
Chariotage extérieur
Tornitura in passata esterna



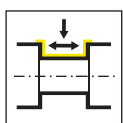
Lubrification ciblée
Lubrefrigeriazione mirata



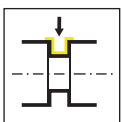
Tronçonnage
Troncatura



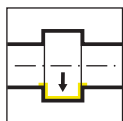
Arrosage central sur la
plaquette
Adduzione del lubrefrigeriazione
attraverso l'inserto



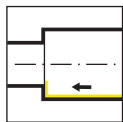
Gorge et Chariotage
Gole e Tornitura in passata



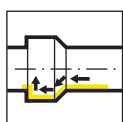
Gorge extérieur
Gole esterne



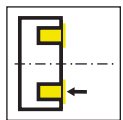
Gorge intérieur
Gole interne



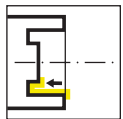
Alésage intérieur
Barenatura interna



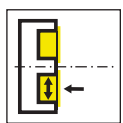
Alésage et copiage
Barenatura e profilatura



Gorge frontale
Gole assiali



Gorge axiale devant le centre
Gole assiali interne



Tournage de face axiale
Tornitura longitudinale assiale

Applications PERÇAGE ET ALÉSAGE

Applicazione FORATURA E ALESATURA



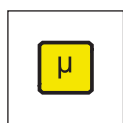
3xd	Profondeur de perçage Profondità di foratura		Angle d'hélice Angolo elic
P	Matière P Materiale P		Outil de perçage standard Punta standard
M	Matière M Materiale M		Angle de pointe Angolo al vertice
	Alésage intérieur Alesatura interna		Arrosage inter Perçage Refrigerante interno Foratura
	Chariotage extérieur Tornitura in passata esterna		Arrosage inter Refrigerante interno
	Dressage de face Sfacciatura		Douille intermédiaire étanche Bussola di riduzione con adduzione centrale
	Alésage et copiage Alesatura e profilatura		Arrosage en périphérie Douille intermédiaire Bussola di riduzione con adduzione laterale
	Alésage et chamfrein intérieur Gole interne e smussatura		Alésage des épaulements Refrigerante per spallamenti
	Chanfreinage intérieur Smussatura interna		Arrosage pour trou borgne latéral Refrigerante per foro cieco laterale
	Gorge frontale Gole assiali		Arrosage pour trou borgne central Refrigerante per foro cieco centrale
	Gorge axiale devant le centre Gole assiali interne		Arrosage pour trou débouchant Refrigerante per fori passanti
	Gorge frontale le long d'un axe Gole assiali con ingombro		Douille intermédiaire avec collerette renforcée Bussola di riduzione con collare rinforzato
z2	Nombre de dents Nnumero di denti		Réglage axial de la longueur Regolazione assiale sulla lunghezza

Applications PERÇAGE ET ALÉSAGE

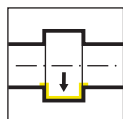
Applicazione FORATURA E ALESATURA



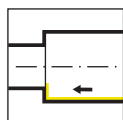
	Urma		ne convient pas au frettage non calettare
	Beta-Modul		Réglage du faux rond Concentricità regolabile
	IntraMax K		compensation axiale du balancement Elemento perno assiale
	IntraMax G		Battement sur le VDR Run-out sur VDR
	Hélice diagonale droite Taglienti diritti		Géométrie H Geometria H
	Hélice diagonale à gauche Taglienti con elica negativa		Formes du corps Forma di gambo
	Digital Digitale		Forme de corps DIN ISO 12164-1 Forma di gambo
	Trou pour le support de données "puce" DIN69973 Foro per chip Dati		Forme de corps DIN ISO 12164-1 Forma di gambo
	Longueur réglable Lunghezza regolabile		Forme de corps DIN ISO 7388-1 AD/AF Forma di gambo
	Plage de réglage métrique Campo di regolazione metrico		Forme de corps DIN ISO 7388-2 JD Forma di gambo
	Nombre de tours Numero di giri		Forme de corps ISO 26623-1 Forma di gambo
	Analogique Analogico		
	Réglage métrique Regolazione metrica		



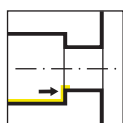
μ Finish



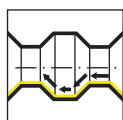
Gorge intérieur
Gole interne



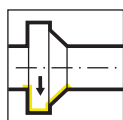
Alésage intérieur
Barenatura interna



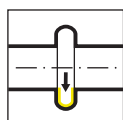
Tournage en tirant intérieur
Alesatura in tiro interna



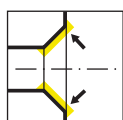
Alésage et chanfrein intérieur
Barenatura interna e smussatura



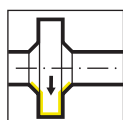
Pretrouçonnage et
chanfreinage intérieur
Pregola e smussatura interna



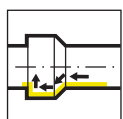
Gorge intérieure à rayon complet
Gole interne tutto raggio



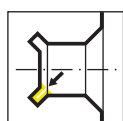
Chanfreinage intérieur
Smussatura interna



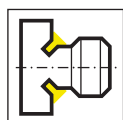
Gorge intérieure avec chanfrein
Gole con smussi



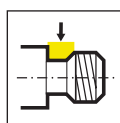
Alésage et copiage
Barenatura e profilatura



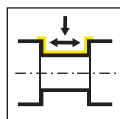
Dégagements intérieur
Scarico di rettifica interna



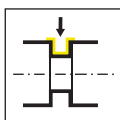
Dégagements extérieur
Scarico di rettifica esterna



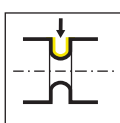
Dégagement de filetage
Gole scarico filetto



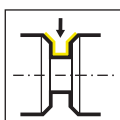
Gorge et chariotage
Gole e tornitura in passata



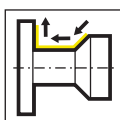
Gorge extérieur
Gole externe



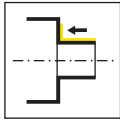
Gorge rayon complet extérieur
Gole raggio completo esterna



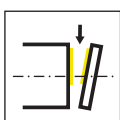
Gorge extérieure avec NAKF
Gole externe con NAKF



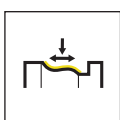
Copiage et chariotage extérieur
Tornitura in copiatura esterna



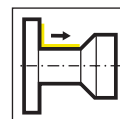
Chariotage extérieur
Tornitura in passata esterna



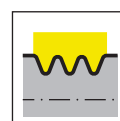
Tronçonnage
Troncatura



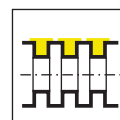
Copiage et chariotage
Tornitura in copiatura



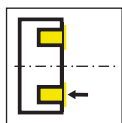
Alesage en tirant extérieur
Alesatura in tiro esterna



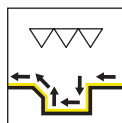
Gorges poly V
Forma gola Poly-V



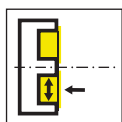
Gorges multiples
Gole multiple



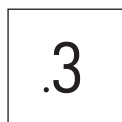
Gorge frontale
Gole assiali



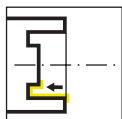
Tournage de précision
Tornitura fine



Tournage de face axiale
Tornitura longitudinale assiale



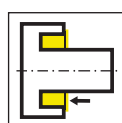
Formes géométriques
Forme di geometria



Gorge frontale dans un alésage
Gole assiali interne



Gorges circlips
Gole Seeger



Gorge frontale le long d'un axe
Gole assiali con ingombro



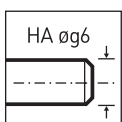
Speed Forming

Formes du corps

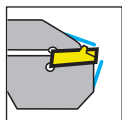
Forma di gambo



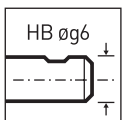
Arrosage inter
Refrigerante interno



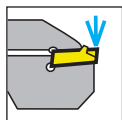
Formes du corps HA
Forma di gambo HA



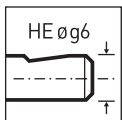
Lubrification ciblée
Lubrorefrigerazione mirata



Formes du corps HB
Forma di gambo HB



Arrosage central sur la
plaque
Adduzione del lubrorefrigerante
attraverso l'inserto



Formes du corps HE
Forma di gambo HE

Filetage

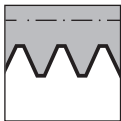
Filettare



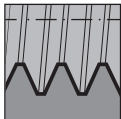
Filetage profil partiel
Filettatura profilo parziale



Filetage profil plein
Filettatura profilo completo



Filetage extérieur
Filettatura esterna



Filetage intérieur
Filettatura interna



Filetage Whitworth BSW/BSF
Filettatura Whitworth BSW/BSF



Filetage UN
Filettatura UN



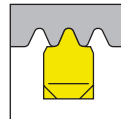
National pipe thread



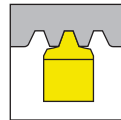
Filetage de tube acier
Filettatura di tubi d'acciaio



Filetage ISO-métrique
Filetti metrici



Filetage Whitworth
Filettatura Whitworth

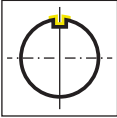


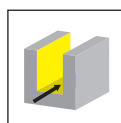
Filetage trapézoïdale
Filettatura Trapezoidale

Aucunes cales nécessaires. Tous les profils de HORN sont fabriqués avec une grande dépouille radiale.
Non è necessaria la sottopiacchetta. La HORN realizza tutti i profili dei filetti con angoli di spoglia idonei.

Brochage

Stozzatura

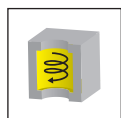
	Géométrie A Geometria A		Tolérance C11 Classe di tolleranza C11
	Géométrie B Geometria B		Tolérance D10 Classe di tolleranza D10
	Brochage intérieur Stozzatura interna		Tolérance H9 Classe di tolleranza H9
	Brochage extérieure Stozzatura esterna		Tolérance JS9 Classe di tolleranza JS9
	Brochage de carré intérieur Stozzatura di quadri interna		Tolérance P9 Classe di tolleranza P9
	Brochage hexagone intérieur Stozzatura sedi esagone interna		
	Brochage Torx intérieur Stozzatura Torx interna		
	Brochage chanfrein Stozzatura smusso		



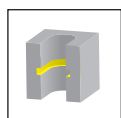
Fraisage de gorge
Fresatura gole



Fraisage d'une rainure à rayon complet
Fresatura di scanalature a raggio pieno



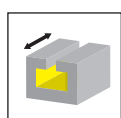
Gorge circulaire
Fresatura per interpolazione



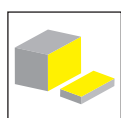
Fraisage de gorges internes
Fresatura di gole interne



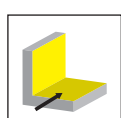
Gorges circlips
Gole Seeger



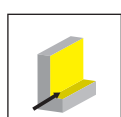
Rainure en T DIN 650
Cava T DIN 650



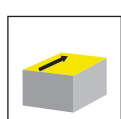
Fraise a tronçonner
Frese a disco a troncane



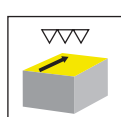
Fraisage de coins
Fresatura di piani angolari



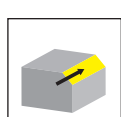
Fraisage d'épaulements
Rifinitura



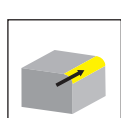
Fraisage surfacage
Spianatura



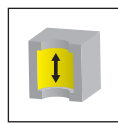
Fraisage de finition
Finitura



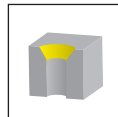
Chanfreinage
Smussatura



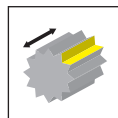
Fraisage de rayon
Raggiatura in fresatura



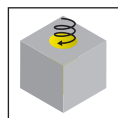
Fraisage d'alésages
Allargatura di fori in fresatura



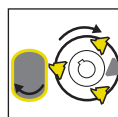
Fraisage de chanfreins
Fresatura di smussi



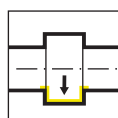
Fraisage d'engrenages
Fresatura di ingranaggi e scanalati



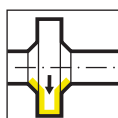
Interpolation hélicoïdale
Interpolazione elicoidale



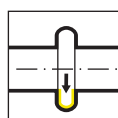
Polygonage
Poligonatori



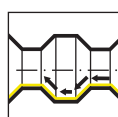
Gorge intérieure
Gole interne



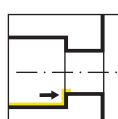
Gorge intérieure avec chanfrein
Gole interne con smusso



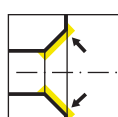
Gorge intérieure à rayon complet
Fresatura di gole interne a raggio completo



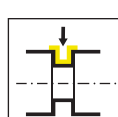
Alésage et chanfrein intérieur
Barenatura e profilatura interna



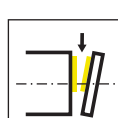
Tournage en tirant intérieur
Alesatura in tiro interna



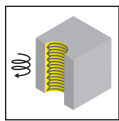
Chanfrein intérieur
Smussatura interne



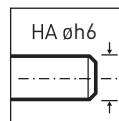
Gorge extérieure
Gole esterne



Tronçonnage
Troncatura



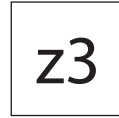
Fraisage de filetages intérieur
Filettatura per fresatura interna



Formes du corps
Forma di gambo



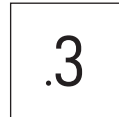
Filetage profil plein
Filettatura profilo parziale



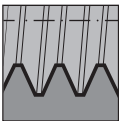
Nombre de dents
Numero di denti



Filetage profil partiel
Filettatura profilo completo



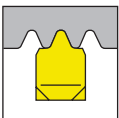
Géométrie .3
Geometria



Filetage intérieur
Filettatura interna



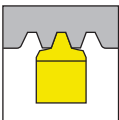
Géométrie .40 pour aluminium
Geometria per alluminio



Filetage Whitworth
Filettatura thread



Géométrie .E
Geometria



Filetage trapézoïdale
Filettatura Trapezoidale



Géométrie .FY
Geometria



Filetage Whitworth BSW/BSF
Filettatura Whitworth BSW/BSF



National pipe thread



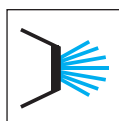
Angle d'approche 45°
Angolo di approccio 45°



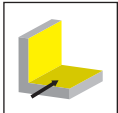
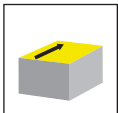
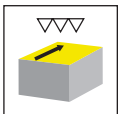
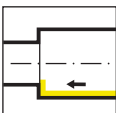
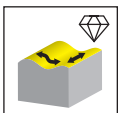
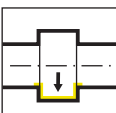
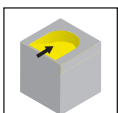
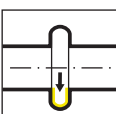
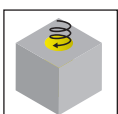
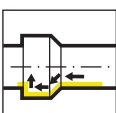
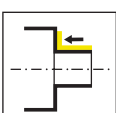
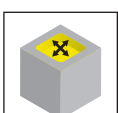
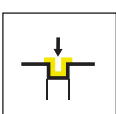
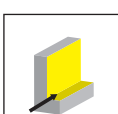
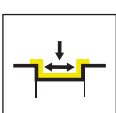
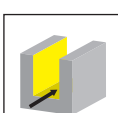
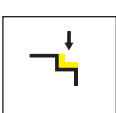
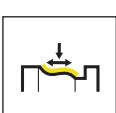
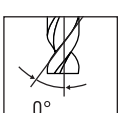
Filetage ISO-métrique
Filetti metrici ISO
Angle d'approche 60° (Chapitre Fraisage Tangentielle)
Angolo di approccio 60° (Capitolo Fresatura Tangenziale)



Filetage Unifié
Filetti Unified



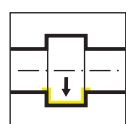
Arrosage inter
Refrigerante interno

CVD-D	Type CVD Riporto CVD		Copiage extérieur Copiatura esterna
PKD PCD	Type PCD Riporto tipped		Fraisage de coins Fresatura di piani angolari
MKD MCD	Type MKD Riporto tipped		Fraisage surfaçage Spianatura
CBN PCBN	Type CBN Riporto PCBN		Fraisage de finition Finitura
	Alésage intérieur Barenatura interna		Fraisage par copiage finition Copiatura in finitura
	Gorge intérieur Gole interne		Rampe Fresatura in rampa
	Gorge intérieure à rayon complet Gole interne tutto raggio		Plongée hélicoïdale Fresatura a tuffo
	Alésage et copiage Barenatura e profilatura	5xd	Bohrtiefe Drilling depth
	Chariotages extér. Tornitura in passata esterna		Fraisage de poche Fresatura di tasche
	Gorge Gole		Fraisage d'épaulements Rifinitura
	Chariotages Tornitura in passata		Fraisage de gorge Fresatura gole
	Coupe partielle Profilo parziale		Tolérance h7 Tolleranza h7
	Copiage Copiatura		Angle d'hélice Angolo d'elica

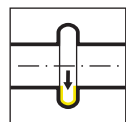
	Tolérance de forme Tolleranza di forma		Rayon complet Raggio completo
	Concentricité Concentricità		Coupe au centre Taglio al centro
	Poli-miroir Superfinitura		Formes du corps Forma di gambo
.H0	Brise-copeaux neutre 0° angle de coupe Rompitruciolo neutro, petto tagliente a 0°		Rayon d'angles Raggio spigolo
.H5	Brise-copeaux positif neutre 5° angle de coupe Rompitruciolo positivo, petto tagliente a 5°		Leichtbauweise Lightweight
.H6	Brise-copeaux positif neutre 6° angle de coupe Rompitruciolo positivo, petto tagliente a 6°	z3	Nombre de dents Numero di denti
.HF	Brise-copeaux HORN 3D Usinage des alésages Rompitruolo HORN 3D per barenatura	G2,5 rpm	Qualité de l'équilibrage Bilanciatura
.HN	Brise-copeaux HORN 3D Usinage normal jusqu'à l'ébauche Rompitruolo HORN 3D per sgrossatura		Arrosage inter Refrigerante interno
.HS	Brise-copeaux HORN 3D Usinage de finition Rompitruolo HORN 3D per finitura		
.A0	Métaux à copeaux longs Materiali a truciolo lungo		
.M0	Métaux à copeaux courts Materiali a truciolo corto		
.W0	Groupe de matériaux "plastiques soft" Materiali plastici poco caricati		
.X0	Groupe de matériaux "usage universel" Materiali plastici universali		

Applications SUPERMINI ET MINI

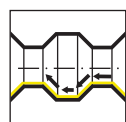
Applicazione SUPERMINI E MINI



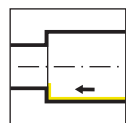
Gorge intérieure
Gole interne



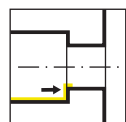
Gorge intérieure à rayon complet
Gole interne tutto raggio



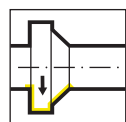
Alésage et chanfrein intérieur
Barenatura interna e smussatura



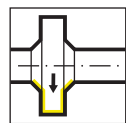
Alésage intérieur
Barenatura interna



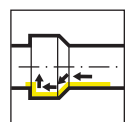
Tournage en tirant intérieur
Alesatura in tiro interna



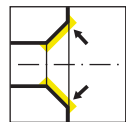
Pretronçonnage et
chanfreinage intérieur
Pregola e smussatura interna



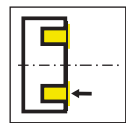
Gorge intérieure avec chanfrein
Gole con smussi



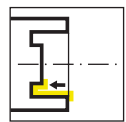
Alésage et copiage
Barenatura e profilatura



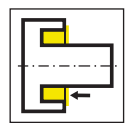
Chanfreinage intérieur
Smussatura interna



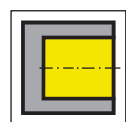
Gorge frontale
Gole assiali



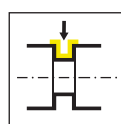
Gorge frontale dans un alésage
Gole assiali interne



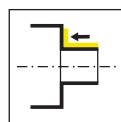
Gorge frontale le long d'un axe
Gole assiali con ingombro



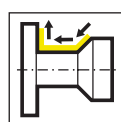
Perçage dans le plein
Foratura in materiale solido



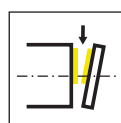
Gorge extérieure
Gole esterne



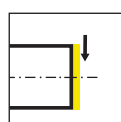
Chariotage extérieur
Tornitura in passata esterna



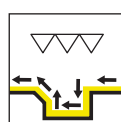
Copiage et chariotage extérieur
Tornitura in copiatura esterna



Tronçonnage
Troncatura



Dressage de face
Sfacciatura



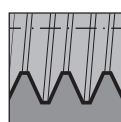
Tournage de précision
Tornitura fine



Filetage profil partiel
Profilo parziale del filo



Filetage profil plein
Profilo completo del filo



Filetage intérieur
Filettatura interna



Filetage Whitworth BSW/BSF
Filettatura Whitworth BSW/BSF



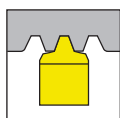
National pipe thread



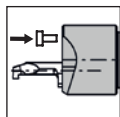
Filetage ISO-métrique
Filettatura ISO-Metrica



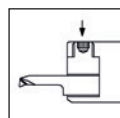
Filetage UN
Filettatura UN



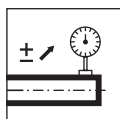
Filetage trapézoïdale
Filettatura Trapezoidale



Serrage de face
Serraggio frontale



Élément d'extraction
Elemento di estrazione



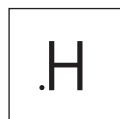
Réglage
Pre-Setting



Géométrie D
Geometria D



Géométrie FB
Geometria FB



Géométrie H
Geometria H



Géométrie HV
Geometria HV



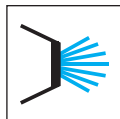
Géométrie I
Geometria I



Géométrie R
Geometria R



Géométrie GM - Filetage
Geometria GM - Filettatura



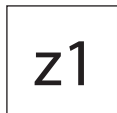
Arrosage intérieur
Refrigerante interno

Applications FRAISE CARBURE MONOBLOC

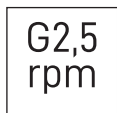
Applicazione FRESE INTEGRALI IN METALLO DURO



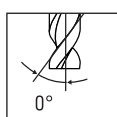
Coupe au centre
Taglio al centro



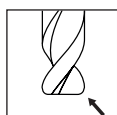
Nombre de dents
Nnumero di denti



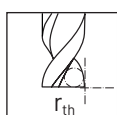
Qualité de l'équilibrage
Bilanciatura



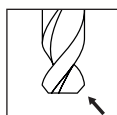
Angle d'hélice
Angolo d'elica



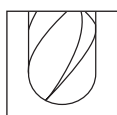
Rayon d'angles
Raggio spigolo



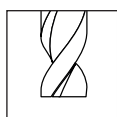
Rayon théorique
Raggio teorico



Chanfrein d'angle
Smusso spigolo



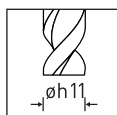
Rayon complet
Raggio completo



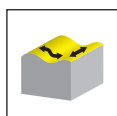
Arêtes vives
Spigolo vivo



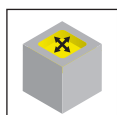
Pas de retraction à chaud
NON calettabile



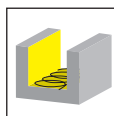
Tolérance
Tolleranza



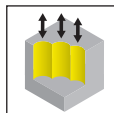
Fraisage par copiage
Copiatura



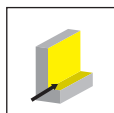
Fraisage de poche
Fresatura di tasche



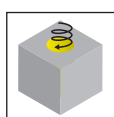
Fraisage trochoïdale
Fresatura trocoidale



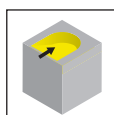
Plongée
Spianatura



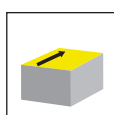
Fraisage d'épaulements
Rifinitura



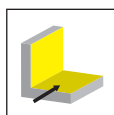
Plongée hélicoïdale
Fresatura a tuffo



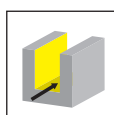
Rampe
Fresatura in rampa



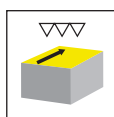
Fraisage surfacage
Spianatura



Fraisage de coins
Fresatura di piani angolari



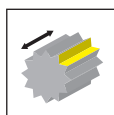
Fraisage de gorge
Fresatura gole



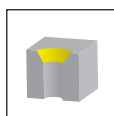
Fraisage de finition
Finitura



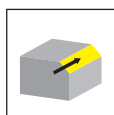
Fraisage d'une rainure à rayon complet
Fresatura di scanalature a raggio pieno



Fraisage d'engrenages
Fresatura di ingranaggi e scanalati



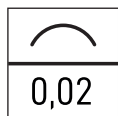
Fraisage de chanfreins
Fresatura di smussi



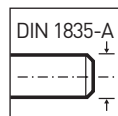
Chanfreinage
Smussatura

Applications FRAISE CARBURE MONOBLOC

Applicazione FRESE INTEGRALI IN METALLO DURO



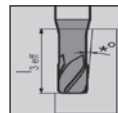
Tolérance de forme
Tolleranza di forma



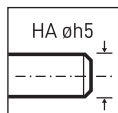
Formes du corps DIN 1835 A
Forma di gambo DIN 1835 A



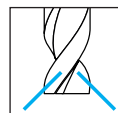
Concentricité
Concentricità



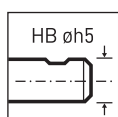
Longueur effective
Fresa scaricata



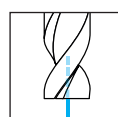
Formes du corps DIN 6535 HA
Forma di gambo DIN 6535 HA



Arrosage inter
Refrigerante interno



Formes du corps DIN 6535 HB
Forma di gambo DIN 6535 HB



Arrosage inter, centre
Raffreddamento interno centrale