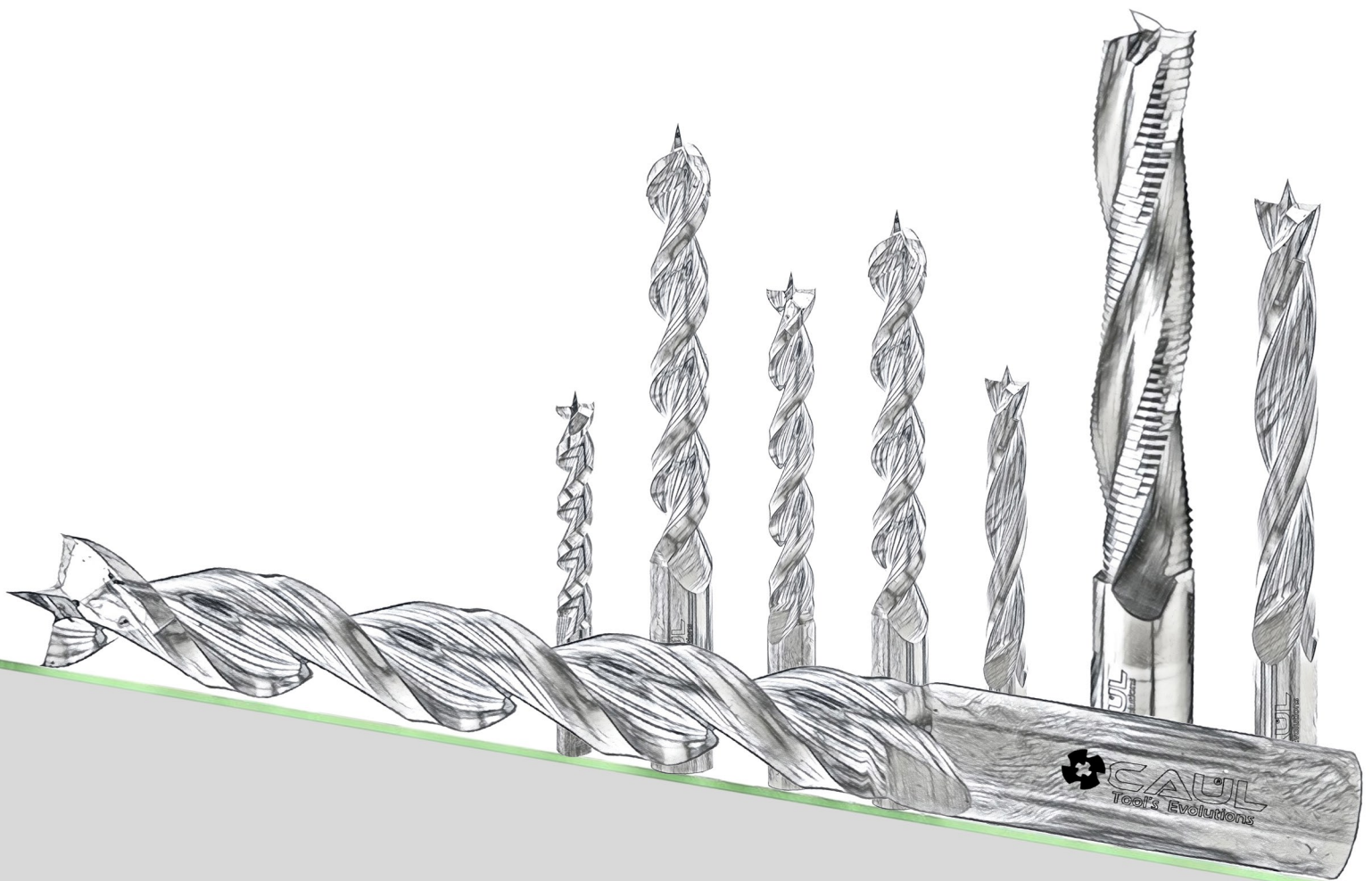




**CAUL<sup>®</sup>**

**Tool's Evolutions**

made in italy since 1983

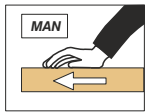


**INTEGRAL ROUTER BITS CATALOG  
2020**

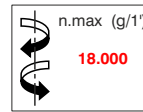


# PANORAMICA PITTOGRAMMI TECNICI

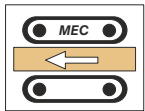
- OVERVIEW TECHNICAL PICTOGRAMS
- ÜBERSICHT TECHNISCHE PIKTOGRAMME



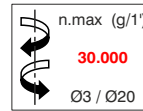
- **UTENSILI PER AVANZAMENTO MANUALE**
- MANUAL FEED MOTION TOOLS
- WERKZEUG FÜR HANDVORSCHUB



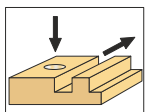
- **GIRI MASSIMI**
- MAXIMUM SPEED (rpm)
- MAXIMALE DREHZAHL (rpm)



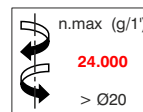
- **UTENSILI PER AVANZAMENTO AUTOMATICO**
- MECHANICAL FEED MOTION TOOLS
- WERKZEUG FÜR MECHANISCHEN VORSCHUB



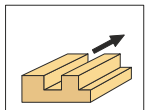
- **GIRI MASSIMI CON Ø DA 3mm A 20mm**
- MAXIMUM SPEED (rpm) FROM 3Ø TO Ø20
- MAXIMALE DREHZAHL (rpm) VON 3Ø BIS Ø20



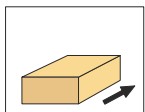
- **PER FORARE E FRESARE**
- TO DRILL AND MILL
- ZUM BOHRER UND FRÄSEN



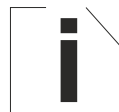
- **GIRI MASSIMI CON Ø SUPERIORE A 20mm**
- MAXIMUM SPEED (rpm) FROM Ø20
- MAXIMALE DREHZAHL (rpm) AB Ø20



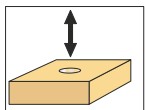
- **PER FRESARE**
- TO MILL
- ZUM FRÄSEN



- **PER CONTORNARE**
- CONTOUR MILLING
- ZUM UMRISSEFRÄSEN



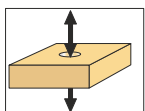
- **GIRI CONSIGLIATI**
- RECOMMENDED SPEED (rpm)
- EMPFOHLENE DREHZAHL (rpm)



- **PER FORARE**
- TO DRILL
- BOHRER



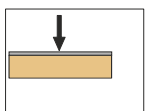
- **VELOCITÀ DI ROTAZIONE**
- ROTATION SPEED (rpm)
- DREHZAL (rpm)



- **PER FORI PASSANTI**
- THROUGH HOLES
- FÜR DURCHGANGLÖCHER



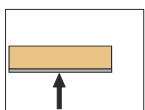
- **VELOCITÀ DI AVANZAMENTO Vf**
- FEED SPEED Vf
- VORSCHUBGESCHWINDIGKEIT Vf



- **BUONA FINITURA SUPERIORE**
- GOOD TOP FINISH
- FÜR EIN GUTES OBERES FINISH



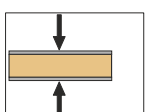
- **VELOCITÀ DI AVANZAMENTO IN FORATURA Vf**
- AXIAL FEED SPEED Vf
- AXIALE VORSCHUBGESCHWINDIGKEIT Vf



- **BUONA FINITURA INFERIORE**
- GOOD BOTTON FINISH
- FÜR EIN GUTEN UNTEREN FINISH



- **CORREZIONE PER Vf**
- CORRECTION FOR Vf
- Vf KORREKTUR



- **BUONA FINITURA INFERIORE E SUPERIORE**
- GOOD TOP AND BOTTON FINISH
- FÜR EIN GUTEN FINISH UNTEN UND OBEN



- **PROFONDITÀ DI LAVORAZIONE**
- PROCESSING DEPTH
- ARBEITSTIEFE

# SIGLE E ABBREVIAZIONI

- LEGEND OF THE SYMBOLS AND ABBREVIATIONS

- SYMBOLE UND ABKÜRZUNGSZEICHEN

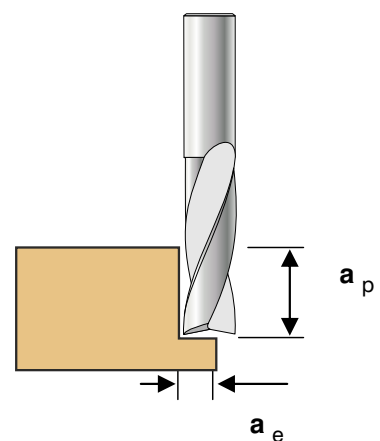
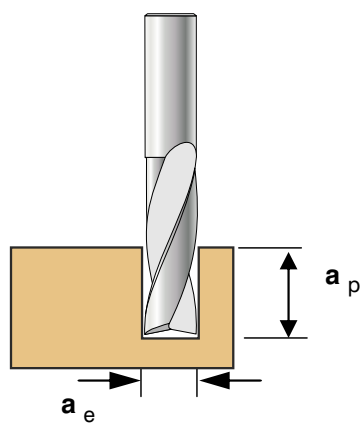
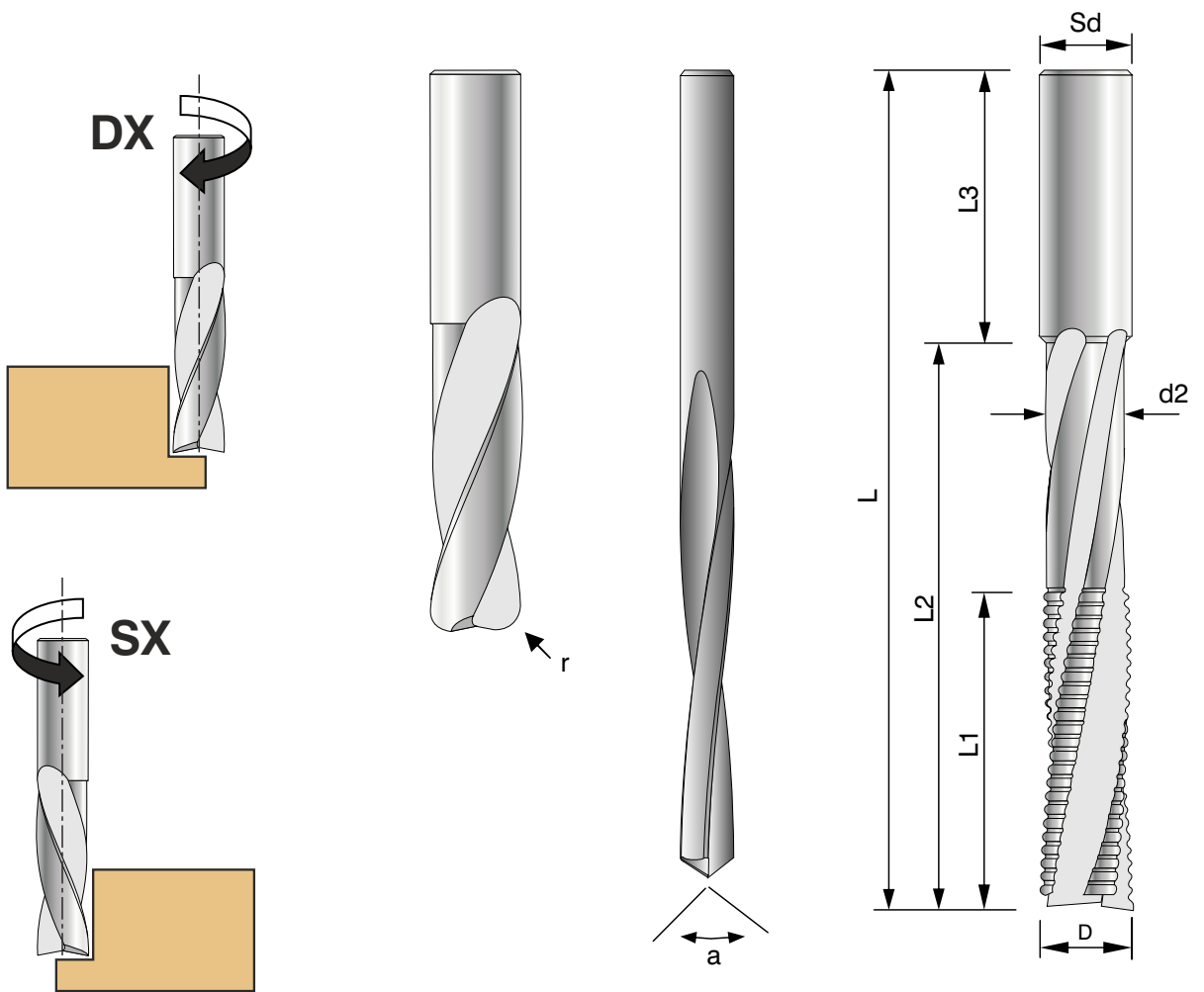
<b>D</b>	=	DIAMETRO UTENSILE
<b>d2</b>	=	DIAMETRO SCARICO RETTIFICATO
<b>Sd</b>	=	ATTACCO
<b>L</b>	=	LUNGHEZZA TOTALE
<b>L1</b>	=	LUNGHEZZA UTILE
<b>L2</b>	=	ENTRATA MASSIMA
<b>L3</b>	=	LUNGHEZZA ATTACCO
<b>Z</b>	=	NUMERO TAGLIENTI
<b>N</b>	=	NUMERO DI GIRI
<b>n (max)</b>	=	NUMERO DI GIRI MASSIMO CONSENTITO
<b>DX</b>	=	ROTAZIONE DESTRA
<b>SX</b>	=	ROTAZIONE SINISTRA
<b><math>\lambda</math></b>	=	ANGOLO ELICA TAGLIENTI
<b><math>\alpha</math></b>	=	ANGOLO CONICITÀ
<b><math>a_p</math></b>	=	PROFONDITÀ ASSIALE DI PASSATA
<b><math>a_e</math></b>	=	LARGHEZZA RADIALE DI PASSATA
<b>Ra</b>	=	RAGGIO
<b>Articolo</b>	=	ARTICOLO
<b>€</b>	=	PREZZO DI LISTINO
<b>Sx Pos</b>	=	ROTAZIONE SINISTRA ELICA POSITIVA
<b>Dx Pos</b>	=	ROTAZIONE DESTRA ELICA POSITIVA
<b>Sx Neg</b>	=	ROTAZIONE SINISTRA ELICA NEGATIVA
<b>Dx Neg</b>	=	ROTAZIONE DESTRA ELICA NEGATIVA

<b>D</b>	=	TOOL DIAMETER
<b>d2</b>	=	RECTIFIED DIAMETER (unloading part)
<b>Sd</b>	=	DIAMETER OF SHANK
<b>L</b>	=	TOTAL LENGTH
<b>L1</b>	=	WORKING LENGTH
<b>L2</b>	=	MAXIMUM WORKING LENGTH
<b>L3</b>	=	LENGTH OF SHANK
<b>Z</b>	=	NUMBER OF TEETH
<b>N</b>	=	NUMBER OF REVOLUTIONS - RPM
<b>n (max)</b>	=	MAXIMUM RPM (allowance)
<b>DX</b>	=	RIGHT ROTATION
<b>SX</b>	=	LEFT ROTATION
<b><math>\lambda</math></b>	=	CUTTING ANGLE OF TEETH
<b><math>\alpha</math></b>	=	CONICAL ANGLE
<b><math>a_p</math></b>	=	AXIAL DEPTH OF WORKING PASSAGE
<b><math>a_e</math></b>	=	RADIAL WIDTH OF WORKING PASSAGE
<b>Ra</b>	=	RADIUS
<b>Articolo</b>	=	ARTICLE
<b>€</b>	=	LIST PRICE
<b>Sx Pos</b>	=	LEFT ROTATION POSITIVE HELIX
<b>Dx Pos</b>	=	RIGHT ROTATION POSITIVE HELIX
<b>Sx Neg</b>	=	LEFT ROTATION NEGATIVE HELIX
<b>Dx Neg</b>	=	RIGHT ROTATION NEGATIVE HELIX

<b>D</b>	=	WERKZEUGDURCHMESSER
<b>d2</b>	=	DURCHMESSER REKTIFIZIERTE VERTIEFUNG
<b>Sd</b>	=	SCHAFT
<b>L</b>	=	GESAMTLÄNGE
<b>L1</b>	=	NUTZLÄNGE
<b>L2</b>	=	MAXIMALE NUTZLÄNGE
<b>L3</b>	=	SCHAFTLÄNGE
<b>Z</b>	=	ZÄHNEZAHL
<b>N</b>	=	DREHZAHL
<b>n (max)</b>	=	MAXIMALE ZULÄSSIGE DREHZAHL
<b>DX</b>	=	RECHTSDREHEND
<b>SX</b>	=	LINKSDREHEND
<b><math>\lambda</math></b>	=	WINKEL SCHNEIDSPIRALE
<b><math>\alpha</math></b>	=	KEGELWINKEL
<b><math>a_p</math></b>	=	AXIALE PROZESS TIEFE
<b><math>a_e</math></b>	=	PROZESSRADIALBREITE
<b>Ra</b>	=	RADIUS
<b>Articolo</b>	=	ARTIKEL
<b>€</b>	=	PREIS
<b>Sx Pos</b>	=	DREHRICHTUNG LINKS SPIRALE POSITIV
<b>Dx Pos</b>	=	DREHRICHTUNG RECHTS SPIRALE POSITIV
<b>Sx Neg</b>	=	DREHRICHTUNG LINKS SPIRALE NEGATIV
<b>Dx Neg</b>	=	DREHRICHTUNG RECHTS SPIRALE NEGATIV

# SIGLE E ABBREVIAZIONI

- LEGEND OF THE SYMBOLS AND ABBREVIATIONS
- SYMBOLE UND ABKÜRZUNGSZEICHEN



# PANORAMICA MATERIALI DA LAVORARE

- LIST OF MATERIALS TO WORK
- ÜBERSICHT DER ZU BEARBEITENDE MATERIALIEN



- **LEGNO TENERO**  
- SOFT WOOD  
- WEICHHOLZ



- **LEGNO DURO**  
- HARD WOOD  
- HARTHOLZ



- **TRUCIOLARE**  
- CHIP BOARD  
- SPANPLATTEN



- **MULTISTRATO**  
- MULTIPLEX  
- MULTIPLEX













- **MDF**  
- MDF (Medium-density fibreboard)  
- MDF (mitteldichte Holzfaserplatte)

# INDICE UTENSILI

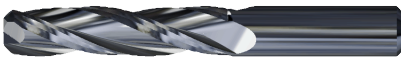
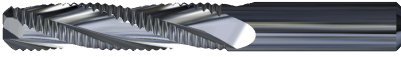
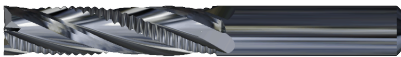
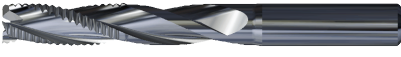

- INDEX OF THE TOOLS

- INHALTSWERZEICHNIS DER WERKZEUGE

Articolo			Pagina
WN 100-102		<b>Punte a 2 denti elicoidali con testa a 90° per fori passanti</b> Router bits for through holes with head 90° and 2 helicoidal cuts Bohrer mit Zwei Spiral schneiden mit 90° köpf für Durchgangslöcher	7
WN 110-112		<b>Punte a 2 denti elicoidali con rasanti di testa per fori ciechi</b> Router bits for holes with spurs and 2 helicoidal cuts Bohrer mit Zwei Spiral schneiden mit köpf vorschneider für Sacklöcher	8
WN 200-202		<b>Bulino a 1 dente lineare con testa inclinata 60° per smussi e incisioni</b> Chisel for bevels and grooves single lip 60° Chipper mit eine linearen schneide für fase und Gravuren	9
WN 250-252		<b>Fresa a 2 denti lineari con Raggio Concavo per cave e incisioni raggate</b> Router bits for grooves with concave radius corner and 2 linear cuts Fräser mit linearen schneiden für konkave Radius und Radius Gravuren	10
WN 280-282		<b>Fresa a 2 denti elicoidali, testa semisferica per copiare a finitura</b> Router bits for finishing with hemispherical head and 2 helicoidal cuts Fräser mit Spiral schneiden, Halbkugelfräser für Kopierung und finish	11
WN 410-412		<b>Fresa Up-Down a 2+2 denti elicoidali per finitura</b> Router bits for finishing with 2+2 Up-Down helicoidal cuts Fräser UP-DOWN mit 2+2 Spiral schneiden für finish	12
WN 500-501 WN 502-503		<b>Fresa a 1 dente elicoidale per finitura</b> Router bits for finishing with 1 helicoidal cut Fräser mit einer Spiral schneide für finish	13 14
WN 510-511 WN 512-513		<b>Fresa a 2 denti elicoidali per finitura</b> Router bits for finishing with 2 helicoidal cuts Fräser mit Zwei Spiral schneiden für finish	15 16
WN 520-521 WN 522-523		<b>Fresa a 2 denti elicoidali per semifinitura a passo spaziato</b> Router bits for semi-finishing with 2 helicoidal cuts Fräser mit Zwei Spiral schneiden für semi-Finish mit distanzierten Spän Brecher	17 18
WN 550-551 WN 552-553		<b>Fresa a 3 denti elicoidali per finitura</b> Router bits for finishing with 3 helicoidal cuts Fräser mit Drei Spiral schneiden für finish	19 20
WN 560-561 WN 562-563		<b>Fresa a 3 denti elicoidali per semifinitura a passo spaziato</b> Router bits for semi-finishing with 3 helicoidal cuts Fräser mit Drei Spiral schneiden für semi-Finish mit distanzierten Spän Brecher	21 22
WN 590-591 WN 592-593		<b>Fresa a 3 denti elicoidali per sgrossatura</b> Router bits for sgroughing with 3 helicoidal cuts Fräser mit Drei Spiral schneiden für Schrupp Bearbeitung	23 24

# INDICE UTENSILI

- INDEX OF THE TOOLS  
- INHALTSWERZEICHNIS DER WERKZEUGE

Articolo			Pagina
WN 700-701 WN 702-703		<b>Fresa a 3 denti elicoidali con smusso per finitura</b> Router bits for finishing with bevel and 3 helicoidal cuts Fräser mit Drei Spiral schneiden und fase für finish	25 26
WN 720-721 WN 722-723		<b>Fresa a 3 denti elicoidali con smusso per sgrossatura</b> Router bits for sgroughing with bevel and 3 helicoidal cuts Fräser mit Drei Spiral schneiden und fase für Schrupp Bearbeitung	27 28
WN 680-682		<b>Fresa a 2+2 denti ibridi elicoidali per semifinitura</b> Router bits for semi-finishing with 2+2 helicoidal hybrid cuts Fräser mit 2+2 Hybrid schneiden für semi-Finish	29
WN 870-871		<b>Fresa per sedi serratura a 3 denti elicoidali per sgrossatura</b> Router bits for door locks with 3 helicoidal cuts Fräser für schlosssitz mit Drei Spiral schneiden für Schrupp Bearbeitung	30
WN 880-881		<b>Fresa per sedi serratura a 3 denti elicoidali con imbocco a finire + sgrossatura</b> Sgroughing router bits for door locks with 3 helicoidal cuts Fräser für schlosssitz mit Drei Spiral schneiden mit Schlichteingang + Schrupp Bearbeitung	31



# PUNTE PER FORI PASSANTI A 2 TAGLIENTI ELICOIDALI

- ROUTER BITS FOR THROUGH HOLES WITH HEAD 90° AND HELICOIDAL CUTS
- BOHRER FÜR DURCHGANGLÖCHER MIT ZWEI SPIRAL SCHNEIDEN

HM

Z 2



WN 100



WN 102



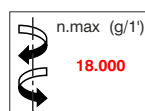
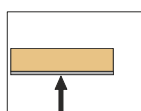
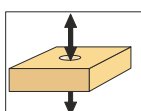
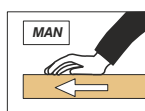
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2	15	50	2	2
2,5	17	50	2,5	2
3	20	50	3	2
3	27	60	3	2
3,5	22	50	3,5	2
3,5	32	60	3,5	2
4	32	60	4	2
4	42	80	4	2
5	32	60	5	2
5	42	80	5	2
6	32	60	6	2
6	42	80	6	2
6	52	100	6	2
8	42	80	8	2
8	52	100	8	2
8	72	120	8	2
10	52	100	10	2
10	72	120	10	2
10	92	140	10	2
12	72	120	12	2
12	92	140	12	2
12	112	160	12	2

Articolo	
WN 100.020LE	
WN 100.025LE	
WN 100.030LE	
WN 100.030QG	
WN 100.035MB	
WN 100.035SG	
WN 100.040QG	
WN 100.040SK	
WN 100.050PG	
WN 100.050RK	
WN 100.060MG	
WN 100.060QK	
WN 100.060SO	
WN 100.080NK	
WN 100.080PO	
WN 100.080TS	
WN 100.100OO	
WN 100.100SS	
WN 100.100WV	
WN 100.120RS	
WN 100.120VV	
WN 100.120ZX	

Articolo	
WN 102.020LE	
WN 102.025LE	
WN 102.030LE	
WN 102.030QG	
WN 102.035MB	
WN 102.035SG	
WN 102.040QG	
WN 102.040SK	
WN 102.050PG	
WN 102.050RK	
WN 102.060MG	
WN 102.060QK	
WN 102.060SO	
WN 102.080NK	
WN 102.080PO	
WN 102.080TS	
WN 102.100OO	
WN 102.100SS	
WN 102.100WV	
WN 102.120RS	
WN 102.120VV	
WN 102.120ZX	

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1)	Velocità di rotazione (g/1')	Velocità di avanzamento in foratura Vf
4.000 - 9.000	4.000 - 5.000	1.5 - 2.5 m/min
	5.000 - 7.000	2.5 - 4 m/min
	7.000 - 9.000	4 - 5.5 m/min



# PUNTE PER FORI CIECHI A 2 TAGLIENTI ELICOIDALI

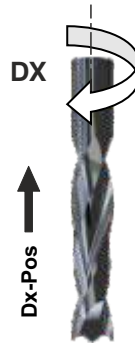
- ROUTER BITS FOR HOLES WITH SPURS AND 2 HELICOIDAL CUTS
- BOHRER FÜR SACKLÖCHER MIT ZWEI SPIRAL SCHNEIDEN

HM

Z 2



WN 110



WN 112



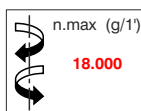
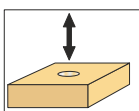
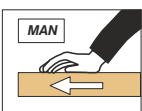
D	L1	L	d1	Z
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2,5	17	50	2,5	2
3	20	50	3	2
3	27	60	3	2
3,5	22	50	3,5	2
3,5	32	60	3,5	2
4	32	60	4	2
4	42	80	4	2
5	32	60	5	2
5	42	80	5	2
6	32	60	6	2
6	42	80	6	2
6	52	100	6	2
8	42	80	8	2
8	52	100	8	2
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10	72	120	10	2
10	92	140	10	2
12	72	120	12	2
12	92	140	12	2
12	112	160	12	2

Articolo	
WN 110.020LE	
WN 110.025LE	
WN 110.030LE	
WN 110.030QG	
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WN 110.035SG	
WN 110.040QG	
WN 110.040SK	
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WN 110.060QK	
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WN 110.080NK	
WN 110.080PO	
WN 110.080TS	
WN 110.100OO	
WN 110.100SS	
WN 110.100WV	
WN 110.120RS	
WN 110.120VV	
WN 110.120ZX	

Articolo	
WN 112.020LE	
WN 112.025LE	
WN 112.030LE	
WN 112.030QG	
WN 112.035MB	
WN 112.035SG	
WN 112.040QG	
WN 112.040SK	
WN 112.050PG	
WN 112.050RK	
WN 112.060MG	
WN 112.060QK	
WN 112.060SO	
WN 112.080NK	
WN 112.080PO	
WN 112.080TS	
WN 112.100OO	
WN 112.100SS	
WN 112.100WV	
WN 112.120RS	
WN 112.120VV	
WN 112.120ZX	

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1')	Velocità di rotazione (g/1')	Velocità di avanzamento in foratura Vf
4.000 - 9.000	4.000 - 5.000	1.5 - 2.5 m/min
	5.000 - 7.000	2.5 - 4 m/min
	7.000 - 9.000	4 - 5.5 m/min



# BULINO A 60° PER INCISIONI A 1 TAGLIENTI LINEARE

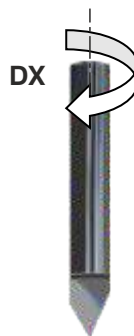
- CHISEL FOR BEVELS AND GROOVES SINGLE LIP 60°
- CHIPPER FÜR GRAVUREN 60° MIT EINER LINEAREN SCHNEIDE

HM

Z 1



WN 200



WN 202



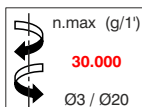
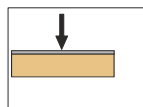
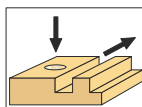
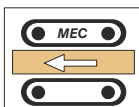
D	L1	L	d1	Z	$\alpha$
6	12	60	6	1	60°
8	17	60	8	1	60°
10	20	80	10	1	60°
12	22	80	12	1	60°

Articolo
WN 200.060FG
WN 200.080FG
WN 200.100FK
WN 200.120FK

Articolo
WN 202.060FG
WN 202.080FG
WN 202.100FK
WN 202.120FK

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1)	Correzione per Vf	Velocità di avanzamento Vf
12.000 - 15.000	Legno tenero 1.5 Legno duro 0.8 Truciolare 1.3 Multistrato 0.9 MDF 1.1	3 - 4 m/min



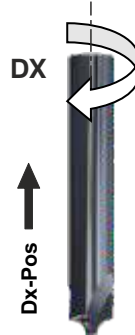
# FRESE PER INCISIONI A RAGGIO CONCAVO A 2 TAGLIANTI LINEARI

- ROUTER BITS FOR GROOVES WITH CONCAVE RADIUS CORNER WITH 2 LINEAR CUTS
- FRÄSER FÜR KONKAVE RADIUS GRAVUREN MIT ZWEI LINEAREN SCHNEIDEN

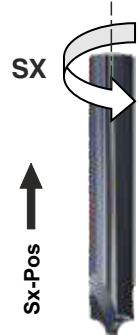
HM Z 2



WN 250



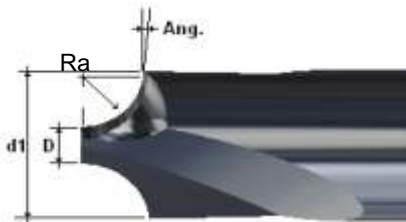
WN 252



D	L1	L	d1	Z	Ra
0,8	10	80	8	2	3,0
1,0	12	80	10	2	4,0
1,2	15	80	12	2	5,0
1,4	17	80	14	2	6,0

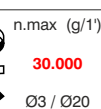
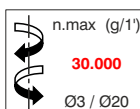
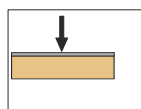
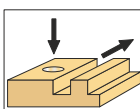
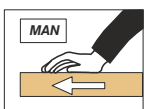
Articolo	
WN 250.008MK	
WN 250.010MK	
WN 250.012NK	
WN 250.014OK	

Articolo	
WN 252.008MK	
WN 252.010MK	
WN 252.012NK	
WN 252.014OK	



## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1)	Correzione per Vf	Velocità di avanzamento Vf
12.000 - 15.000	Legno tenero 1.5 Legno duro 0.8 Truciolare 1.3 Multistrato 0.9 MDF 1.1	3 - 4 m/min



# FRESE SEMISFERICHE A 2 TAGLIENTI ELICOIDALI

- ROUTER BITS FOR FINISHING WITH HEMISPHERICAL HEAD AND 2 HELICOIDAL CUTS

- HALBKUGELFRÄSER MIT ZWEI SPIRAL SCHNEIDEN

HM

Z 2



WN 280



WN 282



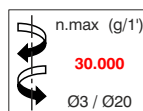
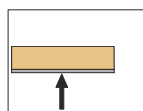
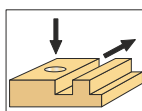
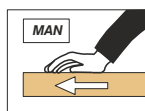
D	L1	L	d1	Z	Ra
3	12	50	3	2	1,5
4	15	50	4	2	2,0
5	17	50	5	2	2,5
5	27	60	5	2	2,5
6	17	50	6	2	3,0
6	27	60	6	2	3,0
8	22	60	8	2	4,0
8	32	80	8	2	4,0
10	32	80	10	2	5,0
10	42	100	10	2	5,0
10	52	100	10	2	5,0
12	32	80	12	2	6,0
12	42	100	12	2	6,0
12	52	100	12	2	6,0

Articolo	
WN 280.030IE	
WN 280.040IB	
WN 280.050IB	
WN 280.050MG	
WN 280.060HE	
WN 280.060LG	
WN 280.080HG	
WN 280.080LK	
WN 280.100KK	
WN 280.100MO	
WN 280.100OO	
WN 280.120JK	
WN 280.120LO	
WN 280.120NO	

Articolo	
WN 282.030IE	
WN 282.040IB	
WN 282.050IB	
WN 282.050MG	
WN 282.060HE	
WN 282.060LG	
WN 282.080HG	
WN 282.080LK	
WN 282.100KK	
WN 282.100MO	
WN 282.100OO	
WN 282.120JK	
WN 282.120LO	
WN 282.120NO	

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1)	Correzione per Vf	Diametro	Velocità di avanzamento Vf
18.000 - 24.000	Legno tenero 1.5	3 - 5 mm	2 m/min
	Legno duro 0.8	6 - 8 mm	4 m/min
	Truciolare 1.3	10 - 12 mm	8 m/min
	Multistrato 0.9		
	MDF 1.1		



# FRESE PIANE UP-DOWN A 2+2 TAGLIENTI ELICOIDALI

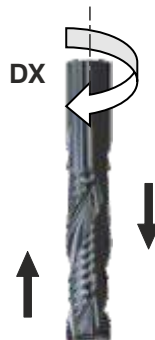
- ROUTER BITS FOR FINISHING WITH 2+2 UP-DOWN HELICOIDAL CUTS
- FLACHFRÄSER UP-DOWN MIT ZWEI + ZWEI SPIRAL SCHNEIDEN

HM

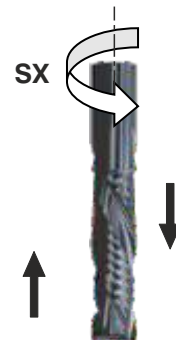
Z 2+2



WN 410



WN 412



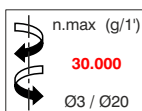
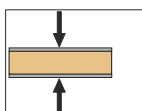
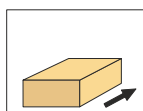
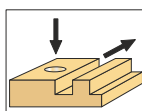
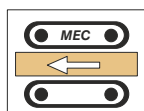
D	L1	L	d1	Z
6	27	60	6	2+2
8	32	80	8	2+2
10	32	80	10	2+2
10	42	100	10	2+2
10	52	110	10	2+2
12	32	80	12	2+2
12	42	100	12	2+2
12	52	110	12	2+2
14	52	110	14	2+2
16	42	100	16	2+2
16	52	110	16	2+2
20	52	110	20	2+2
20	72	150	20	2+2
25	72	150	25	2+2

Articolo	
WN 410.060LG	
WN 410.080LK	
WN 410.100KK	
WN 410.100MO	
WN 410.100OQ	
WN 410.120JK	
WN 410.120LO	
WN 410.120NQ	
WN 410.140MQ	
WN 410.160JO	
WN 410.160LQ	
WN 410.200JQ	
WN 410.200NW	
WN 410.250LW	

Articolo	
WN 412.060LG	
WN 412.080LK	
WN 412.100KK	
WN 412.100MO	
WN 412.100OQ	
WN 412.120JK	
WN 412.120LO	
WN 412.120NQ	
WN 412.140MQ	
WN 412.160JO	
WN 412.160LQ	
WN 412.200JQ	
WN 412.200NW	
WN 412.250LW	

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

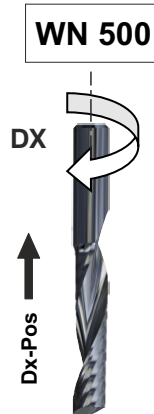
Giri consigliati (g/1) 18.000 - 24.000	Correzione per Vf	Diametro	Profondità di lavorazione	Velocità di avanzamento Vf
	Legno tenero	1.5	6 - 10 mm < 15 mm	6 m/min
	Legno duro	0.8	6 - 10 mm > 15 mm	5 m/min
	Truciolare	1.3	12 - 16 mm < 25 mm	12 m/min
	Multistrato	0.9	12 - 16 mm > 25 mm	10 m/min
	MDF	1.1	20 - 25 mm < 40 mm	15 m/min
			20 - 25 mm > 40 mm	13 m/min



# FRESE PIANE PER FINITURA A 1 TAGLIANTE ELICOIDALE

- ROUTER BITS FOR FINISHING WITH 1 HELICOIDAL CUT
- FLACHFRÄSER FÜR FINISH MIT EINER SPIRAL SCHNEIDE

**HM**    **Z 1**



D	L1	L	d1	Z
3	12	50	3	1
4	15	50	4	1
5	17	50	5	1
5	27	60	5	1
6	17	50	6	1
6	22	60	6	1
6	27	60	6	1
8	27	60	8	1
8	32	80	8	1
8	42	100	8	1
10	32	80	10	1
10	42	100	10	1
10	52	100	10	1
12	32	80	12	1
12	42	100	12	1
12	52	100	12	1

Articolo
WN 500.030IE
WN 500.040IB
WN 500.050IB
WN 500.050MG
WN 500.060HE
WN 500.060JG
WN 500.060LG
WN 500.080JG
WN 500.080LK
WN 500.080NO
WN 500.100KK
WN 500.100MO
WN 500.100OO
WN 500.120JK
WN 500.120LO
WN 500.120NO

Articolo
WN 501.030IE
WN 501.040IB
WN 501.050IB
WN 501.050MG
WN 501.060HE
WN 501.060JG
WN 501.060LG
WN 501.080JG
WN 501.080LK
WN 501.080NO
WN 501.100KK
WN 501.100MO
WN 501.100OO
WN 501.120JK
WN 501.120LO
WN 501.120NO

LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1')	Correzione per Vf	Diametro	Profondità di lavorazione	Velocità di avanzamento Vf
18.000 - 24.000	Legno tenero 2.1	3 - 6 mm	< 10 mm	2.5 m/min
	Legno duro 1.2	3 - 6 mm	> 10 mm	2 m/min
	Truciolare 2.0	6 - 8 mm	< 15 mm	4 m/min
	Multistrato 1.4	6 - 8 mm	> 15 mm	3 m/min
	MDF 1.7	10 - 12 mm	< 20 mm	4 m/min
		10 - 12 mm	> 20 mm	3 m/min

# FRESE PIANE PER FINITURA A 1 TAGLIANTE ELICOIDALE

- ROUTER BITS FOR FINISHING WITH 1 HELICOIDAL CUT
- FLACHFRÄSER FÜR FINISH MIT EINER SPIRAL SCHNEIDE

HM

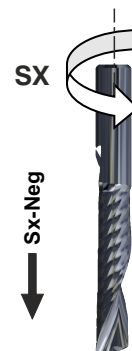
Z 1



WN 502



WN 503



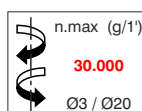
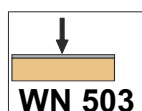
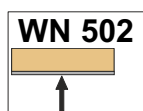
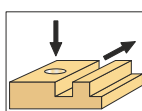
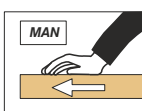
D	L1	L	d1	Z
3	12	50	3	1
4	15	50	4	1
5	17	50	5	1
5	27	60	5	1
6	17	50	6	1
6	22	60	6	1
6	27	60	6	1
8	27	60	8	1
8	32	80	8	1
8	42	100	8	1
10	32	80	10	1
10	42	100	10	1
10	52	100	10	1
12	32	80	12	1
12	42	100	12	1
12	52	100	12	1

Articolo	
WN 502.030IE	
WN 502.040IB	
WN 502.050IB	
WN 502.050MG	
WN 502.060HE	
WN 502.060JG	
WN 502.060LG	
WN 502.080JG	
WN 502.080LK	
WN 502.080NO	
WN 502.100KK	
WN 502.100MO	
WN 502.100OO	
WN 502.120JK	
WN 502.120LO	
WN 502.120NO	

Articolo	
WN 503.030IE	
WN 503.040IB	
WN 503.050IB	
WN 503.050MG	
WN 503.060HE	
WN 503.060JG	
WN 503.060LG	
WN 503.080JG	
WN 503.080LK	
WN 503.080NO	
WN 503.100KK	
WN 503.100MO	
WN 503.100OO	
WN 503.120JK	
WN 503.120LO	
WN 503.120NO	

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1)	Correzione per Vf	Diametro	Profondità di lavorazione	Velocità di avanzamento Vf
18.000 - 24.000	Legno tenero 2.1	3 - 6 mm	< 10 mm	2.5 m/min
	Legno duro 1.2	3 - 6 mm	> 10 mm	2 m/min
	Truciolare 2.0	6 - 8 mm	< 15 mm	4 m/min
	Multistrato 1.4	6 - 8 mm	> 15 mm	3 m/min
	MDF 1.7	10 - 12 mm	< 20 mm	4 m/min
		10 - 12 mm	> 20 mm	3 m/min

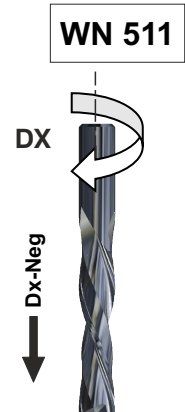
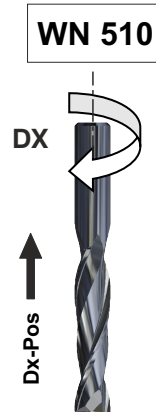




# FRESE PIANE PER FINITURA A 2 TAGLIENTI ELICOIDALI

- ROUTER BITS FOR FINISHING WITH 2 HELICOIDAL CUTS
- FLACHFRÄSER FÜR FINISH MIT ZWEI SPIRAL SCHNEIDEN

HM Z 2



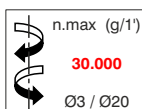
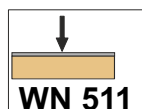
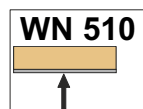
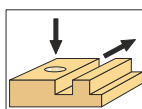
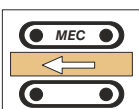
D	L1	L	d1	Z
3	12	50	3	2
4	15	50	4	2
5	17	50	5	2
5	27	60	5	2
6	17	60	6	2
6	22	60	6	2
6	27	60	6	2
8	22	60	8	2
8	32	80	8	2
8	42	100	8	2
10	32	80	10	2
10	42	100	10	2
10	52	100	10	2
12	32	80	12	2
12	42	100	12	2
12	52	100	12	2
14	42	100	14	2
14	52	100	14	2
16	42	100	16	2
16	52	100	16	2
16	72	130	16	2

Articolo	
WN 510.030IE	
WN 510.040IB	
WN 510.050IB	
WN 510.050MG	
WN 510.060HG	
WN 510.060JG	
WN 510.060LG	
WN 510.080HG	
WN 510.080LK	
WN 510.080NO	
WN 510.100KK	
WN 510.100MO	
WN 510.100OO	
WN 510.120JK	
WN 510.120LO	
WN 510.120NO	
WN 510.140KO	
WN 510.140MO	
WN 510.160JO	
WN 510.160LO	
WN 510.160PU	

Articolo	
WN 511.030IE	
WN 511.040IB	
WN 511.050IB	
WN 511.050MG	
WN 511.060HG	
WN 511.060JG	
WN 511.060LG	
WN 511.080HG	
WN 511.080LK	
WN 511.080NO	
WN 511.100KK	
WN 511.100MO	
WN 511.100OO	
WN 511.120JK	
WN 511.120LO	
WN 511.120NO	
WN 511.140KO	
WN 511.140MO	
WN 511.160JO	
WN 511.160LO	
WN 511.160PU	

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1')	Correzione per Vf	Diametro	Profondità di lavorazione	Velocità di avanzamento Vf
18.000 - 24.000	Legno tenero 1.5	3 - 6 mm	< 10 mm	3 m/min
	Legno duro 0.8	3 - 6 mm	> 10 mm	4 m/min
	Truciolare 1.3	8 - 10 mm	< 15 mm	6 m/min
	Multistrato 0.9	8 - 10 mm	> 15 mm	5 m/min
	MDF 1.1	12 - 16 mm	< 25 mm	12 m/min
		12 - 16 mm	> 25 mm	10 m/min



# FRESE PIANE PER FINITURA A 2 TAGLIANTI ELICOIDALI

- ROUTER BITS FOR FINISHING WITH 2 HELICOIDAL CUTS
- FLACHFRÄSER FÜR FINISH MIT ZWEI SPIRAL SCHNEIDEN

HM

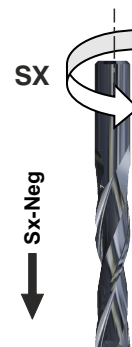
Z 2



WN 512



WN 513



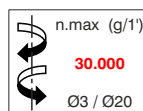
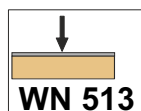
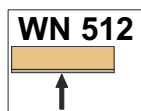
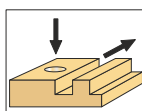
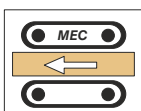
D	L1	L	d1	Z
3	12	50	3	2
4	15	50	4	2
5	17	50	5	2
5	27	60	5	2
6	17	60	6	2
6	22	60	6	2
6	27	60	6	2
8	22	60	8	2
8	32	80	8	2
8	42	100	8	2
10	32	80	10	2
10	42	100	10	2
10	52	100	10	2
12	32	80	12	2
12	42	100	12	2
12	52	100	12	2
14	42	100	14	2
14	52	100	14	2
16	42	100	16	2
16	52	100	16	2
16	72	130	16	2

Articolo	
WN 512.030IE	
WN 512.040IB	
WN 512.050IB	
WN 512.050MG	
WN 512.060HG	
WN 512.060JG	
WN 512.060LG	
WN 512.080HG	
WN 512.080LK	
WN 512.080NO	
WN 512.100KK	
WN 512.100MO	
WN 512.100OO	
WN 512.120JK	
WN 512.120LO	
WN 512.120NO	
WN 512.140KO	
WN 512.140MO	
WN 512.160JO	
WN 512.160LO	
WN 512.160PU	

Articolo	
WN 513.030IE	
WN 513.040IB	
WN 513.050IB	
WN 513.050MG	
WN 513.060HG	
WN 513.060JG	
WN 513.060LG	
WN 513.080HG	
WN 513.080LK	
WN 513.080NO	
WN 513.100KK	
WN 513.100MO	
WN 513.100OO	
WN 513.120JK	
WN 513.120LO	
WN 513.120NO	
WN 513.140KO	
WN 513.140MO	
WN 513.160JO	
WN 513.160LO	
WN 513.160PU	

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1)	Correzione per Vf	Diametro	Profondità di lavorazione	Velocità di avanzamento Vf
18.000 - 24.000	Legno tenero 1.5	3 - 6 mm	< 10 mm	3 m/min
	Legno duro 0.8	3 - 6 mm	> 10 mm	4 m/min
	Truciolare 1.3	8 - 10 mm	< 15 mm	6 m/min
	Multistrato 0.9	8 - 10 mm	> 15 mm	5 m/min
	MDF 1.1	12 - 16 mm	< 25 mm	12 m/min
		12 - 16 mm	> 25 mm	10 m/min



# FRESE PIANE PER SEMIFINITURA A 2 TAGLIENTI ELICOIDALI

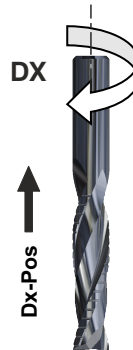
- ROUTER BITS FOR SEMI-FINISHING WITH 2 HELICOIDAL CUTS
- FLACHFRÄSER FÜR SEMI-FINISH MIT ZWEI SPIRAL SCHNEIDEN

HM

Z 2



WN 520



WN 521



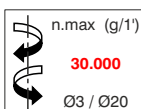
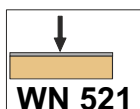
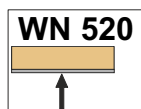
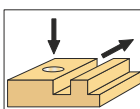
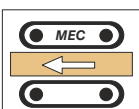
D	L1	L	d1	Z
8	22	60	8	2
8	32	80	8	2
8	42	100	8	2
10	32	80	10	2
10	42	100	10	2
10	52	100	10	2
12	32	80	12	2
12	42	100	12	2
12	52	100	12	2
14	42	100	14	2
14	52	100	14	2
16	42	100	16	2
16	52	100	16	2
16	72	130	16	2

Articolo	
WN 520.080HG	
WN 520.080LK	
WN 520.080NO	
WN 520.100KK	
WN 520.100MO	
WN 520.100OO	
WN 520.120JK	
WN 520.120LO	
WN 520.120NO	
WN 520.140KO	
WN 520.140MO	
WN 520.160JO	
WN 520.160LO	
WN 520.160PU	

Articolo	
WN 521.080HG	
WN 521.080LK	
WN 521.080NO	
WN 521.100KK	
WN 521.100MO	
WN 521.100OO	
WN 521.120JK	
WN 521.120LO	
WN 521.120NO	
WN 521.140KO	
WN 521.140MO	
WN 521.160JO	
WN 521.160LO	
WN 521.160PU	

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1')	Correzione per Vf	Diametro	Profondità di lavorazione	Velocità di avanzamento Vf
18.000 - 24.000	Legno tenero 1.5	8 - 10 mm	< 15 mm	6 m/min
	Legno duro 0.8	8 - 10 mm	> 15 mm	5 m/min
	Truciolare 1.3	12 - 16 mm	< 25 mm	12 m/min
	Multistrato 0.9	12 - 16 mm	> 25 mm	10 m/min
	MDF 1.1			



# FRESE PIANE PER SEMIFINITURA A 2 TAGLIENTI ELICOIDALI

- ROUTER BITS FOR SEMI-FINISHING WITH 2 HELICOIDAL CUTS
- FLACHFRÄSER FÜR SEMI-FINISH MIT ZWEI SPIRAL SCHNEIDEN

HM

Z 2



WN 522



WN 523



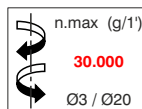
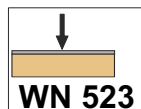
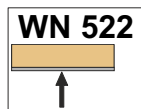
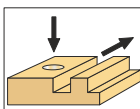
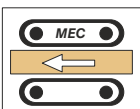
D	L1	L	d1	Z
8	22	60	8	2
8	32	80	8	2
8	42	100	8	2
10	32	80	10	2
10	42	100	10	2
10	52	100	10	2
12	32	80	12	2
12	42	100	12	2
12	52	100	12	2
14	42	100	14	2
14	52	100	14	2
16	42	100	16	2
16	52	100	16	2
16	72	130	16	2

Articolo	
WN 522.080HG	
WN 522.080LK	
WN 522.080NO	
WN 522.100KK	
WN 522.100MO	
WN 522.100OO	
WN 522.120JK	
WN 522.120LO	
WN 522.120NO	
WN 522.140KO	
WN 522.140MO	
WN 522.160JO	
WN 522.160LO	
WN 522.160PU	

Articolo	
WN 523.080HG	
WN 523.080LK	
WN 523.080NO	
WN 523.100KK	
WN 523.100MO	
WN 523.100OO	
WN 523.120JK	
WN 523.120LO	
WN 523.120NO	
WN 523.140KO	
WN 523.140MO	
WN 523.160JO	
WN 523.160LO	
WN 523.160PU	

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1)	Correzione per Vf	Diametro	Profondità di lavorazione	Velocità di avanzamento Vf
18.000 - 24.000	Legno tenero 1.5	8 - 10 mm	< 15 mm	6 m/min
	Legno duro 0.8	8 - 10 mm	> 15 mm	5 m/min
	Truciolare 1.3	12 - 16 mm	< 25 mm	12 m/min
	Multistrato 0.9	12 - 16 mm	> 25 mm	10 m/min
	MDF 1.1			



# FRESE PIANE PER FINITURA A 3 TAGLIANTI ELICOIDALI

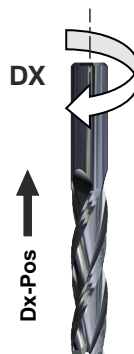
- ROUTER BITS FOR FINISHING WITH 3 HELICOIDAL CUTS
- FLACHFRÄSER FÜR FINISH MIT DREI SPIRAL SCHNEIDEN

HM

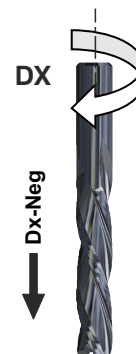
Z 3



WN 550



WN 551



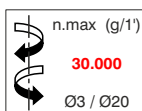
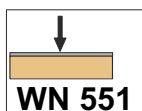
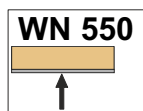
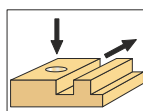
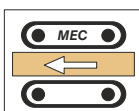
D	L1	L	d1	Z
8	22	60	8	3
8	32	80	8	3
8	42	90	8	3
10	32	80	10	3
10	42	100	10	3
10	52	100	10	3
12	32	80	12	3
12	42	100	12	3
12	52	100	12	3
14	42	100	14	3
14	52	100	14	3
14	72	130	14	3
16	42	100	16	3
16	52	100	16	3
16	62	120	16	3
16	72	130	16	3
18	52	100	18	3
18	72	130	18	3
20	52	100	20	3
20	62	120	20	3
20	72	130	20	3
20	87	150	20	3
20	102	160	20	3
25	52	100	25	3
25	72	130	25	3
25	87	150	25	3
25	102	160	25	3

Articolo
WN 550.080HG
WN 550.080LK
WN 550.080NM
WN 550.100KK
WN 550.100MO
WN 550.100OO
WN 550.120JK
WN 550.120LO
WN 550.120NO
WN 550.140KO
WN 550.140MO
WN 550.140QD
WN 550.160JO
WN 550.160LO
WN 550.160NS
WN 550.160PU
WN 550.180KO
WN 550.180OU
WN 550.200JO
WN 550.200LS
WN 550.200NC
WN 550.200QW
WN 550.200TX
WN 550.250HO
WN 550.250LC
WN 550.250OW
WN 550.250RX

Articolo
WN 551.080HG
WN 551.080LK
WN 551.080NM
WN 551.100KK
WN 551.100MO
WN 551.100OO
WN 551.120JK
WN 551.120LO
WN 551.120NO
WN 551.140KO
WN 551.140MO
WN 551.140QD
WN 551.160JO
WN 551.160LO
WN 551.160NS
WN 551.160PU
WN 551.180KO
WN 551.180OU
WN 551.200JO
WN 551.200LS
WN 551.200NC
WN 551.200QW
WN 551.200TX
WN 551.250HO
WN 551.250LC
WN 551.250OW
WN 551.250RX

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

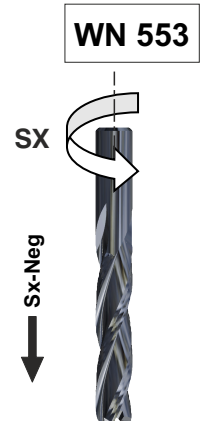
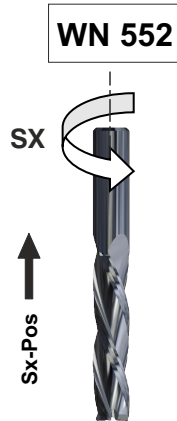
Giri consigliati (g/1')	Correzione per Vf	Diametro	Profondità di lavorazione	Velocità di avanzamento Vf
18.000 - 24.000	Legno tenero 1.5	8 - 10 mm	< 15 mm	6 m/min
	Legno duro 0.8	8 - 10 mm	> 15 mm	5 m/min
	Truciolare 1.3	12 - 16 mm	< 25 mm	12 m/min
	Multistrato 0.9	12 - 16 mm	> 25 mm	10 m/min
	MDF 1.1	18 - 25 mm	< 40 mm	15 m/min
		18 - 25 mm	> 40 mm	13 m/min



# FRESE PIANE PER FINITURA A 3 TAGLIENTI ELICOIDALI

- ROUTER BITS FOR FINISHING WITH 3 HELICOIDAL CUTS
- FLACHFRÄSER FÜR FINISH MIT DREI SPIRAL SCHNEIDEN

**HM**    **Z 3**



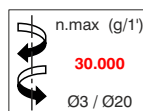
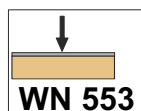
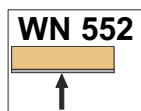
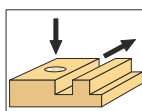
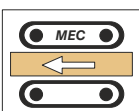
D	L1	L	d1	Z
8	22	60	8	3
8	32	80	8	3
8	42	90	8	3
10	32	80	10	3
10	42	100	10	3
10	52	100	10	3
12	32	80	12	3
12	42	100	12	3
12	52	100	12	3
14	42	100	14	3
14	52	100	14	3
14	72	130	14	3
16	42	100	16	3
16	52	100	16	3
16	62	120	16	3
16	72	130	16	3
18	52	100	18	3
18	72	130	18	3
20	52	100	20	3
20	62	120	20	3
20	72	130	20	3
20	87	150	20	3
20	102	160	20	3
25	52	100	25	3
25	72	130	25	3
25	87	150	25	3
25	102	160	25	3

Articolo
WN 552.080HG
WN 552.080LK
WN 552.080NM
WN 552.100KK
WN 552.100MO
WN 552.100OO
WN 552.120JK
WN 552.120LO
WN 552.120NO
WN 552.140KO
WN 552.140MO
WN 552.140QD
WN 552.160JO
WN 552.160LO
WN 552.160NS
WN 552.160PU
WN 552.180KO
WN 552.180OU
WN 552.200JO
WN 552.200LS
WN 552.200NC
WN 552.200QW
WN 552.200TX
WN 552.250HO
WN 552.250LC
WN 552.250OW
WN 552.250RX

Articolo
WN 553.080HG
WN 553.080LK
WN 553.080NM
WN 553.100KK
WN 553.100MO
WN 553.100OO
WN 553.120JK
WN 553.120LO
WN 553.120NO
WN 553.140KO
WN 553.140MO
WN 553.140QD
WN 553.160JO
WN 553.160LO
WN 553.160NS
WN 553.160PU
WN 553.180KO
WN 553.180OU
WN 553.200JO
WN 553.200LS
WN 553.200NC
WN 553.200QW
WN 553.200TX
WN 553.250HO
WN 553.250LC
WN 553.250OW
WN 553.250RX

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

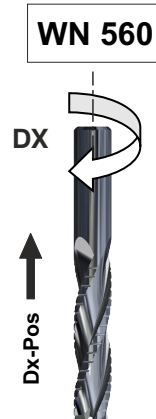
Giri consigliati (g/1')	Correzione per Vf	Diametro	Profondità di lavorazione	Velocità di avanzamento Vf
18.000 - 24.000	Legno tenero 1.5	8 - 10 mm	< 15 mm	6 m/min
	Legno duro 0.8	8 - 10 mm	> 15 mm	5 m/min
	Truciolare 1.3	12 - 16 mm	< 25 mm	12 m/min
	Multistrato 0.9	12 - 16 mm	> 25 mm	10 m/min
	MDF 1.1	18 - 25 mm	< 40 mm	15 m/min
		18 - 25 mm	> 40 mm	13 m/min



# FRESE PIANE PER SEMIFINITURA A 3 TAGLIENTI ELICOIDALI

- ROUTER BITS FOR SEMI-FINISHING WITH 3 HELICOIDAL CUTS
- FLACHFRÄSER FÜR SEMI-FINISH MIT DREI SPIRAL SCHNEIDEN

HM Z 3



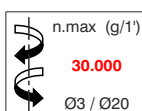
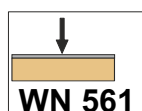
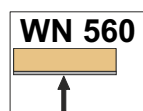
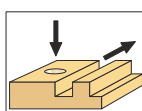
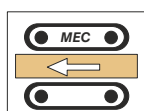
D	L1	L	d1	Z
8	22	60	8	3
8	32	80	8	3
8	42	90	8	3
10	32	80	10	3
10	42	100	10	3
10	52	100	10	3
12	32	80	12	3
12	42	100	12	3
12	52	100	12	3
14	42	100	14	3
14	52	100	14	3
14	72	130	14	3
16	42	100	16	3
16	52	100	16	3
16	62	120	16	3
16	72	130	16	3
18	52	100	18	3
18	72	130	18	3
20	52	100	20	3
20	62	120	20	3
20	72	130	20	3
20	87	150	20	3
20	102	160	20	3
25	52	100	25	3
25	72	130	25	3
25	87	150	25	3
25	102	160	25	3

Articolo
WN 560.080HG
WN 560.080LK
WN 560.080NM
WN 560.100KK
WN 560.100MO
WN 560.100OO
WN 560.120JK
WN 560.120LO
WN 560.120NO
WN 560.140KO
WN 560.140MO
WN 560.140QD
WN 560.160JO
WN 560.160LO
WN 560.160NS
WN 560.160PU
WN 560.180KO
WN 560.180OU
WN 560.200JO
WN 560.200LS
WN 560.200NC
WN 560.200QW
WN 560.200TX
WN 560.250HO
WN 560.250LC
WN 560.250OW
WN 560.250RX

Articolo
WN 561.080HG
WN 561.080LK
WN 561.080NM
WN 561.100KK
WN 561.100MO
WN 561.100OO
WN 561.120JK
WN 561.120LO
WN 561.120NO
WN 561.140KO
WN 561.140MO
WN 561.140QD
WN 561.160JO
WN 561.160LO
WN 561.160NS
WN 561.160PU
WN 561.180KO
WN 561.180OU
WN 561.200JO
WN 561.200LS
WN 561.200NC
WN 561.200QW
WN 561.200TX
WN 561.250HO
WN 561.250LC
WN 561.250OW
WN 561.250RX

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1')	Correzione per Vf	Diametro	Profondità di lavorazione	Velocità di avanzamento Vf
18.000 - 24.000	Legno tenero 1.5	8 - 10 mm	< 15 mm	6 m/min
	Legno duro 0.8	8 - 10 mm	> 15 mm	5 m/min
	Truciolare 1.3	12 - 16 mm	< 25 mm	12 m/min
	Multistrato 0.9	12 - 16 mm	> 25 mm	10 m/min
	MDF 1.1	18 - 25 mm	< 40 mm	15 m/min
		18 - 25 mm	> 40 mm	13 m/min



# FRESE PIANE PER SEMIFINITURA A 3 TAGLIENTI ELICOIDALI

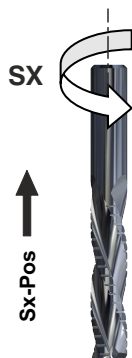
- ROUTER BITS FOR SEMI-FINISHING WITH 3 HELICOIDAL CUTS
- FLACHFRÄSER FÜR SEMI-FINISH MIT DREI SPIRAL SCHNEIDEN

HM

Z 3



WN 562



WN 563



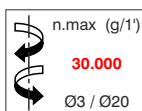
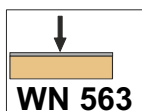
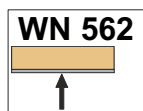
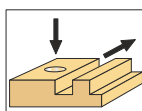
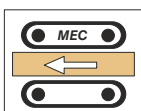
D	L1	L	d1	Z
8	22	60	8	3
8	32	80	8	3
8	42	90	8	3
10	32	80	10	3
10	42	100	10	3
10	52	100	10	3
12	32	80	12	3
12	42	100	12	3
12	52	100	12	3
14	42	100	14	3
14	52	100	14	3
14	72	130	14	3
16	42	100	16	3
16	52	100	16	3
16	62	120	16	3
16	72	130	16	3
18	52	100	18	3
18	72	130	18	3
20	52	100	20	3
20	62	120	20	3
20	72	130	20	3
20	87	150	20	3
20	102	160	20	3
25	52	100	25	3
25	72	130	25	3
25	87	150	25	3
25	102	160	25	3

Articolo
WN 562.080HG
WN 562.080LK
WN 562.080NM
WN 562.100KK
WN 562.100MO
WN 562.100OO
WN 562.120JK
WN 562.120LO
WN 562.120NO
WN 562.140KO
WN 562.140MO
WN 562.140QD
WN 562.160JO
WN 562.160LO
WN 562.160NS
WN 562.160PU
WN 562.180KO
WN 562.180OU
WN 562.200JO
WN 562.200LS
WN 562.200NC
WN 562.200QW
WN 562.200TX
WN 562.250HO
WN 562.250LC
WN 562.250OW
WN 562.250RX

Articolo
WN 563.080HG
WN 563.080LK
WN 563.080NM
WN 563.100KK
WN 563.100MO
WN 563.100OO
WN 563.120JK
WN 563.120LO
WN 563.120NO
WN 563.140KO
WN 563.140MO
WN 563.140QD
WN 563.160JO
WN 563.160LO
WN 563.160NS
WN 563.160PU
WN 563.180KO
WN 563.180OU
WN 563.200JO
WN 563.200LS
WN 563.200NC
WN 563.200QW
WN 563.200TX
WN 563.250HO
WN 563.250LC
WN 563.250OW
WN 563.250RX

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1')	Correzione per Vf	Diametro	Profondità di lavorazione	Velocità di avanzamento Vf
18.000 - 24.000	Legno tenero 1.5	8 - 10 mm	< 15 mm	6 m/min
	Legno duro 0.8	8 - 10 mm	> 15 mm	5 m/min
	Truciolare 1.3	12 - 16 mm	< 25 mm	12 m/min
	Multistrato 0.9	12 - 16 mm	> 25 mm	10 m/min
	MDF 1.1	18 - 25 mm	< 40 mm	15 m/min
		18 - 25 mm	> 40 mm	13 m/min





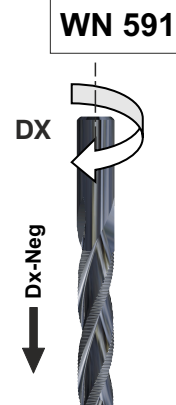
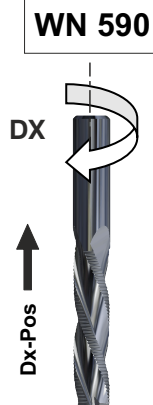
# FRESE PIANE PER SEMISGROSSATURA A 3 TAGLIENTI ELICOIDALI

- ROUTER BITS FOR SGROUHING WITH 3 HELICOIDAL CUTS

- FLACHFRÄSER FÜR SEMI- SCHRUPP MIT DREI SPIRAL SCHNEIDEN

HM

Z 3



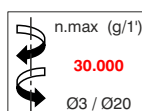
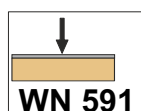
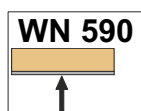
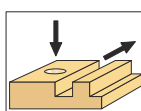
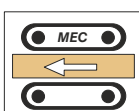
D	L1	L	d1	Z
8	22	60	8	3
8	32	80	8	3
8	42	90	8	3
10	32	80	10	3
10	42	100	10	3
10	52	100	10	3
12	32	80	12	3
12	42	100	12	3
12	52	100	12	3
14	42	100	14	3
14	52	100	14	3
14	72	130	14	3
16	42	100	16	3
16	52	100	16	3
16	62	120	16	3
16	72	130	16	3
18	52	100	18	3
18	72	130	18	3
20	52	100	20	3
20	62	120	20	3
20	72	130	20	3
20	87	150	20	3
20	102	160	20	3
25	52	100	25	3
25	72	130	25	3
25	87	150	25	3
25	102	160	25	3

Articolo
WN 590.080HG
WN 590.080LK
WN 590.080NM
WN 590.100KK
WN 590.100MO
WN 590.100OO
WN 590.120JK
WN 590.120LO
WN 590.120NO
WN 590.140KO
WN 590.140MO
WN 590.140QD
WN 590.160JO
WN 590.160LO
WN 590.160NS
WN 590.160PU
WN 590.180KO
WN 590.180OU
WN 590.200JO
WN 590.200LS
WN 590.200NC
WN 590.200QW
WN 590.200TX
WN 590.250HO
WN 590.250LC
WN 590.250OW
WN 590.250RX

Articolo
WN 591.080HG
WN 591.080LK
WN 591.080NM
WN 591.100KK
WN 591.100MO
WN 591.100OO
WN 591.120JK
WN 591.120LO
WN 591.120NO
WN 591.140KO
WN 591.140MO
WN 591.140QD
WN 591.160JO
WN 591.160LO
WN 591.160NS
WN 591.160PU
WN 591.180KO
WN 591.180OU
WN 591.200JO
WN 591.200LS
WN 591.200NC
WN 591.200QW
WN 591.200TX
WN 591.250HO
WN 591.250LC
WN 591.250OW
WN 591.250RX

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

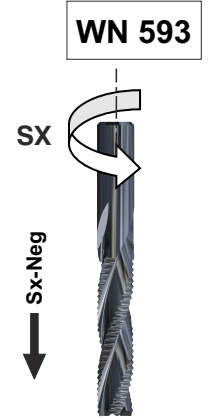
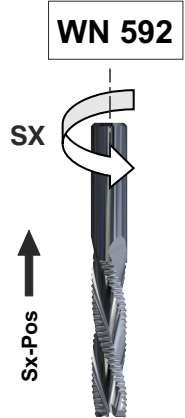
Giri consigliati (g/1')	Correzione per Vf	Diametro	Profondità di lavorazione	Velocità di avanzamento Vf
18.000 - 24.000	Legno tenero 1.5	8 - 10 mm	< 15 mm	8 m/min
	Legno duro 0.8	8 - 10 mm	> 15 mm	6 m/min
	Truciolare 1.3	12 - 16 mm	< 25 mm	16 m/min
	Multistrato 0.9	12 - 16 mm	> 25 mm	13 m/min
	MDF 1.1	18 - 25 mm	< 40 mm	20 m/min
		18 - 25 mm	> 40 mm	18 m/min



# FRESE PIANE PER SEMISGROSSATURA A 3 TAGLIENTI ELICOIDALI

- ROUTER BITS FOR SGROUHING WITH 3 HELICOIDAL CUTS  
 - FLACHFRÄSER FÜR SEMI- SCHRUPP MIT DREI SPIRAL SCHNEIDEN

**HM**    **Z 3**



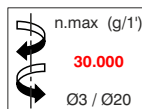
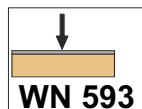
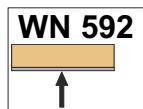
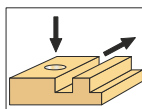
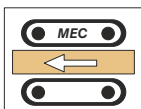
D	L1	L	d1	Z
8	22	60	8	3
8	32	80	8	3
8	42	90	8	3
10	32	80	10	3
10	42	100	10	3
10	52	100	10	3
12	32	80	12	3
12	42	100	12	3
12	52	100	12	3
14	42	100	14	3
14	52	100	14	3
14	72	130	14	3
16	42	100	16	3
16	52	100	16	3
16	62	120	16	3
16	72	130	16	3
18	52	100	18	3
18	72	130	18	3
20	52	100	20	3
20	62	120	20	3
20	72	130	20	3
20	87	150	20	3
20	102	160	20	3
25	52	100	25	3
25	72	130	25	3
25	87	150	25	3
25	102	160	25	3

Articolo
WN 592.080HG
WN 592.080LK
WN 592.080NM
WN 592.100KK
WN 592.100MO
WN 592.100OO
WN 592.120JK
WN 592.120LO
WN 592.120NO
WN 592.140KO
WN 592.140MO
WN 592.140QD
WN 592.160JO
WN 592.160LO
WN 592.160NS
WN 592.160PU
WN 592.180KO
WN 592.180OU
WN 592.200JO
WN 592.200LS
WN 592.200NC
WN 592.200QW
WN 592.200TX
WN 592.250HO
WN 592.250LC
WN 592.250OW
WN 592.250RX

Articolo
WN 593.080HG
WN 593.080LK
WN 593.080NM
WN 593.100KK
WN 593.100MO
WN 593.100OO
WN 593.120JK
WN 593.120LO
WN 593.120NO
WN 593.140KO
WN 593.140MO
WN 593.140QD
WN 593.160JO
WN 593.160LO
WN 593.160NS
WN 593.160PU
WN 593.180KO
WN 593.180OU
WN 593.200JO
WN 593.200LS
WN 593.200NC
WN 593.200QW
WN 593.200TX
WN 593.250HO
WN 593.250LC
WN 593.250OW
WN 593.250RX

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1')	Correzione per Vf	Diametro	Profondità di lavorazione	Velocità di avanzamento Vf
18.000 - 24.000	Legno tenero 1.5	8 - 10 mm	< 15 mm	8 m/min
	Legno duro 0.8	8 - 10 mm	> 15 mm	6 m/min
	Truciolare 1.3	12 - 16 mm	< 25 mm	16 m/min
	Multistrato 0.9	12 - 16 mm	> 25 mm	13 m/min
	MDF 1.1	18 - 25 mm	< 40 mm	20 m/min
		18 - 25 mm	> 40 mm	18 m/min



# FRESE CON SMUSSO PER FINITURA A 3 TAGLIENTI ELICOIDALI

- ROUTER BITS FOR FINISHING WITH BEVEL AND 3 HELICOIDAL CUTS

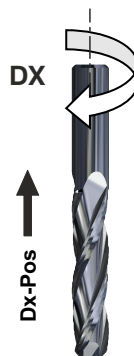
- FRÄSER MIT FASE FÜR FINISH MIT DREI SPIRAL SCHNEIDEN

HM

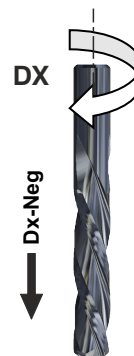
Z 3



WN 700



WN 701



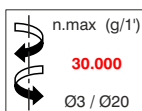
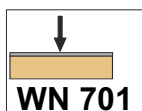
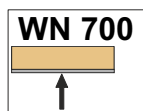
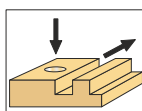
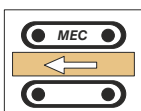
D	L1	L	d1	Z
14	52	100	14	3
16	52	100	16	3
16	72	130	16	3
20	52	100	20	3
20	72	130	20	3

Articolo
WN 700.140MO
WN 700.160LO
WN 700.160PU
WN 700.200JO
WN 700.200NC

Articolo
WN 701.140MO
WN 701.160LO
WN 701.160PU
WN 701.200JO
WN 701.200NC

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1')	Correzione per Vf	Diametro	Velocità di avanzamento in foratura Vf	Velocità di avanzamento Vf
12.000 - 15.000	Legno tenero 1.5	14 mm	4 m/min	4 m/min
	Legno duro 0.8	16 mm	6 m/min	5 m/min
	Truciolare 1.3	20 mm	8 m/min	6 m/min
	Multistrato 0.9			
	MDF 1.1			



# FRESE CON SMUSSO PER FINITURA A 3 TAGLIENTI ELICOIDALI

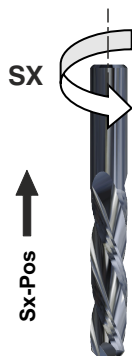
- ROUTER BITS FOR FINISHING WITH BEVEL AND 3 HELICOIDAL CUTS
- FRÄSER MIT FASE FÜR FINISH MIT DREI SPIRAL SCHNEIDEN

HM

Z 3



WN 702



WN 703



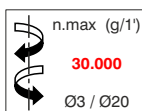
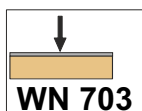
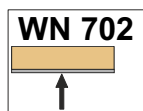
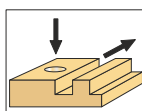
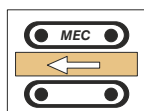
D	L1	L	d1	Z
14	52	100	14	3
16	52	100	16	3
16	72	130	16	3
20	52	100	20	3
20	72	130	20	3

Articolo
WN 702.140MO
WN 702.160LO
WN 702.160PU
WN 702.200JO
WN 702.200NC

Articolo
WN 703.140MO
WN 703.160LO
WN 703.160PU
WN 703.200JO
WN 703.200NC

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1')	Correzione per Vf	Diametro	Velocità di avanzamento in foratura Vf	Velocità di avanzamento Vf
12.000 - 15.000	Legno tenero 1.5	14 mm	4 m/min	4 m/min
	Legno duro 0.8	16 mm	6 m/min	5 m/min
	Truciolare 1.3	20 mm	8 m/min	6 m/min
	Multistrato 0.9			
	MDF 1.1			



# FRESE CON SMUSSO PER SGROSSATURA A 3 TAGLIENTI ELICOIDALI

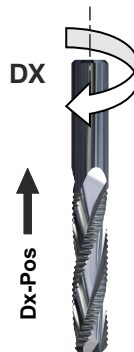
- ROUTER BITS FOR SGROUHING WITH BEVEL AND 3 HELICOIDAL CUTS
- FRÄSER MIT FASE ZUM SCHRUPPEN MIT DREI SPIRAL SCHNEIDEN

HM

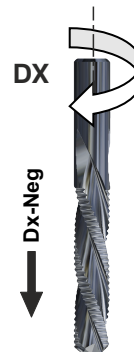
Z 3



WN 720



WN 721



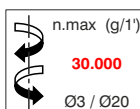
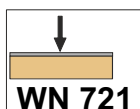
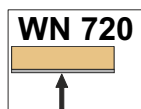
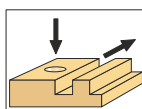
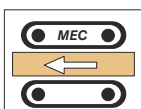
D	L1	L	d1	Z
14	52	100	14	3
16	52	100	16	3
16	72	130	16	3
20	52	100	20	3
20	72	130	20	3

Articolo
WN 720.140MO
WN 720.160LO
WN 720.160PU
WN 720.200JO
WN 720.200NC

Articolo
WN 721.140MO
WN 721.160LO
WN 721.160PU
WN 721.200JO
WN 721.200NC

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1')	Correzione per Vf	Diametro	Velocità di avanzamento in foratura Vf	Velocità di avanzamento Vf
12.000 - 15.000	Legno tenero 1.5	14 mm	4 m/min	4 m/min
	Legno duro 0.8	16 mm	6 m/min	5 m/min
	Truciolare 1.3	20 mm	8 m/min	6 m/min
	Multistrato 0.9			
	MDF 1.1			



# FRESE CON SMUSSO PER SGROSSATURA A 3 TAGLIENTI ELICOIDALI

- ROUTER BITS FOR SGROUHING WITH BEVEL AND 3 HELICOIDAL CUTS

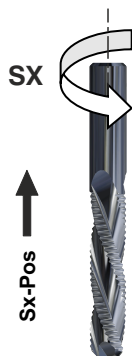
- FRÄSER MIT FASE ZUM SCHRUPPEN MIT DREI SPIRAL SCHNEIDEN

HM

Z 3



WN 722



WN 723



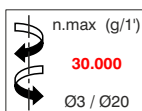
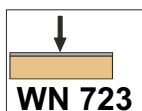
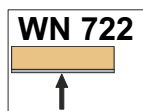
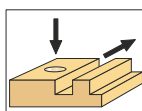
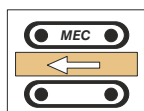
D	L1	L	d1	Z
14	52	100	14	3
16	52	100	16	3
16	72	130	16	3
20	52	100	20	3
20	72	130	20	3

Articolo
WN 722.140MO
WN 722.160LO
WN 722.160PU
WN 722.200JO
WN 722.200NC

Articolo
WN 723.140MO
WN 723.160LO
WN 723.160PU
WN 723.200JO
WN 723.200NC

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1)	Correzione per Vf	Diametro	Velocità di avanzamento in foratura Vf	Velocità di avanzamento Vf
12.000 - 15.000	Legno tenero 1.5	14 mm	4 m/min	4 m/min
	Legno duro 0.8	16 mm	6 m/min	5 m/min
	Truciolare 1.3	20 mm	8 m/min	6 m/min
	Multistrato 0.9			
	MDF 1.1			



# FRESE PIANE PER SEMIFINITURA A 2+2 TAGLIENTI IBRIDI ELICOIDALI

- ROUTER BITS FOR SEMI-FINISHING WITH 2+2 HELICOIDAL HYBRID CUTS

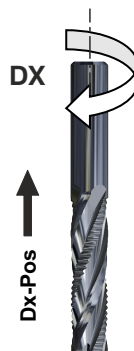
- FLACHFRÄSER FÜR SEMI-FINISH MIT ZWEI + ZWEI HYBRID SPIRAL SCHNEIDEN

HM

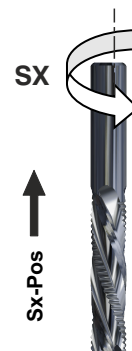
Z 2+2



WN 680



WN 682



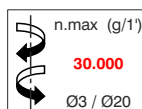
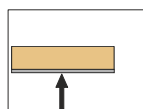
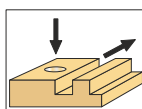
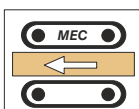
D	L1	L	d1	Z
10	32	80	10	4
10	42	100	10	4
10	52	100	10	4
12	32	80	12	4
12	42	100	12	4
12	52	100	12	4
14	42	100	14	4
14	52	100	14	4
14	72	130	14	4
16	42	100	16	4
16	52	100	16	4
16	62	120	16	4
16	72	130	16	4
18	52	100	18	4
18	72	130	18	4
20	52	100	20	4
20	72	130	20	4
20	102	160	20	4

Articolo	
WN 680.100KK	
WN 680.100MO	
WN 680.100OO	
WN 680.120JK	
WN 680.120LO	
WN 680.120NO	
WN 680.140KO	
WN 680.140MO	
WN 680.140QD	
WN 680.160JO	
WN 680.160LO	
WN 680.160NS	
WN 680.160PU	
WN 680.180KO	
WN 680.180OU	
WN 680.200JO	
WN 680.200NC	
WN 680.200TX	

Articolo	
WN 682.100KK	
WN 682.100MO	
WN 682.100OO	
WN 682.120JK	
WN 682.120LO	
WN 682.120NO	
WN 682.140KO	
WN 682.140MO	
WN 682.140QD	
WN 682.160JO	
WN 682.160LO	
WN 682.160NS	
WN 682.160PU	
WN 682.180KO	
WN 682.180OU	
WN 682.200JO	
WN 682.200NC	
WN 682.200TX	

## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1)	Correzione per Vf	Diametro	Profondità di lavorazione	Velocità di avanzamento Vf
18.000 - 24.000	Legno tenero 1.5	10 - 12 mm	< 15 mm	8 m/min
	Legno duro 0.8	10 - 12 mm	> 15 mm	6 m/min
	Truciolare 1.3	14 - 16 mm	< 25 mm	12 m/min
	Multistrato 0.9	14 - 16 mm	> 25 mm	10 m/min
	MDF 1.1	18 - 20 mm	< 40 mm	15 m/min
		18 - 20 mm	> 40 mm	13 m/min



# FRESE PIANE A SGROSSARE PER SEDI DI SERRATURA A 3 TAGLIENTI ELICOIDALI

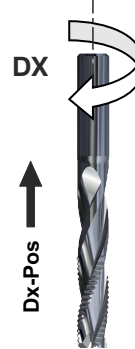
- ROUTER BITS FOR DOOR LOCKS WITH 3 HELICOIDAL CUTS
- FLACHFRÄSER ZUM SCHRUPPEN FÜR SCHLOSS SITZE MIT DREI SPIRAL SCHNEIDEN

HM

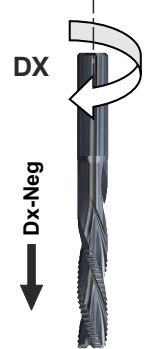
Z 3



WN 870



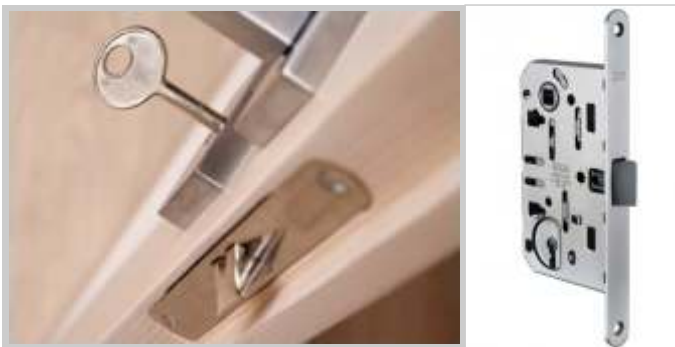
WN 871



D	L1	L2	L	d1	Z
14	42	75	120	14	3
14	47	95	150	14	3
16	42	75	120	16	3
16	47	95	150	16	3
18	47	95	150	18	3
20	47	95	150	20	3

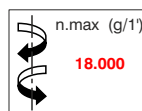
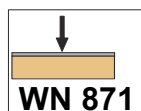
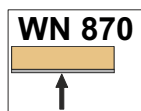
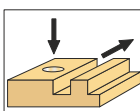
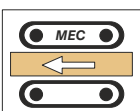
Articolo	
WN 870.140KHS	
WN 870.140LLW	
WN 870.160JHS	
WN 870.160KLW	
WN 870.180JLW	
WN 870.200ILW	

Articolo	
WN 871.140KHS	
WN 871.140LLW	
WN 871.160JHS	
WN 871.160KLW	
WN 871.180JLW	
WN 871.200ILW	



## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1')	Correzione per Vf	Diametro	Profondità di lavorazione	Velocità di avanzamento Vf
12.000 - 18.000	Legno tenero 1.5 Legno duro 0.8 Truciolare 1.3 Multistrato 0.9 MDF 1.1	14 - 16 mm	< 10 mm > 10 mm	8 - 10 m/min 6 - 8 m/min 10 - 12 m/min 8 - 10 m/min

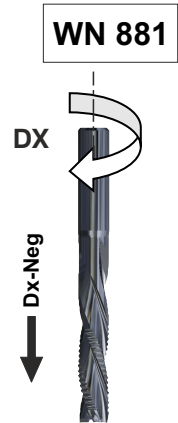
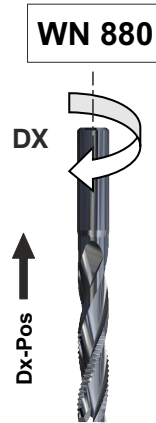




# FRESE PIANE A SGROSSARE PER SEDI DI SERRATURA A 3 TAGLIENTI ELICOIDALI

- SGROUHING ROUTER BIT FOR DOOR LOCKS WITH 3 HELICOIDAL CUTS
- FLACHFRÄSER ZUM SCHRUPPEN FÜR SCHLOSS SITZE MIT DREI SPIRAL SCHNEIDEN

HM Z 3

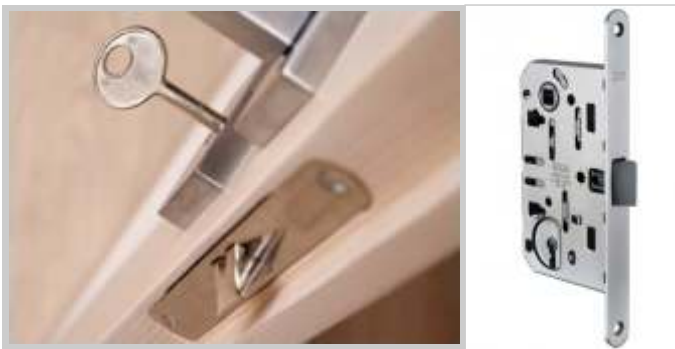


D	L1	L2	L	d1	Z
14	42	75	120	14	3
14	47	95	150	14	3
16	42	75	120	16	3
16	47	95	150	16	3
18	47	95	150	18	3
20	47	95	150	20	3

Articolo
WN 880.140KHS
WN 880.140LLW
WN 880.160JHS
WN 880.160KLW
WN 880.180JLW
WN 880.200ILW

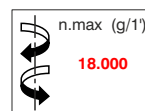
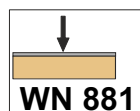
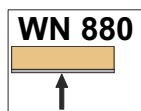
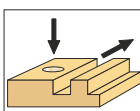
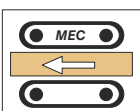
Articolo
WN 881.140KHS
WN 881.140LLW
WN 881.160JHS
WN 881.160KLW
WN 881.180JLW
WN 881.200ILW

Con testa a finire (liscia) - With finish head (smooth) - Mit glatter Spitze für Finish



## LINEA GUIDA UTILIZZO - GUIDE LINE - NUTZUNGSRICHTLINIEN

Giri consigliati (g/1')	Correzione per Vf	Diametro	Profondità di lavorazione	Velocità di avanzamento Vf
12.000 - 18.000	Legno tenero 1.5	14 - 16 mm	< 10 mm	8 - 10 m/min
	Legno duro 0.8	14 - 16 mm	> 10 mm	6 - 8 m/min
	Truciolare 1.3	18 - 20 mm	< 15 mm	10 - 12 m/min
	Multistrato 0.9	18 - 20 mm	> 15 mm	8 - 10 m/min
	MDF 1.1			





# NORME GENERALI DI SICUREZZA

- GENERAL SAFETY RULES
- WERKZEUGE INHALTSWERZEICHNIS C.N.C.



## NORME GENERALI DI SICUREZZA

- 1) Osservare sempre rigorosamente tutte le norme di sicurezza indicate per gli utensili CAUL e le prescrizioni contenute nel manuale di istruzioni per l'uso di ogni macchina od elettrotensile ed attenersi alle norme di sicurezza emanate dagli organismi preposti alla prevenzione degli infortuni.
- 2) Impiegando macchine ad utensile rotante, di qualsiasi genere, si corrono sempre alcuni rischi. Occorre essere molto prudenti e concentrarsi sul lavoro che ci si accinge a fare.
- 3) Utilizzare sempre guanti a cinque dita, che assicurano una buona sensibilità di presa ed una adeguata protezione per manipolare gli utensili con sicurezza, evitando di ferirsi toccando la parte tagliente e durante la lavorazione.
- 4) Installare solo utensili in perfette condizioni, di forma idonea, adatti a lavorare ciascun materiale in relazione alle caratteristiche dell'utensile stesso e della macchina o elettrotensile impiegati allo scopo.
- 5) Non utilizzare mai utensili incrinati, deformati o screpolati.
- 6) Accertarsi della perfetta equilibratura e dell'accurato calettamento e centraggio degli utensili rotanti.
- 7) Fissare accuratamente gli utensili, introducendoli nel dispositivo di serraggio ed i dispositivi di regolazione utilizzati allo scopo.
- 8) Dopo l'accurato posizionamento e serraggio degli utensili, togliere gli attrezzi ed i dispositivi di regolazione utilizzati allo scopo.
- 9) Verificare che l'utensile ruoti nella corretta direzione.
- 10) Utilizzare sempre gli occhiali o schermi protettivi per proteggere gli occhi.
- 11) La zona di lavoro circostante la macchina ed il piano di lavoro devono essere privi di ostacoli e ben puliti.
- 12) Il luogo di lavoro deve risultare ben illuminato.
- 13) Installare sulla macchina od elettrotensile, tutti i dispositivi di protezione previsti dal costruttore, regolandoli o fissandoli opportunamente, prima di iniziare qualsiasi lavorazione.
- 14) L'impianto di aspirazione dei trucioli e delle polveri deve sempre essere messo in funzione contemporaneamente alla macchina.
- 15) L'utilizzatore deve avere almeno 18 anni ed in ogni caso l'età minima prevista dalle leggi vigenti ed essere adeguatamente addestrato nell'utilizzo delle macchine od elettrotensili.
- 16) Evitare assolutamente l'utilizzo delle macchine utensili od elettrotensili qualora ci si senta soggetti a qualsiasi malessere o condizionamento fisico, anche leggero, che ridurrà la prontezza di riflessi ed il grado di vigilanza, aumentando l'esposizione al pericolo.
- 17) Non azionare la macchina quando si è sotto l'effetto dell'alcool o di droghe.



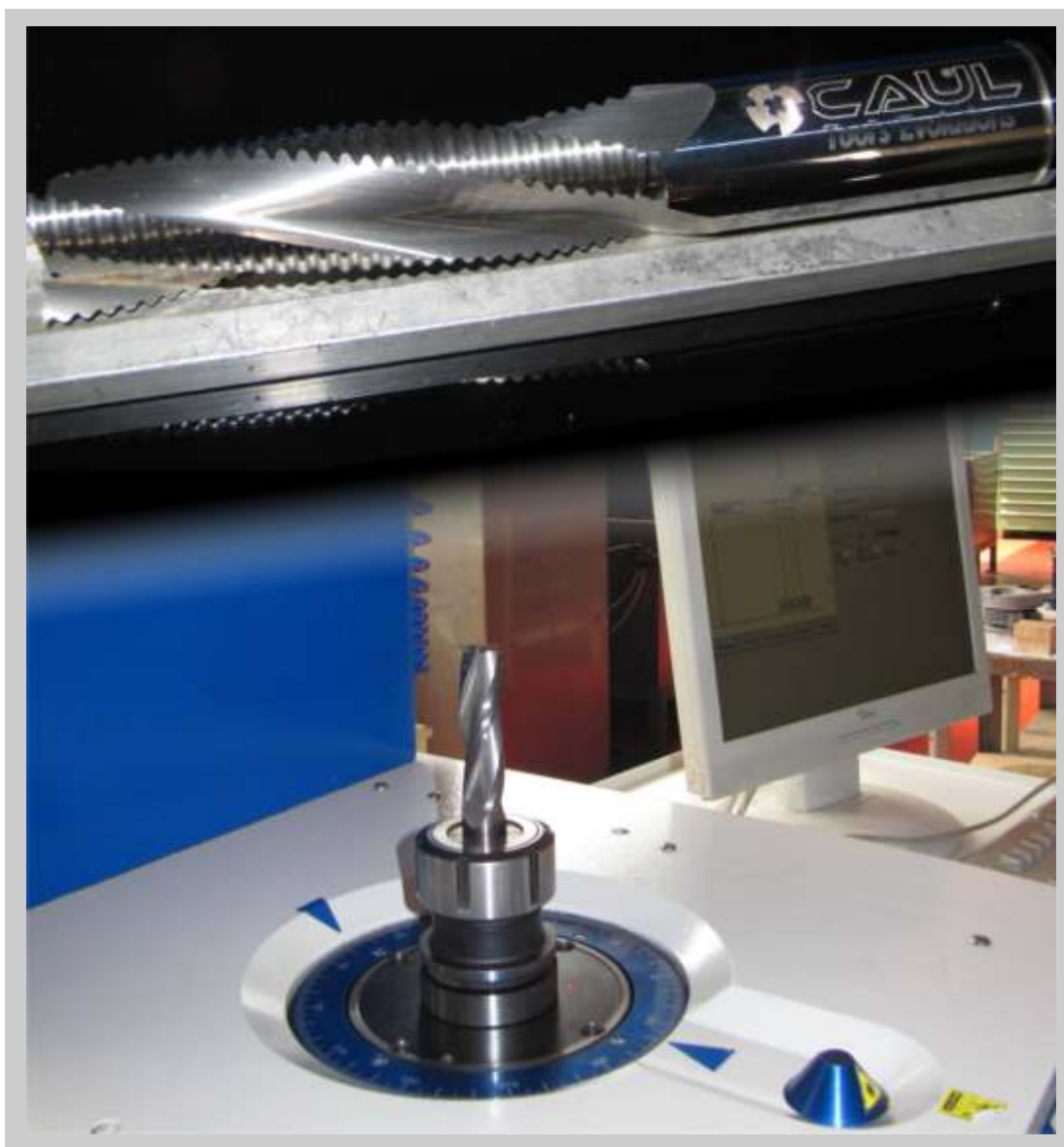
## GENERAL SAFETY RULES

- 1) Always strictly follow the safety rules prescribed for CAUL tools as well as the instruction for the use of machines and/or electrical tools. Always strictly keep to safety rules issued by organizations responsible for the prevention of accidents.
- 2) To avoid risks associated with the use of rotating tools it is strongly recommended to use the utmost caution and concentration when working.
- 3) Always wear correctly sized gloves that allow the sensitivity necessary to operate the tool correctly and give adequate protection in the event of the blade being touched during use.
- 4) Install only tools in perfect condition that are recommended for the material to be worked and that are suitable for the type of machine used.
- 5) Do not use cracked or deformed tools.
- 6) Check the balancing, keying and centring of rotary tools which have to be carried out correctly.
- 7) Fix the tool correctly using the proper tightening and adjustment devices.
- 8) Remove all tightening and adjustment devices before use.
- 9) Check the tool which has to rotate in the correct direction.
- 10) Always use safety glasses or protective screens to protect the eyes.
- 11) The work area and the area round the machine must be free of obstacles.
- 12) The work area must be properly lighted.
- 13) Before starting every kind of work, install all of the safety devices prescribed by the builder of the machine or power tool.
- 14) Any shaving / dust suction equipment must be used at the same time as the tool.
- 15) The operator must be at least 18 years old and at least the minimum age prescribed by the laws in force. They must be adequately trained on the use of the machine or power tool.
- 16) Avoid using machines of power tools in the event of every illness or physical condition that may reduce reflexes or awareness and increase exposure to risk.
- 17) Do not use the machine or power tool under the influence of alcohol or drugs.



## SICHERHEITSHINWEISE

- 1) Beachten Sie bitte immer genau alle angezeigten Sicherheitshinweise die für CAUL Werkzeuge und die Bedienungsanleitung jeder Maschine oder Elektrowerkzeug die verwendet wird. Halten Sie sich immer skrupellos an den Sicherheitshinweise die von den Behörden für Unfallverhütung ausgestellt wurden.
- 2) Bei der Nutzung von Maschinen mit drehenden Werkzeugen ist immer ein Rest Risiko. Bitte bleiben Sie konzentriert auf die Arbeit die Sie machen.
- 3) Verwenden Sie immer Handschuhe (mit 5 Finger) die eine gute Sensibilität ermöglichen bei der Manipulation der Werkzeuge und gleichzeitig auch schützend wirken wenn Sie die schneiden berühren.
- 4) Installieren Sie nur Werkzeuge in perfekten Status, mit geeignete Form, die dazu geeignet sind das Material zu bearbeiten in Bezug auf das Werkzeug selbst und auf die Maschine.
- 5) Verwenden Sie niemals Gebrochene oder deformierte Werkzeuge.
- 6) Kontrollieren Sie immer den Perfekten Ausgleich die korrekte schrumpfung und Zentrierung der Werkzeuge.
- 7) Fixieren Sie sorgfältig die Werkzeuge im dem Sie diese in der Spannvorrichtung inserieren.
- 8) Nach der korrekten Positionierung in der Spannvorrichtung entfernen Sie alle Werkzeuge die nicht befestigt sind.
- 9) Kontrollieren Sie das das Werkzeug in der korrekten Drehrichtung dreht.
- 10) Verwenden Sie immer eine Schutzbrille.
- 11) Die Arbeitsumgebung und der Arbeitstisch müssen frei von Hindernissen und sauber sein.
- 12) Die Arbeitsumgebung muss gut ausgeleuchtet sein.
- 13) Installieren Sie auf der Maschine alle mitgelieferte Schutze die vom Maschinen Hersteller vorgesehen sind. Regulieren und fixieren Sie diese Schutz Ausrichtungen vor jeden Arbeitsgang.
- 14) Die absauganlage der Späne muss immer gleichzeitig mit der Maschine in Betrieb genommen werden
- 15) Der Benutzer muss Über 18 Jahre alt sein und korrekt ausgebildet sein für die Inbetriebnahme dieser Maschinen.
- 16) Verwenden Sie auf keine fall diese Maschinen und Werkzeuge wenn Sie sich nicht zu 100% wohl fühlen. Ihre Reflexe konnten beschränkt sein.
- 17) Die Maschine nicht verwenden wenn Sie unter Alkohol oder Drogen Einfluss stehen



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## CAUL s.n.c

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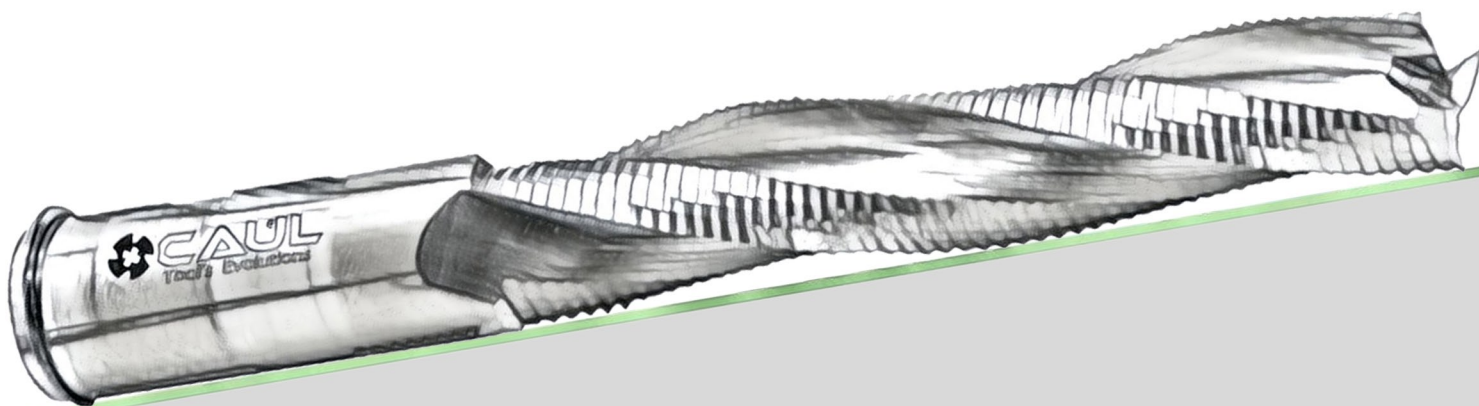
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e-mail [info@caul.it](mailto:info@caul.it)

Subject to technical changes and improvements in production

Rev. 2020-01



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