MEGAMILL®

THE NEW DIMENSION IN METAL REMOVAL

THE TRUE HELICAL POSITIVE INDEXABLE CUTTER

- *Patented Sinusoidal Carbide Insert Design*
- *Positive Variable Rake Angle*
- *Tangential Insert Position*
- *Helicoidal Concave Cutting Edges for lowest possible cutting forces*
- *Central Coolant Holes*

LA NOUVELLE DIMENSION EN FRAISAGE

L'UNIQUE FRAISE HÉLICOÏDALE AVEC COUPE POSITIVE

- *Forme Sinusoidale de Plaquettes Carbure Brevetées*
- *Angle de Coupe Variable Positif*
- *Positionnement Tangentiel en Hélice des Plaquettes*
- *Arêtes Tranchantes Concaves en Hélice permettant d'absorber moins de puissance*
- *Arrosage Central*

LA NUEVA DIMENSION DE FRESAJE

LA UNICA FRESA HELICOIDAL CON CORTE POSITIVO

- *Forma Sinusoidale de Plaqueta Brevetados*
- *Àngulo de Ataque Positivo Variables*
- *Posiciònamiente Tangenciales en Hélice de Plaqueta*
- *Aristas Concavos en una Posiciòn Hélicoidal permite de utilizar menos fuerza en el mandril*
- *El Riego Central*

MEGAMILL®

THE Next Generation

Megamill is a new innovation in cutting tool technology as applied to Indexable milling cutters. Developped and patended by Minicut International, this innovation reduces the deficiencies inherent with regular Indexable milling cutters. Minicut International has tackled these deficiencies by specifically developing a special geometrical shape in the insert and the helical arrangement along the flute of the cutter. This unique insert geometry is comprised of a spiral cutting face which undulates sinusoidally, thus creating a spoon effect cutting action. This action facilitates the chip formation and ejection from the work area while the positive helical rake configuration of the insert succeeds in creating a high shear cutting effect. The sinusoidal shaped insert with its unique swarf cutting face geometry incorporates both concave and convex radii with uneven spaced flute design, coupled with central directional coolant holes emerging at the end of every flute, allows the Megamill to substantially reduce machine horsepower requirements. Consequently, the Megamill will generate a smoother cutting action while eliminating cyclical vibrations allowing greater feeds and speeds with longer spindle life.

LA Nouvelle Génération

Megamill est une innovation technologique appliquée aux outils à plaquettes réversibles. Développé et brevetée par Minicut International , la présente innovation vise à réduire les déficiences inhérentes aux fraises classiques hérisson en s'attaquant spécifiquement au développement d'une forme spéciale de la géométrie des plaquettes et leur positionnement en hélice le long de la dent de l'outil. Cette géométrie unique des plaquettes consiste en arête tranchante en spirale de la face avant qui ondule en sinusoïde, formant une coupe cuiller pour faciliter la formation et l'éjection des copeaux de l'aire de travail. L'angle d'attaque positif, variant continuellement le long de l'hélice, crée un effet de cisaillement. La combinaison d'arcs convexes et concaves intégrés à un positionnement en hélice le long de la partie coupante, de l'espacement inégale de goujures et de l'arrosage central débouchant au bout de chaque dent, permettent au Megamill d'absorber moins de puissance à la broche, d'effectuer une coupe sans à-coups, d'éliminer les vibrations cycliques, permettant ainsi d'augmenter avantageusement les vitesses et les avances de coupe et d'accroître la longévité de la broche.

LA Proxima Generación

Megamill es el resultado de la nueva technolgiá para el fresado con plaquitas reversibles. Desarrollado y patentado por Minicut International El objectivo del Megamill es reducir las imperfecciones inherentes a las fresas clásicas de tipo erizo. Lo cual ha sido consiguido gracias a la aplicación y el estudio de una geometria especifia y de la posición especial en helice de las plaquitas todo lo largo de la herramienta. Minicut International ha dessarrollado una geometriá única de las plaquitas consistiendo en una arista en espiral de la cara delantera que óndula en sinusoide creando el doble corte. El ángulo de ataque positivo varia continuamente lo largo de la helice, creando un efecto de cizallamiento. La combinación de radios convexos y concavos intergrados en una posición helicoidal lo largo de la arista de corte, los espacios desiguales entre les espirales, el riego central con desembocaduras en cada diente permite al Megamill de utilizar menos fuerza en el mandril consiguiendo un corte mas regular y a la eliminación de las vibraciones cyclicas. Todos estos factores reunidos, dan como resultado, velocidades y avances de corte superiores y aumentar la vida del cabezal de la maquina.

Patented

Megamill Indexable Ball Nose

Double Side Carbide Inserts

TN

SN

INCH SERIES

Breveté

Fraises Hémisphérique Megamill

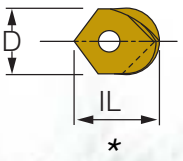
Plaquettes Carbure à Double Tranchants

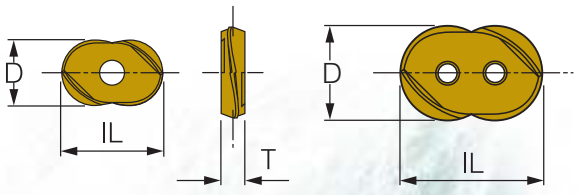
Patentado

Fresas Esfericos Megamill

Plaqueta de Metal Duro Doble Corte

CATALOG NO.	D	ℓ_1	ℓ_2	L	d	d_1	INSERT SCREWS		DRIVER
									
BNMI-0850-TN	0.250	0.225	2.28	5.0	0.500	0.220	SCS-6L	-	LT-7
BNMI-1050-TN	0.312	0.250	2.31	5.0	0.500	0.280	SCS-8L	-	
BNMI-1235-16SN	0.375	0.260	1.344	3.562	0.50	0.32	SCS-10L	-	FT-10
BNMI-1258-16TN		0.260	1.375	5.875	0.50	0.32	SCS-10L	-	
BNMI-1635-16SN	0.500	0.375	1.250	3.562	0.50	0.44	SCS-12L	-	
BNMI-1651-16SN		0.375	1.250	5.125	0.50	0.44	SCS-12L	-	
BNMI-1658-16SN		0.375	1.812	5.875	0.50	0.44	SCS-12L	-	
BNMI-1663-20TN		0.375	2.312	6.281	0.625	0.44	SCS-12L	-	
BNMI-2055-20SN	0.625	0.394	1.375	5.500	0.625	0.57	SCS-16L	SCS-16S	
BNMI-2063-20SN		0.394	2.000	6.281	0.625	0.57	SCS-16L	SCS-16S	
BNMI-2068-24TN		0.394	2.562	6.875	0.75	0.57	SCS-16L	SCS-16S	
BNMI-2445-24SN	0.750	0.512	1.750	4.500	0.75	0.68	SCS-20L	SCS-20S	FT-20
BNMI-2462-24SN		0.512	1.750	6.281	0.75	0.68	SCS-20L	SCS-20S	
BNMI-2467-24SN		0.512	2.375	6.750	0.75	0.68	SCS-20L	SCS-20S	
BNMI-2475-32TN		0.512	3.000	7.500	1.00	0.68	SCS-20L	SCS-20S	
BNMI-2482-24SN		0.512	2.375	8.250	0.75	0.68	SCS-20L	SCS-20S	
BNMI-2494-32TN		0.512	3.000	9.437	1.00	0.68	SCS-20L	SCS-20S	
BNMI-3262-32SN	1.000	0.642	1.750	9.281	1.00	0.90	SCS-25L	SCS-25S	
BNMI-3275-32SN		0.642	2.750	7.500	1.00	0.90	SCS-25L	SCS-25S	
BNMI-3282-40TN		0.642	3.875	8.250	1.25	0.90	SCS-25L	SCS-25S	
BNMI-3290-32SN		0.642	3.125	9.062	1.00	0.90	SCS-25L	SCS-25S	
BNMI-3294-40TN		0.642	3.875	9.437	1.25	0.90	SCS-25L	SCS-25S	
BNMI-4068-40SN	1.250	0.827	2.187	6.875	1.25	1.14	SCS-32L	SCS-32S	FT-30
BNMI-4082-40SN		0.827	3.125	8.250	1.25	1.14	SCS-32L	SCS-32S	
BNMI-4094-48TN		0.827	4.750	9.437	1.50	1.14	SCS-32L	SCS-32S	





ORDERING EXAMPLE

BNSI-0375 TI K20

INSERT DESIGNATION | COATING | GRADE

Ti = TiN
TC = TiCN
TA = TiALN
SU = TiALN SUPREME

MEGAMILL BALL INSERTS

INCH SERIES

INSERT NO.	D	IL	T	COATINGS			GRADES		
				TiN	TiCN	TiALN			
BNSI-0250*	0.250	0.430	0.86	Ti	TC	TA	K-10	K-20	P30
BNSI-0312*	0.312	0.477	0.86	Ti	TC	TA	K-10	K-20	P30
BNSI-0375	0.375	0.520	0.118	Ti	TC	TA	K-10	K-20	P30
BNSI-0500	0.500	0.750	0.118	Ti	TC	TA	K-10	K-20	P30
BNSI-0625	0.625	0.940	0.157	Ti	TC	TA	K-10	K-20	P30
BNSI-0750	0.750	1.140	0.196	Ti	TC	TA	K-10	K-20	P30
BNSI-1000	1.000	1.455	0.236	Ti	TC	TA	K-10	K-20	P30
BNSI-1250	1.250	1.870	0.276	Ti	TC	TA	K-10	K-20	P30

Patented, Breveté, Patentato

MEGAMILL

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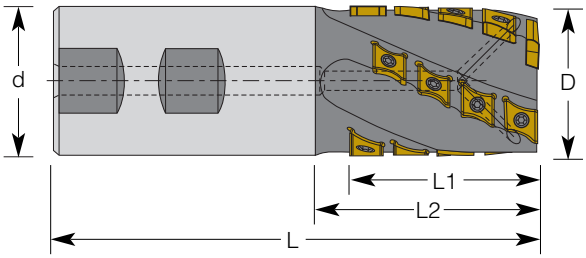
L'unique Fraise Hélicoidale avec Coupe Positive

La Unica Fresa Hélicoidal con Corte Positivo

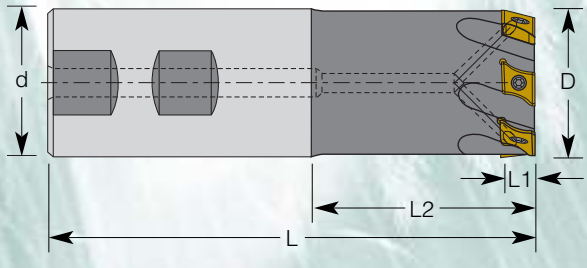
INCH SERIES

WELDON SHANK
DIN 1835 B



TOOL NO.	DIMENSIONS IN INCHES					NO. OF FLUTES	INSERTS NO.			
							Side Insert	Qty	End Insert	Qty
	D	d	L1	L2	L	Z				
MI-32114-W1	1.00	1.00	1.15	1.25	3.75	4	CMSI-387	8	—	—
MI-32174-W1	1.00	1.00	1.75	2.00	4.50	4	CMSI-387	12	—	—
MI-40184-W 1.25	1.25	1.25	1.85	2.25	4.75	4	CMSI-450	12	—	—
MI-40254-W 1.25	1.25	1.25	2.45	3.00	5.50	4	CMSI-450	16	—	—
MI-48184-W 1.25	1.50	1.25	1.85	2.25	4.75	4	CMSI-450	12	—	—
MI-48254-W 1.25	1.50	1.25	2.45	3.00	5.50	4	CMSI-450	16	—	—
MI-64204-W 1.25	2.00	1.25	2.00	2.37	4.87	4	CMSI-465	12		2
MI-64324-W 2	2.00	2.00	3.20	4.20	7.45	4	CMSI-465	20	CMEI-687W	2
MI-64404-W 2	2.00	2.00	4.00	5.00	8.25	4	CMSI-465	26		2
MI-80284-W 2	2.50	2.00	2.85	3.25	7.00	4	CMSI-620	14	CMEI-687C	2
MI-80404-W 2	2.50	2.00	4.00	4.37	8.12	4	CMSI-620	20		2

INCH SERIES



TOOL NO.	DIMENSIONS IN INCHES					NO. OF FLUTES	INSERTS NO.
	D	d	L1	L2	L	Z	
MIE-329004-W.75	1.00	.75	.35	1.50	3.75	4	CMSI-387
MIE-329004-W 1	1.00	1.00	.35	1.50	3.75	4	CMSI-387
MIEE-329004-W 1	1.00	1.00	.35	3.50	6.00	4	CMSI-450
MIE-409004-W.75	1.25	.75	.43	1.33	3.60	4	CMSI-450
MIE-409004-W 1	1.25	1.00	.43	1.33	3.93	4	CMSI-450
MIE-489005-W.75	1.50	.75	.43	1.33	3.60	5	CMSI-450
MIE-489005-W 1	1.50	1.00	.43	1.33	4.00	5	CMSI-450
MIE-489004-W 1.25	1.50	1.25	.43	1.50	4.50	4	CMSI-450
MIEE-409004-W 1.25	1.25	1.25	.43	4.00	6.50	4	CMSI-450
MIEE-489004-W 1.5	1.50	1.50	.43	5.00	7.75	5	CMSI-465
MIE-649004-W 1	2.00	1.00	.47	2.25	4.50	5	CMSI-465
MIE-649004-W 1.25	2.00	1.25	.47	2.25	4.50	5	CMSI-620
MIE-809004-W 1.25	2.50	1.25	.63	2.25	4.50	5	CMSI-620
MIE-809004-W 2	2.50	2.00	.63	2.25	6.00	5	CMSI-620

Minicut International
Leader in Cutting Tool Technology

Patented, Breveté, Patentato

MEGAMILL

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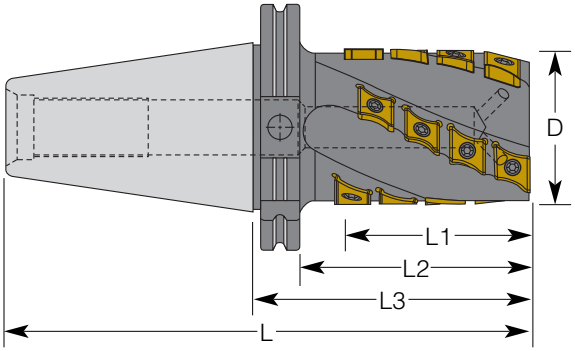
L'unique Fraise Hélicoidale avec Coupe Positive

La Unica Fresa Hélicoidal con Corte Positivo

INCH SERIES

CAT 40/50V - DIN-69871A



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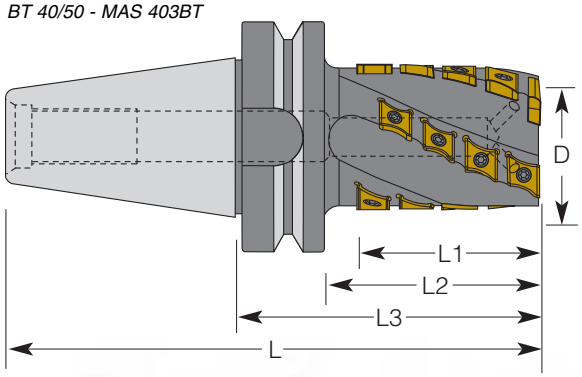
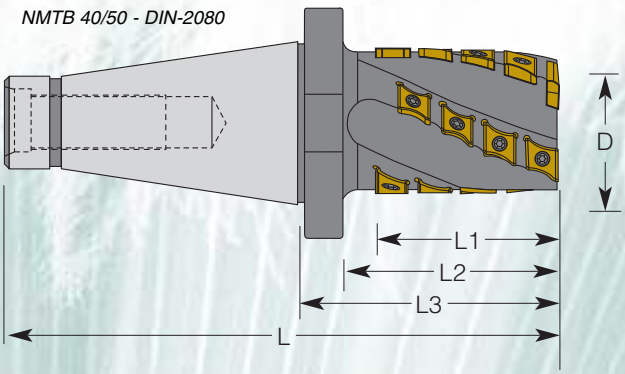


NMTB 40/50 - DIN-2080



TOOL NO.	DIMENSIONS IN MM					NO. OF FLUTES	INSERTS NO.			
							Side Insert	Qty	End Insert	Qty
	D	L1	L2	L3	L	Z				
MI-40184 CAT40V	1.25	1.85	2.60	3.35	6.04	4	CMSI-450	12	—	—
MI-40184 BT40	1.25	1.85	2.60	3.66	6.24	4	CMSI-450	12	—	—
MI-40184 NMTB40	1.25	1.85	2.60	3.35	6.71	4	CMSI-450	12	—	—
MI-40254 CAT40V	1.25	2.45	3.20	3.95	6.64	4	CMSI-450	16	—	—
MI-40254 BT40	1.25	2.45	3.20	4.26	6.84	4	CMSI-450	16	—	—
MI-40254 NMTB40	1.25	2.45	3.20	3.95	7.31	4	CMSI-450	16	—	—
MI-48184 CAT40V	1.50	1.85	2.60	3.35	6.04	4	CMSI-450	12	—	—
MI-48184 BT40	1.50	1.85	2.60	3.66	6.24	4	CMSI-450	12	—	—
MI-48184 NMTB40	1.50	1.85	2.60	3.35	6.71	4	CMSI-450	12	—	—
MI-48254 CAT40V	1.50	2.45	3.20	3.95	6.64	4	CMSI-450	16	—	—
MI-48254 BT40	1.50	2.45	3.20	4.70	6.84	4	CMSI-450	16	—	—
MI-48254 NMTB40	1.50	2.45	3.20	3.95	7.31	4	CMSI-450	16	—	—
MI-48254 CAT50V	1.50	2.45	3.20	3.95	7.95	4	CMSI-450	16	—	—
MI-48254 BT50	1.50	2.45	3.20	4.26	8.70	4	CMSI-450	16	—	—
MI-48254 NMTB50	1.50	2.45	3.20	3.95	8.95	4	CMSI-450	16	—	—
MI-64324 CAT50V	2.00	3.20	3.95	4.70	8.70	4	CMSI-465	20	CMEI-687W CMEI-687C	2
MI-64324 BT50	2.00	3.20	3.95	5.45	9.45	4	CMSI-465	20		2
MI-64324 NMTB50	2.00	3.20	3.95	4.70	9.70	4	CMSI-465	20		2
MI-64404 CAT50V	2.00	4.00	4.75	5.50	9.50	4	CMSI-465	26		2
MI-64404 BT50	2.00	4.00	4.75	6.25	10.25	4	CMSI-465	26		2
MI-64404 NMTB50	2.00	4.00	4.75	5.50	10.50	4	CMSI-465	26		2
MI-80324 CAT50V	2.50	3.20	3.95	4.70	8.70	4	CMSI-620	16		2
MI-80324 BT50	2.50	3.20	3.95	5.45	9.45	4	CMSI-620	16		2
MI-80324 NMTB50	2.50	3.20	3.95	4.70	9.70	4	CMSI-620	16		2
MI-80404 CAT50V	2.50	4.00	4.75	5.50	9.50	4	CMSI-620	20		2
MI-80404 BT50	2.50	4.00	4.75	6.25	10.25	4	CMSI-620	20		2
MI-80404 NMTB50	2.50	4.00	4.75	5.50	10.50	4	CMSI-620	20		2

Patented, Breveté, Patentato

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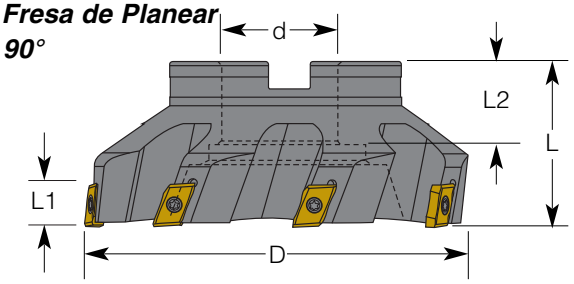
The Only Helical Positive Indexable Cutter

L'unique Fraise Hélicoidale avec Coupe Positive

La Unica Fresa Hélicoidal con Corte Positivo

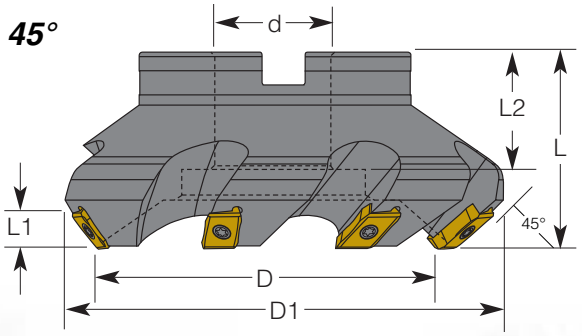
INCH SERIES

Face Mill
Fraise à Surface
Fresa de Planear
90°



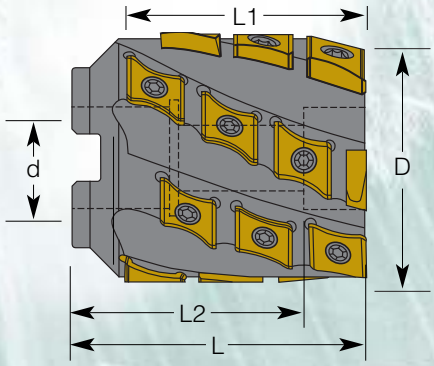
TOOL NO.	DIMENSIONS IN INCHES					NO. OF FLUTES	INSERTS NO.
	D	d	L1	L2	L	Z	
MIF-64900475	2.0	.75	.44	.87	2.0	5	CMSI-465
MIF-80900575	2.5	.75	.63	.87	2.0	5	CMSI-620
MIF-96900610	3.0	1.00	.63	.87	2.0	6	CMSI-620
MIF-128900712	4.0	1.50	.63	1.25	2.5	7	CMSI-620
MIF-160900815	5.0	1.50	.63	1.50	2.5	8	CMSI-620
MIF-192900920	6.0	2.00	.63	1.50	2.5	9	CMSI-620
MIF-256901325	8.0	2.50	.63	1.37	2.5	13	CMSI-620
MIF-320901725	10.0	2.50	.63	1.37	2.5	17	CMSI-620

Face Mill
Fraise à Surface
Fresa de Planear
45°



TOOL NO.	DIMENSIONS IN INCHES						NO. OF FLUTES	INSERTS NO.
	D	d	L1	L2	L	D1	Z	
MIF-80450575	2.48	.75	.30	.87	2.0	3.15	5	CMSI-465
MIF-96450610	3.15	1.00	.30	.87	2.0	3.94	6	CMSI-465
MIF-128450712	3.94	1.50	.40	1.25	2.5	4.92	7	CMSI-620
MIF-160450815	4.92	1.50	.40	1.50	2.5	5.90	8	CMSI-620
MIF-192450920	6.30	2.00	.40	1.50	2.5	7.28	10	CMSI-620
MIF-256451325	7.87	2.50	.40	1.37	2.5	8.82	12	CMSI-620
MIF-320451725	9.84	2.50	.40	1.37	2.5	10.78	16	CMSI-620

Shell Mill



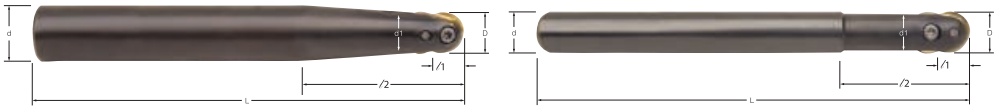
TOOL NO.	DIMENSIONS IN INCHES					NO. OF FLUTES	INSERTS NO.			
							Side Insert	Qty	End Insert	Qty
	D	d	L1	L2	L	Z				
MIS-80214	2.5	1.00	2.10	2.18	2.87	4	CMSI-620	10	CMEI-687W	2
MIS-96286	80	1.25	2.85	2.37	3.62	6	CMSI-620	18	CMEI-687C	3
MIS-128326	100	1.50	3.23	2.62	4.00	6	CMSI-620	24		3

Patented

Megamill Indexable Ball Nose

Double Side Carbide Inserts

TN **ST**



METRIC SERIES

Breveté

Fraises Hémisphérique Megamill

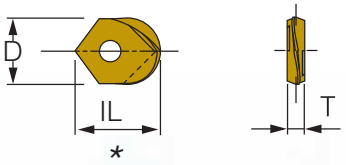
Plaquettes Carbure à Double Tranchants

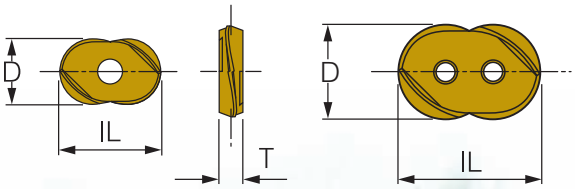
Patentado

Fresas Esfericos Megamill

Plaqueta de Metal Duro Doble Corte

CATALOG NO.	D	ℓ_1	ℓ_2	L	d	d_1	INSERT SCREWS		DRIVER
BNMM-06125-TN	6	5.71	58	125	12	5.23	SCS-6L	LT-7	LT-7
BNMM-08125-TN	8	6.35	58	125	12	5.59	SCS-8L	LT-7	
BNMM-10125-TN	10	6.35	58	125	12	7.11	SCS-8L	-	
BNMM-10150-12TN	10	6.00	35.0	150	12	8.50	SCS-10L	-	FT-10
BNMM-12130-12SN	12	8.50	32.0	130	12	10.50	SCS-12L	-	
BNMM-12150-12SN		8.50	46.0	150	12	10.50	SCS-12L	-	
BNMM-12160-16TN		8.50	58.5	160	16	10.50	SCS-12L	-	
BNMM-16140-16SN	16	10.00	36.0	140	16	14.50	SCS-16L	SCS-16S	
BNMM-16160-16SN		10.00	53.0	160	16	14.50	SCS-16L	SCS-16S	
BNMM-16175-20TN		10.00	65.0	175	20	14.50	SCS-16L	SCS-16S	
BNMM-20160-20SN	20	13.00	45.0	160	20	18.25	SCS-20L	SCS-20S	FT-20
BNMM-20175-20SN		13.00	61.0	175	20	18.25	SCS-20L	SCS-20S	
BNMM-20190-25TN		13.00	76.0	190	25	18.25	SCS-20L	SCS-20S	
BNMM-25160-25SN	25	16.30	45.0	160	25	22.90	SCS-25L	SCS-25S	
BNMM-25190-25SN		16.30	70.0	190	25	22.90	SCS-25L	SCS-25S	
BNMM-25210-32TN		16.30	98.0	210	32	22.90	SCS-25L	SCS-25S	
BNMM-30175-32SN	30	20.00	56.0	175	32	27.20	SCS-32L	SCS-32S	FT-30
BNMM-30210-32SN		20.00	80.0	210	32	27.20	SCS-32L	SCS-32S	
BNMM-30240-40TN		20.00	121.0	240	40	27.20	SCS-32L	SCS-32S	
BNMM-32175-32SN	32	21.00	56.0	175	32	29.00	SCS-32L	SCS-32S	
BNMM-32210-32SN		21.00	80.0	210	32	29.00	SCS-32L	SCS-32S	
BNMM-32240-40TN		21.00	121.0	240	40	29.00	SCS-32L	SCS-32S	





ORDERING EXAMPLE

BNSM-010 TI K20

INSERT DESIGNATION — COATING — GRADE

Ti = TiN
TC = TiCN
TA = TiALN
SU = TiALN SUPREME

MEGAMILL BALL NOSE INSERTS

METRIC SERIES

INSERT NO.	D	IL	T	COATING			GRADES		
				TiN	TiCN	TiALN			
BNSM-060*	6	10.92	2.184	Ti	TC	TA	K-10	K-20	P30
BNSM-080*	8	12.12	2.184	Ti	TC	TA	K-10	K-20	P30
BNSM-010	10	13.20	3	Ti	TC	TA	K-10	K-20	P30
BNSM-012	12	18.25	3	Ti	TC	TA	K-10	K-20	P30
BNSM-016	16	24.00	4	Ti	TC	TA	K-10	K-20	P30
BNSM-020	20	30.00	5	Ti	TC	TA	K-10	K-20	P30
BNSM-025	25	37.00	6	Ti	TC	TA	K-10	K-20	P30
BNSM-030	30	45.50	7	Ti	TC	TA	K-10	K-20	P30
BNSM-032	32	47.50	7	Ti	TC	TA	K-10	K-20	P30

Patented, Breveté, Patentato

MEGAMILL

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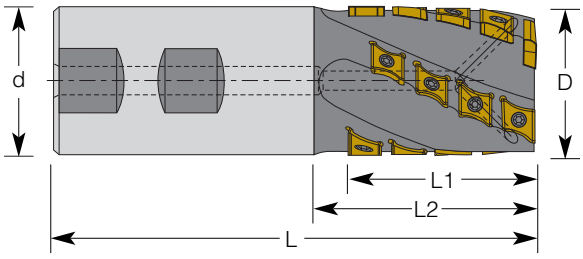
La Unica Fresa Hélicoidal con Corte Positivo

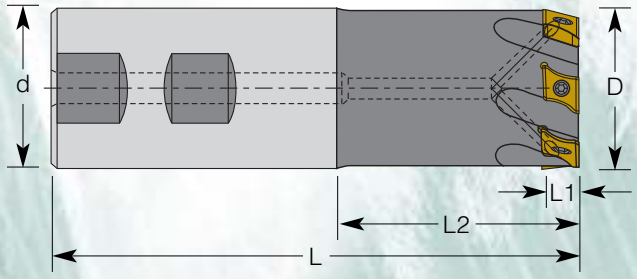
METRIC SERIES

WELDON SHANK
DIN 1835 B



TOOL NO.	DIMENSIONS IN MM					NO. OF FLUTES	INSERTS NO.			
							Side Insert	Qty	End Insert	Qty
	D	d	L1	L2	L	Z				
MM-25294-W 25	25	25	29	32	95	4	CMSI-387	8	—	—
MM-25444-W 25	25	25	44	50	115	4	CMSI-387	12	—	—
MM-32474-W 32	32	32	47	60	120	4	CMSI-450	12	—	—
MM-32624-W 32	32	32	62	79	140	4	CMSI-450	16	—	—
MM-40474-W 32	40	32	47	54	120	4	CMSI-450	12	—	—
MM-40624-W 32	40	32	62	73	140	4	CMSI-450	16	—	—
MM-50514-W 32	50	32	50	60	124	4	CMSI-465	12	CMEI-687W CMEI-687C	2
MM-50814-W 50	50	50	81	107	190	4	CMSI-465	20		2
MM-501014-W 50	50	50	101	127	210	4	CMSI-465	26		2
MM-63724-W 50	63	50	72	82	178	4	CMSI-620	14		2
MM-631014-W 50	63	50	101	111	206	4	CMSI-620	20		2

METRIC SERIES



TOOL NO.	DIMENSIONS IN MM					NO. OF FLUTES	INSERTS NO.
	D	d	L1	L2	L	Z	
MME-259004-W 25	25	25	9	38	95	4	CMSI-387
MMEE-259004-W 25	25	25	9	89	150	4	CMSI-387
MME-329004-W 25	32	25	11	34	100	4	CMSI-450
MME-329003-W 32	32	32	11	38	108	3	CMSI-450
MME-409005-W 25	40	25	11	34	102	5	CMSI-450
MME-409004-W 32	40	32	11	38	114	4	CMSI-450
MMEE-329004-W 32	32	32	11	102	165	4	CMSI-450
MMEE-409005-W 40	40	40	11	127	197	5	CMSI-450
MME-509004-W 25	50	25	12	57	114	5	CMSI-465
MME-509004-W 32	50	32	12	57	114	5	CMSI-465
MME-639004-W 32	63	32	16	57	114	5	CMSI-620
MME-639004-W 50	63	50	16	57	152	5	CMSI-620

Patented, Breveté, Patentato

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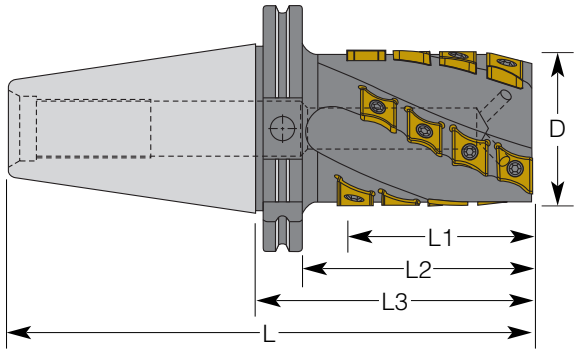
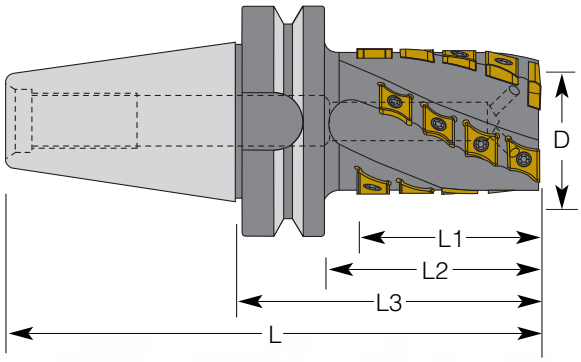
METRIC SERIES

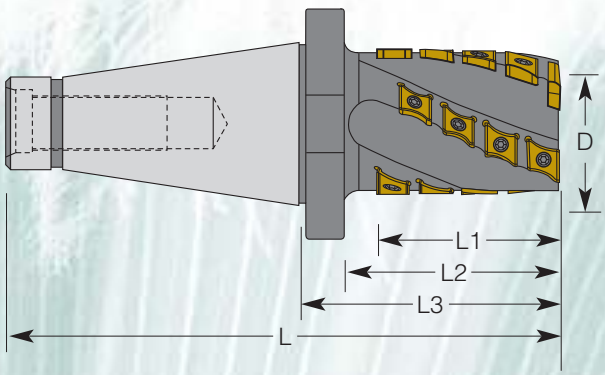
CAT 40/50V – DIN-69871A



BT 40/50 – MAS 403 BT



NMTB 40/50 – DIN-2080



TOOL NO.	DIMENSIONS IN MM					NO. OF FLUTES	INSERTS NO.			
							Side Insert	Qty	End Insert	Qty
	D	L1	L2	L3	L	Z				
MM-32474 CAT40V	32	47	67	86	154	4	CMSI-450	12	—	—
MM-32474 BT40	32	47	67	94	159	4	CMSI-450	12	—	—
MM-32474 ISO40	32	47	67	86	171	4	CMSI-450	12	—	—
MM-32624 CAT40V	32	62	82	101	169	4	CMSI-450	16	—	—
MM-32624 BT40	32	62	82	109	174	4	CMSI-450	16	—	—
MM-32624 ISO40	32	62	82	101	194	4	CMSI-450	16	—	—
MM-40474 CAT40V	40	47	67	86	154	4	CMSI-450	12	—	—
MM-40474 BT40	40	47	67	94	159	4	CMSI-450	12	—	—
MM-40474 ISO40	40	47	67	86	171	4	CMSI-450	12	—	—
MM-40624 CAT40V	40	62	82	101	169	4	CMSI-450	16	—	—
MM-40624 BT40	40	62	82	109	174	4	CMSI-450	16	—	—
MM-40624 ISO40	40	62	82	101	194	4	CMSI-450	16	—	—
MM-40624 CAT50V	40	62	82	101	202	4	CMSI-450	16	—	—
MM-40624 BT50	40	62	82	120	221	4	CMSI-450	16	—	—
MM-40624 ISO50	40	62	82	101	227	4	CMSI-450	16	—	—
MM-50814 CAT50V	50	81	100	119	221	4	CMSI-465	20		2
MM-50814 BT50	50	81	100	138	240	4	CMSI-465	20		2
MM-50814 ISO50	50	81	100	119	246	4	CMSI-465	20		2
MM-501024 CAT50V	50	102	121	140	242	4	CMSI-465	26		2
MM-501024 BT50	50	102	121	159	261	4	CMSI-465	26		2
MM-501024 ISO50	50	102	121	140	267	4	CMSI-465	26	CMEI-687W	2
MM-63824 CAT50V	63	82	121	120	222	4	CMSI-620	16	CMEI-687C	2
MM-63824 BT50	63	82	121	139	241	4	CMSI-620	16		2
MM-63824 ISO50	63	82	121	120	247	4	CMSI-620	16		2
MM-631014 CAT50V	63	101	120	139	241	4	CMSI-620	20		2
MM-631014 BT50	63	101	120	158	260	4	CMSI-620	20		2
MM-631014 ISO50	63	101	120	139	266	4	CMSI-620	20		2

Patented, Breveté, Patentato

MEGAMILL

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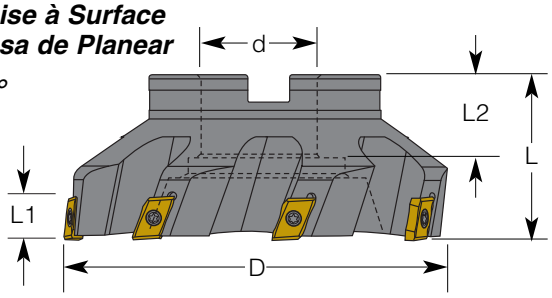
L'unique Fraise Hélicoidale avec Coupe Positive

La Unica Fresa Hélicoidal con Corte Positivo

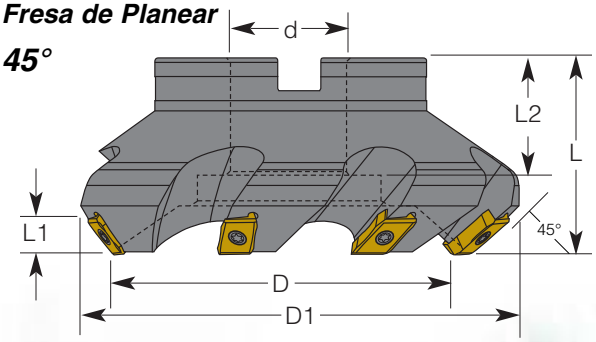
METRIC SERIES

Face Mill
Fraise à Surface
Fresa de Planear
90°



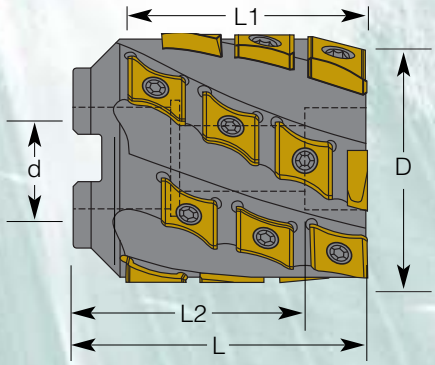
TOOL NO.	DIMENSIONS IN MM					NO. OF FLUTES	INSERTS NO.
	D	d	L1	L2	L	Z	
MMF-50900422	50	22	11.5	22	50	5	CMSI-465
MMF-63900522	63	22	15.5	22	50	5	CMSI-620
MMF-80900627	80	27	15.5	22	50	6	CMSI-620
MMF-100900732	100	32	15.5	32	63	7	CMSI-620
MMF-125900840	125	40	15.5	38	63	8	CMSI-620
MMF-160900940	160	40	15.5	38	63	9	CMSI-620
MMF-200901360	200	60	15.5	35	63	13	CMSI-620
MMF-250901760	250	60	15.5	35	63	17	CMSI-620

Face Mill
Fraise à Surface
Fresa de Planear
45°



TOOL NO.	DIMENSIONS IN MM						NO. OF FLUTES	INSERTS NO.
	D	d	L1	L2	L	D1	Z	
MMF-63450522	63	22	7.5	22	50	80	5	CMSI-465
MMF-80450627	80	27	7.5	22	50	100	6	CMSI-465
MMF-100450732	100	32	10.0	32	63	125	7	CMSI-620
MMF-125450840	125	40	10.0	38	63	150	8	CMSI-620
MMF-160450940	160	40	10.0	38	63	185	10	CMSI-620
MMF-200451360	200	60	10.0	35	63	224	12	CMSI-620
MMF-250451760	250	60	10.0	35	63	274	16	CMSI-620

Shell Mill



TOOL NO.	DIMENSIONS IN MM					NO. OF FLUTES	INSERTS NO.			
							Side Insert	Qty	End Insert	Qty
	D	d	L1	L2	L	Z				
MMS-63534	63	27	53	55	73	4	CMSI-620	10	CMEI-687W	2
MMS-80726	80	32	72	60	92	6	CMSI-620	18	CMEI-687C	3
MMS-100826	100	40	82	66	102	6	CMSI-620	24		3

CAST IRON - STEELS - HIGH TENSILE MATERIALS

SIDE INSERT	R	GRADES : K-15 / K-30 / P-25 / P-40	
		RADIUS	
		in.	mm
CMSI-387	*	.031	.75
CMSI-450	X	.062	1.5
CMSI-450	Y	.093	2.5
CMSI-450	Z	.125	3.0
CMSI-465	X	.062	1.5
CMSI-465	Y	.093	2.5
CMSI-465	Z	.125	3
CMSI-620	X	.062	1.5
CMSI-620	Y	.093	2.5
CMSI-620	Z	.125	3

END INSERT	R	GRADES : K-15 / K-30 / P-25 / P-40	
		RADIUS	
		in.	mm
CMEI-687 W	X	.062	1.5
CMEI-687 W	Y	.093	2.5
CMEI-687 W	Z	.125	3

ALUMINUM - TITANIUM

SIDE INSERT	R	GRADES : K-15 / K-30	
		RADIUS	
		in.	mm
CMSI-387 A	*	.031	.75
CMSI-450 A	X	.062	1.5
CMSI-450 A	Y	.093	2.5
CMSI-450 A	Z	.125	3.0
CMSI-465 A	X	.062	1.5
CMSI-465 A	Y	.093	2.5
CMSI-465 A	Z	.125	3
CMSI-620 A	X	.062	1.5
CMSI-620 A	Y	.093	2.5
CMSI-620 A	Z	.125	3

END INSERT	R	GRADES : K-15 / K-30	
		RADIUS	
		in.	mm
CMEI-687 C	X	.062	1.5
CMEI-687 C	Y	.093	2.5
CMEI-687 C	Z	.125	3

ORDERING EXAMPLE

CMSI-620A TI K15 Y

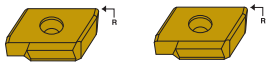
INSERT DESIGNATION — COATING — GRADE — RADIUS

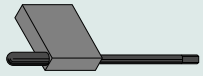
COATING DESIGNATION

TI = TiN
TC = TiCN
TA = TiALN
SU = TiALN SUPREME

END INSERTS

CMEI-687C CMEI-687W



	NO.		NO.		NO.
	SCS-30		ST-10		FT-08
	SCS-35		ST-15		FT-10
	SCS-45				FT-15

Notes:

– When ordering Megamill End Inserts (CMEI-687), please make sure the Side Inserts (CMSI-465 & 620) which are on the end of the cutter are also ordered with the same exact radius.
– Packaging: Inserts are sold in boxes of 10.

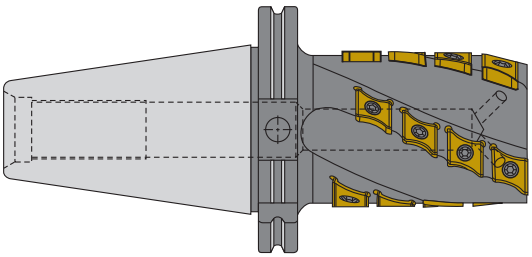
– Lors d'une commande de Plaquettes d'extrémités (CMEI-687), assurez-vous que les Plaquettes Latérales (CMSI-465 & 620) localisées au bout de l'outil, soient commandées avec le même rayon.
– Emballage : Les plaquettes sont vendus en paquets de dix.

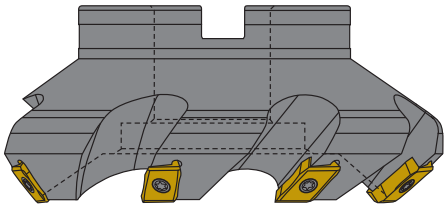
– Cuando pide Megamill con radio en las plaquitas de punta (CMEI-687), las plaquitas de punta de lato (CMSI-465 & 620) tiennen que ser perdidas juntas.
– Embalage: Las plaquitas estan vendidas en paquetes de 10.

RECOMMENDED FEEDS & SPEEDS

VITESSES DE COUPE ET AVANCES RECOMMANDÉES

VELOCIDADES Y AVANCES RECOMENDADOS





MATERIALS / SPEEDS / INSERT GRADES / Tool Ø inches / Tool Ø mm — Feeds & Speeds Inches – Metric		CAST IRON FONTES FUNDICION		STEELS ACIERS ACEROS			STAINLESS STEELS ACIERS INOXYDABLE ACEROS INOSSIDABLE		INCONEL WASPALLOY HASTALLOY	TITANIUM	ALUMINUM ALUMINIUM ALUMINIO
		GREY GRIS GRIS	NODULAR	up to: 240 BHN 80 Kg / mm²	240-300 BHN 80-105 Kg / mm²	300-400 BHN 105 -140 Kg / mm²	300 SERIES 304, 316	400 SERIES 15-5 PH 17-4 PH	INCONEL WASPALLOY HASTALLOY	6AL 4 V	6061 T6 7075 T6
		500-1000 SFM 150-300 M/min	400-800 SFM 120-240 M/min	500-1000 SFM 150-300 M/min	400-800 SFM 120-240 M/min	300-600 SFM 90-180 M/min	300-700 SFM 90-210 M/min	400-800 SFM 120-240 M/min	100-200 SFM 30-60 M/min	200-300 SFM 60-90 M/min	1500-5000 SFM 450-1515 M/min
		K-15 K-30	K-15 K-30	P-25 P-40	P-40 P-25	P-40 P-25	P-25 P-40	K-15 K-30	K-30	K-15 K-30	K-15
1 / 25	RPM	2,290	1,910	2,290	1,910	1,720	1,525	1,910	575	880	7,640
	Feed inches	9 → 18	7 → 15	9 → 18	7 → 15	7 → 14	6 → 12	7 → 15	3 → 6	4 → 10	60 → 120
	Feed mm	230 → 460	180 → 380	230 → 460	180 → 380	180 → 360	150 → 305	180 → 380	75 → 150	100 → 250	1,525 → 3,050
1-1/4 / 32	RPM	1,830	1,528	1,830	1,528	1,375	1,220	1,528	460	705	6,115
	Feed inches	10 → 20	6→ 13	10 → 20	6 → 13	5 → 12	7 → 14	6 → 13	3 → 6	4 → 10	60 → 120
	Feed mm	250 → 500	150 → 330	250 → 500	150 → 330	130 → 305	180 → 360	150 → 330	75 → 150	100 → 250	1,525 → 3,050
1-1/2 / 40	RPM	1,525	1,275	1,525	1,275	1,145	1,015	1,275	385	585	5,095
	Feed inches	12 → 22	10→ 20	12 → 22	10→ 20	8 → 16	8 → 16	10 → 20	3 → 7	4 → 11	60 → 120
	Feed mm	300 → 560	250 → 500	305 → 560	250 → 500	200 → 410	200 → 410	250 → 500	75 → 180	100 → 275	1,525 → 3,050
2 / 50	RPM	1,145	955	1,145	955	860	765	955	290	440	3,820
	Feed inches	10 → 22	8 → 18	10 → 22	8 → 18	6 → 14	7 → 14	8 → 18	4 → 8	5 → 12	60 → 200
	Feed mm	250 → 560	200 → 460	250 → 560	200 → 460	150 → 360	180 → 360	200 → 460	100 → 200	130 → 300	1,525 → 5,080
2-1/2 / 63	RPM	915	764	915	764	690	610	764	230	350	3,055
	Feed inches	11 → 18	10 → 20	11 → 18	10 → 20	8 → 15	7 → 14	10 → 20	3 → 7	6 → 12	60 → 200
	Feed mm	280 → 460	255 → 500	280 → 460	255 → 500	200 → 380	180 → 360	250 → 500	75 → 180	150 → 300	1,525 → 5,080
3 / 80	RPM	765	635	765	635	575	508	635	190	295	—
	Feed inches	14 → 24	11 → 21	14 → 24	11 → 21	8 → 16	7 → 15	11 → 21	3 → 8	6 → 14	—
	Feed mm	355 → 600	280 → 530	355 → 610	280 → 530	200 → 400	180 → 380	280 → 530	75 → 200	150 → 355	—
4 / 100	RPM	575	475	575	475	430	380	475	145	220	—
	Feed inches	10 → 20	9 → 18	10 → 20	9 → 18	7 → 14	7 → 12	9 → 18	3 → 8	5 → 12	—
	Feed mm	250 → 500	230 → 460	250 → 500	230 → 460	180 → 360	180 → 305	230 → 460	75 → 200	130 → 300	—

IF MACHINE SPEEDS ARE LOWER THAN SPEEDS SUGGESTED THE CHIP LOAD PER TOOTH SHOULD PREVAIL.

WARNING: *Any cutting tool may break or shatter. The wearing of safety glasses is required by law. Grinding of this product may produce potentially hazardous dust. Use adequate ventilation.*

SI LES VITESSES DES MACHINES SONT INFÉRIEURES AUX VITESSES DE COUPE SUGGERÉES, L'AVANCE PAR DENT PRÉVAUT

AVERTISSEMENT : *Tout outil peut briser ou éclater. La loi oblige le port de lunettes protectrices. Meuler ce produit peut causer des poussières dangeureuses. S'assurer d'une ventillation adéquate.*

SI LAS VELOCIDAD DE LA MÁQUINA ES INFERIOR A LAS VELOCIDADES RECOMENDADOS,L'AVANCE PER LIBIOS PREVALECER

ADVERTENCIA : *Todo utensil se posible romperse. Usar lentes de securidad.Afilar esto producto se posible producer peligroso polvo. Usar adecuado ventilación.*

MEGAMILL BALL APPLICATION DATA

MATERIALS / SPEEDS / INSERT GRADES ROUGHING / INSERT GRADES FINISHING / FEED RATE		CAST IRON FONTES FUNDICION		STEELS ACIERS ACEROS			STAINLESS STEELS ACIERS INOXYDABLE ACEROS INOSSIDABLE		NICKEL BASED ALLOYS	TITANIUM	ALUMINUM ALUMINIUM ALUMINIO
		GREY GRIS GRIS	NODULAR	LOW CARBON up to: 240 BHN 80 Kg / mm²	HIGH CARBON MEDIUM TENSILE 240-300 BHN80-105 Kg / mm²	HIGH ALLOY TOOL STEEL 300-400 BHN 105 -140 Kg / mm²	300 SERIES 304, 316	400 SERIES 15-5 PH 17-4 PH	INCONEL WASPALLOY HASTALLOY	6AL 4 V	6061 T6 7075 T6
SPEEDS		500-1000 SFM 150-300 M/min	400-800 SFM 120-240 M/min	500-1000 SFM 150-300 M/min	400-800 SFM 120-240 M/min	300-600 SFM 90-180 M/min	300-700 SFM 90-210 M/min	400-800 SFM 120-240 M/min	100-200 SFM 30-60 M/min	200-300 SFM 60-90 M/min	1500-5000 SFM 450-1515 M/min
INSERT GRADES ROUGHING		K-20	K-20	P-30	P-30	P-30	P-30	K-20	K-20	K-20	K-10
INSERT GRADES FINISHING		K-10/K-20		K-10/K-20			K-10/K-20		K-10/K-20	K-10/K-20	K-10
IPR	INCH	.006 / .010	.006 / .010	.006 / .010	.006 / .010	.006 / .010	.006 / .010	.004 / .009	.004 / .009	.005 / .010	.015 / .030
	METRIC	.15 / .25	.15 / .25	.15 / .25	.15 / .25	.15 / .25	.15 / .25	.10 / .22	.10 / .22	.13 / .25	.38 / .76

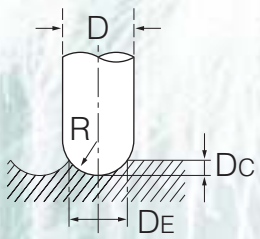
EFFECTIVE CUTTING DIAMETER
DIAMÈTRE DE COUPE EFFECTIF
SOBRE EL DIAMETRO EFFECTIVE DE CORTE

INCH SERIES

Insert Dia.	0.250	0.312	0.375	0.500	0.625	0.750	1.000	1.250
"DC" Depth of cut	"DE"							
0.010	0.098	0.110	0.121	0.140	0.157	0.172	0.199	0.223
0.015	0.119	0.134	0.147	0.171	0.191	0.210	0.243	0.272
0.020	0.139	0.153	0.169	0.196	0.220	0.242	0.280	0.314
0.050	0.200	0.229	0.255	0.300	0.339	0.374	0.436	0.490
0.075	0.229	0.267	0.300	0.357	0.406	0.450	0.527	0.504
0.100	0.245	0.292	0.332	0.400	0.458	0.510	0.600	0.678
0.125	0.250	0.306	0.354	0.433	0.500	0.559	0661	0.750
0.156	—	0.312	0.370	0.463	0.541	0.609	0.726	0.826
0.188	—	—	0.375	0.484	0.573	0.660	0.781	0.894
0.250	—	—	—	0.500	0.612	0.707	0.866	1.000
0.312	—	—	—	—	0.625	0.739	0.927	1.082
0.375	—	—	—	—	—	0.750	0.968	1.146
0.500	—	—	—	—	—	—	1.000	1.225
0.625	—	—	—	—	—	—	—	1.250

METRIC SERIES

Insert Dia.	6	8	10	12	16	20	25	30	32
"DC" Depth of cut	"DE"								
0.25	2.41	2.79	3.10	3.50	4.00	4.45	5.00	5.45	5.65
0.38	2.92	3.40	3.80	4.20	4.90	5.45	6.10	6.70	6.95
0.5	3.35	3.91	4.35	4.80	5.55	6.25	7.00	7.70	7.95
1.25	4.90	5.84	6.60	7.30	8.60	9.70	10.90	12.00	12.40
2	5.59	6.80	8.00	8.90	10.60	12.00	13.60	15.00	15.50
2.5	5.92	7.44	8.65	9.75	11.60	13.20	15.00	16.60	17.20
3.2	6.0	7.82	9.30	10.60	12.80	14.70	16.70	18.50	19.20
4	—	8.00	9.80	11.30	13.85	16.00	18.30	20.40	21.15
5	—	—	10.00	11.80	14.80	17.30	20.00	22.35	23.25
6	—	—	—	12.00	15.50	18.30	21.35	24.00	25.00
7	—	—	—	—	15.90	19.10	22.45	25.40	26.45
8	—	—	—	—	16.00	19.60	23.30	26.55	27.70
10	—	—	—	—	—	20.00	24.50	28.30	29.65
12.5	—	—	—	—	—	—	25.00	29.60	31.22
15	—	—	—	—	—	—	—	30.00	31.60
16	—	—	—	—	—	—	—	—	32.00



D = CUTTER DIA.

DE = EFFECTIVE CUTTING DIA.

DC = DEPTH OF CUT

$DE = \sqrt{D^2 - (D - 2Dc)^2}$

$RPM = \frac{SFM \times 3.82}{DE \text{ (INCHES)}}$

$RPM = \frac{SMM \times 323.4}{DE \text{ (MM)}}$

HOW TO MOUNT THE TWO-HOLE TYPE INSERT

1• Place the insert in the holder slot.
2• Tighten the bottom screw (A).
3• Tighten the top screw (B).

COMMENT MONTER UNE PLAQUETTE À DEUX TROUS

1• Inserez la plaquette dans l'ouverture.
2• Serrez la vis du bas (A).
3• Serrez la vis du haut (B).

CÓMO MONTAR UNA PLAQUITA DE DOS AGUJERO

1• Plazar la plaquita en la caja de la fresa.
2• Apreta el tornillo de abajo primero.
3• Apretar el tornilla de ariba.