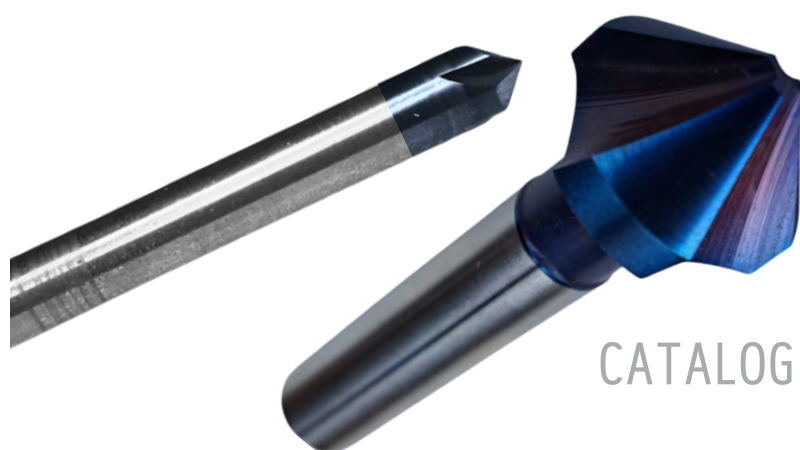
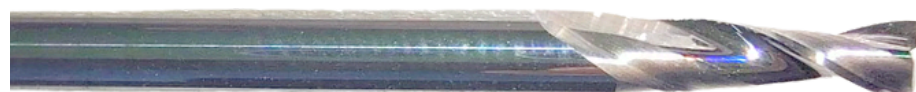


Minimax[®]



PERÇAGE
DRILLING

FRAISAGE
MILLING

EBAVURAGE
DEBURRING

CATALOGUE 2025

Pourquoi Minimax® ?

La gamme **MINIMAX** a été développée pour répondre aux besoins des clients les plus exigeants à la recherche de l'outil parfaitement adaptés à leurs problématiques d'usinage.

Une gamme de micro-forets en acier rapide 8% Co-M42 et en carbure, de micro-fraises et de solutions d'égavurage. Pour les micro outils nous avons ciblé le **haut de gamme**, des tolérances serrées et des **états de surface poly-glacés** pour assurer des **usinages ultraprécis en qualité superfinition**.

La gamme **MINIMAX** se compose de trois familles :

Une offre en **micro forets**

- coupe à droite et à gauche en HSS 8% CO M42
- carbure monobloc 4 - 6 - 12 et 40 x Ø
- à trous d'huile dès le Ø0.50, unique au Monde 15-20-30xØ
- les **POLY-MAX** à 90°
- les forets gun
- les forets-aléseurs z3 pour percer et aléser simultanément

Une gamme de **micro fraises** haute performance

- micro courtes finition poly-miroir
- micro dégagées pour accès difficile
- série L et XL pour les moulistes
- fraises à fileter à partir du M1.6

Des **solutions d'égavurage**

- fraises à chanfreiner HSS-E conventionnelles et à denture inégale
- chanfreineurs 4 dents en carbure
- fraises limes micro et universelles

UNIQUE, nos forets à trous d'huile démarrent au Ø 0.50, même les 30xØ !

Why Minimax[®] ?

The **MINIMAX** range has been developed to meet the needs of the most demanding customers looking for the tool that perfectly suits their machining needs.

A range of HSS 8% Co M42 and carbide micro drills, micro end mills and chamfering solutions. For micro tools, we targeted **top of the range**, tight tolerances and **poly-mirror surface** finishes to ensure **ultra-precise machining in superfinish quality**.

The **MINIMAX** range offers three families of products :

A **micro drills** line :

- right- and left-hand cut in HSS 8% Co M42
- integral carbide 4 - 6 - 12 and 40 x Ø
- internal coolant from Ø0.50, unique in the World 15-20-30 x Ø
- 90° **POLY-MAX**
- gun-drills
- z3 reamer-drills for drilling and reaming at the same time

A high-performance **micro end mills** range :

- short series with poly-mirror finish
- long-neck ranges for deep machining
- L and XL series for mould makers
- threading mills from M1.6

Deburring solutions :

- unequal flutes and standard HSS-E countersinks
- 4-flutes carbide countersink
- micro and universal rotary burrs

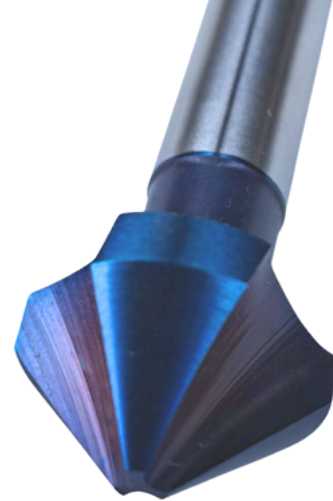
UNIQUE, our internal coolant drills start from Ø 0.50, even in 30 x Ø !

NOS REVÊTEMENTS OUR COATINGS

Blue-Max

Dureté / Hardness : 3.200 HV - **Epaisseur** / Thickness : 1-3 μ

T° d'utilisation / Machining T° : 1200°C



MM400 Blue-Max p. 35



Gold-Max

Dureté / Hardness : 1.950 HV - **Epaisseur** / Thickness : 2-3 μ

T° d'utilisation / Machining T° : 700°C



Pink-Max & Grey-Max

Dureté / Hardness : 3.750 HV - **Epaisseur** / Thickness : 2-3 μ

T° d'utilisation / Machining T° : 1100°C

Guide des nuances des matériaux à usiner Materials grades guide

Retrouvez les conditions de coupes spécifiques à chaque gamme de produit p. 6-24-32

Please find specific cutting conditions for each range of product pp. 6-24-32

P

Aciers de construction - Aciers de décolletage - Aciers d'amélioration
Construction steel - Free machining steel - Tempering steel

H

Aciers trempés
Hardened steel

K

Fonte et fontes alliées
Cast iron and cast iron alloys

N

Métaux non ferreux - Plastiques - Graphite - Laiton - Aluminium
Non-ferrous metal - Plastics - Graphite - Brass - Aluminium

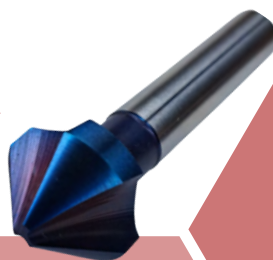
M

Aciers inoxydables - Résistants aux acides
Stainless steel - Acid-proof steel

S

Alliages spéciaux - Titane - Nickel
Special alloys - Titanium - Nickel

NEW 2025



MM400

fraises à chanfreiner
HSS-E 3 dents revêtues
HSS-E 3 flutes coated
countersinks

page 34

MM405

fraises à chanfreiner
denture inégale
inequal flutes
countersinks

page 34



FLEX-MAX

micro foret flexible 40xØ
du Ø 0.30 au Ø 1.00



flexible 40xØ micro drill
from Ø 0.30 to Ø 1.00

page 15

MM120NC

foret à pointer NC
90° HSS-E revêtus TiN



NC spotting drill
90° HSS-E TiN coated

page 10

MM325

Fraises hémisphériques
micro, dégagées et Ø=d



Radius endmills
micro, long-neck or Ø=d

page 28

MM449

fraises à chanfreiner
carbure Z4 Ø = d
carbide Z4 Ø = d
countersinks

page 35



MM420

fraises à fileter
3 filets



threadmills
3 pitches

page 31

MM490

fraises limes carbure
6 formes - 2 dentures



carbide rotary burrs
6 shapes - 2 cuts

page 36-37

MM320

Fraises droites
micro, dégagées et Ø=d



Square endmills
micro, long-neck or Ø=d

page 26

Plus de nouveautés
More new ranges

www.mini-max.fr

NOS GAMMES OUR RANGES

PERÇAGE	DRILLING	07
FRAISAGE	MILLING	25
ÉBAVURAGE	COUNTERSINKING	33

FORETS SPÉCIAUX

SPECIAL DRILLS



90% des outils spéciaux sont réalisés en 2 semaines (+1 revêtus)
90% of special tools are made within 2 weeks (+1 coated)



La plupart des outils spéciaux sont **réalisés en FRANCE !**
Most of special tools are **produced in FRANCE !**

PERÇAGE DRILLING

Vitesse de coupe Cutting speed Non-revêtu / Uncoated	Vitesse de coupe Cutting speed Revêtu / Coated	Avance Feed mm/tour
--	--	---------------------------

P	< 650 N/mm ² (< 200 HB)	50 - 60 m/min	70 - 80 m/min	0.010 x Ø
	650 - 950 N/mm ² (< 30 HRC)	35 - 50 m/min	50 - 70 m/min	0.010 x Ø
	950 - 1400 N/mm ² (< 45 HRC)		30 - 40 m/min	0.008 x Ø
M	Austénitique (< 250 N/mm ²)	40 - 50 m/min	60 - 70 m/min	0.007 x Ø
	Ferritique - Martensitique (< 700 n/mm ²)		50 - 60 m/min	0.005 x Ø
S	Titane - Titanium		30 - 40 m/min	0.005 x Ø
N	Laiton - Brass	80 - 100 m/min		0.015 x Ø
	Aluminium	80 - 100 m/min	120 m/min	0.015 x Ø

PERÇAGE DRILLING



POLY-MAX 90° 8



FORET NC À POINTER 90° - 130° 10
90° - 130° NC SPOTTING DRILL



PRÉCISION / HAUTE PERFORMANCE 12
PRECISION / HIGH PERFORMANCE
4 X Ø / 6 X Ø / 12 X Ø



FLEX-MAX 15
40 X Ø



FORET À TROUS D'HUILE 16
INTERNAL COOLANT DRILL
15 X Ø / 20 X Ø / 30 X Ø



FORET ALÉSEUR 20
REAMER DRILL



FORET 1 DENT 21
GUN-DRILL



FORET HSS-E 8% 22
HSS-E 8% DRILL

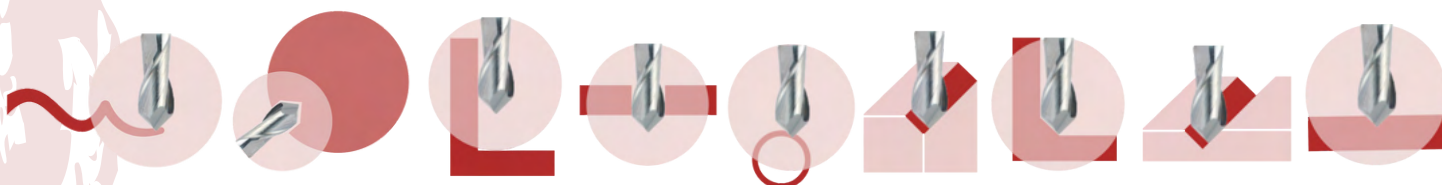
POLY-MAX 90°



POLY-MAX 90° a été développé par **MINIMAX** pour répondre aux attentes de super finition des usinages par interpolation avec des arguments de choix :

- Tolérance ultraprécise du \varnothing : 0 / +10 μ jusqu'au \varnothing 3
- Qualité poly-glacée facilitant l'évacuation des copeaux
- Âme renforcée assurant la rigidité en usinages 2D et 3D
- Unique : dès le \varnothing 0.10 !

POLY-MAX 90° peut pointer, chanfreiner, graver, fraiser, ébavurer ou simplement percer tous les matériaux !



POLY-MAX 90° has been developed by **MINIMAX** to meet expectations of super-finishing when machining by interpolation with high quality arguments :

- Ultra-precise tolerance of \varnothing : 0 / +10 μ up to \varnothing 3
- Poly-mirror quality facilitating chip removal
- Reinforced core-web ensuring rigidity in 2D and 3D machining process
- Unique : from \varnothing 0.10 !

POLY-MAX 90° can point, chamfer, engrave, mill, deburr or just drill any material !

POLY-MAX 90°



Precision 10μ*

α 90°	z2 30°	Tol Ø 0/+10μ	Tol d h6
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Ref MM22090C

P	N	M	S
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Ø	l	d	L	€	€
Grey-Max					
NEW 0.10	0.2	3	38	52.00	56.50
NEW 0.20	0.4	3	38	48.00	52.50
0.30	0.6	3	38	42.00	46.50
0.40	0.8	3	38	39.50	44.00
0.50	1.0	3	38	28.50	33.00
0.60	1.2	3	38	28.50	33.00
0.70	1.4	3	38	28.50	33.00
0.80	1.6	3	38	28.50	33.00
0.90	1.8	3	38	28.50	33.00
1.00	2.0	3	38	24.00	28.50
1.10	2.2	3	38	24.00	28.50
1.20	2.4	3	38	24.00	28.50
1.30	2.6	3	38	24.00	28.50
1.40	2.8	3	38	24.00	28.50
1.50	3.0	3	38	24.00	28.50
1.60	3.2	3	38	24.00	28.50
1.70	3.4	3	38	24.00	28.50
1.80	3.6	3	38	24.00	28.50
1.90	3.8	3	38	24.00	28.50

Ø	l	d	L	€	€
Grey-Max					
2.00	4.0	3	38	24.00	28.50
2.10	4.4	3	38	25.00	29.50
2.20	4.4	3	38	25.00	29.50
2.30	4.8	3	38	25.00	29.50
2.40	4.8	3	38	25.00	29.50
2.50	5.2	3	38	25.00	29.50
2.60	5.2	3	38	25.00	29.50
2.70	5.6	3	38	25.00	29.50
2.80	5.6	3	38	25.00	29.50
2.90	6.0	3	38	25.00	29.50
3.00	6.0	4	50	27.75	32.25
NEW 4.00*	11	6	57	32.50	37.00
NEW 5.00*	12	6	57	37.50	43.50
NEW 6.00*	13	6	57	40.00	46.50
NEW 8.00*	19	8	63	75.00	82.50
NEW 10.00*	22	10	72	90.00	99.00
NEW 12.00*	26	12	83	100.00	111.00

* Ø4~12 : tol e8

NEW 2025

Grey-Max

90° - 2-3μ - 3750 HV

Reference MM22090CR



HSS-E 5% Co M35

NEW 2025

FORET NC À POINTER 90°

90° NC SPOTTING DRILL



Ref MM120NC90GM

α	$z2$	Tol \emptyset	Tol d	Tol α
90°	30°	h7	h7	+/-1°

Gold-Max



\emptyset	l	d	L	€
	mini			Gold-Max
3	10	3	50	9.00
4	12	4	52	10.00
5	15	5	60	11.30
6	20	6	66	12.10
8	25	8	79	15.00
10	30	10	89	19.50
12	35	12	102	27.50

PROMO KIT

Kit A : 04-8-12
MM120NC90GMKITA
49.- €

Kit B : 04-6-8-10-12
MM120NC90GMKITB
79.- €



Visuel non contractuel

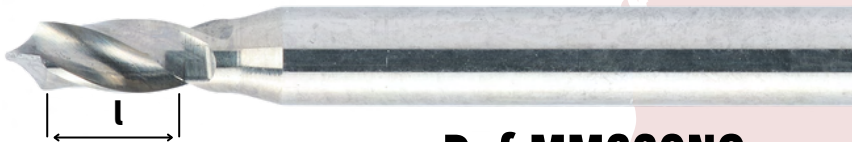
NEW 2025

Gold-Max

700° - 2-3 μ - 1950 HV

MICRO FORET NC À POINTER

MICRO NC SPOTTING DRILL



Precision 6μ

α 90°-130°	α 30°	Tol Ø 0/-6μ	Tol d h5	Tol α +/-1°
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Ref MM220NC

P	N	M	S
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Ø	l	d	L	€	€
$\alpha = 90^\circ$				Grey-Max	
0.10	0.2	3	38	23.90	28.40
0.15	0.3	3	38	22.05	26.55
0.20	0.4	3	38	18.90	23.40
0.25	0.5	3	38	18.90	23.40
0.30	0.6	3	38	16.80	21.30
0.40	0.8	3	38	16.80	21.30
0.50	1.0	3	38	16.80	21.30
0.80	1.6	3	38	16.80	21.30
1.00	2.0	3	38	16.80	21.30
1.50	3.0	3	38	16.80	21.30
2.00	4.0	3	38	16.80	21.30
2.50	5.0	3	38	16.80	21.30
3.00	6.0	3	38	17.85	22.35

Ø	l	d	L	€	€
$\alpha = 130^\circ$				Grey-Max	
0.10	0.2	3	38	23.90	28.40
0.15	0.3	3	38	22.05	26.55
0.20	0.4	3	38	18.90	23.40
0.25	0.5	3	38	18.90	23.40
0.30	0.6	3	38	16.80	21.30
0.40	0.8	3	38	16.80	21.30
0.50	1.0	3	38	16.80	21.30
0.80	1.6	3	38	16.80	21.30
1.00	2.0	3	38	16.80	21.30
1.50	3.0	3	38	16.80	21.30
2.00	4.0	3	38	16.80	21.30
2.50	5.0	3	38	16.80	21.30
3.00	6.0	3	38	17.85	22.35

Grey-Max

900° - 2-3μ - 3750 HV

Reference MM220NC90R
 $\alpha = 90^\circ$



Reference MM220NC130R
 $\alpha = 130^\circ$

Carbure-Carbide MG 10% Co

PRÉCISION PAR 0.01 MM

PRECISION BY 0.01 MM



Ref MM220C

α 120°	z 24°	Tol \emptyset h6	Tol d h5
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4 - 5 x \emptyset

P	N	M	S
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\emptyset	l	d	L	€
0.10~0.11	0.6	3	38	19.00
0.12~0.13	0.7	3	38	19.00
0.14~0.15	0.8	3	38	19.00
0.16~0.17	0.9	3	38	18.50
0.18~0.19	1.0	3	38	18.50
0.20~0.24	1.1	3	38	15.50
0.25~0.29	1.3	3	38	15.50
0.30~0.38	1.6	3	38	15.00
0.39~0.40	2.0	3	38	15.00
0.41~0.49	2.0	3	38	14.75
0.50~0.53	2.4	3	38	14.50
0.54~0.60	2.8	3	38	14.50
0.61~0.67	3.3	3	38	14.50
0.68~0.75	3.8	3	38	14.50
0.76~0.79	4.2	3	38	14.50
0.80~0.85	4.4	3	38	14.50
0.86~0.99	4.8	3	38	14.50
1.00~1.09	4.8	3	38	14.25
1.10~1.19	5.4	3	38	14.25
1.20~1.29	6.0	3	38	14.25
1.30~1.49	6.7	3	38	14.25
1.50~1.79	7.2	3	38	14.25
1.80~1.99	8.4	3	38	14.25
2.00	12.0	3	38	14.25

\emptyset par 0.05 livrables sur stock :

00.10 - 0.15 - 0.20 - 0.25 - ...

Autres \emptyset : 2 semaines

\emptyset by 0.05 from stock :

00.10 - 0.15 - 0.20 - 0.25 - ...

Other \emptyset : 2 weeks



NEW 2025

Grey-Max

900° - 2-3 μ - 3750 HV
Reference MM220LR

6 - 7 x Ø

α 140° **z2** 30° **Tol Ø** h5 **Tol d** h5

Carbure-Carbide MG 10% Co

HAUTE PERFORMANCE

HIGH PERFORMANCE



Ref MM220L

P N M S

Ø	l	l2	d	L	€	€
Grey-Max						
0.30	2.0	-	3	50	22.00	26.50
0.35	2.25	-	3	50	22.00	
0.40	2.5	-	3	50	21.50	26.00
0.45	3.0	-	3	50	21.50	
0.50	3.5	4.4	3	50	19.00	23.50
0.55	4.0	5.0	3	50	19.00	
0.60	4.5	5.6	3	50	18.00	22.50
0.65	5.0	6.2	3	50	18.00	
0.70	5.0	6.2	3	50	17.00	21.50
0.75	5.5	6.9	3	50	17.00	
0.80	5.6	7.2	3	50	17.00	21.50
0.85	6.0	7.6	3	50	17.00	
0.90	6.5	8.1	3	50	17.00	21.50
0.95	6.7	8.5	3	50	17.00	
1.00	7.0	8.8	3	50	17.00	21.50
1.05	7.5	9.4	3	50	16.25	
1.10	8.0	10.1	3	50	16.25	20.75
1.15	8.1	10.4	3	50	16.25	
1.20	8.5	11.0	3	50	16.25	20.75
1.25	8.9	11.3	3	50	16.25	
1.30	9.2	11.7	3	50	16.25	20.75
1.35	9.6	12.2	3	50	16.25	
1.40	10.0	12.5	3	50	16.25	20.75
1.45	10.5	13.0	3	50	16.25	
1.50	10.5	13.0	3	50	16.25	20.75
1.55	11.0	13.5	3	50	16.75	
1.60	11.5	14.0	3	50	16.75	21.25
1.65	12.0	15.0	3	50	16.75	

Ø	l	l2	d	L	€	€
Grey-Max						
1.70	12.0	15.0	3	50	16.75	21.25
1.75	12.5	15.5	3	50	16.75	
1.80	13.0	16.0	3	50	16.75	21.25
1.85	13.0	16.0	3	50	16.75	
1.90	13.5	17.5	3	50	16.75	21.25
1.95	14.0	18.0	3	50	16.75	
2.00	14.0	18.0	3	50	16.75	21.25
2.05	14.5	18.5	3	50	17.50	
2.10	15.0	19.0	3	50	17.50	22.00
2.15	15.0	19.0	3	50	17.50	
2.20	16.0	20.0	3	50	17.50	22.00
2.25	16.0	20.0	3	50	17.50	
2.30	16.5	21.0	3	50	17.50	22.00
2.35	16.5	21.0	3	50	17.50	
2.40	17.0	22.0	3	50	17.50	22.00
2.45	17.5	22.5	3	50	17.50	
2.50	18.0	23.0	3	50	17.50	22.00
2.55	18.0	23.0	3	50	18.00	
2.60	18.5	23.5	3	50	18.00	22.50
2.65	18.5	23.5	3	50	18.00	
2.70	19.0	24.0	3	50	18.00	22.50
2.75	19.0	24.0	3	50	18.00	
2.80	20.0	25.0	3	50	18.00	22.50
2.85	20.0	25.0	3	50	18.00	
2.90	21.0	26.0	3	50	18.00	22.50
2.95	21.0	26.0	3	50	18.00	
3.00	21.0	26.0	3	50	18.00	22.50

HAUTE PERFORMANCE
HIGH PERFORMANCE

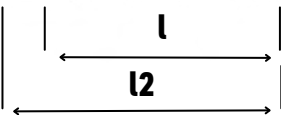
Ref MM220XL

α
140°

z2
30°

Tol Ø
h5

Tol d
h5



12 X Ø

P

N

M

S

Ø	l	l2	d	L	€	€	Ø	l	l2	d	L	€	€
Grey-Max							Grey-Max						
0.30	3.6	-	3	50	25.25	29.75	1.55	18.6	22.3	3	60	21.00	
0.35	4.2	-	3	50	25.25		1.60	19.2	23.0	3	60	21.00	26.50
0.40	4.8	-	3	50	24.50	29.00	1.65	19.8	23.7	3	60	21.00	
0.45	5.4	-	3	50	24.50		1.70	20.4	24.5	3	60	21.00	26.50
0.50	6.0	7.2	3	50	20.50	25.00	1.75	21.0	25.2	3	60	21.00	
0.55	6.6	7.9	3	50	20.50		1.80	21.6	25.9	3	60	21.00	26.50
0.60	7.2	8.6	3	50	20.25	24.75	1.85	22.2	26.6	3	60	21.00	
0.65	7.8	9.3	3	50	20.25		1.90	22.8	27.3	3	60	21.00	26.50
0.70	8.4	10.1	3	50	20.00	24.50	1.95	23.4	28.1	3	60	21.00	
0.75	9.0	10.8	3	50	20.00		2.00	24.0	28.8	3	60	21.00	26.50
0.80	9.6	11.5	3	50	19.75	24.25	2.50	30.0	36.0	3	90	35.00	42.00
0.85	10.2	12.2	3	50	19.75		3.00	36.0	43.2	3	90	40.00	47.00
0.90	10.8	13.0	3	50	19.75	24.25							
0.95	11.4	13.7	3	50	19.75								
1.00	12.0	14.4	3	50	19.75	24.25							
1.05	12.6	15.1	3	50	19.75								
1.10	13.2	15.8	3	50	19.75	24.25							
1.15	13.8	16.5	3	50	19.75								
1.20	14.4	17.3	3	50	19.75	24.25							
1.25	15.0	18.0	3	50	19.75								
1.30	15.6	18.7	3	50	19.75	24.25							
1.35	16.2	19.4	3	50	19.75								
1.40	16.8	20.1	3	50	19.75	24.25							
1.45	17.4	20.9	3	50	19.75								
1.50	18.0	21.6	3	50	21.00	26.50							



NEW 2025

Grey-Max

900° - 2-3µ - 3750 HV
Reference MM220XLR

NEW 2025

Carbure-Carbide MG 10% Co

FLEX-MAX



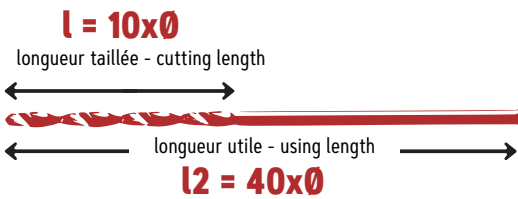
40 x Ø

α 135°	$z2$ 24°	Tol Ø h5	Tol d h5
------------------	-------------	-------------	-------------

Ref MM220FM

P N M S

Ø	l	l2	d	L	€
Grey-Max					
0.30	3.0	12	3	50	70.00
0.40	4.0	16	3	50	67.50
0.50	5.0	20	3	50	65.00
0.60	6.0	24	3	50	67.50
0.70	7.0	28	3	77	67.50
0.80	8.0	32	3	77	67.50
0.90	9.0	36	3	77	67.50
1.00	10.0	40	3	77	65.00

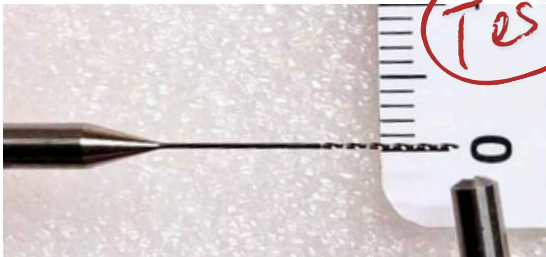


SPECIAL

Ø par 0.05 du Ø0.35 au Ø0.95 :
disponible sous 3 semaines

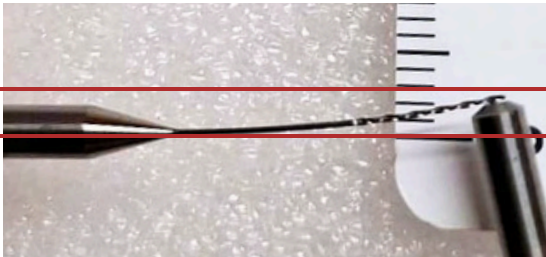
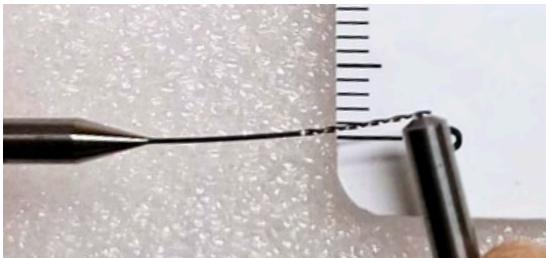
Ø by 0.05 from Ø0.35 to Ø0.95 :
available within 3 weeks

Ø 1.05~2.05 sur demande / on request



Tests

Ø 0.40



Grey-Max

900° - 2-3µ - 3750 HV

Photographies Minimax - MCG - Propriété privée
Toute reproduction même partielle est interdite

TROUS D'HUILE INTERNAL COOLANT

MM221XL30 Grey-Max
Inox 1.4305 Stainless steel

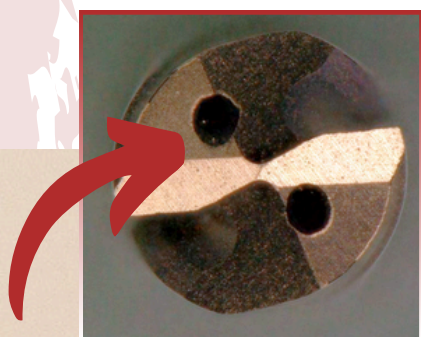


Ø 0.50 - $V_c = 50 \text{ m}$
 $F, \text{ rev / tour} = 0,008\text{mm}$

Ø 1.10 - $V_c = 60\text{m}$
 $F, \text{ rev / tour} = 0,014\text{mm}$

MINIMAX propose une gamme de micro-forets à trous d'huile unique au Monde,
les seuls disponibles dès Ø0.50 avec lubrification interne à 2 trous.

Face à une technologie telle, nous ne pouvons être garants des résultats qui sont sujets
à la qualité des huiles, la microfiltration adaptée, la pression, ou bien d'autres paramètres
comme les vibrations ou le process d'usinage.



Ø des trous
Holes Ø

Ø 0.5~0.6 = 0.08

Ø 0.7~0.8 = 0.12

Ø 0.9~1.5 = 0.13

Ø 1.6~2.0 = 0.20

Ø 2.1~2.5 = 0.30

Ø 2.6~3.0 = 0.35

Données indicatives non contractuelles
Non contractual data



MINIMAX offers a range of internal coolant micro-drills unique in the World,
the only ones available from Ø0.50, internal coolant with 2 holes.

Due to this advanced technology, we cannot guarantee results
depending on oils quality, adapted microfiltration, oil's pression,
and some other parameters such as vibrations or machining process.

TROUS D'HUILE 15xØ

INTERNAL COOLANT 15xØ



$\alpha = 140^\circ$

α	z2	Tol Ø	Tol d
140°	30°	h5	h5

Ref MM221XL15

P	N	M	S
---	---	---	---

Ø	l	d	L	Trou	€
				Hole	Grey-Max
0.50	8	3	60	0.08	275.00
0.60	10	3	60	0.08	265.00
0.70	11.5	3	60	0.12	255.00
0.80	13	3	60	0.12	245.00
0.90	14.5	3	60	0.13	240.00
1.00	17	3	70	0.13	135.00
1.10	18	3	70	0.13	135.00
1.20	20	3	70	0.13	135.00
1.30	21	3	70	0.13	135.00
1.40	23	3	70	0.13	135.00
1.50	25	3	70	0.13	135.00
1.60	26	3	70	0.20	137.50
1.70	28	3	70	0.20	137.50
1.80	30	3	70	0.20	137.50
1.90	31	3	70	0.20	137.50
2.00	32	3	70	0.20	137.50
2.10	34	3	70	0.30	140.00
2.20	36	3	70	0.30	140.00
2.30	38	3	70	0.30	140.00
2.40	40	3	70	0.30	140.00
2.50	42	3	70	0.30	160.00
2.60	44	3	90	0.35	160.00
2.70	46	3	90	0.35	160.00
2.80	48	3	90	0.35	160.00
2.90	50	3	90	0.35	160.00
3.00	50	3	90	0.35	160.00

Grey-Max

900° - 2-3µ - 3750 HV

Carbure-Carbide MG 10% Co

TROUS D'HUILE 20xØ

INTERNAL COOLANT 20xØ



Ref MM221XL20

α 140°	z_2 30°	Tol Ø h5	Tol d h5
------------------	--------------	-------------	-------------

$\alpha = 140^\circ$

P	N	M	S
---	---	---	---

Ø	l	d	L	Trou Hole	€ Grey-Max
0.50	10	3	60	0.08	295.00
0.60	12	3	60	0.08	285.00
0.70	14	3	60	0.12	275.00
0.80	16	3	60	0.12	265.00
0.90	18	3	60	0.13	260.00
1.00	20	3	75	0.13	162.50
1.10	22	3	75	0.13	162.50
1.20	24	3	75	0.13	162.50
1.30	26	3	75	0.13	162.50
1.40	28	3	75	0.13	162.50
1.50	30	3	75	0.13	162.50
1.60	32	3	95	0.20	165.00
1.70	34	3	95	0.20	165.00
1.80	36	3	95	0.20	165.00
1.90	38	3	95	0.20	165.00
2.00	40	3	95	0.20	165.00
2.10	42	3	120	0.30	167.50
2.20	44	3	120	0.30	167.50
2.30	46	3	120	0.30	167.50
2.40	48	3	120	0.30	167.50
2.50	50	3	120	0.30	192.50
2.60	52	3	140	0.35	192.50
2.70	54	3	140	0.35	192.50
2.80	56	3	140	0.35	192.50
2.90	58	3	140	0.35	192.50
3.00	60	3	140	0.35	192.50

Grey-Max

900° - 2-3µ - 3750 HV

TROUS D'HUILE 30xØ

INTERNAL COOLANT 30xØ



$\alpha = 140^\circ$

α	z^2	Tol Ø	Tol d
140°	30°	h5	h5

Ref MM221XL30

P	N	M	S
---	---	---	---

Ø	l	d	L	Trou	€
				Hole	Grey-Max
0.50	15	3	70	0.08	315.00
0.60	18	3	70	0.08	305.00
0.70	21	3	70	0.12	295.00
0.80	24	3	70	0.12	287.50
0.90	27	3	70	0.13	282.50
1.00	30	3	75	0.13	190.00
1.10	33	3	75	0.13	190.00
1.20	36	3	75	0.13	190.00
1.30	39	3	75	0.13	190.00
1.40	42	3	75	0.13	190.00
1.50	45	3	75	0.13	190.00
1.60	48	3	95	0.20	192.50
1.70	51	3	95	0.20	192.50
1.80	54	3	95	0.20	192.50
1.90	57	3	95	0.20	192.50
2.00	60	3	95	0.20	192.50
2.10	63	3	120	0.30	195.00
2.20	66	3	120	0.30	195.00
2.30	69	3	120	0.30	195.00
2.40	72	3	120	0.30	195.00
2.50	75	3	120	0.30	225.00
2.60	78	3	140	0.35	225.00
2.70	81	3	140	0.35	225.00
2.80	84	3	140	0.35	225.00
2.90	87	3	140	0.35	225.00
3.00	90	3	140	0.35	225.00

Grey-Max

900° - 2-3 μ - 3750 HV

Carbure-Carbide MG 10% Co

FORET ALÉSEUR

REAMER DRILL



Ref MM230L

α	z3	Tol Ø	Tol d
140°	30°	0/-4µ	h5

Precision 4µ



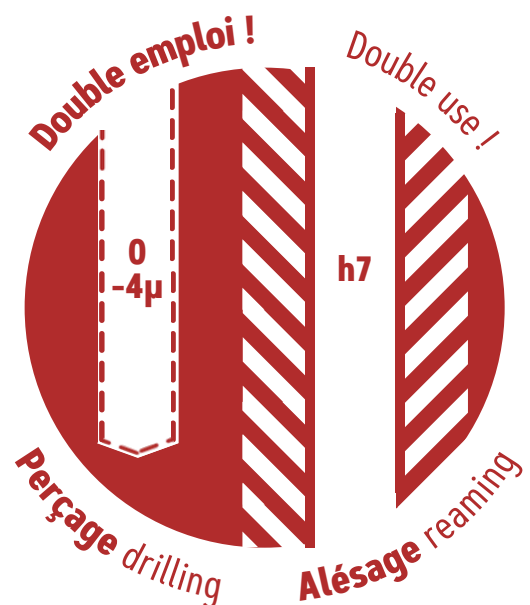
Ø	l	d	L	€
0.50	6.0	3	38	21.30
0.60	7.0	3	38	21.30
0.70	9.5	3	38	21.30
0.80	9.5	3	38	20.70
0.90	9.5	3	38	20.70
1.00	9.5	3	38	20.70
1.10	10.5	3	38	20.55
1.20	10.5	3	38	20.55
1.30	10.5	3	38	20.55
1.40	10.5	3	38	20.55
1.50	10.5	3	38	20.55
1.60	12.0	3	38	21.30
1.70	12.0	3	38	21.30
1.80	12.0	3	38	21.30
1.90	14.0	3	38	21.30
2.00	14.0	3	38	21.30

Perçage et alésage simultanés !

Drilling and reaming at the same time !

Les 3 dents et le noyau confèrent une rigidité qui permet de réaliser des trous nets et précis.

The 3 flutes and the core give a rigidity that allow to drill precise holes.



FORET 1 DENT

GUN DRILL



Laiton-Alu Alu-Brass

α 120°	$z1$ 0°	Tol \emptyset h5	Tol d h6
------------------	------------	-----------------------	-------------

\emptyset	l	d	L	€
0.20	2.0	1.5	30	25.00
0.30	3.0	1.5	30	24.50
0.40	4.0	1.5	30	24.00
0.50	5.0	1.5	30	23.00
0.60	6.0	1.5	30	22.00
0.70	7.0	1.5	30	21.00
0.80	8.0	1.5	30	20.00
0.90	9.0	1.5	30	20.00
1.00	10.0	1.5	30	19.50

Ref MM210L

P	K	N
---	---	---

\emptyset	l	d	L	€
1.10	11.0	1.5	30	19.50
1.20	12.0	1.5	30	19.50
1.30	13.0	1.5	30	19.50
1.40	14.0	1.5	30	19.50
1.50	15.0	1.5	30	20.00
1.60	16.0	1.5	30	20.00
1.70	17.0	1.5	30	20.00
1.80	18.0	1.5	30	20.00
1.90	19.0	1.5	30	20.00
2.00	20.0	1.5	30	22.50



Plus gros \emptyset : consultez-nous
Bigger \emptyset : send us an inquiry

HSS-E 8% Co M42

MICRO FORET À DROITE HSS-E 8%

M42 RIGHT HAND CUT MICRO DRILL



Ref MM120L

α 120°	z_2 24°	Tol \emptyset h6	Tol d h6
------------------	--------------	-----------------------	-------------

Queue renforcée

P	K	N
---	---	---

\emptyset	l	d	L	€
0.10	0.7	1	25	7.40
0.20	1.8	1	25	5.25
0.30	2.2	1	25	5.05
0.40	3.2	1	25	4.70
0.50	3.6	1	25	4.50
0.60	4.5	1.5	25	4.50
0.70	5.2	1.5	25	4.50
0.80	5.5	1.5	25	4.50
0.90	6.0	1.5	25	4.50
1.00	6.5	1.5	25	4.50
1.10	7.0	1.5	25	4.50
1.20	7.5	1.5	25	4.50
1.30	7.5	1.5	25	4.50
1.40	8.5	1.5	25	4.50
1.50	10.0	2	35	4.65

\emptyset	l	d	L	€
1.60	10.0	2	35	4.65
1.70	10.0	2	35	4.65
1.80	11.0	2	35	4.65
1.90	11.0	2	35	4.65
2.00	11.0	2	35	4.65
2.10	12.0	2.5*	35	5.10
2.20	12.0	2.5*	35	5.10
2.30	14.0	2.5*	35	5.10
2.40	14.0	2.5*	35	5.10
2.50	14.0	2.5*	35	5.10
2.60	16.0	3	40	5.85
2.70	16.0	3	40	5.85
2.80	18.0	3	40	5.85
2.90	18.0	3	40	5.85
3.00	18.0	3	40	5.85

Vendu par boîte de 10 pièces
Sold in boxes of 10 pieces

* d mini

LE +

HSS-E - M42 8% Co
Haute résilience
Dûreté 66-67HRC

MICRO FORET À GAUCHE HSS-E 8%

M42 LEFT HAND CUT MICRO DRILL



Reinforced shank

Ref MM120GL

α 120°	$z2$ 24°	Tol \emptyset h6	Tol d h6
------------------	-------------	-----------------------	-------------

P	K	N
---	---	---

\emptyset	l	d	L	€
0.50	3.6	1	25	4.95
0.60	4.5	1.5	25	4.95
0.70	5.2	1.5	25	4.95
0.80	5.5	1.5	25	4.95
0.90	6.0	1.5	25	4.95
1.00	6.5	1.5	25	4.95
1.10	7.0	1.0	25	4.95
1.20	7.5	1.5	25	4.95
1.30	7.5	1.5	25	4.95
1.40	8.5	1.5	25	4.95
1.50	10.0	2	35	5.10
1.60	10.0	2	35	5.10
1.70	10.0	2	35	5.10
1.80	11.0	2	35	5.10
1.90	11.0	2	35	5.10
2.00	11.0	2	35	5.10

\emptyset	l	d	L	€
2.10	12.0	2.5*	35	5.60
2.20	12.0	2.5*	35	5.60
2.30	14.0	2.5*	35	5.60
2.40	14.0	2.5*	35	5.60
2.50	14.0	2.5*	35	5.60
2.60	16.0	3	40	6.40
2.70	16.0	3	40	6.40
2.80	18.0	3	40	6.40
2.90	18.0	3	40	6.40
3.00	18.0	3	40	6.40

Vendu par boîte de 10 pièces
Sold in boxes of 10 pieces

* d mini

THE +

HSS-E - M42 8% Co
Excellent toughness
Hardness 66-67HRC

FRAISES SPÉCIALES

SPECIAL END MILLS



90% des outils spéciaux sont réalisés en 1 semaine, même revêtus !
90% of special tools are made within 1 week, even coated !



ECOLO-MAX

La plupart des outils spéciaux sont **réalisés en FRANCE** !
Most of special tools are **produced in FRANCE** !

FRAISAGE MILLING

Vitesse de coupe
Cutting speed
Revêtu / Coated

Avance / Feed
mm/tour
Ø2

Ø1

Ø4

P

800 - 1000 N/mm²

50 m/min

0.01 x Ø

0.02 x Ø

0.04 x Ø

1000 - 1400 N/mm²

40 m/min

0.008 x Ø

0.015 x Ø

0.03 x Ø

M

Inox / Stainless steel

40 m/min

0.01 x Ø

0.02 x Ø

0.04 x Ø

H

Acier traité - Treated steel 45 - 55 HRC

30 m/min

0.005 x Ø

0.01 x Ø

0.02 x Ø

Acier traité - Treated steel > 55 HRC

15 m/min

0.003 x Ø

0.006 x Ø

0.012 x Ø

S

Super alliages - Super alloys

20 m/min

0.002 x Ø

0.004 x Ø

0.008 x Ø

Alliages Titane - Titanium alloys

25 m/min

0.004 x Ø

0.008 x Ø

0.016 x Ø

N

Laiton - Brass / Cuivre - Copper / Bronze

120 m/min

0.015 x Ø

0.03 x Ø

0.06 x Ø

Aluminium

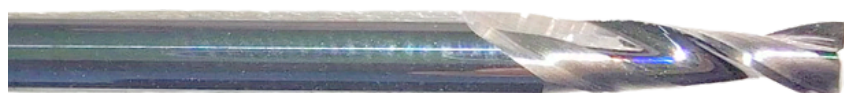
70 m/min

0.015 x Ø

0.03 x Ø

0.06 x Ø

FRAISAGE MILLING



MICRO FRAISE DROITE Z2 26
SQUARE Z2 MICRO END MILL
COURTE ET DÉGAGÉE - SHORT AND LONG-NECK



FRAISE DROITE Z3 27
SQUARE Z3 END MILL
LONGUE ET EXTRA-LONGUE - LONG AND EXTRA-LONG



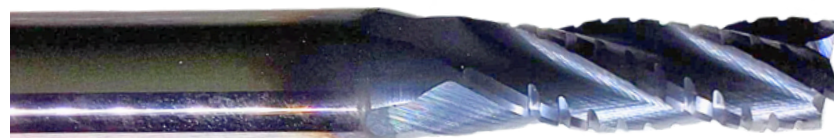
MICRO FRAISE HÉMISPHERIQUE Z2 28
BALL-NOSE Z2 MICRO END MILL
COURTE ET DÉGAGÉE - SHORT AND LONG-NECK



FRAISE HÉMISPHERIQUE Z2 29
BALL-NOSE Z2 END MILL
LONGUE - LONG



FRAISE ANGLE VIF Z4 30
Z4 SHARP CORNER END MILL



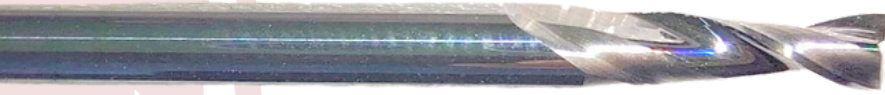
MINI FRAISE D'ÉBAUCHE 30
MINI ROUGHING END MILL



FRAISE À FILETER 60° 31
60° THREAD MILL

MICRO FRAISE DROITE Z2

SQUARE Z2 MICRO END MILL

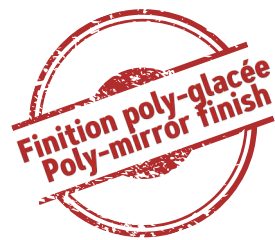


Ref MM320

z2 **Tol Ø** **Tol d**
0/-10µ h5

Ø	l	d	L	€	€
Grey-Max					
0.3	0.6	3	38	45.00	50.00
0.4	0.8	3	38	42.25	47.25
0.5	1.0	3	38	36.75	41.75
0.8	1.6	3	38	36.75	41.75
1.0	2.0	3	38	30.00	35.00
1.5	3.0	3	38	30.00	35.00
2.0	6.0	3	38	31.00	36.00
2.5*	7.0	3	38	32.00	37.00

* tolerance Ø = 0/-20µ



Courte - Short

P **N** **M** **S**

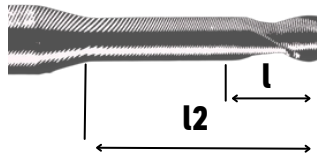
Grey-Max

900° - 2-3µ - 3750 HV
Reference MM320R



Ref MM320

z2 **Tol Ø** **Tol d**
* h5



Ø	l	l2	d	L	€	€
Grey-Max						
0.4	0.8	1	3	50	52.50	60.00
0.4	0.8	5	3	50	57.50	65.00
0.4	0.8	10	3	50	60.00	67.50
0.5	1.0	1.2	3	50	52.50	60.00
0.5	1.0	5	3	50	57.50	65.00
0.5	1.0	10	3	50	60.00	67.50
0.8	1.6	1.8	3	50	52.50	60.00
0.8	1.6	5	3	50	57.50	65.00
0.8	1.6	10	3	50	60.00	67.50
1.0	2.0	2.2	3	50	52.50	60.00
1.0	2.0	10	3	50	57.50	65.00
1.0	2.0	20	3	50	60.00	67.50

* tolerance Ø = -14µ / -19µ

Dégagée - Long-neck

P **N** **M** **S**

Ø	l	l2	d	L	€	€
Grey-Max						
1.5	3.0	3.5	3	50	55.00	62.50
1.5	3.0	10	3	50	60.00	67.50
1.5	3.0	20	3	50	62.50	70.00
2.0	4.0	4.5	3	50	55.00	62.50
2.0	4.0	10	3	50	60.00	67.50
2.0	4.0	20	3	50	62.50	70.00
2.5	5.0	5.5	3	50	55.00	62.50
2.5	5.0	10	3	50	60.00	67.50
2.5	5.0	20	3	50	62.50	70.00
3.0	6.0	6.5	3	50	55.00	62.50
3.0	6.0	10	3	50	60.00	67.50
3.0	6.0	20	3	50	62.50	70.00

NEW 2025

Carbure-Carbone MG 10% Co

FRAISE DROITE Z3

SQUARE Z3 END MILL



Longue - Long

z2	Tol Ø *	Tol d h5
----	------------	-------------

Ref MM330

P	N	M	S
---	---	---	---

Ø	l	l2	d	L	€	€
Grey-Max						
4	10	12	4	40	57.50	65.00
5	15	20	6	58	64.25	72.25
6	16	21	6	58	68.00	76.50
8	21	27	8	63	78.00	87.00
10	25	32	10	72	117.50	127.50
12	28	38	12	80	148.50	161.00

* tolerance Ø = -14µ / -19µ

Grey-Max

900° - 2-3µ - 3750 HV
Reference MM330R



Extra-longue - Extra-long ~ 5 x Ø

z2	Tol Ø *	Tol d h5
----	------------	-------------

Ref MM330L

P	N	M	S
---	---	---	---

Ø	l	d	L	€	€
Grey-Max					
3	16	4	40	63.50	71.00
4	20	4	50	68.25	75.75
5	25	6	60	84.00	91.50
6	30	6	70	101.50	109.00
8	40	8	80	120.00	127.50
10	50	10	100	147.50	155.00
12	55	12	106	190.00	197.50

* tolerance Ø = -14µ / -19µ

Grey-Max

900° - 2-3µ - 3750 HV
Reference MM330LR



MICRO FRAISE HÉMISPHERIQUE Z2

BALL-NOSE Z2 MICRO END MILL



Ref MM325

z2	Tol Ø 0/-20µ	Tol d h5
----	-----------------	-------------



Courte - Short

P	N	M	S
---	---	---	---

Ø	l	R	d	L	€	€
tol 6µ					Grey-Max	
0.3	0.5	0.15	3	38	72.50	77.50
0.4	0.6	0.20	3	38	65.00	70.00
0.5	0.8	0.25	3	38	62.25	67.25
0.8	1.2	0.40	3	38	56.50	65.00
1.0	1.5	0.50	3	38	52.50	57.50
1.5	2.3	0.75	3	38	55.00	60.00
2.0	3.0	1.00	3	38	55.00	60.00
2.5	4.0	1.25	3	38	57.50	62.50
3.0	5.0	1.50	3	38	57.50	62.50

Grey-Max

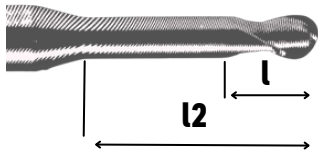
900° - 2-3µ - 3750 HV

Reference MM325R

Dégagée - Long-neck

Ref MM325

z2	Tol Ø *	Tol d h5
----	------------	-------------



P	N	M	S
---	---	---	---

Ø	l	l2	R	d	L	€	€
Grey-Max							
0.4	0.8	1	0.20	3	50	65.00	72.50
0.4	0.8	5	0.20	3	50	70.00	77.50
0.4	0.8	10	0.20	3	50	72.50	80.00
0.5	1.0	1.2	0.25	3	50	65.00	72.50
0.5	1.0	5	0.25	3	50	70.00	77.50
0.5	1.0	10	0.25	3	50	72.50	80.00
0.8	1.6	1.8	0.40	3	50	65.00	72.50
0.8	1.6	5	0.40	3	50	70.00	77.50
0.8	1.6	10	0.40	3	50	72.50	80.00
1.0	2.0	2.2	0.50	3	50	65.00	72.50
1.0	2.0	10	0.50	3	50	70.00	77.50
1.0	2.0	20	0.50	3	50	72.50	80.00

Ø	l	l2	R	d	L	€	€
Grey-Max							
1.5	3.0	3.5	0.75	3	50	67.50	75.00
1.5	3.0	10	0.75	3	50	72.50	80.00
1.5	3.0	20	0.75	3	50	75.00	82.50
2.0	4.0	4.5	1.00	3	50	67.50	75.00
2.0	4.0	10	1.00	3	50	72.50	80.00
2.0	4.0	20	1.00	3	50	75.00	82.50
2.5	5.0	5.5	1.25	3	50	67.50	75.00
2.5	5.0	10	1.25	3	50	72.50	80.00
2.5	5.0	20	1.25	3	50	75.00	82.50
3.0	6.0	6.5	1.50	3	50	67.50	75.00
3.0	6.0	10	1.50	3	50	72.50	80.00
3.0	6.0	20	1.50	3	50	75.00	82.50

* tolerance Ø = -14µ / -19µ

NEW 2025

Carbure-Carbide MG 10% Co

FRAISE HÉMISPHERIQUE Z2

BALL-NOSE Z2 END MILL



Queue - Shank Ø6

z2 Tol Ø * Tol d h5

Ref MM325L

P N M S

Ø	l	l2	R	d	L	€	€
							Grey-Max
1	1	3	0.5	6	51	75.00	82.50
1	1	5	0.5	6	51	80.00	87.50
2	2	6	1.0	6	51	77.50	85.00
2	2	10	1.0	6	57	82.50	90.00
3	3	9	1.5	6	51	80.00	89.00
3	3	15	1.5	6	57	85.00	94.00
4	4	12	2.0	6	57	82.50	91.50
4	4	20	2.0	6	64	87.50	96.50
5	5	15	2.5	6	57	85.00	94.00
5	5	25	2.5	6	64	90.00	99.00
6	6	18	3.0	6	57	87.50	100.00
6	6	30	3.0	6	76	95.00	107.50
6	6	42	3.0	6	100	110.00	122.50

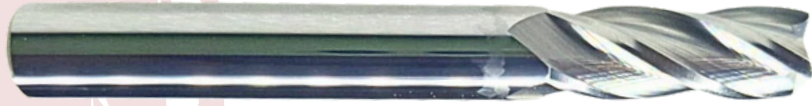
* tolerance Ø = -14µ / -19µ

Grey-Max
900° - 2-3µ - 3750 HV
Reference MM325LR



FRAISE ANGLE VIF Z4

Z4 SHARP CORNER END MILL



Ref MM3404

z4 30°	Tol Ø h5	Tol d h5
-----------	-------------	-------------

ECO-line

P	N	M	S
---	---	---	---

Ø	l	d	L	Z	€	€ TiAlN
2	7	3	39	4	10.75	12.25
3	9	3	39	4	10.75	12.25
4	14	4	51	4	14.75	16.25
5	16	5	51	4	16.25	18.00
6	19	6	64	4	20.00	22.00
8	21	8	64	4	24.75	27.25
10	25	10	70	4	38.25	41.25
12	25	12	76	4	49.50	53.50

TiAlN

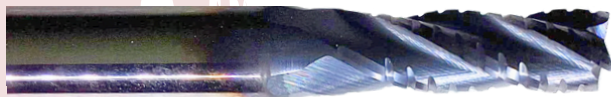
900° - 3-4µ - 3300 HV

Reference MM3404R



MINI FRAISE D'ÉBAUCHE

MINI ROUGHING END MILL



Ref MM3400

z3 30°	Tol Ø h5	Tol d h5
-----------	-------------	-------------

Profil NRF

P	N	M	S
---	---	---	---

Ø	l	d	L	Z	€
TiAlN					
3	10	4	64	4	35.00
4	14	6	64	4	40.00
5	15	6	64	4	45.00

TiAlN

900° - 3-4µ - 3300 HV



NEW 2025

Carbure-Carbide MG 10% Co

FRAISE À FILETER 60°

60° THREAD MILLS



3 x Ø

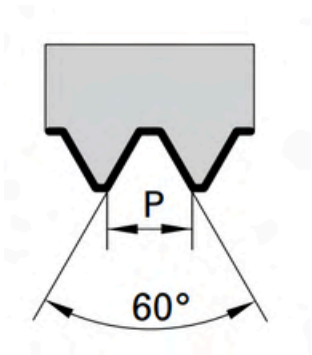
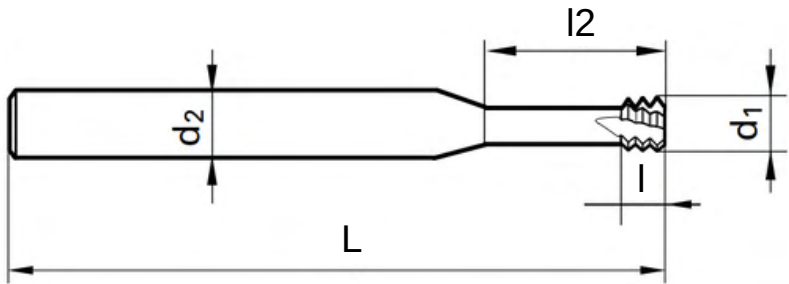
Ref MM420

z	Tol Ø	Tol d
30°	0/+10µ	h6

P N M S

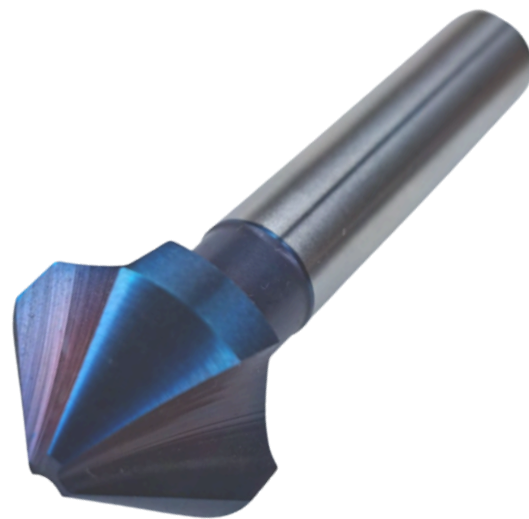
Ø	P	d1	d2	L	l	l2	Z	€
Pink-Max								
M1.6	0.35	1.20	3	39	1.10	4.8	3	75.00
M1.8	0.35	1.40	3	39	1.10	5.4	3	75.00
M2.0	0.40	1.55	3	39	1.20	6.0	4	75.00
M2.5	0.45	1.95	3	39	1.40	7.5	4	77.50
M3.0	0.50	2.4	6	58	1.50	9.5	4	77.50
M3.5	0.60	2.8	6	58	1.80	11	4	80.00
M4	0.70	3.2	6	58	2.10	12.5	4	80.00
M5	0.80	4.0	6	58	2.40	16	4	82.50
M6	1.00	4.8	6	58	3.00	20	4	82.50
M8	1.25	5.95	6	58	3.80	24	4	85.00
M10	1.50	7.8	8	73	4.50	33	4	100.00
M12	1.75	9.0	10	84	5.30	38	4	130.00
M16	2.00	11.8	10	84	6.00	35	5	155.00

Pink-Max
1100° - 2-3µ - 3750 HV



3 filets - 3 pitches

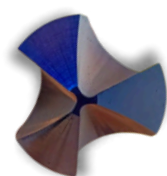
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We offer a large range of solutions
to machine burrs (enemies to mechanics) :
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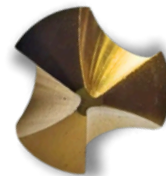
ÉBAVURAGE COUNTERSINKING



Vitesse de coupe
Cutting speed
Blue-Max / Pink-Max



Avance / Feed
mm/tour
Ø10-20-30



Vitesse de coupe
Cutting speed
Gold-Max
Avance / Feed
mm/tour
Ø10-20-30

	< 500 N/mm ²	20 - 35 m/min	120-60-40	17 - 22 m/min	85-45-30
P	500 - 800 N/mm ²	15 - 20 m/min	80-40-25	10 - 15 m/min	60-30-20
	800 - 1000 N/mm ²	12 - 16 m/min	60-30-20	8 - 12 m/min	35-25-15
M	1000 - 1300 N/mm	8 - 12 m/min	40-20-15	6 - 10 m/min	30-15-10
K	Fonte - Cast iron	15 - 25 m/min	100-50-40	15-25 m/min	70-40-30
N	Aluminium	40 - 55 m/min	230-150-130	35 - 45 m/min	200-130-110
	Laiton / Brass	25 - 35 m/min	130-90-80	20 - 30 m/min	120-85-70
	Cuivre / Copper	15 - 25 m/min	110-70-55	15 - 25 m/min	95-60-45

ÉBAVURAGE

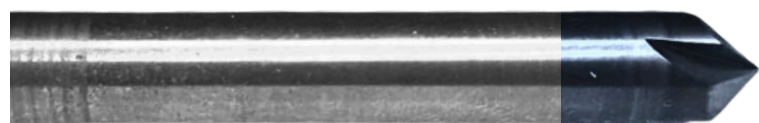
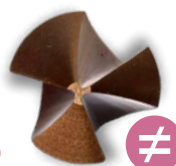
COUNTERSINKING



FRAISE À ÉBAVURER 90° 34
90° COUNTERSINK

LE +

Denture décalée
Unequal flutes
p.34



CHANFREINEUR 90° 4 DENTS 35
Z4 90° COUNTERSINK



FRAISE LIME ROTATIVE 36
ROTARY BURR

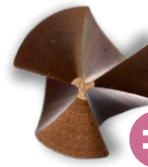
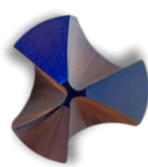
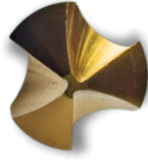
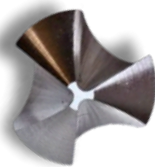
FRAISE À ÉBAVURER 90°

90° COUNTERSINK



DIN 335C

α 90° z3 Tol 0 z9 Tol d h9



P M K N

Denture inégale
Inequal flutes

Ø	d	L	€	€	€	€
			MM400	Gold-Max MM400GM	Blue-Max MM400BM	Pink-Max MM405PM
6.3	1.5	45	12.00	12.50	16.25	17.75
8.3	2.0	50	13.50	14.00	19.25	21.00
10.4	2.5	50	16.50	17.00	23.50	25.75
12.4	2.8	56	18.00	18.50	26.50	29.00
16.5	3.2	60	23.00	23.75	34.50	38.00
20.5	3.5	63	28.50	29.50	42.75	47.00
25.0	3.8	67	39.50	41.50	57.00	62.50
31.0	1.2	71	53.50	56.25	75.00	82.50



Visuel non contractuel

Nos revêtements
Our coatings

Blue-Max

1200° - 1-3μ - 3200 HV

Gold-Max

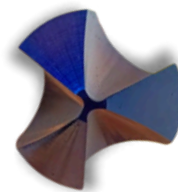
700° - 2-3μ - 1950 HV

Pink-Max

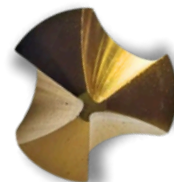
1100° - 2-3μ - 3750 HV

PROMO KITS

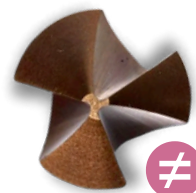
Ø 6.3~20.5



MM400BMKITA
169€



MM400GMKITA
119€



MM405PMKITA
189€



NEW 2025

Carbure-Carbide MG 10% Co

CHANFREINEUR 90° 4 DENTS

Z4 90° COUNTERSINK



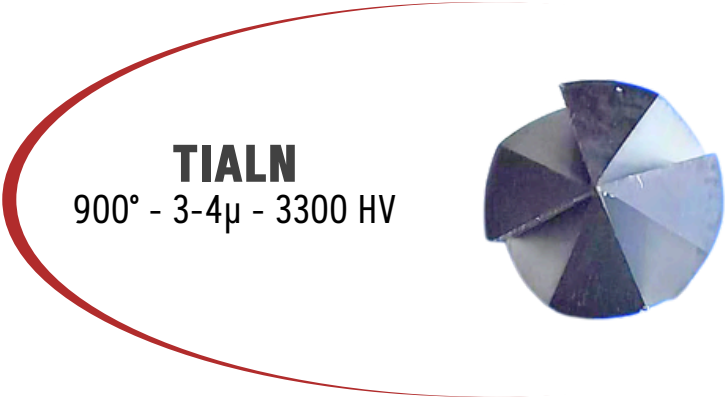
Queue renforcée - Reinforced shank

Ref MM449

α 90°	z4	Tol \emptyset h6	Tol d h6
-----------------	----	-----------------------	-------------

P	K	M
---	---	---

\emptyset	l	d	L	€
TIALN				
1	3	4	50	18.00
2	3	4	50	20.00
3	3	4	50	22.00



$\emptyset = d$

α 90°	z4	Tol \emptyset h6	Tol d h6
-----------------	----	-----------------------	-------------

\emptyset	d	L	€
TIALN			
4	4	50	26.00
6	6	57	30.00
8	8	60	40.00
10	10	70	55.00
12	12	70	75.00

FRAISE LIME ROTATIVE

ROTARY BURR


Ref MM490
Tol Ø
*
Tol d
h10

UNIVERSAL
P N M S
Cylindrique coupe en bout
Cylindrical with end cut

011


Ø	l	d	L	€	€
	mini		mini		
3	13	3	38	8.00	7.50
4	13	3	43	8.00	7.50
5	13	3	43	8.00	7.50
6	13	3	53	8.50	8.00
6	16	6	56	10.50	10.00
8	20	6	60	16.00	15.00
10	20	6	60	21.00	20.00
12	25	6	65	31.00	30.00
12.7	25	6	65	33.00	32.00

Cylindrique rayonnée
Cylindrical ball-nose

012


l	d	L	€	€
mini		mini		
13	3	38	8.00	7.50
13	3	43	8.00	7.50
13	3	43	8.00	7.50
13	3	56	8.50	8.00
16	6	56	10.50	10.00
20	6	60	16.00	15.00
20	6	60	21.00	20.00
25	6	65	31.00	30.00
25	6	65	33.00	32.00

Conique
Conical

020


l	d	L	€	€
mini		mini		
11	3	38	8.00	7.50
13	3	43	8.00	7.50
13	3	43	8.00	7.50
13	3	53	8.50	8.00
18	6	58	10.50	10.00
17	6	57	15.50	15.00
20	6	60	21.00	20.00
25	6	65	26.00	25.00

* Tolerance : Ø3-10 = +/- 0.2 - 12-12.7 = +/- 0.3

A

 Denture croisée
Double cut

B

 Denture fine
Single cut

PROMO KITS '6 formes'

 Denture croisée Denture fine
Double cut Single cut

	A	B
Ø6*	62€	59€
Ø8	91€	87€
Ø10	120€	114€
Ø12	163.50€	157.50€

*d = 6



Visuel non contractuel

NEW 2025

Carbure-Carbide

FRAISE LIME ROTATIVE

ROTARY BURR



UNIVERSAL

Tol Ø
*

Tol d
h10

Ref MM490

P N M S

Flamme
Flame

040



denture - cut A
denture - cut B

Ovale
Oval

050



denture - cut A
denture - cut B

Ronde
Ball

060



denture - cut A
denture - cut B

Ø	l	d	L	€	€	l	d	L	€	€	l	d	L	€	€
	mini		mini			mini		mini			mini		mini		
3	7	3	38	8.00	7.50	7	3	38	8.00	7.50	2	3	38	7.00	6.50
4	13	3	43	8.00	7.50	7	3	40	8.00	7.50	3	3	45	7.00	6.50
5	13	3	43	8.00	7.50	8	3	40	8.00	7.50	4	3	44	7.00	6.50
6	13	3	43	8.50	8.00	10	3	50	8.50	8.00	5	3	45	7.50	7.00
6	18	6	65	10.50	10.00	10	6	50	10.50	10.00	5	6	45	9.50	9.00
8	20	6	65	15.50	15.00	13	6	53	15.50	15.00	7	6	47	12.50	12.00
10	25	6	65	21.00	20.00	16	6	56	21.00	20.00	9	6	49	15.00	14.00
12	32	6	65	31.00	30.00	20	6	60	26.00	25.00	11	6	51	18.50	17.50

* Tolerance Ø : Ø3-10 = +/- 0.2 - Ø12 = +/- 0.3

Codification

MM490 + forme + denture + d + Ø

Exemple :

MM490012A6127 = Fraise lime droite hémisphérique denture croisée queue=6 Ø12.7

MM490060B306 = Fraise lime ronde denture fine queue=3 Ø6

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Langues parlées
Languages spoken



Rapidité Quickness

Standard : réponse dans l'heure / answer within an hour

Special : solution sous 24 heures / solution within 24 hours



ECOLO-MAX

Nous choisissons d'imprimer notre catalogue en petit format et en un nombre limité d'exemplaires afin de **réduire notre impact écologique**.

Imprimé en France, en local, tout est pensé pour réduire cette empreinte.

We choose to print our catalogue in a small size and in a limited number of copies in order to **reduce our environmental footprint**.

Printed in France, by a local printer, everything is considered to limit our print.

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