

**Indexable**  
**Milling**  
+Modular Series

# TD4N 4 Corner Super Radius Modular Type D 16 - 42 Shank Type D 16 - 40



- **Double Face High Feed Insert**
- **Reduce Stock Material**
- **Fits to Mild Steel ~ Hardened Steel up to 55 HRC | Cast iron | Stainless**

### Available Grades:

GX2140

JM4160

JS4045

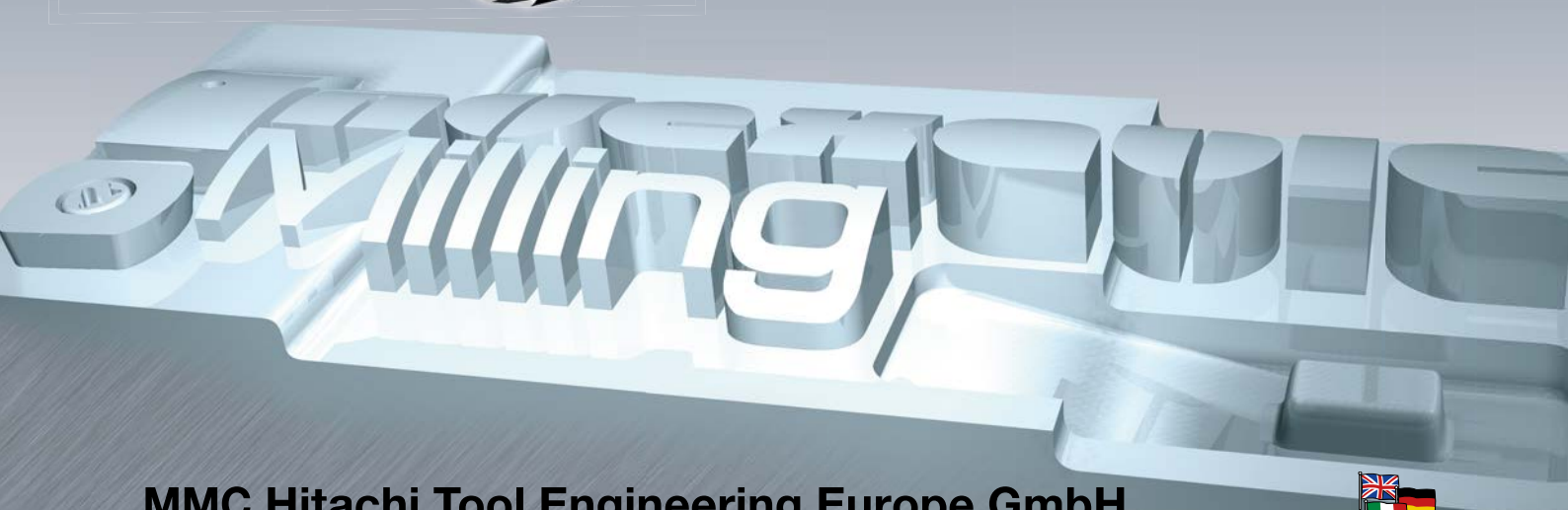
JP4120



**B Type**  
Lower Cutting Force



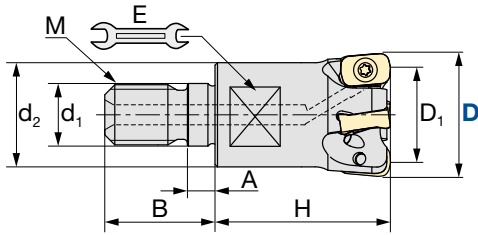
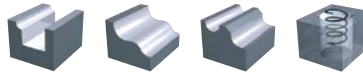
**C Type**  
For General Application



Indexable Milling Tools

TD4N | 4 Corner Super Radius | Modular Type

<b>Q max</b> High Efficient	<b>▽</b> Roughing	<b>▽▽</b> Semi Finishing	<b>HRC</b> 55	<b>No. of Teeth</b> 2-6
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Diameter Tolerance	CAM Radius	Torque on Screw
-0.06 ~ -0.11	2.0 mm	1.1 Nm

ID Code	Item Code	Z	Size									Inserts		
			D	D <sub>1</sub>	H	A	B	d <sub>1</sub>	d <sub>2</sub>	M	E			
FH603	TD4N-2016M-2	2	16	10	25	5.5	17	8.5	12.8	M8	10	ENMU0603ER-C ENMU0603ER-B		
FH604	TD4N-2020M-3	3	20	14	30		19	10.5	17.8	M10	15			
FH605	TD4N-2025M-4	4	25	19	35	40	6	23	17	28.8	M16		22	
FH606	TD4N-2032M-5	5	32	26										
FH607	TD4N-2035M-5	5	35	29										
FH608	TD4N-2040M-6	6	40	34	42	36	40	6	23	17	28.8		M16	22
FH609	TD4N-2042M-6		42	36										

TD4N | 4 Corner Super Radius | Shank Type

<b>Q max</b> High Efficient	<b>▽</b> Roughing	<b>▽▽</b> Semi Finishing	<b>HRC</b> 55	<b>No. of Teeth</b> 2-6
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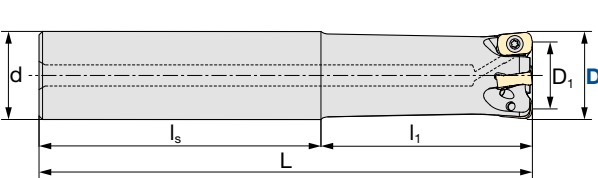
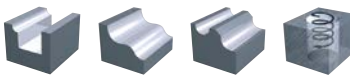


Fig. 1: Standard Type

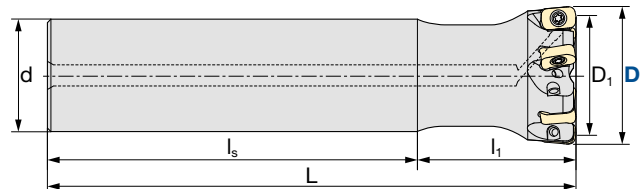


Fig. 2: Undercut Type

Diameter Tolerance	CAM Radius	Torque on Screw
-0.06 ~ -0.11	2.0 mm	1.1 Nm

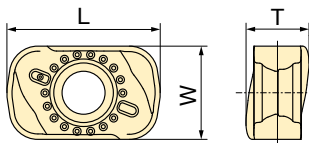
ID Code	Item Code	Z	Size							Shape	Inserts
			D	D <sub>1</sub>	L	l <sub>1</sub>	l <sub>s</sub>	d			
FH610	TD4N-2016S-2	2	16	10	100	30	70	16	Fig.1	ENMU0603ER-C ENMU0603ER-B	
FH615	TD4N-2016L-2				150	50	100				
FH611	TD4N-2020S-3	3	20	14	130	80	80	20			
FH616	TD4N-2020L-3				160						80
FH612	TD4N-2025S-4	4	25	19	140	60	80	25			
FH617	TD4N-2025L-4				180	100					
FH613	TD4N-2032S-5	5	32	26	150	70	32	32			
FH618	TD4N-2032L-5				200	120					
FH614	TD4N-2040S32-6	6	40	34	150	45	105	32			Fig.2
FH619	TD4N-2040L32-6				220	175					

※ S=Short · L=Long

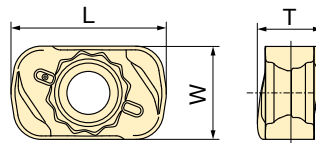
Parts	Clamp Screw			Wrench	
Shape	ID-Code	Item-Code	Torque	ID-Code	Item-Code
	ET175	250-141(A)	1.1 Nm	ET013	104-T8

## Indexable Milling Tools

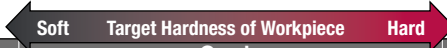
### INSERTS | TD4N



**Fig. 1: ENMU0603ER-B**  
Low cutting force geometry  
For SUS and sticky materials



**Fig. 2: ENMU0603ER-C**  
Reinforced edge geometry  
For general use  
For hard material, interrupt milling



Inserts	Grade				Tolerance Class	Size (mm)			Insert Shape
	GX2140	JM4160	JS4045	JP4120		L	W	T	
Item code	ID-Code								
ENMU0603ER-B	WF785	WF784	WF783	WF782					Fig. 1
ENMU0603ER-C	WF781	WF780	WF779	WF778	M	10	6	4,2	Fig. 2

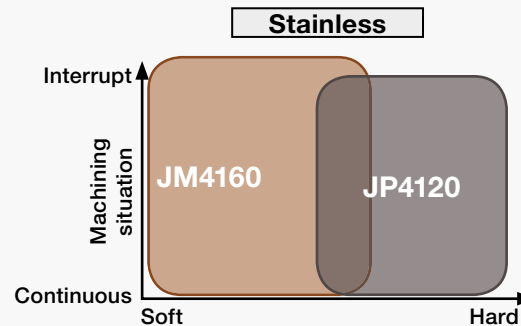
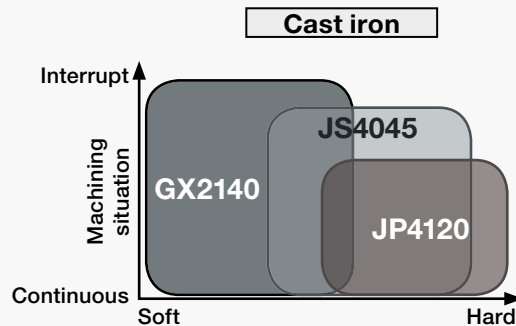
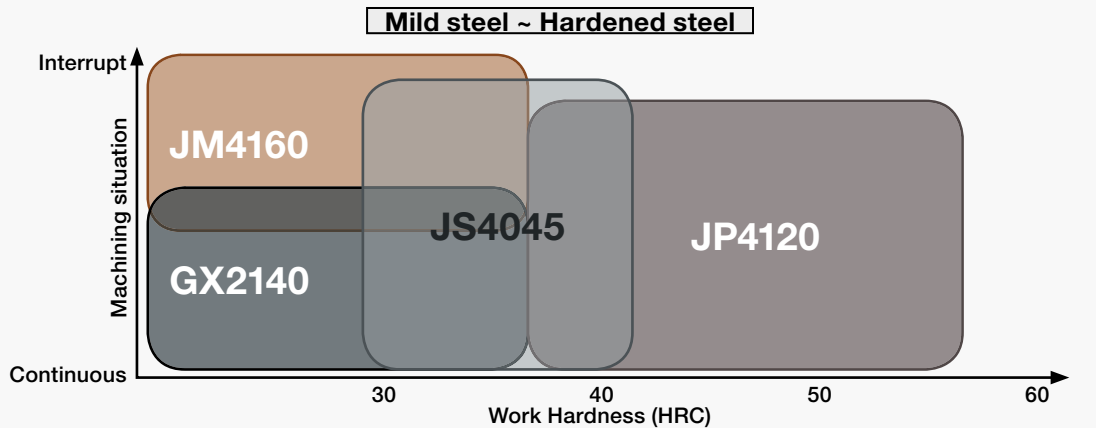


**B Type**  
For lower cutting force.  
Recommended for sticky material like Stainless Steel

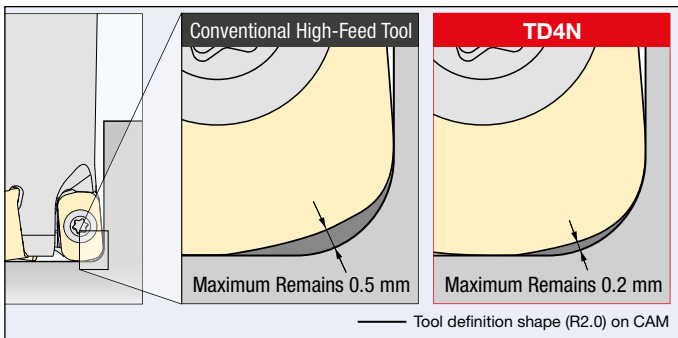


**C Type**  
For general usage.  
Same strength as high feed item.  
Against chip biting, vibration, crater wear

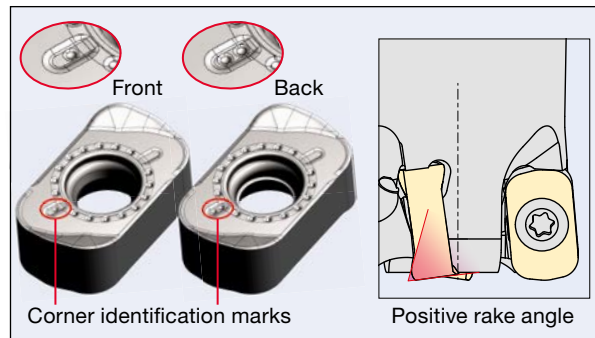
### TD4N | Insert grade – target material



### Reduces uncut Remnants on Workpieces

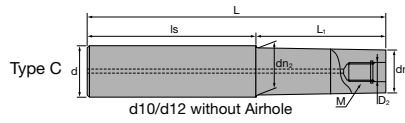
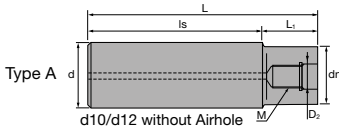


### Economical 4-Corner-Use Inserts



## Indexable Milling Tools

### ASC | Carbide Shanks for TD4N



Fits Modular	ID Code	Item Code	D <sub>2</sub>	M	L	L <sub>1</sub>	ls	dn	dn <sub>2</sub>	d	Type		
D16	FH141	ASC16-8.5-95-30	8.5	M8	95	30	65	14.5	15.5	16	C		
	FH258	ASC16-8.5-120-55			120	55							
	FH142	ASC16-8.5-140-75			140	75							
	FH259	ASC16-8.5-160-95			160	95							
	FH260	ASC16-8.5-160-30			160	30							
D20	FH143	ASC20-10.5-120-50Z	10.5	M10	120	50	70	18	-	20	A		
	FH261	ASC20-10.5-170-90Z			170	90	80	18.5	19.5		C		
	FH262	ASC20-10.5-220-120Z			220	120	100						
	FH263	ASC20-10.5-270-150Z			270	150	120						
	FH144	ASC20-10.5-220-50Z			220	50	170	18	-		A		
	FH264	ASC20-10.5-270-50Z			270	50	220	18.5	19.5		C		
D25	FH145	ASC25-12.5-145-65	12.5	M12	145	65	80	23	-	25	A		
	FH265	ASC25-12.5-215-115			215	115	100						
	FH266	ASC25-12.5-265-145			265	145	120						
	FH267	ASC25-12.5-315-195			315	195	120				65	200	A
	FH146	ASC25-12.5-265-65			265	65	250						
	FH268	ASC25-12.5-315-65			315	65	250						
D32	FH147	ASC32-17-160-80	17	M16	160	80	80	28	-	32	A		
	FH269	ASC32-17-260-140			260	140	120						
	FH270	ASC32-17-360-240			360	240	120						
	FH148	ASC32-17-310-80			310	80	230						

- SUPER Lock milling chucks or shrink-fit holders can be used.
- SUPER Lock Aufnahmen oder Schrumpffutter können verwendet werden.
- Possono essere utilizzati mandrini a forte serraggio SUPER Lock.

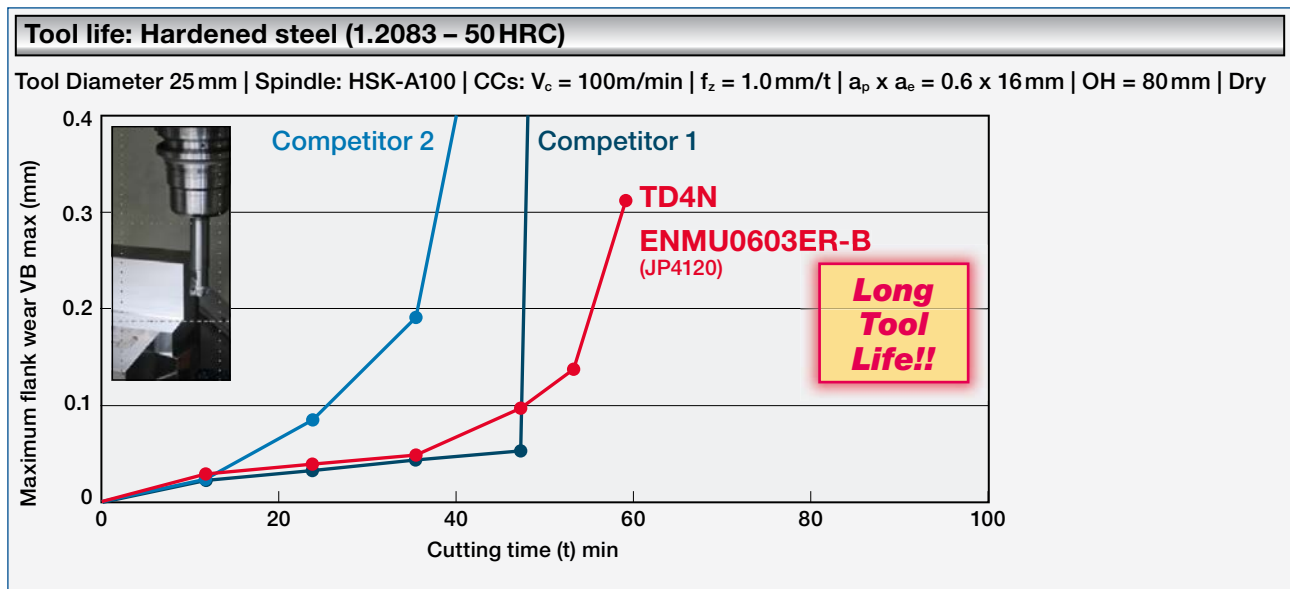
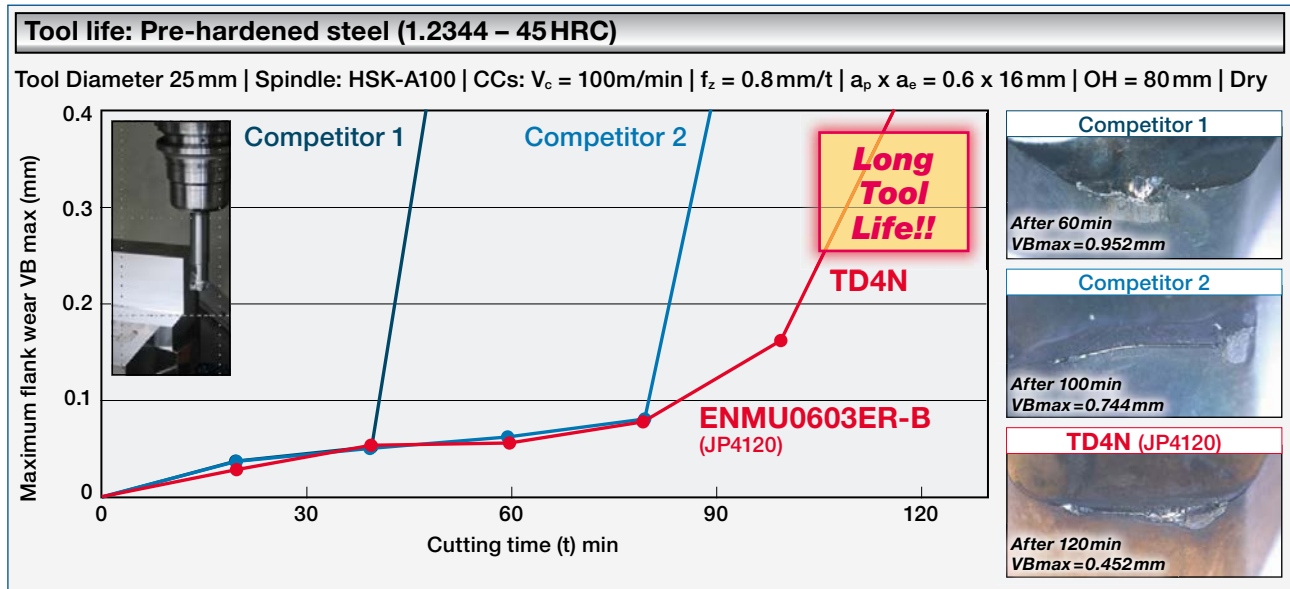
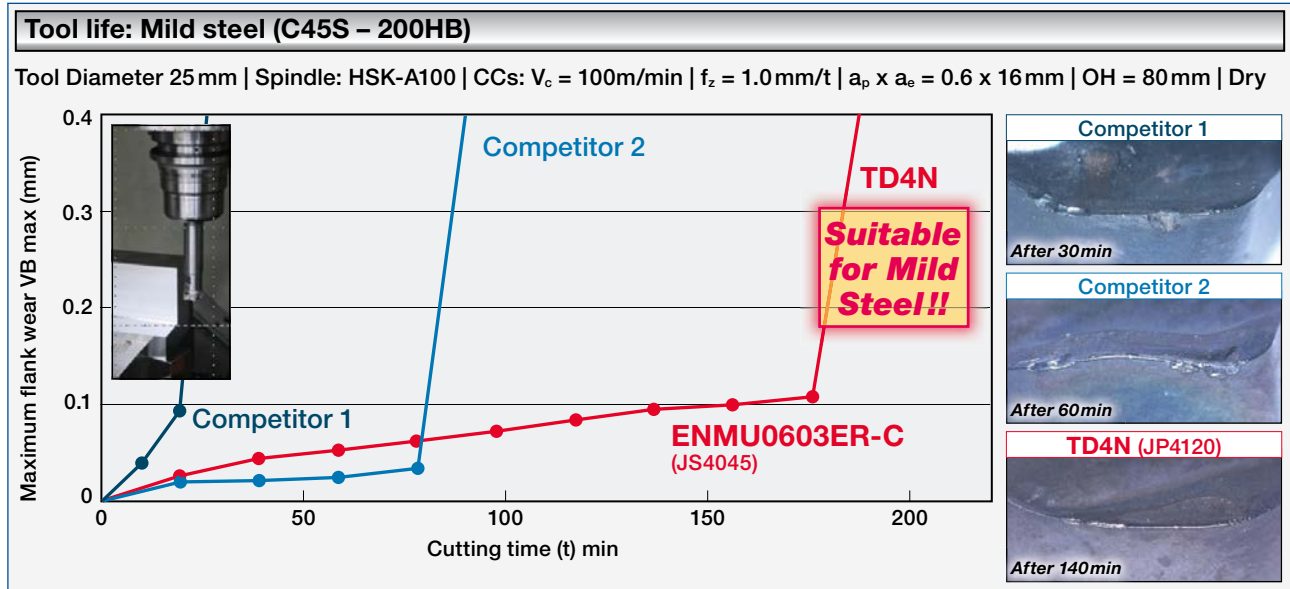
- Aptos para amarrar en portapinzas SUPER Lock.
- Les attachements SUPER Lock peuvent être utilisés.
- Cones hidráulicos de grande aperto e aperto térmico podem ser usados.

- For further information about modular chucks please see our brochure *Indexable Modular Series No. 328.2*
- Weitere Informationen über modulare Werkzeugaufnahmen finden Sie in unserem Prospekt: *Indexable Modular Series No. 328.2*
- Para obtener más información sobre conos modulares consulte nuestro folleto *Indexable Modular Series No. 328.2*
- Per maggiori informazioni riguardanti la gamma dei mandrini avvitabili consultate il catalogo *Indexable Modular Series No. 328.2*
- Pour de plus amples informations concernant les attachements modulaires, voyez SVP notre brochure *Indexable Modular Series No. 328.2*
- Para mais informações sobre Cones Modulares consulte o nosso folheto *Indexable Modular Series No. 328.2*



## Indexable Milling Tools







### TD4N | Technical Data | Machining Examples



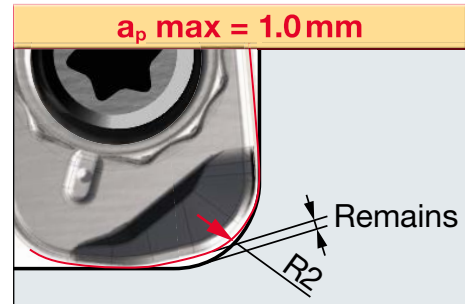
## Indexable Milling Tools

### TD4N | 4 Corner Super Radius

#### CAM Radius

-  In CAM, define the tool shape as an R 2.0 radius shape. Use with axial-direction cutting depths  $a_p$  of 1.0 mm or less.
-  Definieren Sie die Werkzeugform im CAM-Programm als R2.0-Torusfräser. Axiale Schnitttiefe  $a_p$ : 1.0 mm oder weniger.
-  Definire in tabella utensili CAM profilo torico con raggio di programmazione = 2.0. Utilizzare profondità di passata "Z" di 1.0mm o minor
-  En CAM, definir el perfil de la herramienta como radio R 2.0. Al mecanizar axialmente utilizar un  $a_p$  máxima de 1 mm.
-  Programmez un rayon de coin d'outil de R2. Prendre une profondeur de passe de 1.0 mm maximum.
-  No CAM, definir a forma da ferramenta como uma forma de raio R 2.0. Use profundidades de corte  $a_p$  de 1,0 mm ou menos, com direção axial.

Tool definition shape on CAM	Remains (mm)	Over Cut (mm)
R 3.0	0	0.4
R 2.0	0.2	0
R 1.5	0.3	0



#### Ramping / Helical Milling

##### Ramping

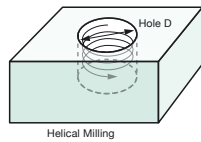
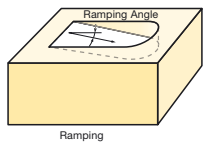
Ramping is possible please use the following data for direct milling without pre-drilling any starter holes.

##### Fräsoptionen über Rampe

Für Fräsoptionen über Rampe nutzen Sie bitte die nachfolgend abgebildeten Schnittwerte für die direkte Bearbeitung ohne Startlochbohrung.

##### Lavorazioni in rampa

È possibile lavorare in rampa senza alcun preforo. Usate per questa lavorazione i seguenti dati.



##### Rampa

El mecanizado en rampa es posible. Por favor, utilizar las condiciones siguientes para mecanizado directo sin pretaladrado.

##### Usinage de rampes

Cette application est possible, utilisez, les données suivantes pour un fraisage direct, sans avant trou.

##### Rampa

A fresagem em rampa é possível. Por favor utilizar as condições seguintes em maquinação directa sem pré-furo.

Tool Diameter D mm	D 16	D 20	D 25	D 32	D 35	D 40	D 42
Max Ramp Angle°	0.8	0.8	0.8	0.5	0.5	0.3	0.3
Hole D (mm)	24-30	32-38	42-48	56-62	62-68	72-78	76-82

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**Product Range**

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Indexable Milling Tools



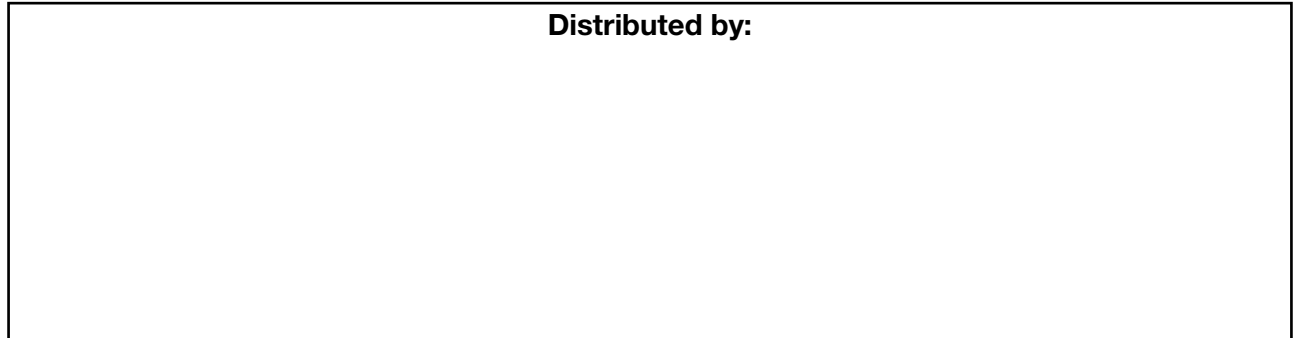
WHNSB Drills



Milling Chucks



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