SPECIALI SPECIAL SPEZIALWERKZEUGE SPECIALI SPECIAL SPEZIALWERKZEUGE

RINALDI

ALLUMINIO
ALUMINIUM
ALUMINIUM

FRESATURA LEGNO
MILLING CUTTERS FOR WOOD
FRÄSWERKZEUGE FÜR HOLZ

TORNERIA LEGNO
WOOD TURNING TOOLS
WERKZEUGE FÜR DREHMASCHINEN

MATERIE PLASTICHE
PLASTIC MATERIALS
KUNSTSTOFFE

MATERIALI COMPOSITI
COMPOSITE MATERIALS
VERBUNDWERKSTOFFE

ATTREZZATURE
EQUIPMENTS
ZUBEHÖR

SPECIALI
SPECIAL
SPEZIALWERKZEUGE

RINALDI
UTENSILI DA TAGLIO - CUTTING TOOLS

Rinaldi, qualità e innovazione da oltre 40 anni.

Rinaldi, quality and innovation for over 40 years.

Rinaldi, Qualität und Innovation seit über 40 Jahren.

Storia dell'azienda

La Rinaldi Srl nasce nel 1971 grazie al fondatore Enzo, che inizia l'attività producendo utensili per il legno. Gli ottimi risultati ottenuti permettono d'inserire nella produzione attrezzature per la lavorazione di altri materiali. Negli anni '90 si uniscono i figli, che guidati dall'intraprendenza del padre portano la Rinaldi Srl ad essere un produttore mondiale nel campo dell'utensileria da taglio quali frese, punte, utensili sagomati, sgorbie. L'azienda ha una storia di oltre 40 anni grazie ai continui investimenti nella ricerca e all'uso di materiali di qualità.

History of the company

Rinaldi srl was established in 1971 by the founder Enzo Rinaldi, first starting with the production of woodworking tools. After obtaining excellent initial results, we were able to invest further in new equipment, allowing us to manufacture in new materials. In the 1990s Enzo's sons joined the company and continued with their father's enterprising spirit bringing Rinaldi srl to the fore as a worldwide producer in the field of cutting tools i.e. spiral milling cutters, drills, profile tools, lathe tools, gouges.

Geschichte des Unternehmens

Die Firma Rinaldi Srl wurde im Jahr 1971 von Enzo Rinaldi gegründet, der mit der Herstellung von Holzbearbeitungswerkzeugen begann. Die hervorragenden Bearbeitungsergebnisse, die hier erzielt werden konnten, erlaubten auch die Herstellung von Werkzeugen für die Bearbeitung von anderen Materialien. In den 90er Jahren vereinigen sich die Söhne, die, getrieben von dem großen Unternehmungsgeist des Vaters, die Firma Rinaldi unter die Weltmarktführer in der Herstellung von Schneidwerkzeugen, wie Fräser, Bohrer, profilierten Drehstählen und Hohleisen brachten. Die Firma blickt nun auf eine über 40jährige Geschichte zurück, dank der ständigen Investitionen in die Forschung und die Verwendung von qualitativ besten Materialien.

Dasa-Rägister

EN ISO 9001:2015

IQ-1003-10

Cosa facciamo

La Rinaldi Srl fornisce in Italia e nel mondo utensili per la lavorazione di legno, metallo, plastiche, materiali compositi e attrezzature per lavorazioni speciali. La continua ricerca tecnologica e l'utilizzo di metalli duri ed acciaio delle nuove generazioni produttive, realizzati secondo le norme DIN/ISO 9001, permettono l'applicazione di nuove geometrie di taglio, ottima qualità del prodotto, affidabilità e costanza nel tempo. La Rinaldi Srl offre un accurato supporto tecnico, grazie all'esperienza provata del team di tecnici e al parco macchine di ultima generazione.

What we do

Rinaldi srl originally supplying with in Italy now expedite tools throughout the world. We manufacture tools for wood, metal, plastic, composite materials and equipment for special processes. Constant technological research and utilization of hard metal and steel for the new production generation, allow the application of new cutting geometries together with an excellent quality product, reliability and consistency over time. Manufactured according to DIN/ISO 9001 standards. Thanks to our valued team of highly experienced technicians and machines of the latest generation Rinaldi srl are able to provide technical support.

Was machen wir

Die Firma Rinaldi srl liefert in Italien und auf der ganzen Welt Werkzeuge für die Bearbeitung von Holz, Plastik, Kompositmaterialien, sowie Ausrüstungen für spezielle Bearbeitungen. Die ständige technologische Forschung und die Verwendung von Hartmetall und Stahl der jeweils neuesten Sorten, ausgeführt nach den Normen DIN/ISO 9001, erlauben die Anwendung von neuen Schneidgeometrien, verbunden mit bester Qualität, Zuverlässigkeit und Standzeit. Rinaldi srl bietet technischen Support dank der großen Erfahrung eines kompetenten Teams von Technikern und einen Maschinenpark der neuesten Generation.

Flow produttivo

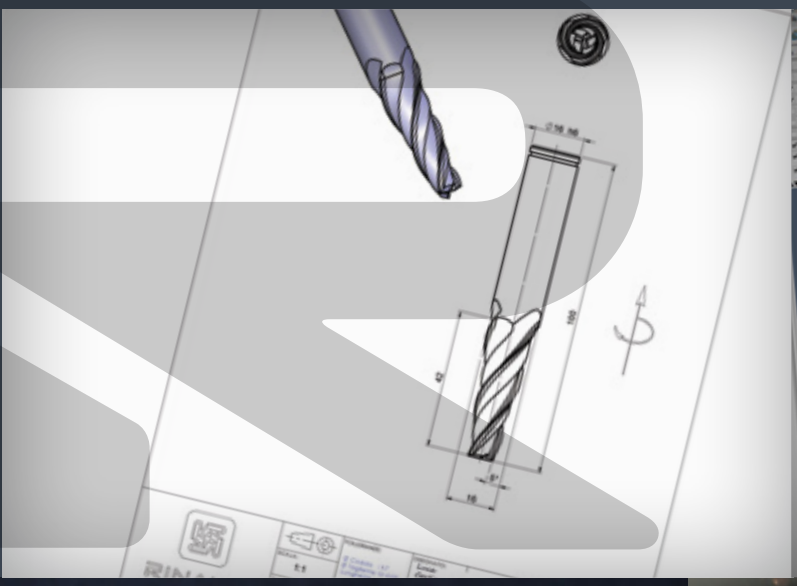
Rinaldi è in grado di produrre grandi quantità di pezzi o anche un singolo utensile speciale. Grazie al costante rinnovamento dei macchinari di produzione e di controllo, è in grado di soddisfare al meglio le richieste del cliente dalla progettazione dell'utensile tramite sistema CAD alla realizzazione dello stesso su affilatrici Walter di ultima generazione. Accurati controlli in fase di lavorazione, anch'essi effettuati tramite macchinari Walter, permettono di ottenere ottime geometrie di taglio e precisione nei profili garantendo per ogni utensile il massimo rendimento. Tutte le fasi di progettazione, costruzione e controllo dell'utensile vengono eseguite in conformità alle norme UNI EN ISO 9001.

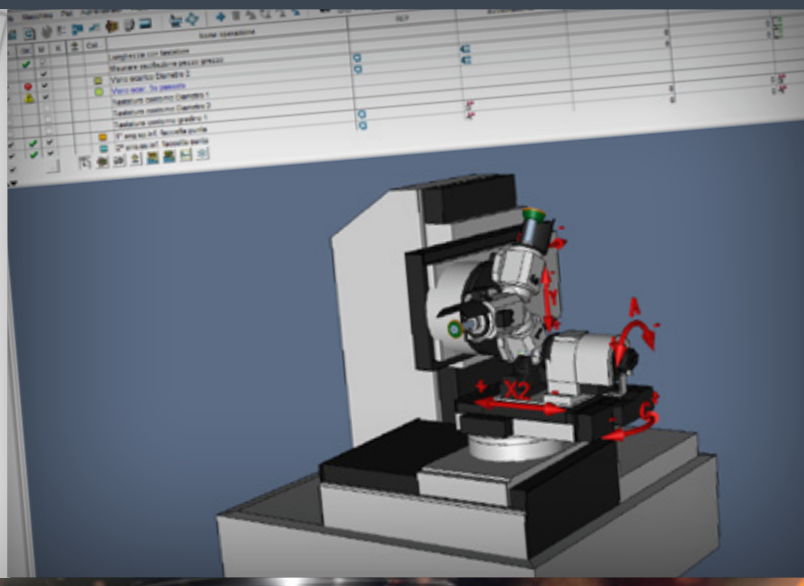
Production flow

Rinaldi is able to produce large volume or single special tools. Thanks to the constant renewal of production and inspection machines, we are able to satisfy our customer's requests, from drawing of the tool through CAD system to its production with the latest specification CNC Walter grinding machines. Careful checks during production are finalised using Walter machines, allowing us to achieve excellent cutting geometries and very precise profiles ensuring for each tool the best possible performance. All steps starting from the project through to manufacture and inspection, completed in accordance with UNI EN ISO 9001.

Produktionsfluss

Die Firma Rinaldi ist in der Lage große Mengen oder auch nur eine einzelnes Werkzeug zu produzieren. Aufgrund der ständigen Erneuerung der Produktions-und Prüfmaschinen kann jeder Kundenwunsch erfüllt werden, von der Planung des Werkzeuges im CAD-System, bis zur Herstellung durch die neuesten CNC Walter Schleifmaschinen. Sorgfältige Kontrollen während des Produktionprozesses, auch durch Walter Messmaschinen permanent durchgeführt, erlauben perfekte Schneidgeometrien und präzise Profile und garantieren für jeden Werkzeug die höchste Leistung. Alle Planungs-, Herstellungs- und Kontrollphasen werden gemäß UNI EN ISO 9001 ausgeführt.

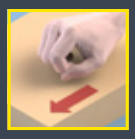




LEGENDA

ALTRE MISURE SU RICHIESTA
OTHER DIMENSIONS ON REQUEST
ANDERE ABMESSUNGEN AUF ANFRAGE

FRESE PER CORTORNATURA
MILLING CUTTERS FOR CONTOURING
FRÄSER FÜR KONTUREN



AVANZAMENTO MANUALE
MANUAL FEED
HAND-VORSCHUB

AVANZAMENTO MECCANICO
MECHANIC FEED
MECHANISCHER VORSCHUB

FRESE PER ACCIAIO
MILLING CUTTERS FOR STEEL
FRÄSER FÜR STAHL

FRESE SPECIALI PER CARPENTERIA
SPECIAL MILLING CUTTERS FOR CARPENTRY
SPEZIALFRÄSER FÜR ZIMMEREIUNTERNEHMEN

INSERTI REVERSIBILI
REVERSIBLE KNIVES
WENDEPLATTEN

INSERTI IN HW INTERCAMBIABILI SAGOMATI
SHAPED INTERCHANGEABLE KNIVES IN HW
PROFILIERTEN HW-WENDEPLATTEN

MODELLERIA E PROTOTIPI
MODELS AND PROTOTYPES
MODELLE UND PROTOTYPE

VELOCITA' DI ROTAZIONE (TABELLA PAG. 33)
RPM (PAGE 33)
DREZAHL (SEITE 33)

FRESE SALDOBRASATE
BRAZED MILLING CUTTERS
FRÄSER HW-BESTÜCKT

FRESE PER POLISTIROLO
MILLING CUTTERS FOR POLYSTYRENE
FRÄSER FÜR POLYSTYROL

PROFILO A DISEGNO
PROFILE AS DRAWING
PROFIL NACH ZEICHNUNG

ACCIAO HSS
HSS STEEL
HSS STAHL

METALLO DURO HW-K20
HW-K20 HARD METAL
HW-K20 HARTMETALL

RESTAURI
RESTORATION
RESTAURIERUNG

ROTAZIONE DESTRA
RIGHT-HAND ROTATION
RECHTSLAUF

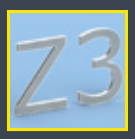
ROTAZIONE SINISTRA
LEFT-HAND ROTATION
LINKSLAUF

FRESE PER SPIANATURA
FACE MILLING CUTTERS
PLANFRÄSER

Z1

ROTAZIONE DESTRA POSITIVA
RIGHT-HAND ROTATION POSITIVE SPIRAL
RECHTSLAUF MIT POSITIVER SPIRALE

Z2



Z3

Z4

Z5

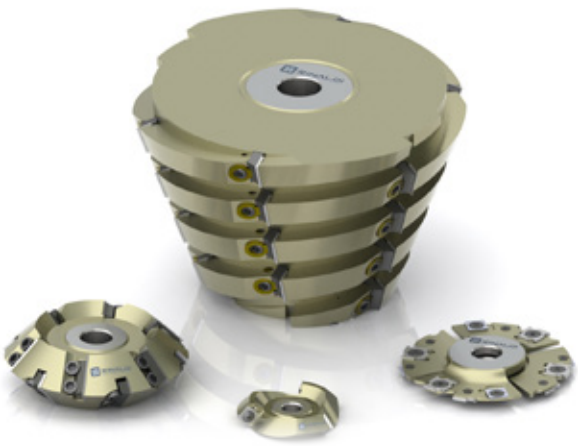
Z1+1

SFR

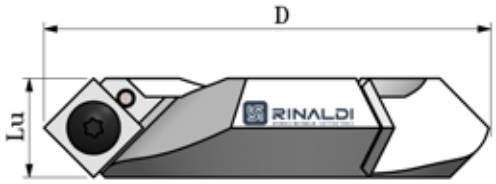
Frese ad inserti in HW intercambiabili

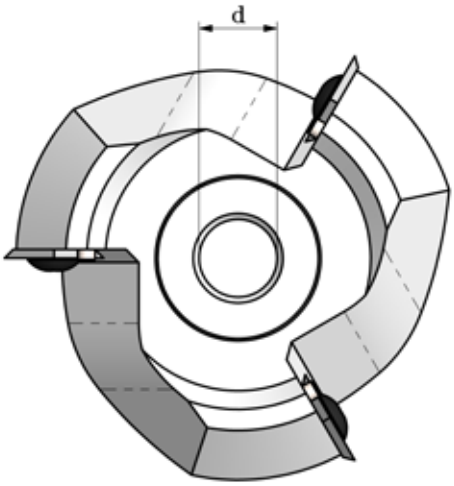
Milling cutters with interchangeable knives in HW

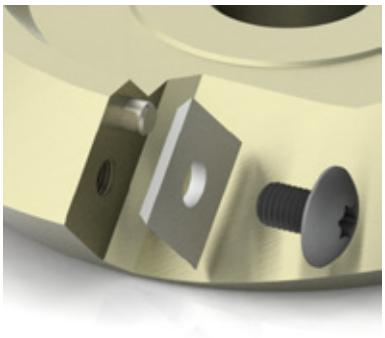
Fräser mit HW-Wendeplatten



CODICE	D	Lu	d
SFR	-	-	-





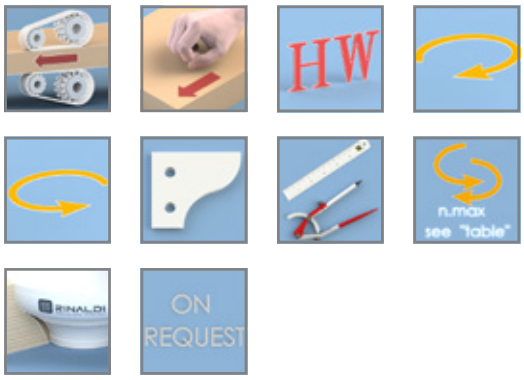


SFS

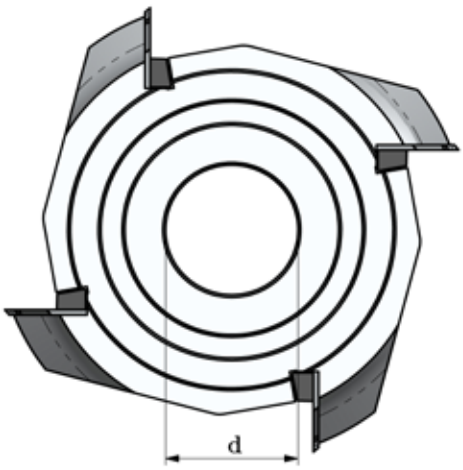
Frese ad inserti in HW intercambiabili sagomati

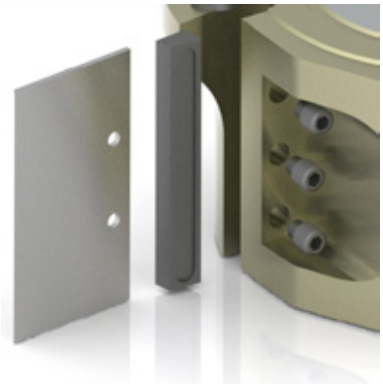
Milling cutters with shaped interchangeable knives in HW

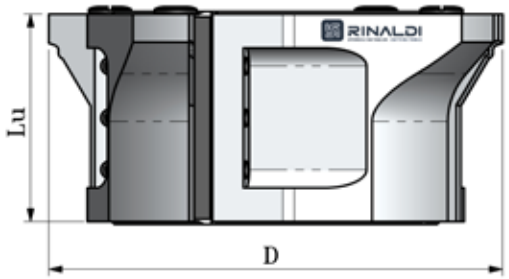
Fräser mit profilierten HW-Wendeplatten



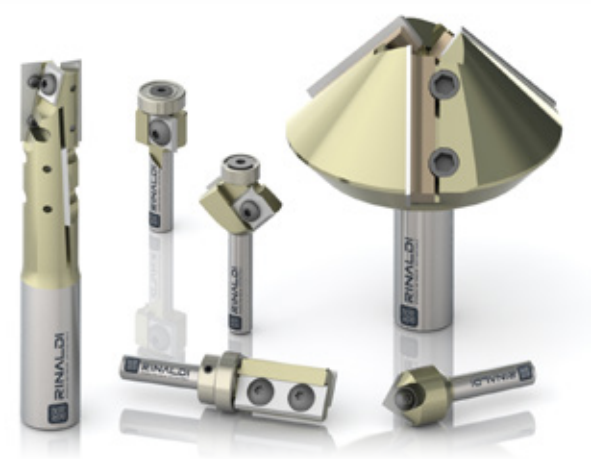
CODICE	D	Lu	d
SFS	-	-	-







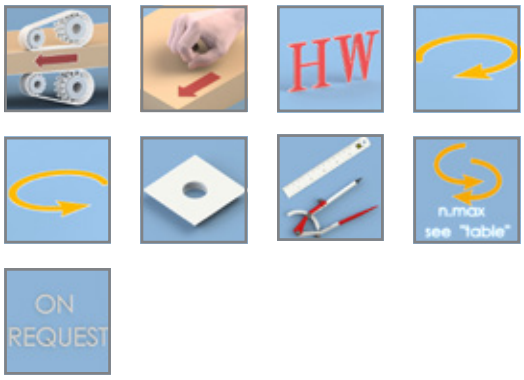
SGR



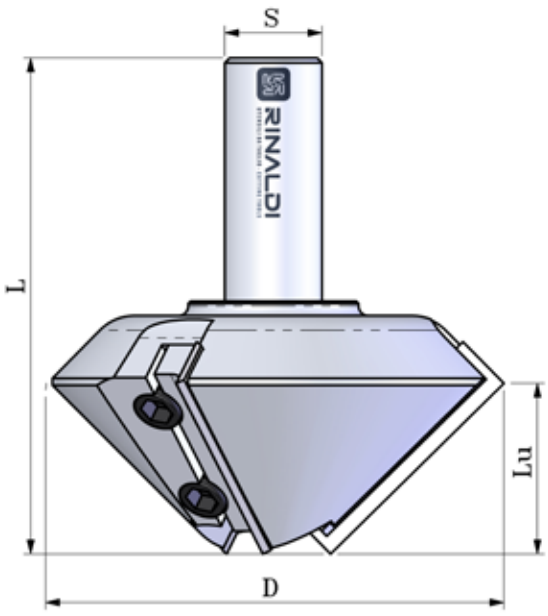
Frese ad inserti in HW intercambiabili

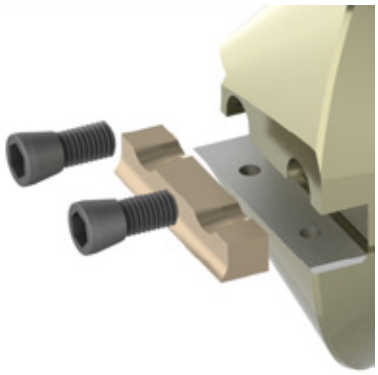
Milling cutters with interchangeable knives in HW

Fräser mit HW-Wendeplatten



CODICE	D	Lu	S	L
SGR	-	-	-	





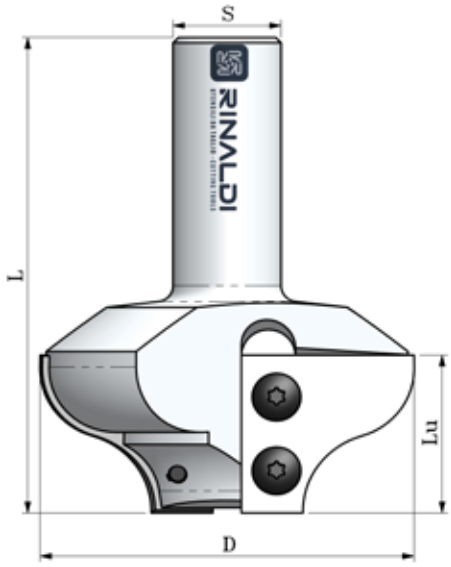
SGS

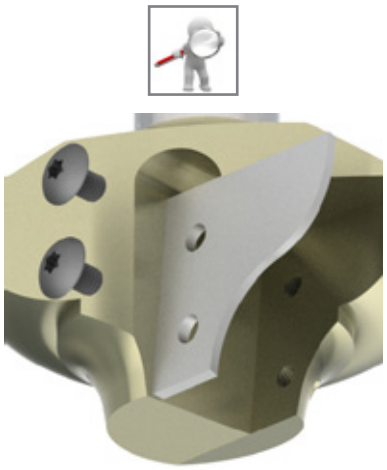
Frese ad inserti in HW intercambiabili sagomati

Milling cutters with shaped interchangeable knives in HW

Fräser mit profilierten HW-Wendeplatten

CODICE	D	Lu	S	L
SGS	-	-	-	





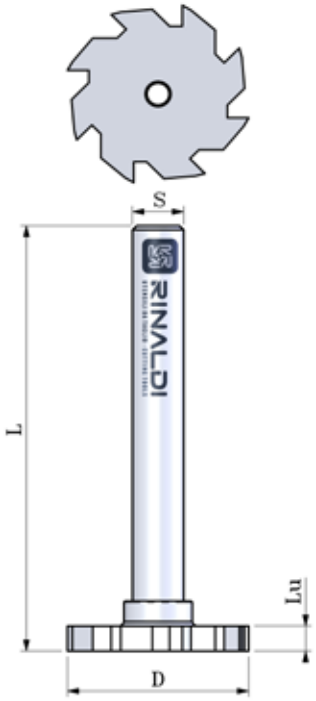
SGT

Frese in HW forma “T”

“T” HW milling cutters

VHW “T” Fräser

CODICE	D	Lu	S	L	Z
SGT-06-1403	14	3	6	56	6
SGT-06-1603	16	3	6	56	8
SGT-06-1803	18	3	6	56	8
SGT-06-2203	22	3	6	56	8



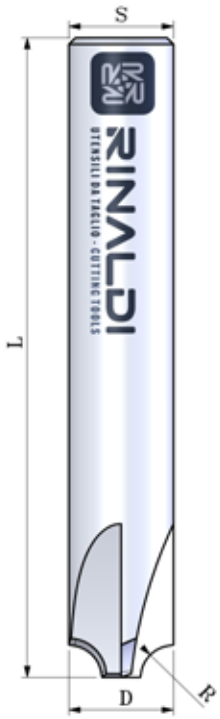
SHW

Frese vari profili in HW integrale

HW milling cutters with different profiles
VHW Fräser mit verschiedenen Profilen

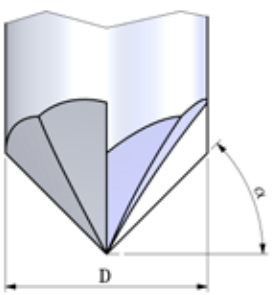
CODICE	D	Lu	S	L
SHW	-	-	-	-

SHW-08-..45



CODICE	D	R	S	L	α	Z
SHW-08-1045	8	1	8	45	-	4
SHW-08-1545	8	1.5	8	45	-	4
SHW-08-2045	8	2	8	45	-	4
SHW-08-2545	8	2.5	8	45	-	4
SHW-08-3045	8	3	8	45	-	4
SHW-08-4545	8	-	8	45	45	4
SHW-08-6045	8	-	8	45	60	4

SHW-08-..45



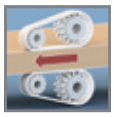
Rivestimenti a richiesta
Coatings on request

SHL

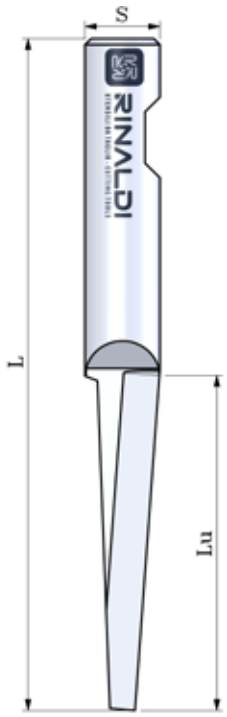
Lamette in HW integrale

Solid carbide lances

VHW Lanzen




CODICE	S	Lu	L
SHL-06-2545	6	25	45
SHL-06-3050	6	30	50
SHL-06-3560	6	35	60
SHL-06-1535	6	15	35

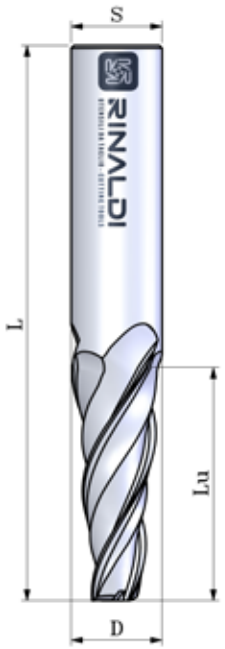


SHA

Frese in HW integrale per lavorazione “Acciaio”

HW milling cutter for working steel
VHW Fräser für Stahlbearbeitung

CODICE	D	Lu	S	L
SHA	-	-	-	-



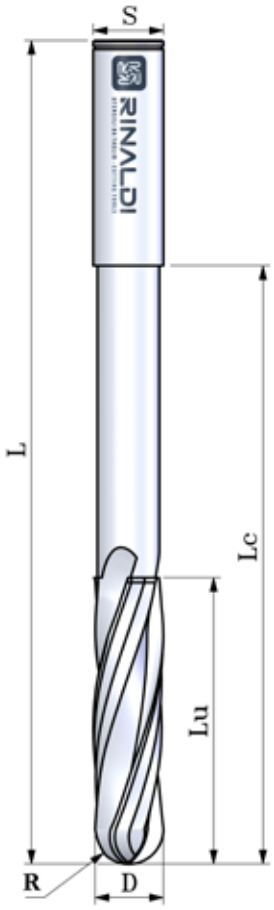
Rivestimenti a richiesta
Coatings on request

SHM

Frese elicoidali in HW integrale per “Modelleria”

HW milling cutter for models and prototypes
VHW Fräser für Modelle und Prototype

CODICE	D	Lu	S	L	R	Lc	Z
SHM	-	-	-	-	-	-	-



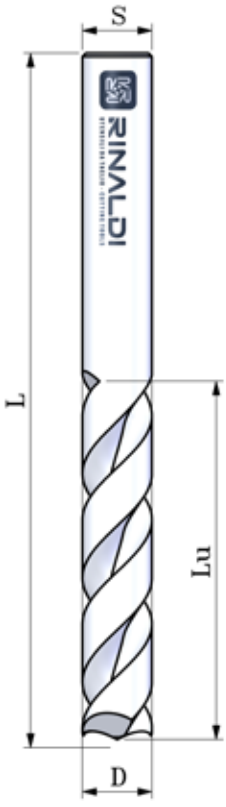
SPK

Punte in HW integrale per “Kevlar”

HW drills for “Kevlar”
VHW Bohrer für “Kevlar”

CODICE	D	Lu	S	L
SPK-0316-03	3	16	3	50
SPK-3520-04	3.5	20	4	50
SPK-4025-04	4	25	4	55
SPK-4525-05	4.5	25	5	60
SPK-5027-05	5	27	5	60
SPK-5528-06	5.5	28	6	65
SPK-6028-06	6	28	6	65
SPK-6532-07	6.5	32	7	70
SPK-7035-07	7	35	7	75
SPK-7535-08	7.5	35	8	75
SPK-8037-08	8	37	8	80
SPK-8537-09	8.5	37	9	80
SPK-9040-09	9	40	9	80
SPK-9540-10	9.5	40	10	90
SPK-1045-10	10	45	10	90
SPK-10545-11	10.5	45	11	100
SPK-1150-11	11	50	11	100
SPK-11550-12	11.5	50	12	100
SPK-1250-12	12	50	12	100
SPK-1350-13	13	50	13	100
SPK-1460-14	14	60	14	110
SPK-1560-15	15	60	15	110
SPK-1660-16	16	60	16	110

ALTRE MISURE SU RICHIESTA
OTHER DIMENSIONS ON REQUEST
ANDERE ABMESSUNGEN AUF ANFRAGE



ELICA $\alpha = 30°$

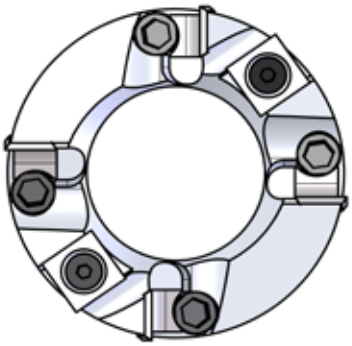
SRS

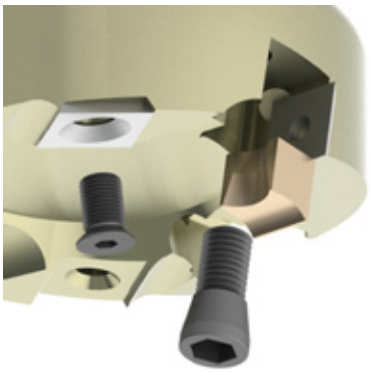
Frese ad inserti in HW intercambiabili per spianatura

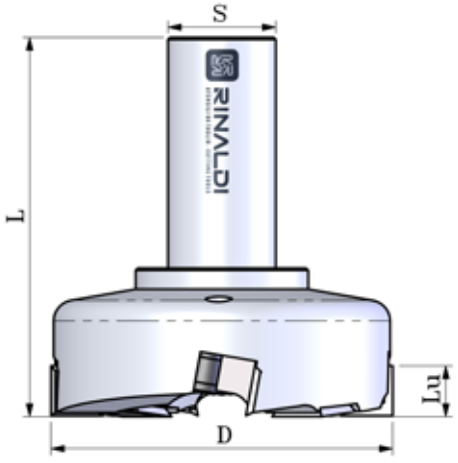
Face milling cutters with interchangeable knives in HW

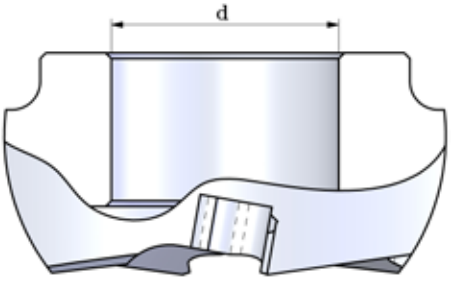
Planfräser mit HW-Wendeplatten

CODICE	D	Lu	S	L	Z	d
SRS-130012	130	12	-	40	8	40
SRS-080012	80	12	25	90	4+V2	-
SRS-040012	40	12	20	111.25	3	-







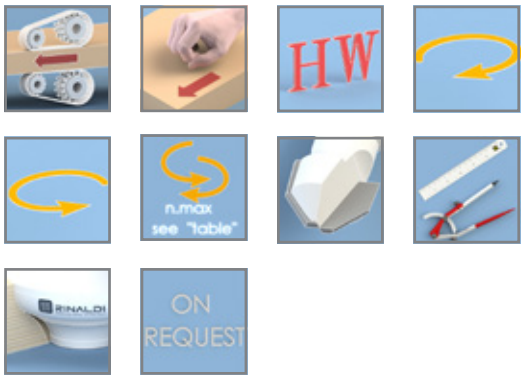


SGB

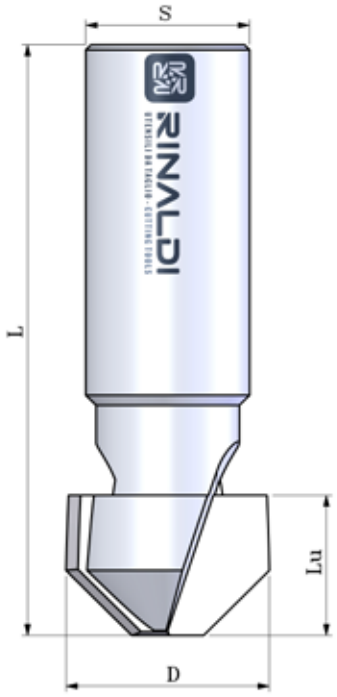
Frese saldobrasate in HW riportato

Brazed milling cutters

Fräser HW-bestückt



CODICE	D	Lu	S	L
SGB	-	-	-	-

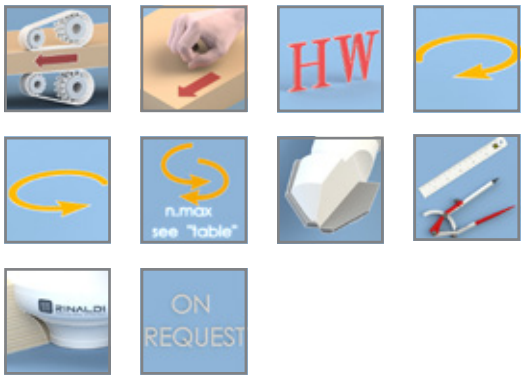


SFB

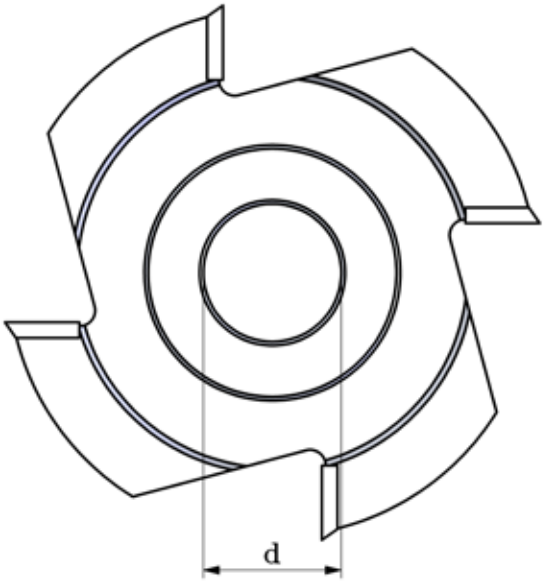
Frese saldobrasate in HW riportato

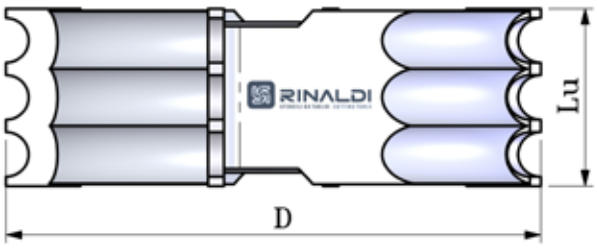
Brazed milling cutters

Fräser HW-bestückt



CODICE	D	Lu	d
SFB	-	-	-

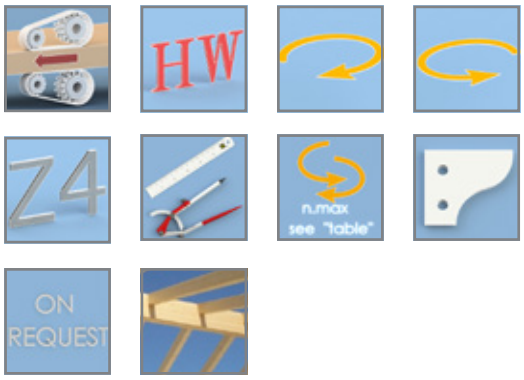




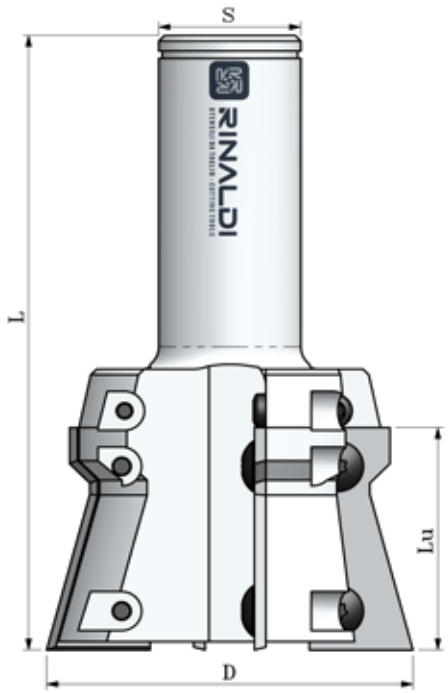
SSC

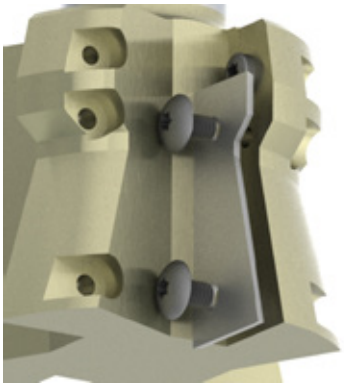
Frese ad inserti in HW intercambiabili per giunzione

Dovetail milling cutters with interchangeable knives in HW
Zinkenfräser mit HW-Wendeplatten



CODICE	D	Lu	S	L
SSC-065040	65	40	25	110



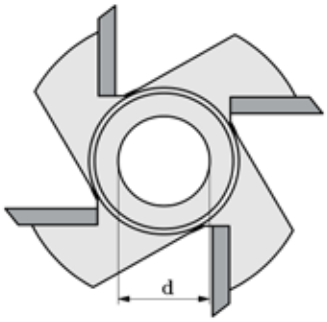


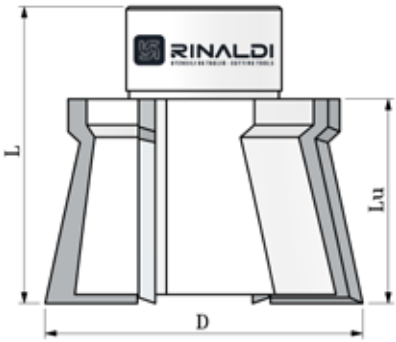
SBC

Frese saldobrasate in HW riportato per giunzioni

Brazed dovetail milling cutters
Zinkenfräser mit aufgelöteten Schneiden

CODICE	D	Lu	S	L	d
SBC-060040	60	40	-	55	16

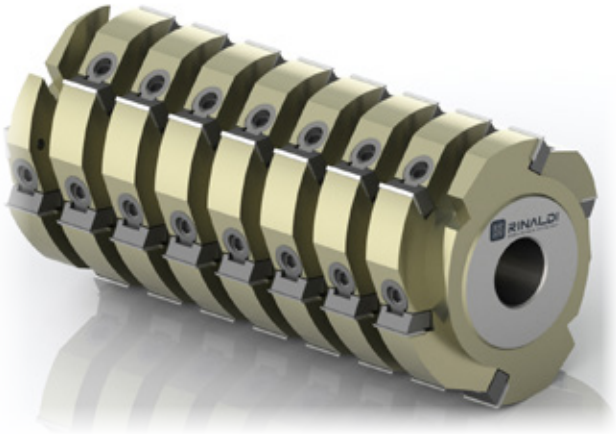




HUNDEGGER

ON
REQUEST

SRC

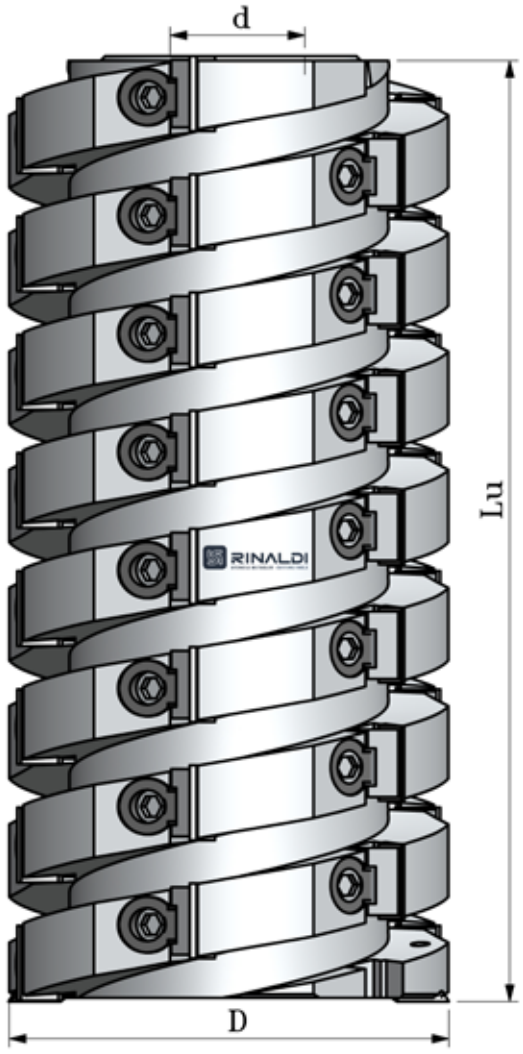


Frese ad inserti in HW intercambiabili per grosse asportazioni

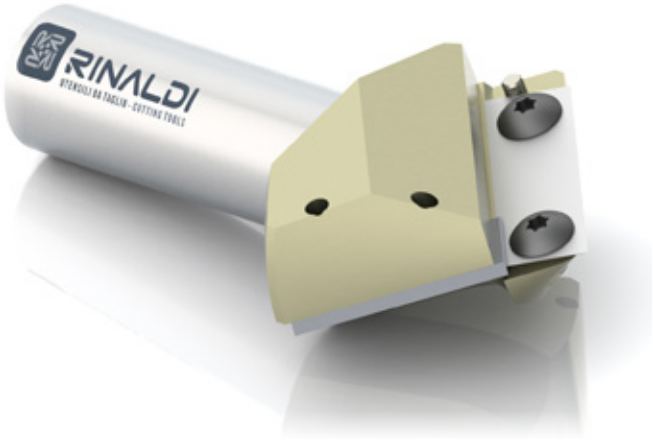
Milling cutters with HW interchangeable knives for great removal of material

Fräser mit HW-Wendeplatten für grösseren Material Abtrag

CODICE	D	Lu	d
SRC	-	-	-



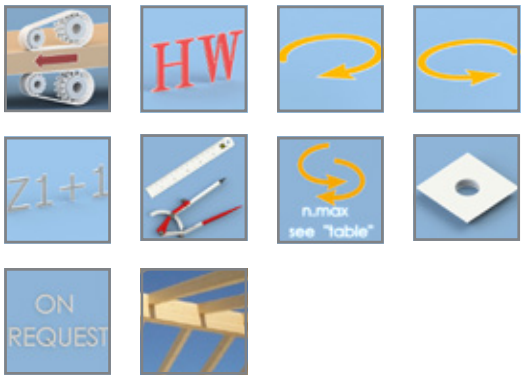
SVC



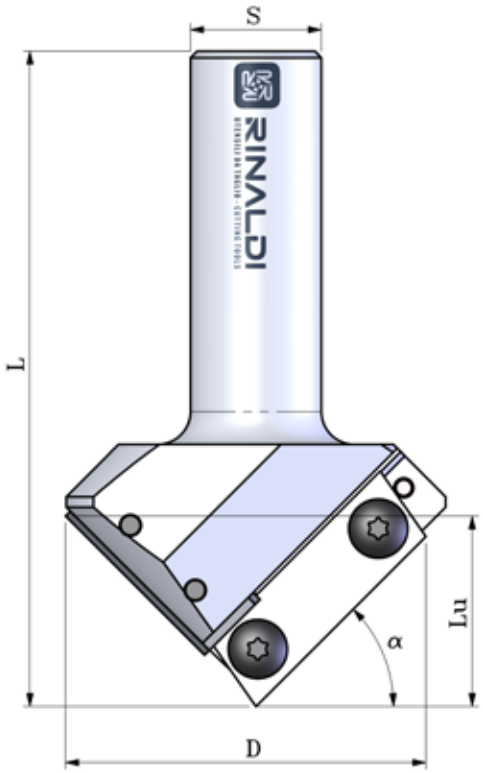
Frese ad inserti in HW intercambiabili per tagli a “V”

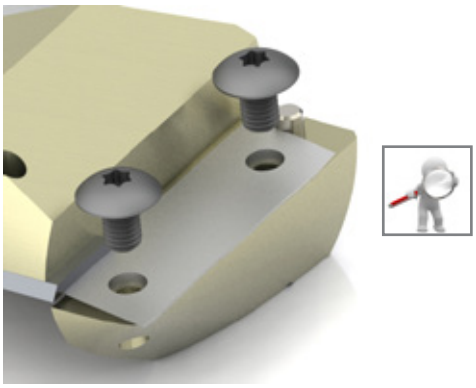
“V” milling cutters with interchangeable knives in HW

“V” Nutfräser mit HW-Wendeplatten



CODICE	D	Lu	S	L	α
SVC-058028	58	28	20	100	45

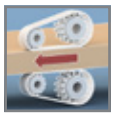




SEG

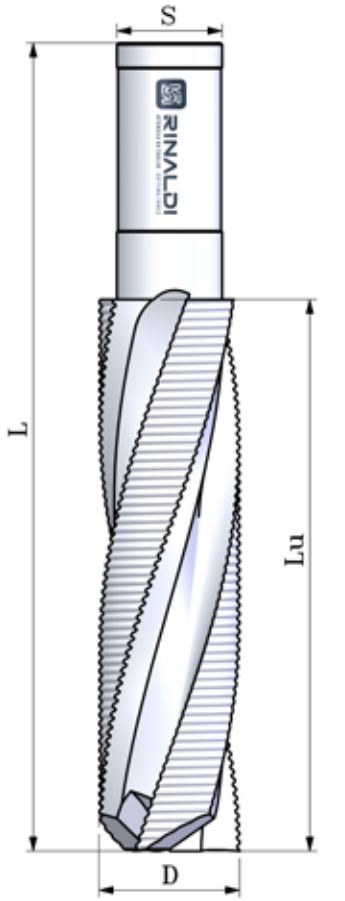
Frese elicoidali in HSS-Co integrale per sgrossatura

Roughing milling cutters in solid HSS-Co
HSS-Co Schruppfräser





CODICE	D	Lu	S	L
SEG-040160	40	160	30	235
SEG-050210	50	210	30	285

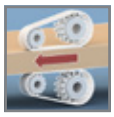


SEF

Frese elicoidali in HSS-Co integrale per finitura

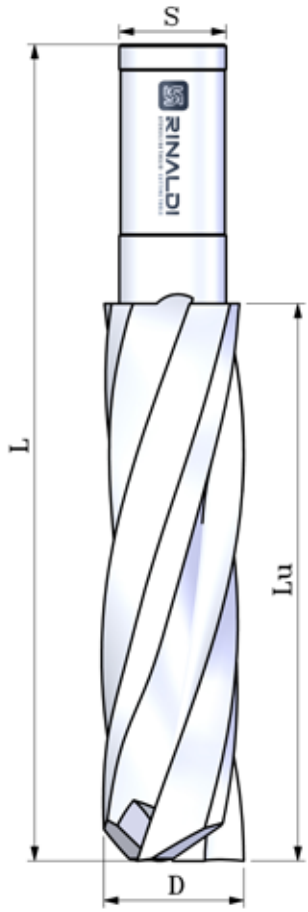
HSS-Co milling cutters for finishing

HSS-Co Schlichtfräser





CODICE	D	Lu	S	L
SEF-040160	40	160	30	235
SEF-050210	50	210	30	285



SLN

Punte a forare in HSS

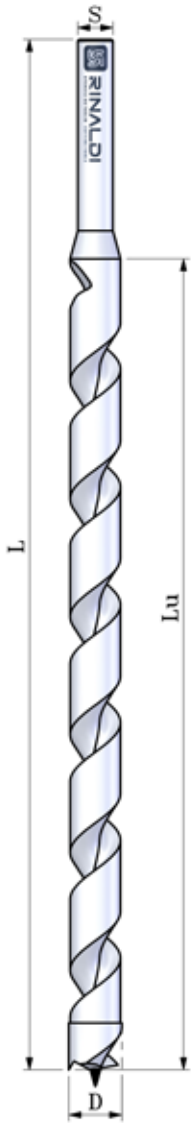
Drills in HSS

HSS Bohrer



CODICE	D	S	Lu	L
SLN-11-11540	11.5	11.5	400	460
SLN-12-13540	13.5	12	400	460
SLN-12-15540	15.5	12	400	460
SLN-12-17540	17.5	12	400	460
SLN-12-19540	19.5	12	400	460
SLN-12-21540	21.5	12	400	460
SLN-12-23540	23.5	12	400	460

Nmax 1.500-2.500 Min-1



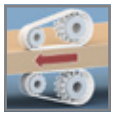
SLC

Lame circolari in HW riportato

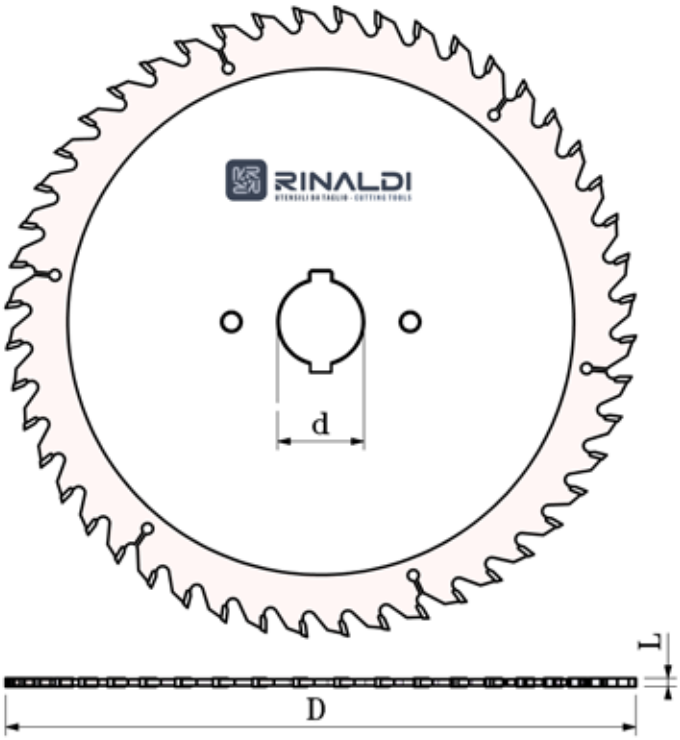
HW Sawblades

HW Kreissägeblätter





CODICE	D	d	L	Lu	Z **	Tipo
SLC	-	-	-	-	-	A/B/C/D/E/F/G



$$Z\ (\text{n.denti}) = \frac{D_{(\text{diametro mm})} \times Y}{Sp\ (\text{spessore da lavorare mm})}$$

Y = 7 Legno naturale lungo vena
Y = 7 Natural wood along grain
Y = 7 Naturholz entlang der Maserung

Y = 9 Legno naturale traverso vena
Y = 9 Natural wood against grain
Y = 9 Naturholz gegen die Maserung

Y= 11 Legno duro traverso vena, compositi, MDF e HDF
Y= 11 Hard wood against grain, composites, MDF and HDF
Y = 11 Hartholz gegen die Maserung, Verbundwerkstoffe, MDF- und HDF

A 

Ottimale su legno tenero e duro, MDF, pannelli
Suitable for soft and hardwood wood, MDF, panels
Geeignet für Weich, - und Harthölzer, MDF, Plattenmaterialien

B 

Ottimale su legno con residui di cemento o parti metalliche
Suitable for wood with traces of concrete or metal.
Geeignet für Holz mit Einschlüssen von Beton oder Metall.

C 

Ottimale su pannelli impiallacciati, poliestere, termoplastici
Suitable for veneered panels, polyester, thermoplastic materials
Geeignet für furnierten Platten, Polyester,thermoplastische Materialien

D 

Ottimale su plexiglass e materiale plastico
Suitable for plexiglass and plastic materials
Geeignet für Plexiglas und Kunststoff

E 

Ottimale per l'utilizzo su macchine bordatrici
Suitable on edge banding machines
Geeignet für Kantenanleimmaschinen

F 

Ottimale su legni duri, materie plastiche, metalli non ferrosi
Suitable for hardwoods, plastic materials, non-ferrous metals
Geeignet für Harthölzer , Kunststoffe, Nichteisenmetallen

G 

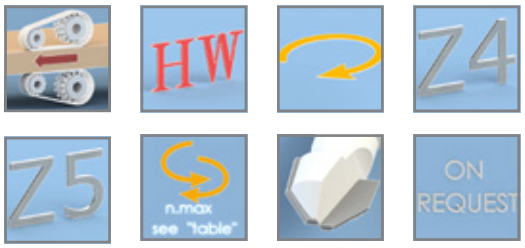
Ottimale per incisioni
Suitable for scoring
Geeignet für Gravur

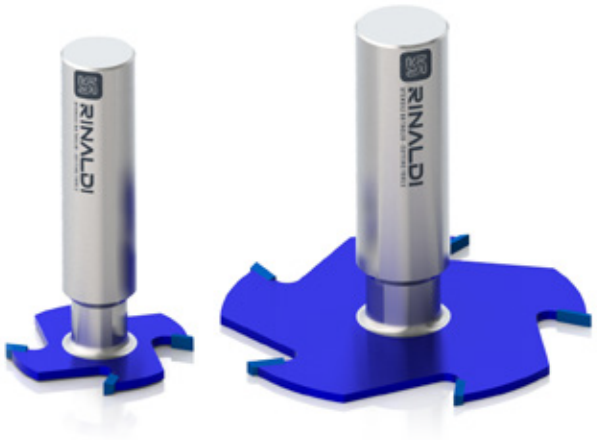
SBL

Lame circolari in HW riportato

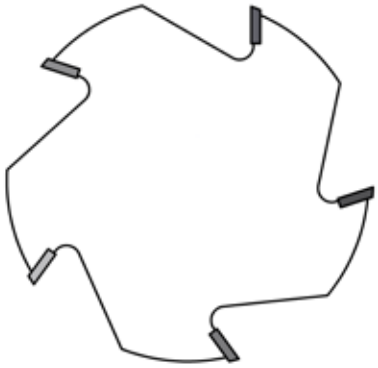
Brazed milling cutters

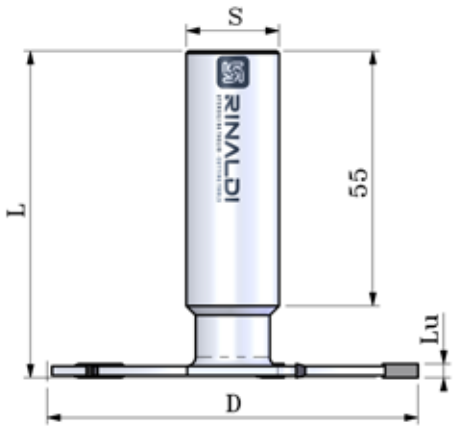
Fräser HW-bestückt



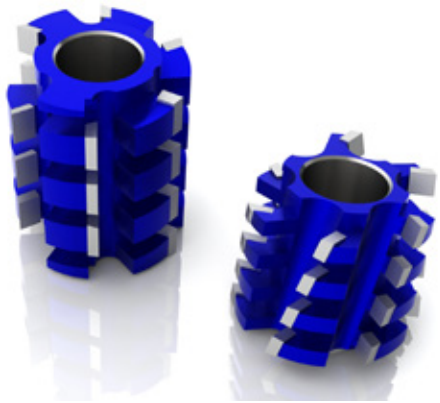


CODICE	D	Lu	S	L	Z
SBL-16-4018	40	1.8	16	70	4
SBL-16-5018	50	1.8	16	70	4
SBL-20-6020	60	2	20	70	5
SBL-20-8020	80	2	20	70	5





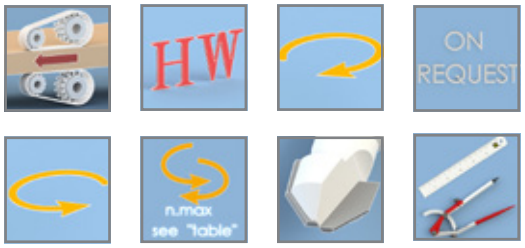
SMF



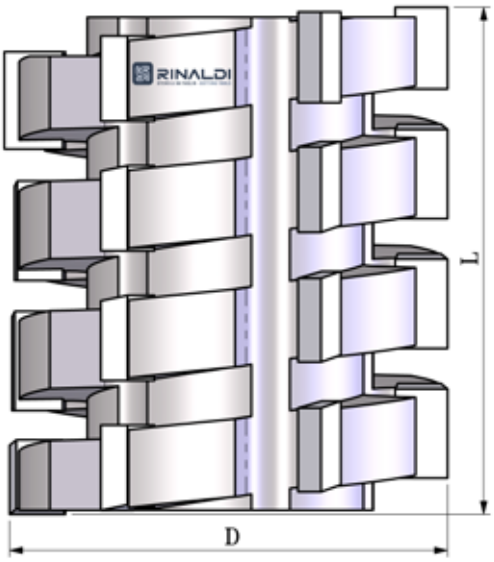
Frese multitagliente in HW riportato

Multicut milling cutters

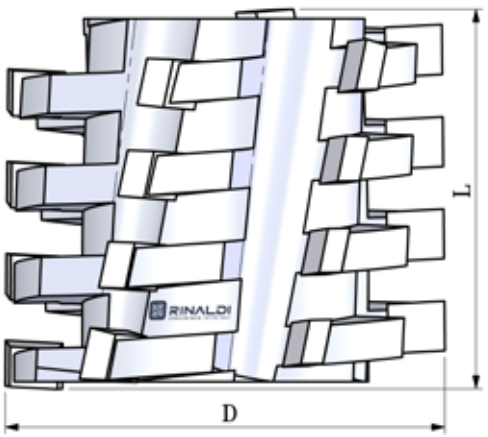
Kopiermesserkopf



ARTICOLI SU RICHIESTA
ARTICLE ON REQUEST
ARTIKEL AUF ANFRAGE



CODICE	TAGLIENTE	D	L	Z
SMF-D-12560	DRITTO	125	60	12
SMF-D-12580	DRITTO	125	80	12
SMF-D-125100	DRITTO	125	100	12
SMF-D-125120	DRITTO	125	120	12
SMF-D-125140	DRITTO	125	140	12
SMF-D-125160	DRITTO	125	160	12
SMF-D-125180	DRITTO	125	180	12
SMF-D-125200	DRITTO	125	200	12
SMF-D-125230	DRITTO	125	230	12



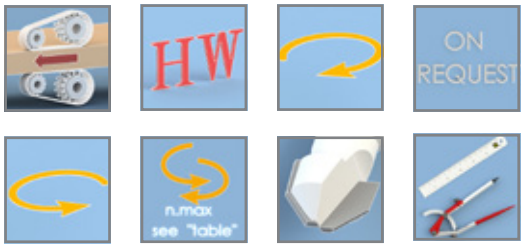
CODICE	TAGLIENTE	D	L	Z
SMF-E-12560	ELICA	125	60	12
SMF-E-12580	ELICA	125	80	12
SMF-E-125100	ELICA	125	100	12
SMF-E-125120	ELICA	125	120	12
SMF-E-125140	ELICA	125	140	12
SMF-E-125160	ELICA	125	160	12
SMF-E-125180	ELICA	125	180	12
SMF-E-125200	ELICA	125	200	12
SMF-E-125230	ELICA	125	230	12

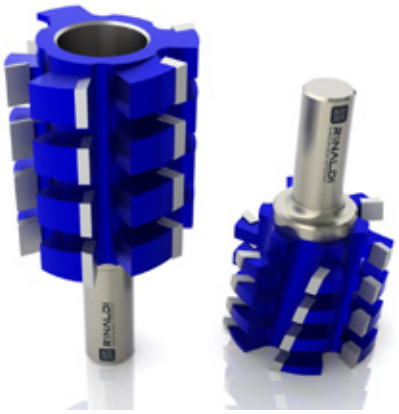
SMG

Frese multitagliente in HW riportato

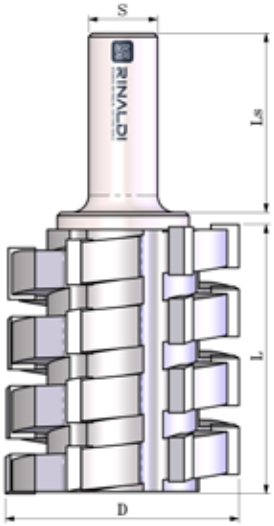
Multicut milling cutters

Kopiermesserkopf

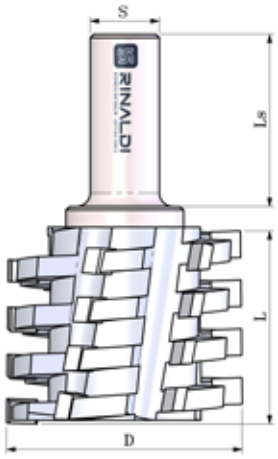




ARTICOLI SU RICHIESTA
ARTICLE ON REQUEST
ARTIKEL AUF ANFRAGE



CODICE	TAGLIENTE	D	L	S	Z
SMG-D-02030-4	DRITTO	20	30	20x50	4
SMG-D-02050-4	DRITTO	20	50	20x50	4
SMG-D-03030-6	DRITTO	30	30	20x50	6
SMG-D-03050-6	DRITTO	30	50	20x50	6
SMG-D-03060-6	DRITTO	30	60	20x50	6
SMG-D-03070-6	DRITTO	30	70	20x50	6
SMG-D-04030-6	DRITTO	40	30	20x50	6
SMG-D-04050-6	DRITTO	40	50	20x50	6
SMG-D-04060-6	DRITTO	40	60	20x50	6
SMG-D-05030-6	DRITTO	50	30	20x50	6
SMG-D-05050-6	DRITTO	50	50	20x50	6
SMG-D-05060-6	DRITTO	50	60	20x50	6
SMG-D-05030-8	DRITTO	50	30	20x50	8
SMG-D-05050-8	DRITTO	50	50	20x50	8
SMG-D-05060-8	DRITTO	50	60	20x50	8
SMG-D-06050-6	DRITTO	60	50	20x50	6
SMG-D-06060-6	DRITTO	60	60	20x50	6
SMG-D-06050-8	DRITTO	60	50	20x50	8
SMG-D-06060-8	DRITTO	60	60	20x50	8
SMG-D-07050-6	DRITTO	70	50	20x50	6
SMG-D-07060-6	DRITTO	70	60	20x50	6
SMG-D-07050-8	DRITTO	70	50	20x50	8
SMG-D-07060-8	DRITTO	70	60	20x50	8



CODICE	TAGLIENTE	D	L	S	Z
SMG-E-02030-4	ELICA	20	30	20x50	4
SMG-E-02050-4	ELICA	20	50	20x50	4
SMG-E-03030-6	ELICA	30	30	20x50	6
SMG-E-03050-6	ELICA	30	50	20x50	6
SMG-E-03060-6	ELICA	30	60	20x50	6
SMG-E-03070-6	ELICA	30	70	20x50	6
SMG-E-04030-6	ELICA	40	30	20x50	6
SMG-E-04050-6	ELICA	40	50	20x50	6
SMG-E-04060-6	ELICA	40	60	20x50	6
SMG-E-05030-6	ELICA	50	30	20x50	6
SMG-E-05050-6	ELICA	50	50	20x50	6
SMG-E-05060-6	ELICA	50	60	20x50	6
SMG-E-05030-8	ELICA	50	30	20x50	8
SMG-E-05050-8	ELICA	50	50	20x50	8
SMG-E-05060-8	ELICA	50	60	20x50	8
SMG-E-06050-6	ELICA	60	50	20x50	6
SMG-E-06060-6	ELICA	60	60	20x50	6
SMG-E-06050-8	ELICA	60	50	20x50	8
SMG-E-06060-8	ELICA	60	60	20x50	8
SMG-E-07050-6	ELICA	70	50	20x50	6
SMG-E-07060-6	ELICA	70	60	20x50	6
SMG-E-07050-8	ELICA	70	50	20x50	8
SMG-E-07060-8	ELICA	70	60	20x50	8

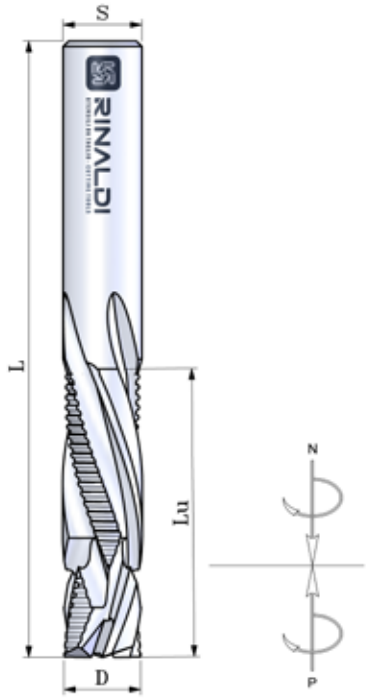
SDQ

Frese in HW integrale per “Mdf/Materiali Compositi”

HW milling cutters for working MDF/Composite Materials
VHW Fräser für MDF/ Verbundwerkstoffe

CODICE	D	Lu	S	L	Z
SDQ-01240	12	40	12	100	4+4
SDQ-12745	12.7	45	12.7	100	4+4
SDQ-01455	14	55	14	110	4+4
SDQ-01670	16	70	16	130	4+4

ALTRE MISURE SU RICHIESTA
OTHER DIMENSIONS ON REQUEST
ANDERE ABMESSUNGEN AUF ANFRAGE



Rivestimenti a richiesta
Coatings on request

Z=2+2 TAGLIENTI FINITURA
Z=2+2 TAGLIENTI SGROSSATURA

Z=2+2 FINISHING FLUTES
Z=2+2 ROUGHING FLUTES

Z=2+2 SCHLICHTSCHNEIDEN
Z=2+2 SCHRUPPSCHNEIDEN

Velocità di Rotazione indicative (Rpm)

Indicative RPM UNI EN 847
Angaben von Drehzahl nach UNI EN 847

Lavorazioni con avanzamento meccanico MAN (g/min) | Machining with mechanic feed MEC (g/min) | Bearbeitungen mit mechanischer Vorschub MEC (g/min)

ø	Frese ad inserti in hw intercambiabili Milling cutters with interchangeable knives in hw Fräser mit hw-wendeplatten	Frese ad inserti in hw intercambiabili sagomati Milling cutters with shaped interchangeable knives in hw Fräser mit profilierten hw-wendeplatten	Frese saldobrasate Brazed milling cutters Fräser hw-bestückt	Lame Circolari Brazed milling cutters Fräser Hw-Bestückt
25	24.000	/	24.000	/
40	18.000	/	18.000	18.000
60	14.000	/	18.000	18.000
80	12.000	/	15.000	18.000
100	10.000	7.000	12.000	15.000
120	9.000	6.000	10.000	12.000
140	8.000	5.000	8.000	12.000
160	7.000	4.500	7.000	11.000
180	6.000	4.000	6.000	10.000
200	5.500	3.500	5.500	10.000
225	4.500	3.000	5.000	9.000
250	4.000	2.500	4.500	8.000
280	3.500	/	4.000	7.000
300	3.000	/	3.500	6.000
350	/	/	/	6.000
	MEC Sporgenza inserti : Libera	MEC Overhang of inserts: Free	MEC Ausladung von Schneidplatten : Frei	

Lavorazioni con avanzamento manuale MAN (g/min) | Machining with manual feed MAN (g/min) | Bearbeitungen mit Hand-Vorschub MAN (g/min)

ø Utensile / ø Milling cutter / ø Fräser	N° Giri albero Portautensile / RPM / Drehzahl
40	20.000-24.000
60	14.000-22.000
80	10.000-16.000
100	8.000-14.000
120	6.500-10.000
140	5.500-10.000
160	5.000-8.000
180	4.500-7.500
200	4.000-7.000
220	3.500-6.000
250	3.500-5.500
280	2.800-5.000
300	2.800-4.500
320	2.500-4.000
350	2.500-4.000

MAN	MAN	MAN
Sporgenza taglienti dal corpo: 1.1 MAX Forma Frese : chiusa	Overhang of inserts: 1,1 MAX Shape of milling cutter : closed	Ausladen von Schneidplatten : 1,1 MAX Form des Fräsers: geschlossen

UTENSILI IN PINZA

S	Lp
≤ 10	≥ 20
10< S <25	S x 2
≥ 25	S x 1.8

Bilanciatura

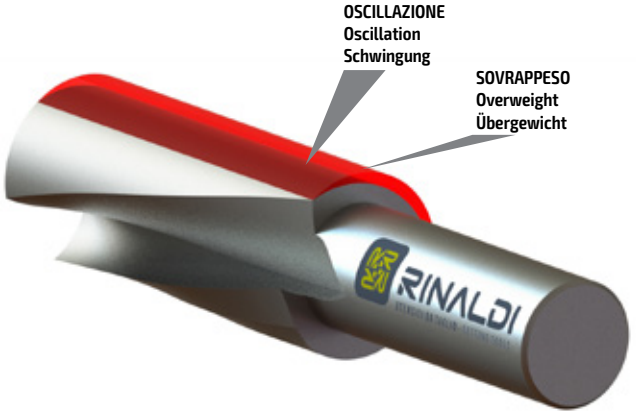
Balancing
Auswuchtung

La bilanciatura viene eseguita per ridurre gli stress meccanici , il rumore e migliorare la funzionalita' dell'utensile.

SBILANCIAMENTO U (g*mm/Kg)
Specifica lo sbilanciamento residuo ammissibile per gli utensili integrali

MASSIMA VELOCITA' AMMISSIBILE nmax(min−1)
Specifica la velocita' di rotazione massima dell'utensile che non deve mai essere superata

Tipo di utensile	grado G=e_{per} ISO 1940-1	Formula	Spiegazione Formula
Utensili integrali	16	U=1,5279 * 10_5 * 1/nmax	Il valore di 1,5279 e' dato da : e_{per} * n * 10_3 * 60/2*π
Utensili complessi e tutti gli utensili con massa <1Kg	40	U=3,8197 * 10_5 * 1/nmax	Il valore di 3,8197 e' dato da : e_{per} * n * 10_3 * 60/2*π



Effetti della sbilanciatura
- La sbilanciatura produce oscillazioni / vibrazioni
- Peggiore qualità di superficie
- Limitazione del massimo numero di giri
- Danni all'albero o al motore
- Usura dei taglienti più elevata
- Formazione di ruggine nelle posizioni di taglio

Effects of unbalance
- Unbalance causes oscillations and vibrations
- Worse surface quality
- Limitation of the maximum RPM
- Damages to the spindle or motor
- Increased wear of cutting edges
- Formation of rust on the cutting edges

Auswirkungen der unwucht
- Unwucht bewirkt Schwingungen und Vibrationen
- Schlechtere Oberflächenqualität
- Verringerung der maximalen Drezahl
- Schaden an der Spindel oder Motor
- Erhöhter Schneidenverschleiß
- Rostbildung an den Schneiden

Balancing is performed to reduce mechanical stress, noise and to improve the functionality of the tools.

UNBALANCE U (g*mm/Kg)
Permissible residual specific unbalance for solid tools

MAXIMUM RPM nmax(min−1)
Specifies the maximum RPM of the tool which must never be exceeded

Type of tool	grade G=e_{per} ISO 1940-1	Formula	Explanation of the formula
Solid tools	16	U=1,5279 * 10_5 * 1/nmax	the value of 1,5279 it is given by : e_{per} * n * 10_3 * 60/2*π
Complex tools and all tools with mass <1 kilo	40	U=3,8197 * 10_5 * 1/nmax	the value of 3,8197 it is given by : e_{per} * n * 10_3 * 60/2*π

Auswuchtung wird durchgeführt, um mechanische Spannungen zu verringern, Lärm zu reduzieren und die Funktionalität des Werkzeuges zu verbessern

UNWUCHT U (g*mm/Kg)
Zulässige spezifische Restunwucht für massive Werkzeuge

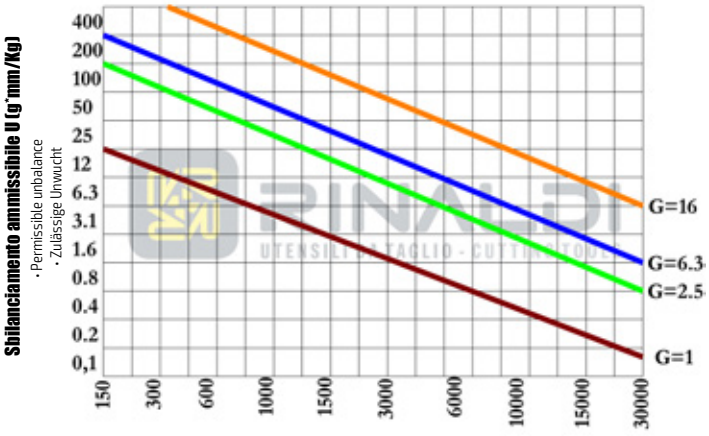
MAXIMALE DREHZAHL nmax(min−1)
Gibt die maximale Drehzahl des Werkzeuges, die niemals überschritten werden darf

Werkzeugtyp	grad G=e_{per} ISO 1940-1	Formel	Erklärung der Formel
Massive Werkzeuge	16	U=1,5279 * 10_5 * 1/nmax	Der Wert 1,5279 wird wie folgt berechnet: e_{per} * n * 10_3 * 60/2*π
Komplexe Werkzeuge und alle Werkzeuge mit Massen <1 Kilo	40	U=3,8197 * 10_5 * 1/nmax	Der Wert 3,8197 wird wie folgt berechnet : e_{per} * n * 10_3 * 60/2*π

Diagramma della tolleranza di bilanciatura

Balancing tolerance diagram
Diagramm von Auswuchttoleranz

Grado di bilanciatura "G" mm/secondo
- Grade of balancing "G" mm/ second
- Grad von Auswuchtung "G" mm/Sekunede



Velocita' di rotazione g/min
- RPM g/min
- Drehzahl g/Min

RINALDI

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