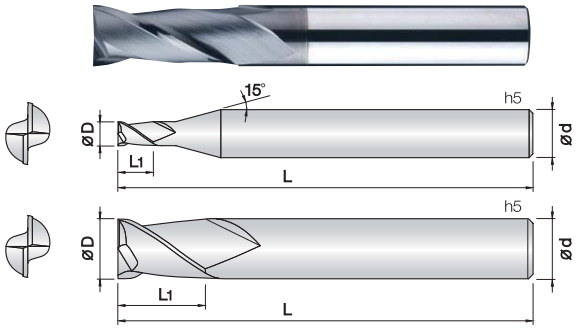
# 2DLE

*Fraise Cylindrique 2 Coupes*

## *Fresa Cilindrica 2 Tagli*




- **Fresa per alluminio, leghe di alluminio, rame, leghe di rame, CFRP, fibre di vetro/carbonio e materiali non ferrosi.**
- Il rivestimento Super G-TAC garantisce eccellenti finiture grazie ad una elevatissima durezza e ad un basso coefficiente di attrito.
- Elevata tolleranza del filo tagliente.
- Geometria rinforzata per prevenire scheggiature.
- Prestazioni eccellenti in alta velocità garantite dal metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour Aluminium, fibres de verre, CFRP et métaux non ferreux.***
- *Le revêtement G-TAC garantit une excellente finition grâce à une dureté élevée et un faible coefficient de frottement.*
- *Excellente Tenue de l'arête de coupe.*
- *Géométrie renforcée pour prévenir l'écaillage.*
- *Performances excellentes carbure Submicrograin (0,2 µm).*

2 | WC 미립자 | G-TAC Coating | +0 −0.01 (ø0.4~ ø5) | −0.01 −0.025 (ø6~ ø12) | 30 Helix Angle | Affilato | € List. p.157

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.4 ~ 5 | +0 ~ −0.01 mm |
| ø 6 ~ 12 | −0.01 ~ −0.025 mm |

Unità: mm

| Numero d'Ordine *Reference* | D | L1 | L | d | |
|---|---|---|---|---|---|
| 2DLE 004 008 S04 | 0.4 | 0.8 | 45 | 4 | |
| 2DLE 005 010 S04 | 0.5 | 1 | 45 | 4 | |
| 2DLE 006 012 S04 | 0.6 | 1.2 | 45 | 4 | |
| 2DLE 007 014 S04 | 0.7 | 1.4 | 45 | 4 | |
| 2DLE 008 016 S04 | 0.8 | 1.6 | 45 | 4 | |
| 2DLE 010 025 S04 | 1 | 2.5 | 45 | 4 | |
| 2DLE 010 040 S04 | 1 | 4 | 45 | 4 | |
| 2DLE 012 040 S04 | 1.2 | 4 | 45 | 4 | |
| 2DLE 015 040 S04 | 1.5 | 4 | 45 | 4 | |
| 2DLE 020 060 S04 | 2 | 6 | 45 | 4 | |
| 2DLE 020 080 S04 | 2 | 8 | 45 | 4 | |
| 2DLE 025 080 S04 | 2.5 | 8 | 50 | 4 | |
| 2DLE 030 100 S06 | 3 | 10 | 50 | 6 | |
| 2DLE 030 120 S06 | 3 | 12 | 50 | 6 | |
| 2DLE 035 100 S06 | 3.5 | 10 | 50 | 6 | |
| 2DLE 040 120 S06 | 4 | 12 | 60 | 6 | |
| 2DLE 050 150 S06 | 5 | 15 | 60 | 6 | |
| 2DLE 060 150 S06 | 6 | 15 | 60 | 6 | |
| 2DLE 060 240 S06 | 6 | 24 | 60 | 6 | |
| 2DLE 080 200 S08 | 8 | 20 | 65 | 8 | |
| 2DLE 100 250 S10 | 10 | 25 | 70 | 10 | |
| 2DLE 120 300 S12 | 12 | 30 | 80 | 12 | |

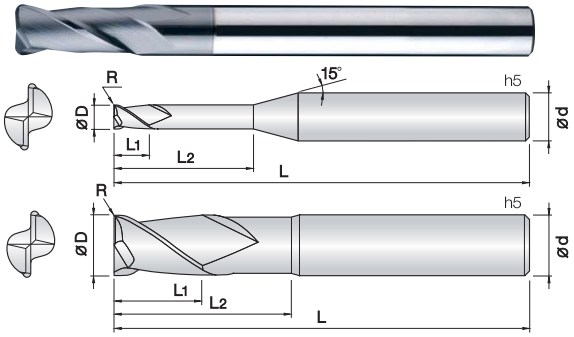
| Numero d'Ordine *Reference* | D | L1 | L | d | |
|---|---|---|---|---|---|

G-TAC

# 2DLC

*Fraise Torique 2 Coupes*

## *Fresa Torica 2 Tagli*




- **Fresa per alluminio, leghe di alluminio, rame, leghe di rame, CFRP, fibre di vetro/carbonio e materiali non ferrosi.**
- Il rivestimento Super G-TAC garantisce eccellenti finiture grazie ad una elevatissima durezza e ad un basso coefficiente di attrito.
- Elevata tolleranza del filo tagliente.
- Geometria rinforzata per prevenire scheggiature.
- Prestazioni eccellenti in alta velocità garantite dal metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour Aluminium, fibres de verre, CFRP et métaux non ferreux.***
- *Le revêtement G-TAC garantit une excellente finition grâce à une dureté élevée et un faible coefficient de frottement.*
- *Excellente Tenue de l'arête de coupe.*
- *Géométrie renforcée pour prévenir l'écaillage.*
- *Performances excellentes carbure Submicrograin (0,2 µm).*

2 | WC 미립자 | G-TAC Coating | R ±0.005 R0.1 ~ 0.5 | R ±0.01 R1 | 30° Helix Angle | € List. p.157

| d | Tolleranza/*Tolérance* |
|---|---|
| ø1 ~ 4 | +0 ~ −0.01 mm |
| ø6 ~ 12 | −0.005 ~ −0.015 mm |

Unità: mm

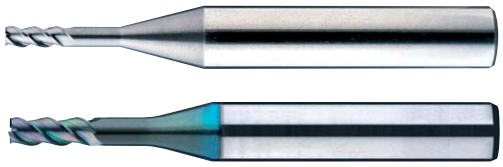
| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2DLC 010 001 040 | 1 X R0.1 | 1.5 | 4 | 45 | 4 |
| 2DLC 010 001 060 | 1 X R0.1 | 1.5 | 6 | 45 | 4 |
| 2DLC 010 001 080 | 1 X R0.1 | 1.5 | 8 | 45 | 4 |
| 2DLC 010 001 100 | 1 X R0.1 | 1.5 | 10 | 45 | 4 |
| 2DLC 010 002 040 | 1 X R0.2 | 1.5 | 4 | 45 | 4 |
| 2DLC 010 002 060 | 1 X R0.2 | 1.5 | 6 | 45 | 4 |
| 2DLC 010 002 080 | 1 X R0.2 | 1.5 | 8 | 45 | 4 |
| 2DLC 010 002 100 | 1 X R0.2 | 1.5 | 10 | 45 | 4 |
| 2DLC 015 001 060 | 1.5 X R0.1 | 2.3 | 6 | 45 | 4 |
| 2DLC 015 001 080 | 1.5 X R0.1 | 2.3 | 8 | 45 | 4 |
| 2DLC 015 001 100 | 1.5 X R0.1 | 2.3 | 10 | 45 | 4 |
| 2DLC 015 001 120 | 1.5 X R0.1 | 2.3 | 12 | 50 | 4 |
| 2DLC 015 002 060 | 1.5 X R0.2 | 2.3 | 6 | 45 | 4 |
| 2DLC 015 002 080 | 1.5 X R0.2 | 2.3 | 8 | 45 | 4 |
| 2DLC 015 002 100 | 1.5 X R0.2 | 2.3 | 10 | 45 | 4 |
| 2DLC 015 002 120 | 1.5 X R0.2 | 2.3 | 12 | 50 | 4 |
| 2DLC 020 002 080 | 2 X R0.2 | 3 | 8 | 45 | 4 |
| 2DLC 020 002 100 | 2 X R0.2 | 3 | 10 | 45 | 4 |
| 2DLC 020 002 120 | 2 X R0.2 | 3 | 12 | 50 | 4 |
| 2DLC 020 002 160 | 2 X R0.2 | 3 | 16 | 50 | 4 |
| 2DLC 020 005 080 | 2 X R0.5 | 3 | 8 | 45 | 4 |
| 2DLC 020 005 100 | 2 X R0.5 | 3 | 10 | 45 | 4 |
| 2DLC 020 005 120 | 2 X R0.5 | 3 | 12 | 50 | 4 |
| 2DLC 020 005 160 | 2 X R0.5 | 3 | 16 | 50 | 4 |
| 2DLC 030 002 100 | 3 X R0.2 | 4.5 | 10 | 50 | 6 |
| 2DLC 030 002 120 | 3 X R0.2 | 4.5 | 12 | 50 | 6 |
| 2DLC 030 002 160 | 3 X R0.2 | 4.5 | 16 | 60 | 6 |
| 2DLC 030 002 200 | 3 X R0.2 | 4.5 | 20 | 60 | 6 |
| 2DLC 030 002 250 | 3 X R0.2 | 4.5 | 25 | 65 | 6 |
| 2DLC 030 002 300 | 3 X R0.2 | 4.5 | 30 | 70 | 6 |
| 2DLC 030 003 100 | 3 X R0.3 | 4.5 | 10 | 50 | 6 |
| 2DLC 030 003 120 | 3 X R0.3 | 4.5 | 12 | 50 | 6 |
| 2DLC 030 003 160 | 3 X R0.3 | 4.5 | 16 | 60 | 6 |
| 2DLC 030 003 200 | 3 X R0.3 | 4.5 | 20 | 60 | 6 |
| 2DLC 030 003 250 | 3 X R0.3 | 4.5 | 25 | 65 | 6 |
| 2DLC 030 003 300 | 3 X R0.3 | 4.5 | 30 | 70 | 6 |
| 2DLC 030 005 100 | 3 X R0.5 | 4.5 | 10 | 50 | 6 |
| 2DLC 030 005 120 | 3 X R0.5 | 4.5 | 12 | 50 | 6 |
| 2DLC 030 005 160 | 3 X R0.5 | 4.5 | 16 | 60 | 6 |
| 2DLC 030 005 200 | 3 X R0.5 | 4.5 | 20 | 60 | 6 |
| 2DLC 030 005 250 | 3 X R0.5 | 4.5 | 25 | 65 | 6 |
| 2DLC 030 005 300 | 3 X R0.5 | 4.5 | 30 | 70 | 6 |
| 2DLC 040 002 120 | 4 X R0.2 | 6 | 12 | 50 | 6 |
| 2DLC 040 002 160 | 4 X R0.2 | 6 | 16 | 60 | 6 |
| 2DLC 040 002 200 | 4 X R0.2 | 6 | 20 | 60 | 6 |
| 2DLC 040 005 120 | 4 X R0.5 | 6 | 12 | 50 | 6 |
| 2DLC 040 005 160 | 4 X R0.5 | 6 | 16 | 60 | 6 |
| 2DLC 040 005 200 | 4 X R0.5 | 6 | 20 | 60 | 6 |
| 2DLC 040 005 250 | 4 X R0.5 | 6 | 25 | 65 | 6 |
| 2DLC 040 005 300 | 4 X R0.5 | 6 | 30 | 70 | 6 |

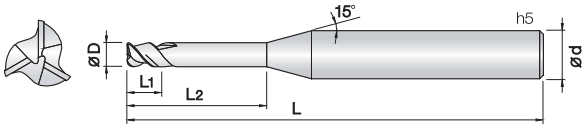
| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2DLC 040 010 120 | 4 X R1 | 6 | 12 | 50 | 6 |
| 2DLC 040 010 160 | 4 X R1 | 6 | 16 | 60 | 6 |
| 2DLC 040 010 200 | 4 X R1 | 6 | 20 | 60 | 6 |
| 2DLC 040 010 250 | 4 X R1 | 6 | 25 | 65 | 6 |
| 2DLC 040 010 300 | 4 X R1 | 6 | 30 | 70 | 6 |
| 2DLC 060 003 200 | 6 X R0.3 | 9 | 20 | 60 | 6 |
| 2DLC 060 005 200 | 6 X R0.5 | 9 | 20 | 60 | 6 |
| 2DLC 060 010 200 | 6 X R1 | 9 | 20 | 60 | 6 |
| 2DLC 080 003 250 | 8 X R0.3 | 12 | 25 | 65 | 8 |
| 2DLC 080 005 250 | 8 X R0.5 | 12 | 25 | 65 | 8 |
| 2DLC 080 010 250 | 8 X R1 | 12 | 25 | 65 | 8 |
| 2DLC 100 005 300 | 10 X R0.5 | 15 | 30 | 70 | 10 |
| 2DLC 100 010 300 | 10 X R1 | 15 | 30 | 70 | 10 |
| 2DLC 120 005 320 | 12 X R0.5 | 18 | 32 | 80 | 12 |
| 2DLC 120 010 320 | 12 X R1 | 18 | 32 | 80 | 12 |

# 3ALR

*Fraise Cylindrique 3 Coupes 45° pour Aluminium*

## *Fresa Cilindrica 3 Tagli 45° per Alluminio*






- **Fresa per alluminio, leghe di alluminio e materiali non ferrosi.**
- Materiale Ultra Micrograna (0,2 µm) per finiture eccellenti.
- Tagliente corto a 45° ribassato per varie operazioni.
- Ridotto incollamento del truciolo grazie alla geometria specifica.
- Prestazioni eccellenti in alta velocità garantite dal metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour Aluminium, alliage d'aluminium et métaux non ferreux.***
- *Carbure Submicrograin (0,2 µm) pour une finition excellente.*
- *Longeure du coupeau réduite pour satisfaire les usinages exigents.*
- *Réduction du collage des copeaux grâce à la géométrie spéciale.*
- *Performance excellentes à vitesse de coupe élevée.*
- *Carbure Submicrograin 0,2 µm.*

ø0.8~ø12 Rinforzato List. p.158

| d | Tolleranza/*Tolérance* |
|---|---|
| ø0.8 ~ 12 | +0 ~ −0.01 mm |

Unità: mm

| | Numero d'Ordine *Reference* NON rivestito/Non Revêtue | Rivestito R-TAC/Revêtue R-TAC | D | L1 | L2 | L | d |
|---|---|---|---|---|---|---|---|
| | 3ALR 008 016 S04 | 3ALRC 008 016 S04 | 0.8 | 1.6 | - | 50 | 4 |
| | 3ALR 008 030 S04 | 3ALRC 008 030 S04 | 0.8 | 1.6 | 3 | 50 | 4 |
| | 3ALR 008 040 S04 | 3ALRC 008 040 S04 | 0.8 | 1.6 | 4 | 50 | 4 |
| | 3ALR 008 050 S04 | 3ALRC 008 050 S04 | 0.8 | 1.6 | 5 | 50 | 4 |
| | 3ALR 008 060 S04 | 3ALRC 008 060 S04 | 0.8 | 1.6 | 6 | 50 | 4 |
| | 3ALR 008 080 S04 | 3ALRC 008 080 S04 | 0.8 | 1.6 | 8 | 50 | 4 |
| | 3ALR 008 100 S04 | 3ALRC 008 010 S04 | 0.8 | 1.6 | 10 | 50 | 4 |
| | 3ALR 008 120 S04 | 3ALRC 008 012 S04 | 0.8 | 1.6 | 12 | 50 | 4 |
| | 3ALR 010 020 S06 | 3ALRC 010 020 S06 | 1 | 2 | - | 60 | 6 |
| | 3ALR 010 040 S06 | 3ALRC 010 040 S06 | 1 | 2 | 4 | 60 | 6 |
| | 3ALR 010 060 S06 | 3ALRC 010 060 S06 | 1 | 2 | 6 | 60 | 6 |
| | 3ALR 010 080 S06 | 3ALRC 010 080 S06 | 1 | 2 | 8 | 60 | 6 |
| | 3ALR 010 100 S06 | 3ALRC 010 100 S06 | 1 | 2 | 10 | 60 | 6 |
| | 3ALR 010 120 S06 | 3ALRC 010 120 S06 | 1 | 2 | 12 | 60 | 6 |
| | 3ALR 010 140 S06 | 3ALRC 010 140 S06 | 1 | 2 | 14 | 60 | 6 |
| | 3ALR 010 160 S06 | 3ALRC 010 160 S06 | 1 | 2 | 16 | 60 | 6 |
| New | 3ALR 010 180 S06 | | 1 | 2 | 18 | 60 | 6 |
| New | 3ALR 010 200 S06 | | 1 | 2 | 20 | 60 | 6 |
| | 3ALR 015 030 S06 | 3ALRC 015 030 S06 | 1.5 | 3 | - | 60 | 6 |
| | 3ALR 015 060 S06 | 3ALRC 015 060 S06 | 1.5 | 3 | 6 | 60 | 6 |
| | 3ALR 015 080 S06 | 3ALRC 015 080 S06 | 1.5 | 3 | 8 | 60 | 6 |
| | 3ALR 015 100 S06 | 3ALRC 015 100 S06 | 1.5 | 3 | 10 | 60 | 6 |
| | 3ALR 015 120 S06 | 3ALRC 015 120 S06 | 1.5 | 3 | 12 | 60 | 6 |
| | 3ALR 015 140 S06 | 3ALRC 015 140 S06 | 1.5 | 3 | 14 | 60 | 6 |
| | 3ALR 015 160 S06 | 3ALRC 015 160 S06 | 1.5 | 3 | 16 | 60 | 6 |
| | 3ALR 015 180 S06 | 3ALRC 015 180 S06 | 1.5 | 3 | 18 | 60 | 6 |
| | 3ALR 015 200 S06 | 3ALRC 015 200 S06 | 1.5 | 3 | 20 | 60 | 6 |
| New | 3ALR 015 220 S06 | | 1.5 | 3 | 22 | 65 | 6 |
| New | 3ALR 015 250 S06 | | 1.5 | 3 | 25 | 65 | 6 |
| | 3ALR 020 040 S06 | 3ALRC 020 040 S06 | 2 | 4 | - | 60 | 6 |
| | 3ALR 020 080 S06 | 3ALRC 020 080 S06 | 2 | 4 | 8 | 60 | 6 |
| | 3ALR 020 100 S06 | 3ALRC 020 100 S06 | 2 | 4 | 10 | 60 | 6 |
| | 3ALR 020 120 S06 | 3ALRC 020 120 S06 | 2 | 4 | 12 | 60 | 6 |
| | 3ALR 020 140 S06 | 3ALRC 020 140 S06 | 2 | 4 | 14 | 60 | 6 |
| | 3ALR 020 160 S06 | 3ALRC 020 160 S06 | 2 | 4 | 16 | 60 | 6 |
| | 3ALR 020 200 S06 | 3ALRC 020 200 S06 | 2 | 4 | 20 | 60 | 6 |
| | 3ALR 020 220 S06 | 3ALRC 020 220 S06 | 2 | 4 | 22 | 60 | 6 |
| | 3ALR 020 250 S06 | 3ALRC 020 250 S06 | 2 | 4 | 25 | 65 | 6 |
| New | 3ALR 020 280 S06 | | 2 | 4 | 28 | 70 | 6 |
| New | 3ALR 020 300 S06 | | 2 | 4 | 30 | 70 | 6 |
| | 3ALR 025 050 S06 | 3ALRC 025 050 S06 | 2.5 | 5 | - | 60 | 6 |
| | 3ALR 025 100 S06 | 3ALRC 025 100 S06 | 2.5 | 5 | 10 | 60 | 6 |
| | 3ALR 025 150 S06 | 3ALRC 025 150 S06 | 2.5 | 5 | 15 | 60 | 6 |
| | 3ALR 025 200 S06 | 3ALRC 025 200 S06 | 2.5 | 5 | 20 | 60 | 6 |
| | 3ALR 025 250 S06 | 3ALRC 025 250 S06 | 2.5 | 5 | 25 | 65 | 6 |
| | 3ALR 025 300 S06 | 3ALRC 025 300 S06 | 2.5 | 5 | 30 | 70 | 6 |
| New | 3ALR 025 350 S06 | | 2.5 | 5 | 35 | 80 | 6 |
| New | 3ALR 025 400 S06 | | 2.5 | 5 | 40 | 90 | 6 |
| | 3ALR 030 060 S06 | 3ALRC 030 060 S06 | 3 | 6 | - | 60 | 6 |
| | 3ALR 030 100 S06 | 3ALRC 030 100 S06 | 3 | 6 | 10 | 60 | 6 |

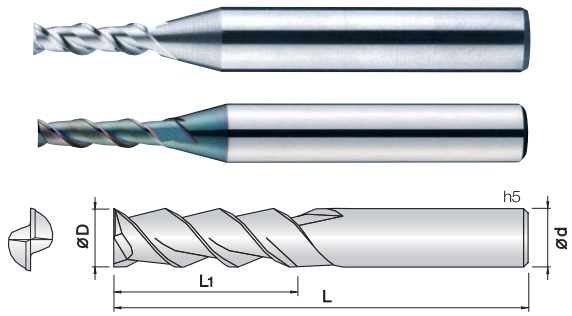
Unità: mm

| | Numero d'Ordine Reference NON rivestito/Non Revêtue | Rivestito R-TAC/Revêtue R-TAC | D | L1 | L2 | L | d |
|---|---|---|---|---|---|---|---|
| | 3ALR 030 150 S06 | 3ALRC 030 150 S06 | 3 | 6 | 15 | 60 | 6 |
| | 3ALR 030 200 S06 | 3ALRC 030 200 S06 | 3 | 6 | 20 | 70 | 6 |
| | 3ALR 030 250 S06 | 3ALRC 030 250 S06 | 3 | 6 | 25 | 70 | 6 |
| | 3ALR 030 300 S06 | 3ALRC 030 300 S06 | 3 | 6 | 30 | 80 | 6 |
| | 3ALR 030 350 S06 | 3ALRC 030 350 S06 | 3 | 6 | 35 | 80 | 6 |
| | 3ALR 030 400 S06 | 3ALRC 030 400 S06 | 3 | 6 | 40 | 90 | 6 |
| New | 3ALR 030 450 S06 | | 3 | 6 | 45 | 90 | 6 |
| New | 3ALR 030 500 S06 | | 3 | 6 | 50 | 100 | 6 |
| | 3ALR 040 080 S06 | 3ALRC 040 080 S06 | 4 | 8 | - | 70 | 6 |
| | 3ALR 040 100 S06 | 3ALRC 040 100 S06 | 4 | 8 | 10 | 70 | 6 |
| | 3ALR 040 150 S06 | 3ALRC 040 150 S06 | 4 | 8 | 15 | 70 | 6 |
| | 3ALR 040 200 S06 | 3ALRC 040 200 S06 | 4 | 8 | 20 | 70 | 6 |
| | 3ALR 040 250 S06 | 3ALRC 040 250 S06 | 4 | 8 | 25 | 70 | 6 |
| | 3ALR 040 300 S06 | 3ALRC 040 300 S06 | 4 | 8 | 30 | 80 | 6 |
| | 3ALR 040 350 S06 | 3ALRC 040 350 S06 | 4 | 8 | 35 | 80 | 6 |
| | 3ALR 040 400 S06 | 3ALRC 040 400 S06 | 4 | 8 | 40 | 90 | 6 |
| New | 3ALR 040 450 S06 | | 4 | 8 | 45 | 90 | 6 |
| New | 3ALR 040 500 S06 | | 4 | 8 | 50 | 100 | 6 |
| | 3ALR 050 100 S06 | 3ALRC 050 100 S06 | 5 | 10 | - | 80 | 6 |
| | 3ALR 050 200 S06 | 3ALRC 050 200 S06 | 5 | 10 | 20 | 80 | 6 |
| | 3ALR 050 300 S06 | 3ALRC 050 300 S06 | 5 | 10 | 30 | 80 | 6 |
| | 3ALR 050 400 S06 | 3ALRC 050 400 S06 | 5 | 10 | 40 | 90 | 6 |
| | 3ALR 050 500 S06 | 3ALRC 050 500 S06 | 5 | 10 | 50 | 100 | 6 |
| New | 3ALR 050 600 S06 | | 5 | 10 | 60 | 110 | 6 |
| | 3ALR 060 200 S06 | 3ALRC 060 200 S06 | 6 | 12 | 20 | 80 | 6 |
| | 3ALR 060 400 S06 | 3ALRC 060 400 S06 | 6 | 12 | 40 | 80 | 6 |
| | 3ALR 060 600 110 | 3ALRC 060 600 110 | 6 | 12 | 60 | 110 | 6 |
| New | 3ALR 060 800 120 | | 6 | 12 | 80 | 120 | 6 |
| | 3ALR 080 400 S08 | 3ALRC 080 400 S08 | 8 | 16 | 40 | 100 | 8 |
| | 3ALR 080 600 110 | 3ALRC 080 600 110 | 8 | 16 | 60 | 110 | 8 |
| New | 3ALR 080 800 120 | | 8 | 16 | 80 | 120 | 8 |
| | 3ALR 100 500 S10 | 3ALRC 100 500 S10 | 10 | 20 | 50 | 110 | 10 |
| | 3ALR 100 700 120 | 3ALRC 100 700 120 | 10 | 20 | 70 | 120 | 10 |
| New | 3ALR 100 900 150 | | 10 | 20 | 90 | 150 | 10 |
| | 3ALR 120 500 S12 | 3ALRC 120 500 S12 | 12 | 24 | 50 | 110 | 12 |
| | 3ALR 120 700 130 | 3ALRC 120 700 130 | 12 | 24 | 70 | 130 | 12 |
| New | 3ALR 120 900 150 | | 12 | 24 | 90 | 150 | 12 |
| New | 3ALR 140 600 110 | | 14 | 28 | 60 | 110 | 14 |
| New | 3ALR 140 800 120 | | 14 | 28 | 80 | 120 | 14 |
| New | 3ALR 160 800 130 | | 16 | 32 | 80 | 130 | 16 |
| New | 3ALR 160 1000 160 | | 16 | 32 | 100 | 160 | 16 |
| New | 3ALR 200 800 130 | | 20 | 40 | 80 | 130 | 20 |
| New | 3ALR 200 1200 160 | | 20 | 40 | 120 | 160 | 20 |
| New | 3ALR 200 1500 200 | | 20 | 40 | 150 | 200 | 20 |

# 2ALE

*Fraise Cylindrique 2 Coupes 45° pour Aluminium*

## *Fresa Cilindrica 2 Tagli 45° per Alluminio*




- **Fresa per alluminio, leghe di alluminio e materiali non ferrosi.**
- Materiale Ultra Micrograna (0,2 µm) per finiture eccellenti.
- Varie lunghezze di taglio per soddisfare le più svariate esigenze.
- Ridotto incollamento del truciolo grazie alla geometria specifica.
- Prestazioni eccellenti in alta velocità garantite dal metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour Aluminium, alliage d'aluminium et métaux non ferreux.***
- *Carbure Submicrograin (0,2 µm) pour une finition excellente.*
- *Longueurs différentes pour satisfaire les usinages exigents.*
- *Réduction du collage des copeaux grâce à la géométrie spéciale.*
- *Performance excellentes à vitesse de coupe élevée.*
- *Carbure Submicrograin 0,2 µm.*

2 | WC 미립자 | R TAC Coating | D +0 –0.01 ø0.5~ø20 | 45° Helix Angle | Rinforzato | € List. p.160

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.5 ~ 20 | +0 ~ −0.01 mm |

Unità: mm

| | Numero d'Ordine *Reference* NON rivestito/Non Revêtue | Rivestito R-TAC/Revêtue R-TAC | D | L1 | L | d |
|---|---|---|---|---|---|---|
| | 2ALE 005 005 S04 | 2ALEC 005 005 S04 | 0.5 | 0.5 | 40 | 4 |
| | 2ALE 005 010 S04 | 2ALEC 005 010 S04 | 0.5 | 1 | 40 | 4 |
| | 2ALE 005 015 S04 | 2ALEC 005 015 S04 | 0.5 | 1.5 | 40 | 4 |
| | 2ALE 005 020 S04 | 2ALEC 005 020 S04 | 0.5 | 2 | 40 | 4 |
| New | 2ALE 005 025 S04 | | 0.5 | 2.5 | 40 | 4 |
| New | 2ALE 005 030 S04 | | 0.5 | 3 | 40 | 4 |
| | 2ALE 006 006 S04 | 2ALEC 006 006 S04 | 0.6 | 0.6 | 40 | 4 |
| | 2ALE 006 012 S04 | 2ALEC 006 012 S04 | 0.6 | 1.2 | 40 | 4 |
| | 2ALE 006 020 S04 | 2ALEC 006 020 S04 | 0.6 | 2 | 40 | 4 |
| New | 2ALE 006 030 S04 | | 0.6 | 3 | 40 | 4 |
| New | 2ALE 006 040 S04 | | 0.6 | 4 | 40 | 4 |
| | 2ALE 007 007 S04 | 2ALEC 007 007 S04 | 0.7 | 0.7 | 40 | 4 |
| | 2ALE 007 014 S04 | 2ALEC 007 014 S04 | 0.7 | 1.4 | 40 | 4 |
| | 2ALE 007 020 S04 | 2ALEC 007 020 S04 | 0.7 | 2 | 40 | 4 |
| New | 2ALE 007 030 S04 | | 0.7 | 3 | 40 | 4 |
| New | 2ALE 007 040 S04 | | 0.7 | 4 | 40 | 4 |
| | 2ALE 008 008 S04 | 2ALEC 008 008 S04 | 0.8 | 0.8 | 40 | 4 |
| | 2ALE 008 016 S04 | 2ALEC 008 016 S04 | 0.8 | 1.6 | 40 | 4 |
| | 2ALE 008 020 S04 | 2ALEC 008 020 S04 | 0.8 | 2 | 40 | 4 |
| New | 2ALE 008 030 S04 | | 0.8 | 3 | 40 | 4 |
| New | 2ALE 008 040 S04 | | 0.8 | 4 | 40 | 4 |
| | 2ALE 009 009 S04 | 2ALEC 009 009 S04 | 0.9 | 0.9 | 40 | 4 |
| | 2ALE 009 018 S04 | 2ALEC 009 018 S04 | 0.9 | 1.8 | 40 | 4 |
| | 2ALE 009 025 S04 | 2ALEC 009 025 S04 | 0.9 | 2.5 | 40 | 4 |
| New | 2ALE 009 040 S04 | | 0.9 | 4 | 40 | 4 |
| | 2ALE 010 015 S04 | 2ALEC 010 015 S04 | 1 | 1.5 | 40 | 4 |
| | 2ALE 010 015 S06 | 2ALEC 010 015 S06 | 1 | 1.5 | 40 | 6 |
| | 2ALE 010 025 S04 | 2ALEC 010 025 S04 | 1 | 2.5 | 40 | 4 |
| | 2ALE 010 025 S06 | 2ALEC 010 025 S06 | 1 | 2.5 | 40 | 6 |
| | 2ALE 010 035 S04 | 2ALEC 010 035 S04 | 1 | 3.5 | 40 | 4 |
| | 2ALE 010 035 S06 | 2ALEC 010 035 S06 | 1 | 3.5 | 40 | 6 |
| | 2ALE 010 050 S06 | 2ALEC 010 050 S06 | 1 | 5 | 45 | 6 |
| | 2ALE 010 060 S06 | 2ALEC 010 060 S06 | 1 | 6 | 45 | 6 |
| | 2ALE 010 080 S06 | 2ALEC 010 080 S06 | 1 | 8 | 45 | 6 |
| | 2ALE 010 100 S06 | 2ALEC 010 100 S06 | 1 | 10 | 45 | 6 |
| New | 2ALE 010 120 S06 | | 1 | 12 | 45 | 6 |
| | 2ALE 012 030 S06 | 2ALEC 012 030 S06 | 1.2 | 3 | 40 | 6 |
| | 2ALE 012 040 S06 | 2ALEC 012 040 S06 | 1.2 | 4 | 40 | 6 |
| | 2ALE 012 060 S06 | 2ALEC 012 060 S06 | 1.2 | 6 | 40 | 6 |
| New | 2ALE 012 080 S06 | | 1.2 | 8 | 45 | 6 |
| New | 2ALE 012 100 S06 | | 1.2 | 10 | 45 | 6 |
| | 2ALE 015 040 S06 | 2ALEC 015 040 S06 | 1.5 | 4 | 40 | 6 |
| | 2ALE 015 060 S06 | 2ALEC 015 060 S06 | 1.5 | 6 | 40 | 6 |
| | 2ALE 015 080 S06 | 2ALEC 015 080 S06 | 1.5 | 8 | 45 | 6 |
| | 2ALE 015 100 S06 | 2ALEC 015 100 S06 | 1.5 | 10 | 50 | 6 |
| | 2ALE 015 120 S06 | 2ALEC 015 120 S06 | 1.5 | 12 | 50 | 6 |
| | 2ALE 015 150 S06 | 2ALEC 015 150 S06 | 1.5 | 15 | 55 | 6 |
| New | 2ALE 015 180 S06 | | 1.5 | 18 | 60 | 6 |
| | 2ALE 020 050 S06 | 2ALEC 020 050 S06 | 2 | 5 | 45 | 6 |
| | 2ALE 020 070 S06 | 2ALEC 020 070 S06 | 2 | 7 | 45 | 6 |

Unità: mm

| | Numero d'Ordine Reference NON rivestito/Non Revêtue | Rivestito R-TAC/Revêtue R-TAC | D | L1 | L | d |
|---|---|---|---|---|---|---|
| | 2ALE 020 100 S06 | 2ALEC 020 100 S06 | 2 | 10 | 50 | 6 |
| | 2ALE 020 120 S06 | 2ALEC 020 120 S06 | 2 | 12 | 50 | 6 |
| | 2ALE 020 140 S06 | 2ALEC 020 140 S06 | 2 | 14 | 50 | 6 |
| | 2ALE 020 160 S06 | 2ALEC 020 160 S06 | 2 | 16 | 60 | 6 |
| New | 2ALE 020 180 S06 | | 2 | 18 | 60 | 6 |
| New | 2ALE 020 200 S06 | | 2 | 20 | 60 | 6 |
| | 2ALE 025 080 S06 | 2ALEC 025 080 S06 | 2.5 | 8 | 45 | 6 |
| | 2ALE 025 120 S06 | 2ALEC 025 120 S06 | 2.5 | 12 | 50 | 6 |
| | 2ALE 025 150 S06 | 2ALEC 025 150 S06 | 2.5 | 15 | 60 | 6 |
| New | 2ALE 025 180 S06 | | 2.5 | 18 | 60 | 6 |
| New | 2ALE 025 200 S06 | | 2.5 | 20 | 60 | 6 |
| | 2ALE 030 080 S06 | 2ALEC 030 080 S06 | 3 | 8 | 45 | 6 |
| | 2ALE 030 100 S06 | 2ALEC 030 100 S06 | 3 | 10 | 45 | 6 |
| | 2ALE 030 120 S06 | 2ALEC 030 120 S06 | 3 | 12 | 50 | 6 |
| | 2ALE 030 150 S06 | 2ALEC 030 150 S06 | 3 | 15 | 50 | 6 |
| | 2ALE 030 200 S06 | 2ALEC 030 200 S06 | 3 | 20 | 60 | 6 |
| | 2ALE 030 250 S06 | 2ALEC 030 250 S06 | 3 | 25 | 65 | 6 |
| New | 2ALE 030 300 S06 | | 3 | 30 | 70 | 6 |
| | 2ALE 035 100 S06 | 2ALEC 035 100 S06 | 3.5 | 10 | 45 | 6 |
| | 2ALE 035 150 S06 | 2ALEC 035 150 S06 | 3.5 | 15 | 50 | 6 |
| New | 2ALE 035 200 S06 | | 3.5 | 20 | 60 | 6 |
| | 2ALE 040 120 S06 | 2ALEC 040 120 S06 | 4 | 12 | 50 | 6 |
| | 2ALE 040 150 S06 | 2ALEC 040 150 S06 | 4 | 15 | 55 | 6 |
| | 2ALE 040 180 S06 | 2ALEC 040 180 S06 | 4 | 18 | 55 | 6 |
| | 2ALE 040 250 S06 | 2ALEC 040 250 S06 | 4 | 25 | 65 | 6 |
| | 2ALE 040 300 S06 | 2ALEC 040 300 S06 | 4 | 30 | 70 | 6 |
| New | 2ALE 040 350 S06 | | 4 | 35 | 75 | 6 |
| New | 2ALE 040 400 S06 | | 4 | 40 | 80 | 6 |
| | 2ALE 045 120 S06 | 2ALEC 045 120 S06 | 4.5 | 12 | 50 | 6 |
| | 2ALE 045 180 S06 | 2ALEC 045 180 S06 | 4.5 | 18 | 55 | 6 |
| New | 2ALE 045 220 S06 | | 4.5 | 22 | 65 | 6 |
| New | 2ALE 045 250 S06 | | 4.5 | 25 | 70 | 6 |
| | 2ALE 050 150 S06 | 2ALEC 050 150 S06 | 5 | 15 | 50 | 6 |
| | 2ALE 050 200 S06 | 2ALEC 050 200 S06 | 5 | 20 | 60 | 6 |
| | 2ALE 050 250 S06 | 2ALEC 050 250 S06 | 5 | 25 | 65 | 6 |
| | 2ALE 050 300 S06 | 2ALEC 050 300 S06 | 5 | 30 | 70 | 6 |
| New | 2ALE 050 400 S06 | | 5 | 40 | 80 | 6 |
| | 2ALE 055 150 S06 | 2ALEC 055 150 S06 | 5.5 | 15 | 50 | 6 |
| | 2ALE 060 150 S06 | 2ALEC 060 150 S06 | 6 | 15 | 50 | 6 |
| | 2ALE 060 200 S06 | 2ALEC 060 200 S06 | 6 | 20 | 60 | 6 |
| | 2ALE 060 250 S06 | 2ALEC 060 250 S06 | 6 | 25 | 65 | 6 |
| | 2ALE 060 300 S06 | 2ALEC 060 300 S06 | 6 | 30 | 70 | 6 |
| | 2ALE 060 350 S06 | 2ALEC 060 350 S06 | 6 | 35 | 75 | 6 |
| | 2ALE 060 400 S06 | 2ALEC 060 400 S06 | 6 | 40 | 80 | 6 |
| New | 2ALE 060 450 S06 | | 6 | 45 | 90 | 6 |
| New | 2ALE 060 500 S06 | | 6 | 50 | 100 | 6 |
| | 2ALE 070 200 S08 | 2ALEC 070 200 S08 | 7 | 20 | 60 | 8 |
| | 2ALE 070 300 S08 | 2ALEC 070 300 S08 | 7 | 30 | 70 | 8 |
| | 2ALE 080 200 S08 | 2ALEC 080 200 S08 | 8 | 20 | 60 | 8 |
| | 2ALE 080 250 S08 | 2ALEC 080 250 S08 | 8 | 25 | 65 | 8 |

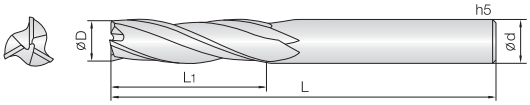
Unità: mm

| | Numero d'Ordine Reference NON rivestito/Non Revêtue | Rivestito R-TAC/Revêtue R-TAC | D | L1 | L | d |
|---|---|---|---|---|---|---|
| | 2ALE 080 300 S08 | 2ALEC 080 300 S08 | 8 | 30 | 70 | 8 |
| | 2ALE 080 400 S08 | 2ALEC 080 400 S08 | 8 | 40 | 80 | 8 |
| | 2ALE 080 450 S08 | 2ALEC 080 450 S08 | 8 | 45 | 90 | 8 |
| New | 2ALE 080 500 S08 | | 8 | 50 | 100 | 8 |
| | 2ALE 100 250 S10 | 2ALEC 100 250 S10 | 10 | 25 | 70 | 10 |
| | 2ALE 100 300 S10 | 2ALEC 100 300 S10 | 10 | 30 | 75 | 10 |
| | 2ALE 100 350 S10 | 2ALEC 100 350 S10 | 10 | 35 | 80 | 10 |
| | 2ALE 100 450 S10 | 2ALEC 100 450 S10 | 10 | 45 | 90 | 10 |
| | 2ALE 100 500 S10 | 2ALEC 100 500 S10 | 10 | 50 | 100 | 10 |
| New | 2ALE 100 600 S10 | | 10 | 60 | 110 | 10 |
| | 2ALE 120 300 S12 | 2ALEC 120 300 S12 | 12 | 30 | 75 | 12 |
| | 2ALE 120 350 S12 | 2ALEC 120 350 S12 | 12 | 35 | 80 | 12 |
| | 2ALE 120 400 S12 | 2ALEC 120 400 S12 | 12 | 40 | 90 | 12 |
| | 2ALE 120 450 S12 | 2ALEC120 450 S12 | 12 | 45 | 100 | 12 |
| | 2ALE 120 500 S12 | 2ALEC 120 500 S12 | 12 | 50 | 100 | 12 |
| | 2ALE 120 600 S12 | 2ALEC 120 600 S12 | 12 | 60 | 110 | 12 |
| New | 2ALE 120 700 S12 | | 12 | 70 | 120 | 12 |
| | 2ALE 140 300 S14 | 2ALEC 140 300 S14 | 14 | 30 | 80 | 14 |
| New | 2ALE 140 500 S14 | | 14 | 50 | 90 | 14 |
| New | 2ALE 140 600 S14 | | 14 | 60 | 110 | 14 |
| | 2ALE 160 400 S16 | 2ALEC 160 400 S16 | 16 | 40 | 90 | 16 |
| | 2ALE 160 550 S16 | 2ALEC 160 550 S16 | 16 | 55 | 110 | 16 |
| | 2ALE 160 700 S16 | 2ALEC 160 700 S16 | 16 | 70 | 120 | 16 |
| New | 2ALE 160 900 S16 | | 16 | 90 | 150 | 16 |
| | 2ALE 200 450 S20 | 2ALEC 200 450 S20 | 20 | 45 | 100 | 20 |
| | 2ALE 200 650 S20 | 2ALEC 200 650 S20 | 20 | 65 | 120 | 20 |
| | 2ALE 200 800 S20 | 2ALEC 200 800 S20 | 20 | 80 | 135 | 20 |
| New | 2ALE 200 1000 S20 | | 20 | 100 | 160 | 20 |

# 3FALE

*Fraise Cylindrique 3 Coupes 45° pour une super finition*

## *Fresa Cilindrica 3 Tagli per superfinitura*




- **Fresa per alluminio, leghe di alluminio e materiali non ferrosi.**
- La speciale geometria del tagliente con uno specifico trattamento e l'elica a 25°, permettono di ottenere finiture speculari.
- Riduzione delle scheggiature grazie all'elevato TRS e alla micrograna impegata (0,5 µm).
- ***Fraise pour Aluminium, alliage d'aluminium et métaux non ferreux.***
- *Géométrie spéciale de l'helice qui permet d'excellentes finitions.*
- *Réduction de l'ecaillage grâce au TRS carbure Submicrograin 0,5 µm.*

ø6~ ø16 Rinforzato List. p.163

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 6 ~ 16 | +0~ −0.01mm |

Unità: mm

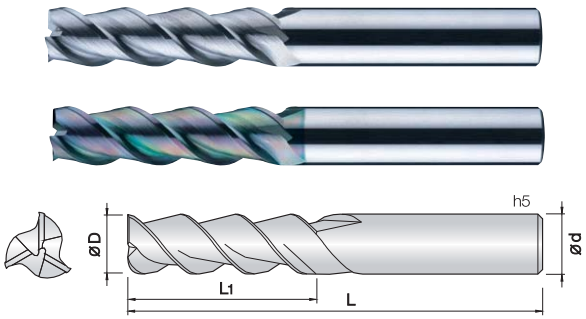
| Numero d'Ordine *Reference* | D | L1 | L | d | |
|---|---|---|---|---|---|
| 3FALE 060 170 S06 | 6 | 17 | 60 | 6 | |
| 3FALE 060 220 S06 | 6 | 22 | 65 | 6 | |
| 3FALE 080 260 S08 | 8 | 26 | 70 | 8 | |
| 3FALE 080 360 S08 | 8 | 36 | 80 | 8 | |
| 3FALE 100 310 S10 | 10 | 31 | 80 | 10 | |
| 3FALE 100 410 S10 | 10 | 41 | 90 | 10 | |
| 3FALE 120 360 S12 | 12 | 36 | 90 | 12 | |
| 3FALE 120 460 S12 | 12 | 46 | 100 | 12 | |
| 3FALE 160 460 S16 | 16 | 46 | 100 | 16 | |
| 3FALE 160 660 S16 | 16 | 66 | 120 | 16 | |

FOR ALUMINUM

# 3ALE

*Fraise Cylindrique 3 Coupes 45° pour Aluminium*

## *Fresa Cilindrica 3 Tagli 45° per Alluminio*




- **Fresa per alluminio, leghe di alluminio e materiali non ferrosi.**
- Materiale Ultra Micrograna (0,2 µm) per finiture eccellenti.
- Varie lunghezze di taglio per soddisfare le più svariate esigenze.
- Ridotto incollamento del truciolo grazie alla geometria specifica.
- Prestazioni eccellenti in alta velocità garantite dal metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour Aluminium, alliage d'aluminium et métaux non ferreux.***
- *Carbure Submicrograin (0,2 µm) pour une finition excellente.*
- *Longueurs différentes pour satisfaire les usinages exigents.*
- *Réduction du collage des copeaux grâce à la géométrie spéciale.*
- *Performance excellentes à vitesse de coupe élevée.*
- *Carbure Submicrograin 0,2 µm.*

ø1~ø20 Rinforzato List. p.163

| d | Tolleranza/*Tolérance* |
|---|---|
| ø1 ~ 20 | +0 ~ −0.01 mm |

Unità: mm

| | Numero d'Ordine *Reference* NON rivestito/*Non Revêtue* | Rivestito R-TAC/*Revêtue R-TAC* | D | L1 | L | d |
|---|---|---|---|---|---|---|
| New | 3ALE 008 012 S04 | | 0.8 | 1.2 | 40 | 4 |
| New | 3ALE 008 020 S04 | | 0.8 | 2 | 40 | 4 |
| New | 3ALE 008 030 S04 | | 0.8 | 3 | 40 | 4 |
| New | 3ALE 008 040 S04 | | 0.8 | 4 | 40 | 4 |
| | 3ALE 010 015 S06 | 3ALEC 010 015 S06 | 1 | 1.5 | 40 | 6 |
| | 3ALE 010 030 S06 | 3ALEC 010 030 S06 | 1 | 3 | 40 | 6 |
| | 3ALE 010 050 S06 | 3ALEC 010 050 S06 | 1 | 5 | 45 | 6 |
| | 3ALE 010 060 S06 | 3ALEC 010 060 S06 | 1 | 6 | 45 | 6 |
| | 3ALE 010 080 S06 | 3ALEC 010 080 S06 | 1 | 8 | 45 | 6 |
| | 3ALE 010 100 S06 | 3ALEC 010 100 S06 | 1 | 10 | 45 | 6 |
| New | 3ALE 010 120 S06 | | 1 | 12 | 50 | 6 |
| New | 3ALE 010 140 S06 | | 1 | 14 | 50 | 6 |
| | 3ALE 012 030 S06 | 3ALEC 012 030 S06 | 1.2 | 3 | 40 | 6 |
| | 3ALE 012 040 S06 | 3ALEC 012 040 S06 | 1.2 | 4 | 40 | 6 |
| | 3ALE 012 060 S06 | 3ALEC 012 060 S06 | 1.2 | 6 | 45 | 6 |
| New | 3ALE 012 080 S06 | | 1.2 | 8 | 45 | 6 |
| New | 3ALE 012 100 S06 | | 1.2 | 10 | 45 | 6 |
| New | 3ALE 012 120 S06 | | 1.2 | 12 | 50 | 6 |
| | 3ALE 015 025 S06 | 3ALEC 015 025 S06 | 1.5 | 2.5 | 40 | 6 |
| | 3ALE 015 040 S06 | 3ALEC 015 040 S06 | 1.5 | 4 | 40 | 6 |
| | 3ALE 015 060 S06 | 3ALEC 015 060 S06 | 1.5 | 6 | 45 | 6 |
| | 3ALE 015 080 S06 | 3ALEC 015 080 S06 | 1.5 | 8 | 45 | 6 |
| | 3ALE 015 100 S06 | 3ALEC 015 100 S06 | 1.5 | 10 | 50 | 6 |
| | 3ALE 015 120 S06 | 3ALEC 015 120 S06 | 1.5 | 12 | 50 | 6 |
| | 3ALE 015 150 S06 | 3ALEC 015 150 S06 | 1.5 | 15 | 50 | 6 |
| New | 3ALE 015 180 S06 | | 1.5 | 18 | 60 | 6 |
| New | 3ALE 015 200 S06 | | 1.5 | 20 | 60 | 6 |
| | 3ALE 020 030 S06 | 3ALEC 020 030 S06 | 2 | 3 | 45 | 6 |
| | 3ALE 020 050 S06 | 3ALEC 020 050 S06 | 2 | 5 | 45 | 6 |
| | 3ALE 020 070 S06 | 3ALEC 020 070 S06 | 2 | 7 | 45 | 6 |
| | 3ALE 020 100 S06 | 3ALEC 020 100 S06 | 2 | 10 | 50 | 6 |
| | 3ALE 020 120 S06 | 3ALEC 020 120 S06 | 2 | 12 | 50 | 6 |
| | 3ALE 020 140 S06 | 3ALEC 020 140 S06 | 2 | 14 | 60 | 6 |
| | 3ALE 020 160 S06 | 3ALEC 020 160 S06 | 2 | 16 | 60 | 6 |
| | 3ALE 020 180 S06 | 3ALEC 020 180 S06 | 2 | 18 | 60 | 6 |
| | 3ALE 020 200 S06 | 3ALEC 020 200 S06 | 2 | 20 | 60 | 6 |
| New | 3ALE 020 220 S06 | | 2 | 22 | 60 | 6 |
| New | 3ALE 020 250 S06 | | 2 | 25 | 65 | 6 |
| | 3ALE 025 040 S06 | 3ALEC 025 040 S06 | 2.5 | 4 | 45 | 6 |
| | 3ALE 025 080 S06 | 3ALEC 025 080 S06 | 2.5 | 8 | 45 | 6 |
| | 3ALE 025 120 S06 | 3ALEC 025 120 S06 | 2.5 | 12 | 50 | 6 |
| | 3ALE 025 150 S06 | 3ALEC 025 150 S06 | 2.5 | 15 | 60 | 6 |
| New | 3ALE 025 200 S06 | | 2.5 | 20 | 60 | 6 |
| New | 3ALE 025 250 S06 | | 2.5 | 25 | 65 | 6 |
| | 3ALE 030 045 S06 | 3ALEC 030 045 S06 | 3 | 4.5 | 45 | 6 |
| | 3ALE 030 080 S06 | 3ALEC 030 080 S06 | 3 | 8 | 45 | 6 |
| | 3ALE 030 120 S06 | 3ALEC 030 120 S06 | 3 | 12 | 50 | 6 |
| | 3ALE 030 150 S06 | 3ALEC 030 150 S06 | 3 | 15 | 50 | 6 |
| | 3ALE 030 200 S06 | 3ALEC 030 200 S06 | 3 | 20 | 55 | 6 |
| | 3ALE 030 250 S06 | 3ALEC 030 250 S06 | 3 | 25 | 60 | 6 |

Unità: mm

| | Numero d'Ordine Reference NON rivestito/Non Revêtue | Rivestito R-TAC/Revêtue R-TAC | D | L1 | L | d |
|---|---|---|---|---|---|---|
| | 3ALE 030 300 S06 | 3ALEC 030 300 S06 | 3 | 30 | 65 | 6 |
| New | 3ALE 030 350 S06 | | 3 | 35 | 75 | 6 |
| New | 3ALE 030 400 S06 | | 3 | 40 | 80 | 6 |
| | 3ALE 035 055 S06 | 3ALEC 035 055 S06 | 3.5 | 5.5 | 45 | 6 |
| | 3ALE 035 100 S06 | 3ALEC 035 100 S06 | 3.5 | 10 | 45 | 6 |
| | 3ALE 035 150 S06 | 3ALEC 035 150 S06 | 3.5 | 15 | 50 | 6 |
| | 3ALE 035 200 S06 | 3ALEC 035 200 S06 | 3.5 | 20 | 55 | 6 |
| | 3ALE 035 250 S06 | 3ALEC 035 250 S06 | 3.5 | 25 | 60 | 6 |
| | 3ALE 035 300 S06 | 3ALEC 035 300 S06 | 3.5 | 30 | 65 | 6 |
| New | 3ALE 035 350 S06 | | 3.5 | 35 | 75 | 6 |
| | 3ALE 040 060 S06 | 3ALEC 040 060 S06 | 4 | 6 | 45 | 6 |
| | 3ALE 040 110 S06 | 3ALEC 040 110 S06 | 4 | 11 | 45 | 6 |
| | 3ALE 040 160 S06 | 3ALEC 040 160 S06 | 4 | 16 | 50 | 6 |
| | 3ALE 040 200 S06 | 3ALEC 040 200 S06 | 4 | 20 | 55 | 6 |
| | 3ALE 040 250 S06 | 3ALEC 040 250 S06 | 4 | 25 | 60 | 6 |
| | 3ALE 040 300 S06 | 3ALEC 040 300 S06 | 4 | 30 | 65 | 6 |
| New | 3ALE 040 350 S06 | | 4 | 35 | 75 | 6 |
| New | 3ALE 040 400 S06 | | 4 | 40 | 80 | 6 |
| | 3ALE 045 120 S06 | 3ALEC 045 120 S06 | 4.5 | 12 | 50 | 6 |
| | 3ALE 045 180 S06 | 3ALEC 045 180 S06 | 4.5 | 18 | 55 | 6 |
| | 3ALE 045 250 S06 | 3ALEC 045 250 S06 | 4.5 | 25 | 60 | 6 |
| | 3ALE 045 300 S06 | 3ALEC 045 300 S06 | 4.5 | 30 | 65 | 6 |
| | 3ALE 050 075 S06 | 3ALEC 050 075 S06 | 5 | 7.5 | 50 | 6 |
| | 3ALE 050 130 S06 | 3ALEC 050 130 S06 | 5 | 13 | 50 | 6 |
| | 3ALE 050 200 S06 | 3ALEC 050 200 S06 | 5 | 20 | 55 | 6 |
| | 3ALE 050 250 S06 | 3ALEC 050 250 S06 | 5 | 25 | 60 | 6 |
| | 3ALE 050 300 S06 | 3ALEC 050 300 S06 | 5 | 30 | 65 | 6 |
| | 3ALE 050 350 S06 | 3ALEC 050 350 S06 | 5 | 35 | 70 | 6 |
| | 3ALE 050 400 S06 | 3ALEC 050 400 S06 | 5 | 40 | 75 | 6 |
| New | 3ALE 050 450 S06 | | 5 | 45 | 80 | 6 |
| | 3ALE 055 150 S06 | 3ALEC 055 150 S06 | 5.5 | 15 | 50 | 6 |
| | 3ALE 055 200 S06 | 3ALEC 055 200 S06 | 5.5 | 20 | 55 | 6 |
| | 3ALE 055 250 S06 | 3ALEC 055 250 S06 | 5.5 | 25 | 60 | 6 |
| | 3ALE 060 090 050 | 3ALEC 060 090 050 | 6 | 9 | 50 | 6 |
| | 3ALE 060 150 050 | 3ALEC 060 150 050 | 6 | 15 | 50 | 6 |
| | 3ALE 060 200 055 | 3ALEC 060 200 055 | 6 | 20 | 55 | 6 |
| | 3ALE 060 250 060 | 3ALEC 060 250 060 | 6 | 25 | 60 | 6 |
| | 3ALE 060 300 070 | 3ALEC 060 300 070 | 6 | 30 | 70 | 6 |
| | 3ALE 060 350 070 | 3ALEC 060 350 070 | 6 | 35 | 70 | 6 |
| | 3ALE 060 400 075 | 3ALEC 060 400 075 | 6 | 40 | 75 | 6 |
| | 3ALE 060 450 080 | 3ALEC 060 450 080 | 6 | 45 | 80 | 6 |
| | 3ALE 060 500 090 | 3ALEC 060 500 090 | 6 | 50 | 90 | 6 |
| | 3ALE 070 200 060 | 3ALEC 070 200 060 | 7 | 20 | 60 | 8 |
| | 3ALE 070 300 075 | 3ALEC 070 300 075 | 7 | 30 | 75 | 8 |
| | 3ALE 070 400 090 | 3ALEC 070 400 090 | 7 | 40 | 90 | 8 |
| | 3ALE 080 120 060 | 3ALEC 080 120 060 | 8 | 12 | 60 | 8 |
| | 3ALE 080 200 060 | 3ALEC 080 200 060 | 8 | 20 | 60 | 8 |
| | 3ALE 080 250 065 | 3ALEC 080 250 065 | 8 | 25 | 65 | 8 |
| | 3ALE 080 300 070 | 3ALEC 080 300 070 | 8 | 30 | 70 | 8 |
| | 3ALE 080 350 075 | 3ALEC 080 350 075 | 8 | 35 | 75 | 8 |

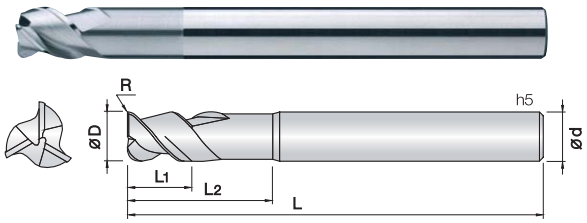
Unità: mm

| Numero d'Ordine Reference NON rivestito/Non Revêtue | Rivestito R-TAC/Revêtue R-TAC | D | L1 | L | d |
|---|---|---|---|---|---|
| 3ALE 080 400 080 | 3ALEC 080 400 080 | 8 | 40 | 80 | 8 |
| 3ALE 080 450 090 | 3ALEC 080 450 090 | 8 | 45 | 90 | 8 |
| 3ALE 080 500 090 | 3ALEC 080 500 090 | 8 | 50 | 90 | 8 |
| 3ALE 080 550 100 | 3ALEC 080 550 100 | 8 | 55 | 100 | 8 |
| 3ALE 080 600 110 | 3ALEC 080 600 110 | 8 | 60 | 110 | 8 |
| 3ALE 080 700 120 | 3ALEC 080 700 120 | 8 | 70 | 120 | 8 |
| 3ALE 100 150 070 | 3ALEC 100 150 070 | 10 | 15 | 70 | 10 |
| 3ALE 100 250 070 | 3ALEC 100 250 070 | 10 | 25 | 70 | 10 |
| 3ALE 100 300 075 | 3ALEC 100 300 075 | 10 | 30 | 75 | 10 |
| 3ALE 100 350 080 | 3ALEC 100 350 080 | 10 | 35 | 80 | 10 |
| 3ALE 100 400 090 | 3ALEC 100 400 090 | 10 | 40 | 90 | 10 |
| 3ALE 100 450 090 | 3ALEC 100 450 090 | 10 | 45 | 90 | 10 |
| 3ALE 100 500 100 | 3ALEC 100 500 100 | 10 | 50 | 100 | 10 |
| 3ALE 100 550 100 | 3ALEC 100 550 100 | 10 | 55 | 100 | 10 |
| 3ALE 100 600 110 | 3ALEC 100 600 110 | 10 | 60 | 110 | 10 |
| 3ALE 100 650 110 | 3ALEC 100 650 110 | 10 | 65 | 110 | 10 |
| 3ALE 100 700 120 | 3ALEC 100 700 120 | 10 | 70 | 120 | 10 |
| 3ALE 100 800 130 | 3ALEC 100 800 130 | 10 | 80 | 130 | 10 |
| 3ALE 120 180 075 | 3ALEC 120 180 075 | 12 | 18 | 75 | 12 |
| 3ALE 120 260 075 | 3ALEC 120 260 075 | 12 | 26 | 75 | 12 |
| 3ALE 120 350 080 | 3ALEC 120 350 080 | 12 | 35 | 80 | 12 |
| 3ALE 120 400 090 | 3ALEC 120 400 090 | 12 | 40 | 90 | 12 |
| 3ALE 120 450 090 | 3ALEC 120 450 090 | 12 | 45 | 90 | 12 |
| 3ALE 120 500 100 | 3ALEC 120 500 100 | 12 | 50 | 100 | 12 |
| 3ALE 120 550 100 | 3ALEC 120 550 100 | 12 | 55 | 100 | 12 |
| 3ALE 120 650 110 | 3ALEC 120 650 110 | 12 | 65 | 110 | 12 |
| 3ALE 120 700 120 | 3ALEC 120 700 120 | 12 | 70 | 120 | 12 |
| 3ALE 120 800 130 | 3ALEC 120 800 130 | 12 | 80 | 130 | 12 |
| 3ALE 140 300 080 | 3ALEC 140 300 080 | 14 | 30 | 80 | 14 |
| 3ALE 140 450 110 | 3ALEC 140 450 110 | 14 | 45 | 110 | 14 |
| 3ALE 140 600 120 | | 14 | 60 | 120 | 14 |
| 3ALE 160 300 090 | 3ALEC 160 300 090 | 16 | 30 | 90 | 16 |
| 3ALE 160 500 110 | 3ALEC 160 500 110 | 16 | 50 | 110 | 16 |
| 3ALE 160 650 120 | 3ALEC 160 650 120 | 16 | 65 | 120 | 16 |
| 3ALE 160 800 130 | 3ALEC 160 800 130 | 16 | 80 | 130 | 16 |
| 3ALE 160 1000 160 | 3ALEC 160 1000 160 | 16 | 100 | 160 | 16 |
| 3ALE 200 500 100 | 3ALEC 200 500 100 | 20 | 50 | 100 | 20 |
| 3ALE 200 750 130 | 3ALEC 200 750 130 | 20 | 75 | 130 | 20 |
| 3ALE 200 1000 160 | 3ALEC 200 1000 160 | 20 | 100 | 160 | 20 |
| 3ALE 200 1300 200 | 3ALEC 200 1300 200 | 20 | 130 | 200 | 20 |
| 3ALE 200 1500 220 | 3ALEC 200 1500 220 | 20 | 150 | 220 | 20 |

# 3ALC

*Fraise Cylindrique 3 Coupes 45° pour Aluminium*

## *Fresa Cilindrica 3 Tagli 45° per Alluminio*




- **Fresa per alluminio, leghe di alluminio e materiali non ferrosi.**
- Materiale Ultra Micrograna (0,2 µm) per finiture eccellenti.
- Tagliente corto a 45° ribassato per varie operazioni.
- Ridotto incollamento del truciolo grazie alla geometria specifica.
- Prestazioni eccellenti in alta velocità garantite dal metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour Aluminium, alliage d'aluminium et métaux non ferreux.***
- *Carbure Submicrograin (0,2 µm) pour une finition excellente.*
- *Longeure du coupeau réduit pour satisfaire les usinages exigents.*
- *Réduction du collage des copeaux grâce à la géométrie spéciale.*
- *Performance excellentes à vitesse de coupe élevée.*
- *Carbure Submicrograin 0,2 µm.*

3 | WC 미립자 | R TAC Coating | R ±0.005 (R0.5) | R ±0.01 (R1 ~ 1.5) | R ±0.015 (R2 ~ 5) | 45° Helix Angle | € List. p.167

| d | Tolleranza/*Tolérance* |
|---|---|
| ø6 ~ 20 | +0 ~ −0.015 mm |

Unità: mm

| | Numero d'Ordine *Reference* NON rivestito/Non Revêtue | | Rivestito R-TAC/Revêtue R-TAC | D X R | L1 | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| New | 3ALC 030 005 050 | New | 3ALCC 030 005 050 | 3 X R0.5 | 10 | - | 50 | 6 |
| New | 3ALC 030 005 060 | New | 3ALCC 030 005 060 | 3 X R0.5 | 10 | 15 | 60 | 6 |
| New | 3ALC 030 010 050 | New | 3ALCC 030 010 050 | 3 X R1 | 10 | - | 50 | 6 |
| New | 3ALC 030 010 060 | New | 3ALCC 030 010 060 | 3 X R1 | 10 | 15 | 60 | 6 |
| New | 3ALC 040 005 050 | New | 3ALCC 040 005 050 | 4 X R0.5 | 12 | - | 50 | 6 |
| New | 3ALC 040 005 060 | New | 3ALCC 040 005 060 | 4 X R0.5 | 12 | 20 | 60 | 6 |
| New | 3ALC 040 010 050 | New | 3ALCC 040 010 050 | 4 X R1 | 12 | - | 50 | 6 |
| New | 3ALC 040 010 060 | New | 3ALCC 040 010 060 | 4 X R1 | 12 | 20 | 60 | 6 |
| New | 3ALC 050 005 050 | New | 3ALCC 050 005 050 | 5 X R0.5 | 15 | - | 50 | 6 |
| New | 3ALC 050 005 060 | New | 3ALCC 050 005 060 | 5 X R0.5 | 15 | 20 | 60 | 6 |
| New | 3ALC 050 010 050 | New | 3ALCC 050 010 050 | 5 X R1 | 15 | - | 50 | 6 |
| New | 3ALC 050 010 060 | New | 3ALCC 050 010 060 | 5 X R1 | 15 | 20 | 60 | 6 |
| | 3ALC 060 005 050 | | 3ALCC 060 005 050 | 6 X R0.5 | 15 | - | 50 | 6 |
| | 3ALC 060 005 070 | | 3ALCC 060 005 070 | 6 X R0.5 | 7 | 20 | 70 | 6 |
| | 3ALC 060 010 050 | | 3ALCC 060 010 050 | 6 X R1 | 15 | - | 50 | 6 |
| | 3ALC 060 010 070 | | 3ALCC 060 010 070 | 6 X R1 | 7 | 20 | 70 | 6 |
| | 3ALC 080 005 060 | | 3ALCC 080 005 060 | 8 X R0.5 | 20 | - | 60 | 8 |
| | 3ALC 080 005 080 | | 3ALCC 080 005 080 | 8 X R0.5 | 9 | 25 | 80 | 8 |
| | 3ALC 080 010 060 | | 3ALCC 080 010 060 | 8 X R1 | 20 | - | 60 | 8 |
| | 3ALC 080 010 080 | | 3ALCC 080 010 080 | 8 X R1 | 9 | 25 | 80 | 8 |
| | 3ALC 080 020 060 | | 3ALCC 080 020 060 | 8 X R2 | 20 | - | 60 | 8 |
| | 3ALC 080 020 080 | | 3ALCC 080 020 080 | 8 X R2 | 9 | 25 | 80 | 8 |
| | 3ALC 080 025 080 | | 3ALCC 080 025 080 | 8 X R2.5 | 9 | 25 | 80 | 8 |
| | 3ALC 100 005 070 | | 3ALCC 100 005 070 | 10 X R0.5 | 25 | - | 70 | 10 |
| | 3ALC 100 005 100 | | 3ALCC 100 005 100 | 10 X R0.5 | 11 | 30 | 100 | 10 |
| | 3ALC 100 010 070 | | 3ALCC 100 010 070 | 10 X R1 | 25 | - | 70 | 10 |
| | 3ALC 100 010 100 | | 3ALCC 100 010 100 | 10 X R1 | 11 | 30 | 100 | 10 |
| | 3ALC 100 015 070 | | 3ALCC 100 015 070 | 10 X R1.5 | 25 | - | 70 | 10 |
| | 3ALC 100 015 100 | | 3ALCC 100 015 100 | 10 X R1.5 | 11 | 30 | 100 | 10 |
| | 3ALC 100 020 070 | | 3ALCC 100 020 070 | 10 X R2 | 25 | - | 70 | 10 |
| | 3ALC 100 020 100 | | 3ALCC 100 020 100 | 10 X R2 | 11 | 30 | 100 | 10 |
| | 3ALC 100 025 100 | | 3ALCC 100 025 100 | 10 X R2.5 | 11 | 30 | 100 | 10 |
| | 3ALC 120 005 075 | | 3ALCC 120 005 075 | 12 X R0.5 | 30 | - | 75 | 12 |
| | 3ALC 120 005 110 | | 3ALCC 120 005 110 | 12 X R0.5 | 13 | 36 | 110 | 12 |
| | 3ALC 120 010 075 | | 3ALCC 120 010 075 | 12 X R1 | 30 | - | 75 | 12 |
| | 3ALC 120 010 110 | | 3ALCC 120 010 110 | 12 X R1 | 13 | 36 | 110 | 12 |
| New | 3ALC 120 015 075 | New | 3ALCC 120 015 075 | 12 X R1.5 | 30 | - | 75 | 12 |
| | 3ALC 120 015 110 | | 3ALCC 120 015 110 | 12 X R1.5 | 13 | 36 | 110 | 12 |
| | 3ALC 120 020 075 | | 3ALCC 120 020 075 | 12 X R2 | 30 | - | 75 | 12 |
| | 3ALC 120 020 110 | | 3ALCC 120 020 110 | 12 X R2 | 13 | 36 | 110 | 12 |
| | 3ALC 120 025 110 | | 3ALCC 120 025 110 | 12 X R2.5 | 13 | 36 | 110 | 12 |
| | 3ALC 120 030 075 | | 3ALCC 120 030 075 | 12 X R3 | 30 | - | 75 | 12 |
| | 3ALC 120 030 110 | | 3ALCC 120 030 110 | 12 X R3 | 13 | 36 | 110 | 12 |
| | 3ALC 120 040 075 | | 3ALCC 120 040 075 | 12 X R4 | 30 | - | 75 | 12 |
| | 3ALC 120 040 110 | | 3ALCC 120 040 110 | 12 X R4 | 13 | 36 | 110 | 12 |
| | 3ALC 160 005 130 | | 3ALCC 160 005 130 | 16 X R0.5 | 17 | 50 | 130 | 16 |
| | 3ALC 160 010 090 | | 3ALCC 160 010 090 | 16 X R1 | 35 | - | 90 | 16 |
| | 3ALC 160 010 130 | | 3ALCC 160 010 130 | 16 X R1 | 17 | 50 | 130 | 16 |
| | 3ALC 160 020 090 | | 3ALCC 160 020 090 | 16 X R2 | 35 | - | 90 | 16 |
| | 3ALC 160 020 130 | | 3ALCC 160 020 130 | 16 X R2 | 17 | 50 | 130 | 16 |

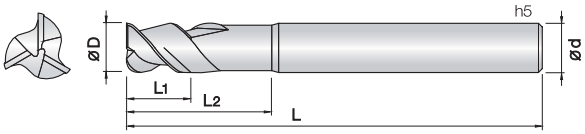
Unità: mm

| Numero d'Ordine Reference NON rivestito/Non Revêtue | Rivestito R-TAC/Revêtue R-TAC | D X R | L1 | L2 | L | d |
|---|---|---|---|---|---|---|
| 3ALC 160 025 130 | 3ALCC 160 025 130 | 16 X R2.5 | 17 | 50 | 130 | 16 |
| 3ALC 160 030 090 | 3ALCC 160 030 090 | 16 X R3 | 35 | - | 90 | 16 |
| 3ALC 160 030 130 | 3ALCC 160 030 130 | 16 X R3 | 17 | 50 | 130 | 16 |
| 3ALC 160 040 090 | 3ALCC 160 040 090 | 16 X R4 | 35 | - | 90 | 16 |
| 3ALC 160 040 130 | 3ALCC 160 040 130 | 16 X R4 | 17 | 50 | 130 | 16 |
| 3ALC 160 050 090 | 3ALCC 160 050 090 | 16 X R5 | 35 | - | 90 | 16 |
| 3ALC 200 010 150 | 3ALCC 200 010 150 | 20 X R1 | 21 | 60 | 150 | 20 |
| 3ALC 200 020 150 | 3ALCC 200 020 150 | 20 X R2 | 21 | 60 | 150 | 20 |
| 3ALC 200 025 150 | 3ALCC 200 025 150 | 20 X R2.5 | 21 | 60 | 150 | 20 |
| 3ALC 200 030 150 | 3ALCC 200 030 150 | 20 X R3 | 21 | 60 | 150 | 20 |
| 3ALC 200 040 150 | 3ALCC 200 040 150 | 20 X R4 | 21 | 60 | 150 | 20 |

# 3ARE

*Fraise Cylindrique 3 Coupes 45° pour Ebauche pour Aluminium*

## *Fresa Cilindrica 3 Tagli 45° a sgrossare per Alluminio*




- **Fresa per sgrossatura e semi finitura in alta velocità su alluminio, leghe di alluminio e materiali non ferrosi.**
- Il rivestimento J-CRO migliora la resistenza all'usura, riduce lo sforzo nel taglio in varie applicazioni.
- Buona rugosità superficiale a differenza delle frese concorrenti.
- Ridotto incollamento del truciolo grazie alla geometria specifica.
- Riduzione di scheggiature ad alti avanzamenti garantite dal metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise ébauche, haute vitesse pour Aluminium, alliage d'aluminium et métaux non ferreux.***
- *Le revêtement J-CRO améliore la résistance à l'usure et il réduit l'effort de coupe dans différents usinages.*
- *Très bon état de surface contrairement aux fraises classiques.*
- *Réduction du collage des copeaux grâce à la géométrie spéciale.*
- *Performance excellentes à vitesse de coupe élevée.*
- *Carbure Submicrograin 0,2 µm.*

3 | WC 미립자 | JCRO Coating | D −0.02 −0.04 (ø6~ø8) | D −0.02 −0.05 (ø10~ø20) | 45 Helix Angle | Rinforzato | € List. p.168

| d | Tolleranza/*Tolérance* |
|---|---|
| ø6 ~ 8 | −0.02 ~ −0.04 mm |
| ø10 ~ 20 | −0.02 ~ −0.05 mm |

Unità: mm

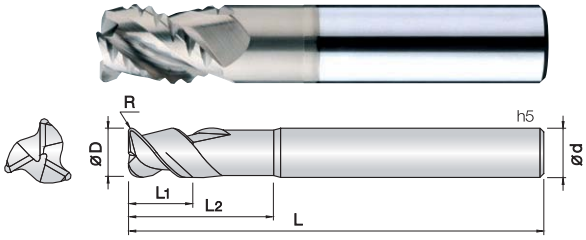
| Numero d'Ordine *Reference* | D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 3ARE 060 150 S06 | 6 | 10 | 15 | 50 | 6 |
| 3ARE 060 200 S06 | 6 | 15 | 20 | 70 | 6 |
| 3ARE 080 200 S08 | 8 | 15 | 20 | 60 | 8 |
| 3ARE 080 250 S08 | 8 | 20 | 25 | 80 | 8 |
| 3ARE 100 250 S10 | 10 | 18 | 25 | 70 | 10 |
| 3ARE 100 300 S10 | 10 | 23 | 30 | 90 | 10 |
| 3ARE 120 300 S12 | 12 | 20 | 30 | 80 | 12 |
| 3ARE 120 400 S12 | 12 | 30 | 40 | 100 | 12 |
| 3ARE 160 350 S16 | 16 | 25 | 35 | 110 | 16 |
| 3ARE 160 500 S16 | 16 | 35 | 50 | 120 | 16 |

| Numero d'Ordine *Reference* | D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 3ARE 200 500 S20 | 20 | 35 | 50 | 110 | 20 |
| 3ARE 200 600 S20 | 20 | 45 | 60 | 120 | 20 |

# 3ARC

*Fraise Cylindrique 3 Coupes 45° pour Ebauche pour Aluminium*

## *Fresa Cilindrica 3 Tagli a sgrossare per Alluminio*




- **Fresa per sgrossatura e semi finitura in alta velocità su alluminio, leghe di alluminio e materiali non ferrosi.**
- Il rivestimento J-CRO migliora la resistenza all'usura, riduce lo sforzo nel taglio in varie applicazioni.
- Buona rugosità superficiale a differenza delle frese concorrenti.
- Ridotto incollamento del truciolo grazie alla geometria specifica.
- Riduzione di scheggiature ad alti avanzamenti garantite dal metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise ébauche, haute vitesse pour Aluminium, alliage d'aluminium et métaux non ferreux.***
- *Le revêtement J-CRO améliore la résistance à l'usure et il réduit l'effort de coupe dans différents usinages.*
- *Très bon état de surface contrairement aux fraises classiques.*
- *Réduction du collage des copeaux grâce à la géométrie spéciale.*
- *Performance excellentes à vitesse de coupe élevée.*
- *Carbure Submicrograin 0,2 µm.*

3 | WC 미립자 | JCRO Coating | R ±0.005 (R0.5) | R ±0.01 (R1) | R ±0.015 (R02 ~ 3) | 45° Helix Angle | € List. p.169

| d | Tolleranza/*Tolérance* |
|---|---|
| ø6 ~ 20 | +0 ~ −0.015 mm |

Unità: mm

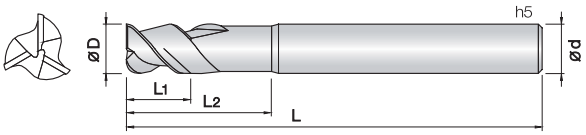
| Numero d'Ordine *Reference* | D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 3ARC 060 005 S06 | 6 X R0.5 | 9 | 15 | 65 | 6 |
| 3ARC 060 010 S06 | 6 X R1 | 9 | 15 | 65 | 6 |
| 3ARC 080 005 S08 | 8 X R0.5 | 12 | 20 | 70 | 8 |
| 3ARC 080 010 S08 | 8 X R1 | 12 | 20 | 70 | 8 |
| 3ARC 100 010 S10 | 10 X R1 | 15 | 25 | 75 | 10 |
| 3ARC 100 020 S10 | 10 X R2 | 15 | 25 | 75 | 10 |
| 3ARC 120 010 S12 | 12 X R1 | 20 | 30 | 80 | 12 |
| 3ARC 120 020 S12 | 12 X R2 | 20 | 30 | 80 | 12 |
| 3ARC 120 030 S12 | 12 X R3 | 20 | 30 | 80 | 12 |
| 3ARC 160 010 S16 | 16 X R1 | 25 | 35 | 110 | 16 |
| 3ARC 160 020 S16 | 16 X R2 | 25 | 35 | 110 | 16 |
| 3ARC 160 030 S16 | 16 X R3 | 25 | 35 | 110 | 16 |

| Numero d'Ordine *Reference* | D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 3ARC 200 020 S20 | 20 X R2 | 30 | 50 | 110 | 20 |
| 3ARC 200 030 S20 | 20 X R3 | 30 | 50 | 110 | 20 |

# 3ARO

*Fraise Cylindrique 3 Coupes 45° pour Ebauche pour Aluminium*

## *Fresa Cilindrica 3 Tagli 45° a sgrossare per Alluminio*




- **Fresa per sgrossatura e semi finitura in alta velocità su alluminio, leghe di alluminio e materiali non ferrosi.**
- Elica a 45° con rompitruciolo aprifilo fine per sgrossatura in alta velocità.
- Ridotto incollamento del truciolo grazie alla geometria specifica.
- Riduzione di scheggiature ad alti avanzamenti garantite dal metallo duro Ultra Micrograna (0,2 µm).

- ***Fraise ébauche, haute vitesse pour Aluminium, alliage d'aluminium et métaux non ferreux.***
- *Hélice 45° pour ébauche en haute vitesse.*
- *Réduction du collage des copeaux grâce à la géométrie spéciale.*
- *Performance excellentes à vitesse de coupe élevée.*
- *Carbure Submicrograin 0,2 µm.*

3 | WC 미립자 | R TAC Coating | D −0.02 −0.04 (Ø4~Ø8) | D −0.02 −0.05 (Ø10~Ø20) | 45° Helix Angle | Rinforzato | € List. p.169

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 4 ~ 8 | −0.02 ~ −0.04 mm |
| ø 10 ~ 20 | −0.02 ~ −0.05 mm |

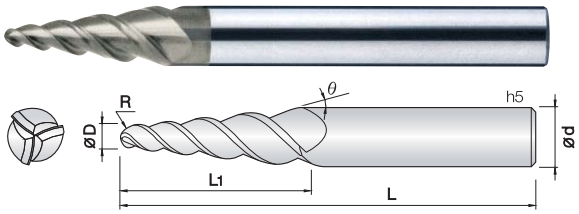
Unità: mm

| Numero d'Ordine *Reference* NON rivestito/Non Revêtue | Rivestito R-TAC/Revêtue R-TAC | D | L1 | L2 | L | d |
|---|---|---|---|---|---|---|
| 3ARO 040 080 S06 | 3AROC 040 080 S06 | 4 | 8 | - | 50 | 6 |
| 3ARO 040 150 S06 | 3AROC 040 150 S06 | 4 | 10 | 15 | 60 | 6 |
| 3ARO 050 100 S06 | 3AROC 050 100 S06 | 5 | 10 | - | 60 | 6 |
| 3ARO 050 200 S06 | 3AROC 050 200 S06 | 5 | 15 | 20 | 60 | 6 |
| 3ARO 060 120 S06 | 3AROC 060 120 S06 | 6 | 12 | - | 60 | 6 |
| 3ARO 060 210 S06 | 3AROC 060 210 S06 | 6 | 16 | 21 | 65 | 6 |
| 3ARO 080 160 S08 | 3AROC 080 160 S08 | 8 | 16 | - | 70 | 8 |
| 3ARO 080 270 S08 | 3AROC 080 270 S08 | 8 | 21 | 27 | 70 | 8 |
| 3ARO 100 200 S10 | 3AROC 100 200 S10 | 10 | 20 | - | 70 | 10 |
| 3ARO 100 310 S10 | 3AROC 100 310 S10 | 10 | 26 | 31 | 75 | 10 |
| 3ARO 120 240 S12 | 3AROC 120 240 S12 | 12 | 24 | - | 75 | 12 |
| 3ARO 120 380 S12 | 3AROC 120 380 S12 | 12 | 30 | 38 | 80 | 12 |
| 3ARO 160 320 S16 | 3AROC 160 320 S16 | 16 | 32 | - | 100 | 16 |
| 3ARO 160 450 S16 | 3AROC 160 450 S16 | 16 | 36 | 45 | 100 | 16 |
| 3ARO 200 550 S20 | 3AROC 200 550 S20 | 20 | 41 | 55 | 110 | 20 |

# 3TBIC

*Fraise Hémisphérique Conique 3 Coupes pour Palette*

## *Fresa Emisferica Conica 3 Tagli per Palette*




- **Fresa per acciai legati, leghe Ni/Cr, inconel, ghisa, leghe di alluminio e materiali non ferrosi.**
- Il rivestimento J-CRO migliora la resistenza all'usura, riduce lo sforzo nel taglio in varie applicazioni.
- Adatta per lavorazioni su macchine a 5 assi nella produzione di giranti, stampi per gomma, palette e turbine.
- Indicata per operazioni di sgrossatura e finitura.
- ***Fraise pour aciers fortement alliés, inoxydable, Inconel, alliage d'aluminium et métaux non ferreux.***
- *Le revêtement J-CRO améliore la résistance à l'usure et il réduit l'effort de coupe dans différents usinages.*
- *Convient en 5 axespour les composants spéciaux secteurs tel que, les disques aubagés, les aubes de turbines.*
- *Convient pour l'ébauche et la ⊠ nition.*

3 | WC 미립자 | JCRO Coating | R ±0.005 (0.5R ~ 1R) | R ±0.01 (2R ~ 3R) | 35° Helix Angle | € List. p.170

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 4 ~ 6 | +0.01~ −0.01 mm |

Unità: mm

| Numero d'Ordine *Reference* | R X D | Angolo *Angle* | L1 | L | d |
|---|---|---|---|---|---|
| 3TBIC 010 010 120 | R0.5 X 1 | 1° | 12 | 50 | 6 |
| 3TBIC 010 010 200 | R0.5 X 1 | 1° | 20 | 60 | 6 |
| 3TBIC 010 020 150 | R0.5 X 1 | 2° | 15 | 55 | 6 |
| 3TBIC 010 020 200 | R0.5 X 1 | 2° | 20 | 60 | 6 |
| 3TBIC 010 030 150 | R0.5 X 1 | 3° | 15 | 55 | 6 |
| 3TBIC 010 030 200 | R0.5 X 1 | 3° | 20 | 60 | 6 |
| 3TBIC 010 040 200 | R0.5 X 1 | 4° | 20 | 60 | 6 |
| 3TBIC 010 050 200 | R0.5 X 1 | 5° | 20 | 60 | 6 |
| 3TBIC 010 060 200 | R0.5 X 1 | 6° | 20 | 60 | 6 |
| 3TBIC 010 070 200 | R0.5 X 1 | 7° | 20 | 60 | 6 |
| 3TBIC 010 080 180 | R0.5 X 1 | 8° | 18 | 60 | 6 |
| 3TBIC 020 010 120 | R1 X 2 | 1° | 12 | 50 | 6 |
| 3TBIC 020 010 200 | R1 X 2 | 1° | 20 | 60 | 6 |
| 3TBIC 020 020 150 | R1 X 2 | 2° | 15 | 55 | 6 |
| 3TBIC 020 020 200 | R1 X 2 | 2° | 20 | 60 | 6 |
| 3TBIC 020 030 150 | R1 X 2 | 3° | 15 | 55 | 6 |
| 3TBIC 020 030 200 | R1 X 2 | 3° | 20 | 60 | 6 |
| 3TBIC 020 030 300 | R1 X 2 | 3° | 30 | 70 | 6 |
| 3TBIC 020 040 200 | R1 X 2 | 4° | 20 | 60 | 6 |
| 3TBIC 020 050 200 | R1 X 2 | 5° | 20 | 60 | 6 |
| 3TBIC 020 050 300 | R1 X 2 | 5° | 30 | 75 | 8 |
| 3TBIC 020 060 190 | R1 X 2 | 6° | 19 | 60 | 6 |
| 3TBIC 020 060 290 | R1 X 2 | 6° | 29 | 75 | 8 |
| 3TBIC 020 070 160 | R1 X 2 | 7° | 16 | 60 | 6 |
| 3TBIC 020 070 250 | R1 X 2 | 7° | 25 | 70 | 8 |
| 3TBIC 020 080 150 | R1 X 2 | 8° | 15 | 60 | 6 |
| 3TBIC 020 080 220 | R1 X 2 | 8° | 22 | 70 | 8 |
| 3TBIC 030 010 200 | R1.5 X 3 | 1° | 20 | 60 | 6 |
| 3TBIC 030 010 320 | R1.5 X 3 | 1° | 32 | 75 | 6 |
| 3TBIC 030 020 200 | R1.5 X 3 | 2° | 20 | 60 | 6 |
| 3TBIC 030 030 200 | R1.5 X 3 | 3° | 20 | 60 | 6 |
| 3TBIC 030 030 300 | R1.5 X 3 | 3° | 30 | 70 | 6 |
| 3TBIC 030 030 390 | R1.5 X 3 | 3° | 39 | 80 | 8 |
| 3TBIC 030 040 200 | R1.5 X 3 | 4° | 20 | 65 | 6 |
| 3TBIC 030 050 180 | R1.5 X 3 | 5° | 18 | 60 | 6 |
| 3TBIC 030 050 300 | R1.5 X 3 | 5° | 30 | 75 | 8 |
| 3TBIC 030 060 150 | R1.5 X 3 | 6° | 15 | 60 | 6 |
| 3TBIC 030 060 250 | R1.5 X 3 | 6° | 25 | 70 | 8 |
| 3TBIC 030 070 190 | R1.5 X 3 | 7° | 19 | 70 | 8 |
| 3TBIC 030 070 300 | R1.5 X 3 | 7° | 30 | 80 | 10 |
| 3TBIC 030 080 190 | R1.5 X 3 | 8° | 19 | 70 | 8 |
| 3TBIC 030 080 260 | R1.5 X 3 | 8° | 26 | 75 | 10 |
| 3TBIC 040 010 200 | R2 X 4 | 1° | 20 | 60 | 6 |
| 3TBIC 040 010 320 | R2 X 4 | 1° | 32 | 75 | 6 |
| 3TBIC 040 020 200 | R2 X 4 | 2° | 20 | 60 | 6 |
| 3TBIC 040 020 300 | R2 X 4 | 2° | 30 | 70 | 6 |
| 3TBIC 040 030 210 | R2 X 4 | 3° | 21 | 70 | 6 |
| 3TBIC 040 030 320 | R2 X 4 | 3° | 32 | 80 | 8 |
| 3TBIC 040 030 400 | R2 X 4 | 3° | 40 | 90 | 8 |
| 3TBIC 040 040 200 | R2 X 4 | 4° | 20 | 70 | 8 |

| Numero d'Ordine *Reference* | R X D | Angolo *Angle* | L1 | L | d |
|---|---|---|---|---|---|
| 3TBIC 040 040 300 | R2 X 4 | 4° | 30 | 75 | 8 |
| 3TBIC 040 050 200 | R2 X 4 | 5° | 20 | 70 | 8 |
| 3TBIC 040 050 320 | R2 X 4 | 5° | 32 | 80 | 10 |
| 3TBIC 040 060 200 | R2 X 4 | 6° | 20 | 70 | 8 |
| 3TBIC 040 060 300 | R2 X 4 | 6° | 30 | 80 | 10 |
| 3TBIC 040 070 180 | R2 X 4 | 7° | 18 | 70 | 8 |
| 3TBIC 040 070 260 | R2 X 4 | 7° | 26 | 80 | 10 |
| 3TBIC 040 080 230 | R2 X 4 | 8° | 23 | 75 | 10 |
| 3TBIC 060 010 320 | R3 X 6 | 1° | 32 | 75 | 8 |
| 3TBIC 060 020 300 | R3 X 6 | 2° | 30 | 75 | 8 |
| 3TBIC 060 030 220 | R3 X 6 | 3° | 22 | 75 | 8 |
| 3TBIC 060 030 320 | R3 X 6 | 3° | 32 | 80 | 10 |
| 3TBIC 060 030 400 | R3 X 6 | 3° | 40 | 90 | 10 |
| 3TBIC 060 040 250 | R3 X 6 | 4° | 25 | 75 | 10 |
| 3TBIC 060 040 310 | R3 X 6 | 4° | 31 | 80 | 10 |
| 3TBIC 060 050 210 | R3 X 6 | 5° | 21 | 75 | 10 |
| 3TBIC 060 050 320 | R3 X 6 | 5° | 32 | 80 | 12 |
| 3TBIC 060 060 210 | R3 X 6 | 6° | 21 | 75 | 10 |
| 3TBIC 060 060 310 | R3 X 6 | 6° | 31 | 80 | 12 |
| 3TBIC 060 070 190 | R3 X 6 | 7° | 19 | 75 | 10 |
| 3TBIC 060 070 270 | R3 X 6 | 7° | 27 | 80 | 12 |

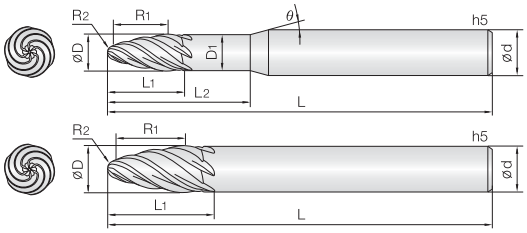
TAPER

# 4&6CTDB

*Fraise Conique/Sferique 4/6 coupes Double Rayons*

## *Fresa Conico/Sferica 4/6 Tagli a Doppio Raggio*

New




- **Fresa per acciai legati, Ghisa e materiali non ferrosi.**
- Il nuovo rivestimento TISIN-R incremente la resistenza all'usura, riduce lo stress sui taglienti in varie applicazioni.
- Fresa per lavorazioni di particoalri speciali su centri di lavoro multiassi come la produzione di giranti, blisk, profilatura di pneumatici, palette per turbine, ecc.
- Adatta sia per lavorazioni di sgrossatura che finitura, utilizzando così un solo utensile.
- ***Fraise pour aciers alliés, fontes et métaux non ferreux convient également pour aciers fortement alliés.***
- *Le nouveau revêtement TISIN-R augment la résistance à l'usure et réduit les contraintes sur les arêtes de coupe dans diverses applications.*
- *Fraise pour l'usinage complexe en 5 axes tels que la production de roues, les disques aubagés, profilage de Pneus, aubes de turbine, etc.*
- *Convient aussi bien aux opérations d'ébauche que de finition, utilisant ainsi un seul outil.*

4 | 6 | WC 미립자 | R TISIN-R | R ±0.01 (0.5 ~ 1.5R) | R ±0.015 (2 ~ 4R) | 30° Helix Angle | €

List. p.171

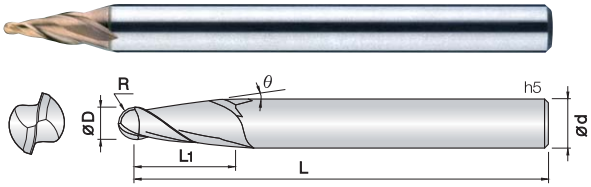
Unità: mm

| Numero d'Ordine *Reference* | R X D | R1 | R2 | Angolo *Angle* | D1 | L1 | L2 | L | d |
|---|---|---|---|---|---|---|---|---|---|
| 4CTDB 010 013 047 | 0.5R X 1 | 13 | 0.5 | 10 | 2.4 | 4.7 | 10 | 50 | 4 |
| 4CTDB 015 020 071 | 0.75R X 1.5 | 20 | 0.75 | 10 | 3.6 | 7.1 | 15 | 50 | 4 |
| 4CTDB 020 025 094 | 1R X 2 | 25 | 1 | 10 | 4.8 | 9.4 | 20 | 60 | 6 |
| 4CTDB 020 350 116 | 1R X 2 | 350 | 1 | 15 | 7 | 11.6 | 18 | 80 | 8 |
| 4CTDB 030 040 141 | 1.5R X 3 | 40 | 1.5 | 10 | 7.3 | 14.1 | 30 | 80 | 8 |
| 6CTDB 040 050 187 | 2R X 4 | 50 | 2 | 10 | 9.5 | 18.7 | 40 | 100 | 12 |
| 6CTDB 040 750 124 | 2R X 4 | 750 | 2 | 30 | - | 12.4 | - | 110 | 16 |
| 6CTDB 060 075 200 | 3R X 6 | 75 | 3 | 10 | - | 20 | - | 100 | 12 |
| 6CTDB 060 1000 167 | 3R X 6 | 1,000 | 3 | 20 | - | 16.7 | - | 110 | 16 |
| 6CTDB 080 100 268 | 4R X 8 | 100 | 4 | 5 | - | 26.8 | - | 110 | 12 |
| 6CTDB 080 1000 267 | 4R X 8 | 1,000 | 4 | 10 | - | 26.7 | - | 110 | 16 |

# 2CTB

*Fraise Hémisphérique Conique 2 Coupes*

## *Fresa Emisferica Conica 2 Tagli*




- **Fresa per acciai bonificati e temprati fino a Hrc58**
- Ottima resistenza all'usura grazie al rivestimento PVD a base SI.
- Elevata tolleranza del filo tagliente.
- Ottima finitura superficiale.
- Prestazioni eccellenti in alta velocità garantite dal metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour aciers alliés et trempés jusqu'à 58HRc.***
- *Excellent contre l'usure rapide grâce au revêtement PVD à base de SI.*
- *Tolérance élevée des arêtes de coupe.*
- *Excellente finition de surface.*
- *Performance excellentes à vitesse de coupe élevée.*
- *Carbure Submicrograin 0,2 µm.*

2 | WC 미립자 | TISIN Coating | R ±0.005 (0.2 ~ 1.5R) | R ±0.01 (1.5 ~ 3R) | 30° Helix Angle | €

List. p.171

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.4 ~ 3 | -0.01 ~ -0.025 mm |
| ø 3 ~ 6 | -0.015 ~ -0.03 mm |

Unità: mm

| | Numero d'Ordine *Reference* | R X D | Angolo *Angle* | L1 | L | d |
|---|---|---|---|---|---|---|
| New | 2CTB 002 010 015 | 0.1R X 0.2 | 1° | 1.5 | 40 | 4 |
| New | 2CTB 002 020 015 | 0.1R X 0.2 | 2° | 1.5 | 40 | 4 |
| New | 2CTB 002 030 015 | 0.1R X 0.2 | 3° | 1.5 | 40 | 4 |
| New | 2CTB 002 050 015 | 0.1R X 0.2 | 5° | 1.5 | 40 | 4 |
| New | 2CTB 002 070 015 | 0.1R X 0.2 | 7° | 1.5 | 40 | 4 |
| New | 2CTB 002 100 015 | 0.1R X 0.2 | 10° | 1.5 | 40 | 4 |
| New | 2CTB 003 010 020 | 0.15R X 0.3 | 1° | 2 | 40 | 4 |
| New | 2CTB 003 020 020 | 0.15R X 0.3 | 2° | 2 | 40 | 4 |
| New | 2CTB 003 030 020 | 0.15R X 0.3 | 3° | 2 | 40 | 4 |
| New | 2CTB 003 050 020 | 0.15R X 0.3 | 5° | 2 | 40 | 4 |
| New | 2CTB 003 070 020 | 0.15R X 0.3 | 7° | 2 | 40 | 4 |
| New | 2CTB 003 100 020 | 0.15R X 0.3 | 10° | 2 | 40 | 4 |
| New | 2CTB 003 150 020 | 0.15R X 0.3 | 15° | 2 | 40 | 4 |
| New | 2CTB 004 010 030 | 0.2R X 0.4 | 1° | 3 | 40 | 4 |
| | 2CTB 004 020 030 | 0.2R X 0.4 | 2° | 3 | 40 | 4 |
| | 2CTB 004 030 030 | 0.2R X 0.4 | 3° | 3 | 40 | 4 |
| | 2CTB 004 040 030 | 0.2R X 0.4 | 4° | 3 | 40 | 4 |
| | 2CTB 004 050 030 | 0.2R X 0.4 | 5° | 3 | 40 | 4 |
| | 2CTB 004 070 030 | 0.2R X 0.4 | 7° | 3 | 40 | 4 |
| | 2CTB 004 100 030 | 0.2R X 0.4 | 10° | 3 | 40 | 4 |
| New | 2CTB 004 150 030 | 0.2R X 0.4 | 15° | 3 | 40 | 4 |
| New | 2CTB 005 010 030 | 0.25R X 0.5 | 1° | 3 | 40 | 4 |
| | 2CTB 005 020 030 | 0.25R X 0.5 | 2° | 3 | 40 | 4 |
| | 2CTB 005 030 030 | 0.25R X 0.5 | 3° | 3 | 40 | 4 |
| | 2CTB 005 040 035 | 0.25R X 0.5 | 4° | 3.5 | 40 | 4 |
| | 2CTB 005 050 035 | 0.25R X 0.5 | 5° | 3.5 | 40 | 4 |
| | 2CTB 005 070 035 | 0.25R X 0.5 | 7° | 3.5 | 40 | 4 |
| | 2CTB 005 100 035 | 0.25R X 0.5 | 10° | 3.5 | 40 | 4 |
| New | 2CTB 005 150 035 | 0.25R X 0.5 | 15° | 3.5 | 40 | 4 |
| New | 2CTB 006 010 030 | 0.3R X 0.6 | 1° | 3 | 40 | 4 |
| | 2CTB 006 020 030 | 0.3R X 0.6 | 2° | 3 | 40 | 4 |
| | 2CTB 006 030 030 | 0.3R X 0.6 | 3° | 3 | 40 | 4 |
| | 2CTB 006 040 035 | 0.3R X 0.6 | 4° | 3.5 | 40 | 4 |
| | 2CTB 006 050 035 | 0.3R X 0.6 | 5° | 3.5 | 40 | 4 |
| | 2CTB 006 070 035 | 0.3R X 0.6 | 7° | 3.5 | 40 | 4 |
| | 2CTB 006 100 035 | 0.3R X 0.6 | 10° | 3.5 | 40 | 4 |
| New | 2CTB 006 150 035 | 0.3R X 0.6 | 15° | 3.5 | 40 | 4 |
| New | 2CTB 007 010 030 | 0.35R X 0.7 | 1° | 3 | 40 | 4 |
| New | 2CTB 007 020 030 | 0.35R X 0.7 | 2° | 3 | 40 | 4 |
| New | 2CTB 007 030 040 | 0.35R X 0.7 | 3° | 4 | 40 | 4 |
| New | 2CTB 007 050 040 | 0.35R X 0.7 | 5° | 4 | 40 | 4 |
| New | 2CTB 007 070 040 | 0.35R X 0.7 | 7° | 4 | 40 | 4 |
| New | 2CTB 007 100 040 | 0.35R X 0.7 | 10° | 4 | 40 | 4 |
| New | 2CTB 007 150 040 | 0.35R X 0.7 | 15° | 4 | 40 | 4 |
| New | 2CTB 008 010 030 | 0.4R X 0.8 | 1° | 3 | 40 | 4 |
| | 2CTB 008 020 030 | 0.4R X 0.8 | 2° | 3 | 40 | 4 |
| | 2CTB 008 030 030 | 0.4R X 0.8 | 3° | 3 | 40 | 4 |
| | 2CTB 008 040 040 | 0.4R X 0.8 | 4° | 4 | 40 | 4 |
| | 2CTB 008 050 040 | 0.4R X 0.8 | 5° | 4 | 40 | 4 |
| | 2CTB 008 070 040 | 0.4R X 0.8 | 7° | 4 | 40 | 4 |

| | Numero d'Ordine *Reference* | R X D | Angolo *Angle* | L1 | L | d |
|---|---|---|---|---|---|---|
| | 2CTB 008 100 040 | 0.4R X 0.8 | 10° | 4 | 40 | 4 |
| New | 2CTB 008 150 040 | 0.4R X 0.8 | 15° | 4 | 40 | 4 |
| | 2CTB 010 003 030 | 0.5R X 1 | 0° 30 | 3 | 40 | 4 |
| | 2CTB 010 010 030 | 0.5R X 1 | 1° | 3 | 40 | 4 |
| | 2CTB 010 013 040 | 0.5R X 1 | 1° 30 | 4 | 40 | 4 |
| | 2CTB 010 020 040 | 0.5R X 1 | 2° | 4 | 40 | 4 |
| | 2CTB 010 030 040 | 0.5R X 1 | 3° | 4 | 40 | 4 |
| | 2CTB 010 040 060 | 0.5R X 1 | 4° | 6 | 45 | 4 |
| | 2CTB 010 050 060 | 0.5R X 1 | 5° | 6 | 45 | 4 |
| | 2CTB 010 070 060 | 0.5R X 1 | 7° | 6 | 45 | 4 |
| | 2CTB 010 100 060 | 0.5R X 1 | 10° | 6 | 45 | 4 |
| New | 2CTB 010 150 056 | 0.5R X 1 | 15° | 5.6 | 45 | 4 |
| New | 2CTB 012 003 030 | 0.6R X 1.2 | 0° 30 | 3 | 40 | 4 |
| New | 2CTB 012 010 030 | 0.6R X 1.2 | 1° | 3 | 40 | 4 |
| New | 2CTB 012 013 040 | 0.6R X 1.2 | 1° 30 | 4 | 40 | 4 |
| New | 2CTB 012 020 040 | 0.6R X 1.2 | 2° | 4 | 40 | 4 |
| New | 2CTB 012 030 040 | 0.6R X 1.2 | 3° | 4 | 40 | 4 |
| New | 2CTB 012 040 060 | 0.6R X 1.2 | 4° | 6 | 45 | 4 |
| New | 2CTB 012 050 060 | 0.6R X 1.2 | 5° | 6 | 45 | 4 |
| New | 2CTB 012 070 060 | 0.6R X 1.2 | 7° | 6 | 45 | 4 |
| New | 2CTB 012 100 060 | 0.6R X 1.2 | 10° | 6 | 45 | 4 |
| New | 2CTB 012 150 050 | 0.6R X 1.2 | 15° | 5 | 45 | 4 |
| | 2CTB 015 003 060 | 0.75R X 1.5 | 0° 30 | 6 | 45 | 4 |
| | 2CTB 015 010 060 | 0.75R X 1.5 | 1° | 6 | 45 | 4 |
| | 2CTB 015 013 060 | 0.75R X 1.5 | 1° 30 | 6 | 45 | 4 |
| | 2CTB 015 020 060 | 0.75R X 1.5 | 2° | 6 | 45 | 4 |
| | 2CTB 015 030 060 | 0.75R X 1.5 | 3° | 6 | 45 | 4 |
| | 2CTB 015 040 060 | 0.75R X 1.5 | 4° | 6 | 45 | 4 |
| | 2CTB 015 050 060 | 0.75R X 1.5 | 5° | 6 | 45 | 4 |
| | 2CTB 015 070 060 | 0.75R X 1.5 | 7° | 6 | 45 | 4 |
| New | 2CTB 015 100 060 | 0.75R X 1.5 | 10° | 6 | 45 | 4 |
| New | 2CTB 015 150 060 | 0.75R X 1.5 | 15° | 6 | 50 | 6 |
| | 2CTB 020 003 080 | 1R X 2 | 0° 30 | 8 | 45 | 4 |
| | 2CTB 020 010 080 | 1R X 2 | 1° | 8 | 45 | 4 |
| | 2CTB 020 013 080 | 1R X 2 | 1° 30 | 8 | 45 | 4 |
| | 2CTB 020 020 080 | 1R X 2 | 2° | 8 | 45 | 4 |
| | 2CTB 020 030 080 | 1R X 2 | 3° | 8 | 45 | 4 |
| | 2CTB 020 040 080 | 1R X 2 | 4° | 8 | 45 | 4 |
| | 2CTB 020 050 080 | 1R X 2 | 5° | 8 | 45 | 4 |
| | 2CTB 020 070 080 | 1R X 2 | 7° | 8 | 45 | 4 |
| New | 2CTB 020 100 080 | 1R X 2 | 10° | 8 | 50 | 6 |
| New | 2CTB 020 150 080 | 1R X 2 | 15° | 8 | 50 | 6 |
| | 2CTB 030 003 120 | 1.5R X 3 | 0° 30 | 12 | 60 | 6 |
| | 2CTB 030 010 120 | 1.5R X 3 | 1° | 12 | 60 | 6 |
| | 2CTB 030 013 120 | 1.5R X 3 | 1° 30 | 12 | 60 | 6 |
| | 2CTB 030 020 120 | 1.5R X 3 | 2° | 12 | 60 | 6 |
| | 2CTB 030 030 120 | 1.5R X 3 | 3° | 12 | 60 | 6 |
| | 2CTB 030 040 120 | 1.5R X 3 | 4° | 12 | 60 | 6 |
| | 2CTB 030 050 120 | 1.5R X 3 | 5° | 12 | 60 | 6 |
| | 2CTB 030 070 120 | 1.5R X 3 | 7° | 12 | 60 | 6 |

Unità: mm

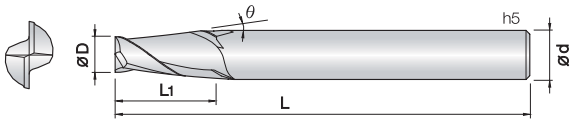
| | Numero d'Ordine *Reference* | R X D | Angolo *Angle* | L1 | L | d | |
|---|---|---|---|---|---|---|---|
| New | 2CTB 030 100 120 | 1.5R X 3 | 10° | 12 | 60 | 8 | |
| New | 2CTB 030 150 120 | 1.5R X 3 | 15° | 12 | 70 | 10 | |
| | 2CTB 040 003 160 | 2R X 4 | 0°30 | 16 | 70 | 8 | |
| | 2CTB 040 010 160 | 2R X 4 | 1° | 16 | 70 | 8 | |
| | 2CTB 040 013 160 | 2R X 4 | 1°30 | 16 | 70 | 8 | |
| | 2CTB 040 020 160 | 2R X 4 | 2° | 16 | 70 | 8 | |
| | 2CTB 040 030 160 | 2R X 4 | 3° | 16 | 70 | 8 | |
| | 2CTB 040 040 160 | 2R X 4 | 4° | 16 | 70 | 8 | |
| | 2CTB 040 050 160 | 2R X 4 | 5° | 16 | 70 | 8 | |
| | 2CTB 040 070 160 | 2R X 4 | 7° | 16 | 70 | 8 | |
| New | 2CTB 040 100 160 | 2R X 4 | 10° | 16 | 70 | 10 | |
| New | 2CTB 040 150 160 | 2R X 4 | 15° | 16 | 80 | 12 | |
| | 2CTB 050 003 200 | 2.5R X 5 | 0°30 | 20 | 75 | 8 | |
| | 2CTB 050 010 200 | 2.5R X 5 | 1° | 20 | 75 | 8 | |
| | 2CTB 050 013 200 | 2.5R X 5 | 1°30 | 20 | 75 | 8 | |
| | 2CTB 050 020 200 | 2.5R X 5 | 2° | 20 | 75 | 8 | |
| | 2CTB 050 030 200 | 2.5R X 5 | 3° | 20 | 75 | 8 | |
| | 2CTB 050 040 200 | 2.5R X 5 | 4° | 20 | 75 | 8 | |
| | 2CTB 050 050 200 | 2.5R X 5 | 5° | 20 | 80 | 10 | |
| | 2CTB 050 070 200 | 2.5R X 5 | 7° | 20 | 80 | 10 | |
| | 2CTB 060 003 240 | 3R X 6 | 0°30 | 24 | 80 | 10 | |
| | 2CTB 060 010 240 | 3R X 6 | 1° | 24 | 80 | 10 | |
| | 2CTB 060 013 240 | 3R X 6 | 1°30 | 24 | 80 | 10 | |
| | 2CTB 060 020 240 | 3R X 6 | 2° | 24 | 80 | 10 | |
| | 2CTB 060 030 240 | 3R X 6 | 3° | 24 | 80 | 10 | |
| | 2CTB 060 040 240 | 3R X 6 | 4° | 24 | 80 | 10 | |
| | 2CTB 060 050 240 | 3R X 6 | 5° | 24 | 90 | 12 | |
| | 2CTB 060 070 240 | 3R X 6 | 7° | 24 | 90 | 12 | |

| Numero d'Ordine *Reference* | R X D | Angolo *Angle* | L1 | L | d | |
|---|---|---|---|---|---|---|

# 2CTE

*Fraise Conique 2 Coupes*

## *Fresa Conica 2 Tagli*




- **Fresa per acciai bonificati e temprati fino a Hrc58**
- Ottima resistenza all'usura grazie al rivestimento PVD a base SI.
- Elevata tolleranza del filo tagliente.
- Ottima finitura superficiale.
- Prestazioni eccellenti in alta velocità garantite dal metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour aciers alliés et trempés jusqu'à 58HRc.***
- *Excellent contre l'usure rapide grâce au revêtement PVD à base de SI.*
- *Tolérance élevée des arêtes de coupe.*
- *Excellente finition de surface.*
- *Performance excellentes à vitesse de coupe élevée.*
- *Carbure Submicrograin 0,2 µm.*

2 | WC 미립자 | TISIN Coating | D +0 −0.01 (Ø0.3 ~ Ø4) | D −0.01 −0.025 (Ø6 ~ Ø8) | 30° Helix Angle | Rinforzato | € List. p.173

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.3 ~ 4 | +0 ~ −0.01mm |
| ø 6 ~ 8 | −0.01 ~ −0.025mm |

Unità: mm

| | Numero d'Ordine *Reference* | D | Angolo *Angle* | L1 | L | d |
|---|---|---|---|---|---|---|
| New | 2CTE 002 003 010 | 0.2 | 0°30 | 1 | 40 | 4 |
| New | 2CTE 002 010 010 | 0.2 | 1° | 1 | 40 | 4 |
| New | 2CTE 002 013 010 | 0.2 | 1°30 | 1 | 40 | 4 |
| New | 2CTE 002 020 010 | 0.2 | 2° | 1 | 40 | 4 |
| New | 2CTE 002 030 010 | 0.2 | 3° | 1 | 40 | 4 |
| New | 2CTE 002 050 010 | 0.2 | 5° | 1 | 40 | 4 |
| New | 2CTE 002 070 010 | 0.2 | 7° | 1 | 40 | 4 |
| New | 2CTE 002 100 010 | 0.2 | 10° | 1 | 40 | 4 |
| New | 2CTE 002 150 010 | 0.2 | 15° | 1 | 40 | 4 |
| | 2CTE 003 003 012 | 0.3 | 0°30 | 1.2 | 40 | 4 |
| | 2CTE 003 010 012 | 0.3 | 1° | 1.2 | 40 | 4 |
| | 2CTE 003 013 012 | 0.3 | 1°30 | 1.2 | 40 | 4 |
| | 2CTE 003 020 012 | 0.3 | 2° | 1.2 | 40 | 4 |
| | 2CTE 003 030 012 | 0.3 | 3° | 1.2 | 40 | 4 |
| | 2CTE 003 050 012 | 0.3 | 5° | 1.2 | 40 | 4 |
| | 2CTE 003 070 015 | 0.3 | 7° | 1.5 | 40 | 4 |
| | 2CTE 003 100 015 | 0.3 | 10° | 1.5 | 40 | 4 |
| New | 2CTE 003 150 015 | 0.3 | 15° | 1.5 | 40 | 4 |
| | 2CTE 004 003 016 | 0.4 | 0°30 | 1.6 | 40 | 4 |
| | 2CTE 004 010 016 | 0.4 | 1° | 1.6 | 40 | 4 |
| | 2CTE 004 013 016 | 0.4 | 1°30 | 1.6 | 40 | 4 |
| | 2CTE 004 020 016 | 0.4 | 2° | 1.6 | 40 | 4 |
| | 2CTE 004 030 016 | 0.4 | 3° | 1.6 | 40 | 4 |
| | 2CTE 004 050 016 | 0.4 | 5° | 1.6 | 40 | 4 |
| | 2CTE 004 070 020 | 0.4 | 7° | 2 | 40 | 4 |
| | 2CTE 004 100 020 | 0.4 | 10° | 2 | 40 | 4 |
| New | 2CTE 004 150 020 | 0.4 | 15° | 2 | 40 | 4 |
| | 2CTE 005 003 020 | 0.5 | 0°30 | 2 | 40 | 4 |
| | 2CTE 005 010 020 | 0.5 | 1° | 2 | 40 | 4 |
| | 2CTE 005 013 020 | 0.5 | 1°30 | 2 | 40 | 4 |
| | 2CTE 005 020 020 | 0.5 | 2° | 2 | 40 | 4 |
| | 2CTE 005 030 020 | 0.5 | 3° | 2 | 40 | 4 |
| | 2CTE 005 050 020 | 0.5 | 5° | 2 | 40 | 4 |
| | 2CTE 005 070 025 | 0.5 | 7° | 2.5 | 40 | 4 |
| | 2CTE 005 100 025 | 0.5 | 10° | 2.5 | 40 | 4 |
| New | 2CTE 005 150 025 | 0.5 | 15° | 2.5 | 40 | 4 |
| New | 2CTE 005 200 025 | 0.5 | 20° | 2.5 | 40 | 4 |
| | 2CTE 006 003 020 | 0.6 | 0°30 | 2 | 40 | 4 |
| | 2CTE 006 020 010 | 0.6 | 1° | 2 | 40 | 4 |
| | 2CTE 006 013 020 | 0.6 | 1°30 | 2 | 40 | 4 |
| | 2CTE 006 020 020 | 0.6 | 2° | 2 | 40 | 4 |
| | 2CTE 006 030 020 | 0.6 | 3° | 2 | 40 | 4 |
| | 2CTE 006 050 020 | 0.6 | 5° | 2 | 40 | 4 |
| | 2CTE 006 070 025 | 0.6 | 7° | 2.5 | 40 | 4 |
| | 2CTE 006 100 025 | 0.6 | 10° | 2.5 | 40 | 4 |
| New | 2CTE 006 150 025 | 0.6 | 15° | 2.5 | 40 | 4 |
| New | 2CTE 006 200 025 | 0.6 | 20° | 2.5 | 40 | 4 |
| | 2CTE 007 010 025 | 0.7 | 1° | 2.5 | 40 | 4 |
| | 2CTE 007 013 025 | 0.7 | 1°30 | 2.5 | 40 | 4 |
| | 2CTE 007 020 025 | 0.7 | 2° | 2.5 | 40 | 4 |

| | Numero d'Ordine *Reference* | D | Angolo *Angle* | L1 | L | d |
|---|---|---|---|---|---|---|
| | 2CTE 007 030 025 | 0.7 | 3° | 2.5 | 40 | 4 |
| | 2CTE 007 050 025 | 0.7 | 5° | 2.5 | 40 | 4 |
| | 2CTE 007 070 030 | 0.7 | 7° | 3 | 40 | 4 |
| | 2CTE 007 100 030 | 0.7 | 10° | 3 | 40 | 4 |
| New | 2CTE 007 150 030 | 0.7 | 15° | 3 | 40 | 4 |
| New | 2CTE 007 200 030 | 0.7 | 20° | 3 | 40 | 4 |
| | 2CTE 008 003 030 | 0.8 | 0°30 | 3 | 40 | 4 |
| | 2CTE 008 010 030 | 0.8 | 1° | 3 | 40 | 4 |
| | 2CTE 008 013 030 | 0.8 | 1°30 | 3 | 40 | 4 |
| | 2CTE 008 020 030 | 0.8 | 2° | 3 | 40 | 4 |
| | 2CTE 008 030 030 | 0.8 | 3° | 3 | 40 | 4 |
| | 2CTE 008 050 030 | 0.8 | 5° | 3 | 40 | 4 |
| | 2CTE 008 070 030 | 0.8 | 7° | 3 | 40 | 4 |
| | 2CTE 008 100 030 | 0.8 | 10° | 3 | 40 | 4 |
| New | 2CTE 008 150 030 | 0.8 | 15° | 3 | 40 | 4 |
| New | 2CTE 008 200 030 | 0.8 | 20° | 3 | 40 | 4 |
| | 2CTE 010 003 040 | 1 | 0°30 | 4 | 45 | 4 |
| | 2CTE 010 010 040 | 1 | 1° | 4 | 45 | 4 |
| | 2CTE 010 013 040 | 1 | 1°30 | 4 | 45 | 4 |
| | 2CTE 010 020 040 | 1 | 2° | 4 | 45 | 4 |
| | 2CTE 010 030 040 | 1 | 3° | 4 | 45 | 4 |
| | 2CTE 010 050 040 | 1 | 5° | 4 | 45 | 4 |
| | 2CTE 010 070 040 | 1 | 7° | 4 | 45 | 4 |
| | 2CTE 010 100 040 | 1 | 10° | 4 | 45 | 4 |
| New | 2CTE 010 150 040 | 1 | 15° | 4 | 50 | 4 |
| New | 2CTE 010 200 040 | 1 | 20° | 4 | 50 | 4 |
| | 2CTE 015 003 050 | 1.5 | 0°30 | 5 | 45 | 4 |
| | 2CTE 015 010 050 | 1.5 | 1° | 5 | 45 | 4 |
| | 2CTE 015 013 060 | 1.5 | 1°30 | 6 | 45 | 4 |
| | 2CTE 015 020 070 | 1.5 | 2° | 7 | 45 | 4 |
| | 2CTE 015 030 080 | 1.5 | 3° | 8 | 45 | 4 |
| | 2CTE 015 050 100 | 1.5 | 5° | 10 | 50 | 4 |
| | 2CTE 015 070 100 | 1.5 | 7° | 10 | 50 | 4 |
| | 2CTE 015 100 100 | 1.5 | 10° | 10 | 50 | 6 |
| New | 2CTE 015 150 060 | 1.5 | 15° | 6 | 50 | 6 |
| New | 2CTE 015 200 060 | 1.5 | 20° | 6 | 50 | 6 |
| | 2CTE 020 003 060 | 2 | 0°30 | 6 | 45 | 4 |
| | 2CTE 020 010 060 | 2 | 1° | 6 | 45 | 4 |
| | 2CTE 020 013 060 | 2 | 1°30 | 6 | 45 | 4 |
| | 2CTE 020 020 080 | 2 | 2° | 8 | 45 | 4 |
| | 2CTE 020 030 100 | 2 | 3° | 10 | 50 | 4 |
| | 2CTE 020 050 100 | 2 | 5° | 10 | 50 | 4 |
| | 2CTE 020 070 100 | 2 | 7° | 10 | 50 | 6 |
| | 2CTE 020 100 110 | 2 | 10° | 11 | 50 | 6 |
| New | 2CTE 020 150 070 | 2 | 15° | 7 | 50 | 6 |
| New | 2CTE 020 200 070 | 2 | 20° | 7 | 50 | 8 |
| | 2CTE 025 003 080 | 2.5 | 0°30 | 8 | 45 | 6 |
| | 2CTE 025 010 100 | 2.5 | 1° | 10 | 50 | 6 |
| | 2CTE 025 013 100 | 2.5 | 1°30 | 10 | 50 | 6 |
| | 2CTE 025 020 120 | 2.5 | 2° | 12 | 50 | 6 |

TAPER

Unità: mm

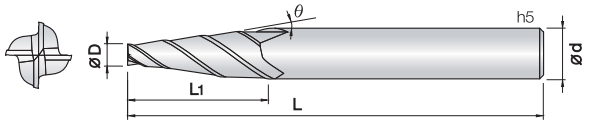
| | Numero d'Ordine *Reference* | D | Angolo *Angle* | L1 | L | d | |
|---|---|---|---|---|---|---|---|
| | 2CTE 025 030 120 | 2.5 | 3° | 12 | 50 | 6 | |
| | 2CTE 025 050 120 | 2.5 | 5° | 12 | 50 | 6 | |
| | 2CTE 025 070 120 | 2.5 | 7° | 12 | 50 | 6 | |
| | 2CTE 025 100 100 | 2.5 | 10° | 10 | 50 | 6 | |
| New | 2CTE 025 150 100 | 2.5 | 15° | 10 | 60 | 8 | |
| New | 2CTE 025 200 100 | 2.5 | 20° | 10 | 70 | 10 | |
| | 2CTE 030 003 120 | 3 | 0°30 | 12 | 50 | 6 | |
| | 2CTE 030 010 120 | 3 | 1° | 12 | 50 | 6 | |
| | 2CTE 030 013 120 | 3 | 1°30 | 12 | 50 | 6 | |
| | 2CTE 030 020 120 | 3 | 2° | 12 | 50 | 6 | |
| | 2CTE 030 030 120 | 3 | 3° | 12 | 50 | 6 | |
| | 2CTE 030 050 120 | 3 | 5° | 12 | 50 | 6 | |
| | 2CTE 030 070 120 | 3 | 7° | 12 | 50 | 6 | |
| | 2CTE 030 100 080 | 3 | 10° | 8 | 50 | 6 | |
| New | 2CTE 030 150 090 | 3 | 15° | 9 | 60 | 8 | |
| New | 2CTE 030 200 090 | 3 | 20° | 9 | 70 | 10 | |
| | 2CTE 040 003 150 | 4 | 0°30 | 15 | 60 | 6 | |
| | 2CTE 040 010 150 | 4 | 1° | 15 | 60 | 6 | |
| | 2CTE 040 013 150 | 4 | 1°30 | 15 | 60 | 6 | |
| | 2CTE 040 020 150 | 4 | 2° | 15 | 60 | 6 | |
| | 2CTE 040 030 180 | 4 | 3° | 18 | 60 | 6 | |
| | 2CTE 040 050 230 | 4 | 5° | 23 | 65 | 8 | |
| New | 2CTE 040 070 240 | 4 | 7° | 24 | 75 | 10 | |
| New | 2CTE 040 100 220 | 4 | 10° | 22 | 75 | 12 | |
| | 2CTE 060 003 200 | 6 | 0°30 | 20 | 65 | 8 | |
| | 2CTE 060 010 200 | 6 | 1° | 20 | 65 | 8 | |
| | 2CTE 060 013 200 | 6 | 1°30 | 20 | 65 | 8 | |
| | 2CTE 060 020 200 | 6 | 2° | 20 | 65 | 8 | |
| | 2CTE 060 030 190 | 6 | 3° | 19 | 65 | 8 | |
| | 2CTE 060 050 230 | 6 | 5° | 23 | 75 | 10 | |
| | 2CTE 060 070 240 | 6 | 7° | 24 | 75 | 12 | |
| | 2CTE 060 100 170 | 6 | 10° | 17 | 75 | 12 | |
| | 2CTE 070 003 250 | 7 | 0°30 | 25 | 70 | 8 | |
| | 2CTE 070 010 250 | 7 | 1° | 25 | 70 | 8 | |
| | 2CTE 070 013 250 | 7 | 1°30 | 25 | 70 | 10 | |
| | 2CTE 070 030 280 | 7 | 3° | 28 | 80 | 10 | |
| | 2CTE 070 050 280 | 7 | 5° | 28 | 80 | 12 | |
| | 2CTE 080 003 320 | 8 | 0°30 | 32 | 90 | 10 | |
| | 2CTE 080 010 350 | 8 | 1° | 35 | 90 | 10 | |
| | 2CTE 080 013 350 | 8 | 1°30 | 35 | 90 | 10 | |
| | 2CTE 080 020 280 | 8 | 2° | 28 | 75 | 10 | |
| | 2CTE 080 030 350 | 8 | 3° | 35 | 90 | 12 | |
| | 2CTE 080 050 450 | 8 | 5° | 45 | 100 | 16 | |
| | 2CTE 080 070 320 | 8 | 7° | 32 | 90 | 16 | |
| | 2CTE 080 100 340 | 8 | 10° | 34 | 100 | 20 | |

| Numero d'Ordine *Reference* | D | Angolo *Angle* | L1 | L | d | |
|---|---|---|---|---|---|---|

# 4CTE

*Fraise Conique 4 Coupes*

## *Fresa Conica 4 Tagli*




- **Fresa per acciai bonificati e temprati fino a Hrc58**
- Ottima resistenza all'usura grazie al rivestimento PVD a base SI.
- Elevata tolleranza del filo tagliente.
- Ottima finitura superficiale.
- Prestazioni eccellenti in alta velocità garantite dal metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour aciers alliés et trempés jusqu'à 58HRc.***
- *Excellent contre l'usure rapide grâce au revêtement PVD à base de SI.*
- *Tolérance élevée des arêtes de coupe.*
- *Excellente finition de surface.*
- *Performance excellentes à vitesse de coupe élevée.*
- *Carbure Submicrograin 0,2 µm.*

4 | WC 미립자 | TISIN Coating | D +0 −0.01 (ø0.3 ~ ø5) | D −0.01 −0.025 (ø6 ~ ø10) | 30° Helix Angle | Rinforzato | € List. p.174

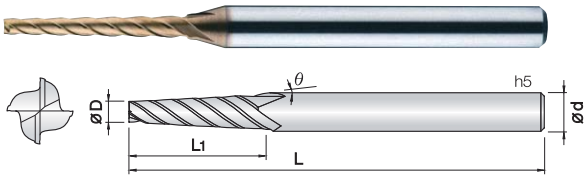
| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.3 ~ 5 | +0 ~ −0.01 mm |
| ø 6 ~ 8 | −0.01 ~ −0.025 mm |

Unità: mm

| Numero d'Ordine *Reference* | D | Angolo *Angle* | L1 | L | d |
|---|---|---|---|---|---|
| 4CTE 030 003 110 | 3 | 0°30 | 11 | 50 | 6 |
| 4CTE 030 010 110 | 3 | 1° | 11 | 50 | 6 |
| 4CTE 030 013 110 | 3 | 1°30 | 11 | 50 | 6 |
| 4CTE 030 020 150 | 3 | 2° | 15 | 60 | 6 |
| 4CTE 030 023 150 | 3 | 2°30 | 15 | 60 | 6 |
| 4CTE 030 030 150 | 3 | 3° | 15 | 60 | 6 |
| 4CTE 030 050 150 | 3 | 5° | 15 | 60 | 6 |
| 4CTE 030 070 120 | 3 | 7° | 12 | 60 | 6 |
| New 4CTE 030 100 190 | 3 | 10° | 19 | 80 | 10 |
| 4CTE 040 003 150 | 4 | 0°30 | 15 | 60 | 6 |
| 4CTE 040 010 150 | 4 | 1° | 15 | 60 | 6 |
| 4CTE 040 013 150 | 4 | 1°30 | 15 | 60 | 6 |
| 4CTE 040 020 180 | 4 | 2° | 18 | 60 | 6 |
| 4CTE 040 023 180 | 4 | 2°30 | 18 | 60 | 6 |
| 4CTE 040 030 180 | 4 | 3° | 18 | 60 | 6 |
| 4CTE 040 050 230 | 4 | 5° | 23 | 65 | 8 |
| 4CTE 040 070 250 | 4 | 7° | 25 | 75 | 10 |
| 4CTE 050 003 180 | 5 | 0°30 | 18 | 60 | 6 |
| 4CTE 050 010 180 | 5 | 1° | 18 | 60 | 6 |
| 4CTE 050 013 180 | 5 | 1°30 | 18 | 60 | 6 |
| 4CTE 050 020 150 | 5 | 2° | 15 | 60 | 6 |
| 4CTE 050 023 200 | 5 | 2°30 | 20 | 65 | 8 |
| 4CTE 050 030 210 | 5 | 3° | 21 | 65 | 8 |
| 4CTE 050 050 280 | 5 | 5° | 28 | 80 | 10 |
| 4CTE 050 070 280 | 5 | 7° | 28 | 80 | 12 |
| New 4CTE 052 0147 120 | 5.2 | 1°47 | 12 | 60 | 6 |
| 4CTE 060 003 200 | 6 | 0°30 | 20 | 65 | 8 |
| 4CTE 060 010 200 | 6 | 1° | 20 | 65 | 8 |
| 4CTE 060 013 200 | 6 | 1°30 | 20 | 65 | 8 |
| 4CTE 060 020 200 | 6 | 2° | 20 | 65 | 8 |
| 4CTE 060 023 200 | 6 | 2°30 | 20 | 65 | 8 |
| 4CTE 060 030 260 | 6 | 3° | 26 | 75 | 10 |
| 4CTE 060 050 230 | 6 | 5° | 23 | 75 | 10 |
| 4CTE 060 070 240 | 6 | 7° | 24 | 80 | 12 |
| New 4CTE 060 100 390 | 6 | 10° | 39 | 110 | 20 |
| 4CTE 080 003 250 | 8 | 0°30 | 25 | 75 | 10 |
| 4CTE 080 010 250 | 8 | 1° | 25 | 75 | 10 |
| 4CTE 080 013 250 | 8 | 1°30 | 25 | 75 | 10 |
| 4CTE 080 020 250 | 8 | 2° | 25 | 75 | 10 |
| 4CTE 080 023 230 | 8 | 2°30 | 23 | 75 | 10 |
| 4CTE 080 030 300 | 8 | 3° | 30 | 80 | 12 |
| 4CTE 080 050 230 | 8 | 5° | 23 | 85 | 12 |
| New 4CTE 085 0147 240 | 8.5 | 1°47 | 24 | 75 | 10 |
| 4CTE 100 003 300 | 10 | 0°30 | 30 | 80 | 12 |
| 4CTE 100 010 300 | 10 | 1° | 30 | 80 | 12 |
| 4CTE 100 013 300 | 10 | 1°30 | 30 | 80 | 12 |
| New 4CTE 100 0147 320 | 10 | 1°47 | 32 | 85 | 12 |
| 4CTE 100 020 280 | 10 | 2° | 28 | 80 | 12 |
| 4CTE 100 030 400 | 10 | 3° | 40 | 100 | 16 |
| 4CTE 100 050 340 | 10 | 5° | 34 | 100 | 16 |

TAPER

# 4RTE Fresa Conica 4 Tagli per Nervature




- **Fresa per acciai bonificati e temprati fino a Hrc58**
- Ottima resistenza all'usura grazie al rivestimento PVD a base SI.
- Elevata tolleranza del filo tagliente.
- Ottima finitura superficiale.
- Ideale per nervature profonde.
- Prestazioni eccellenti in alta velocità garantite dal metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour aciers alliés et trempés jusqu'à 58HRc.***
- *Excellent contre l'usure rapide grâce au revêtement PVD à base de SI.*
- *Tolérance élevée des arêtes de coupe.*
- *Excellente finition de surface.*
- *Ideal pour rainurage profondes.*
- *Performance excellentes à vitesse de coupe élevée.*
- *Carbure Submicrograin 0,2 µm.*

4 | WC 미립자 | TISIN Coating | D +0−0.01 ø0.5~ø2.5 | 30 Helix Angle | Rinforzato | € List. p.175

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.5 ~ 2.5 | +0 ~ −0.01 mm |

Unità: mm

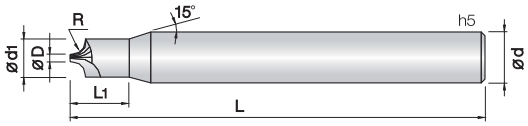
| | Numero d'Ordine *Reference* | D | Angolo *Angle* | L1 | L | d |
|---|---|---|---|---|---|---|
| | 4RTE 030 003 110 | 3 | 0°30 | 11 | 50 | 6 |
| | 4RTE 030 010 110 | 3 | 1° | 11 | 50 | 6 |
| | 4RTE 030 013 110 | 3 | 1°30 | 11 | 50 | 6 |
| | 4RTE 030 020 150 | 3 | 2° | 15 | 60 | 6 |
| | 4RTE 030 023 150 | 3 | 2°30 | 15 | 60 | 6 |
| | 4RTE 030 030 150 | 3 | 3° | 15 | 60 | 6 |
| | 4RTE 030 050 150 | 3 | 5° | 15 | 60 | 6 |
| | 4RTE 030 070 120 | 3 | 7° | 12 | 60 | 6 |
| New | 4RTE 030 100 190 | 3 | 10° | 19 | 80 | 10 |
| | 4RTE 040 003 150 | 4 | 0°30 | 15 | 60 | 6 |
| | 4RTE 040 010 150 | 4 | 1° | 15 | 60 | 6 |
| | 4RTE 040 013 150 | 4 | 1°30 | 15 | 60 | 6 |
| | 4RTE 040 020 180 | 4 | 2° | 18 | 60 | 6 |
| | 4RTE 040 023 180 | 4 | 2°30 | 18 | 60 | 6 |
| | 4RTE 040 030 180 | 4 | 3° | 18 | 60 | 6 |
| | 4RTE 040 050 230 | 4 | 5° | 23 | 65 | 8 |
| | 4RTE 040 070 250 | 4 | 7° | 25 | 75 | 10 |
| | 4RTE 050 003 180 | 5 | 0°30 | 18 | 60 | 6 |
| | 4RTE 050 010 180 | 5 | 1° | 18 | 60 | 6 |
| | 4RTE 050 013 180 | 5 | 1°30 | 18 | 60 | 6 |
| | 4RTE 050 020 150 | 5 | 2° | 15 | 60 | 6 |
| | 4RTE 050 023 200 | 5 | 2°30 | 20 | 65 | 8 |
| | 4RTE 050 030 210 | 5 | 3° | 21 | 65 | 8 |
| | 4RTE 050 050 280 | 5 | 5° | 28 | 80 | 10 |
| | 4RTE 050 070 280 | 5 | 7° | 28 | 80 | 12 |
| New | 4RTE 052 0147 120 | 5.2 | 1°47 | 12 | 60 | 6 |
| | 4RTE 060 003 200 | 6 | 0°30 | 20 | 65 | 8 |
| | 4RTE 060 010 200 | 6 | 1° | 20 | 65 | 8 |
| | 4RTE 060 013 200 | 6 | 1°30 | 20 | 65 | 8 |
| | 4RTE 060 020 200 | 6 | 2° | 20 | 65 | 8 |
| | 4RTE 060 023 200 | 6 | 2°30 | 20 | 65 | 8 |
| | 4RTE 060 030 260 | 6 | 3° | 26 | 75 | 10 |
| | 4RTE 060 050 230 | 6 | 5° | 23 | 75 | 10 |
| | 4RTE 060 070 240 | 6 | 7° | 24 | 80 | 12 |
| New | 4RTE 060 100 390 | 6 | 10° | 39 | 110 | 20 |
| | 4RTE 080 003 250 | 8 | 0°30 | 25 | 75 | 10 |
| | 4RTE 080 010 250 | 8 | 1° | 25 | 75 | 10 |
| | 4RTE 080 013 250 | 8 | 1°30 | 25 | 75 | 10 |
| | 4RTE 080 020 250 | 8 | 2° | 25 | 75 | 10 |
| | 4RTE 080 023 230 | 8 | 2°30 | 23 | 75 | 10 |
| | 4RTE 080 030 300 | 8 | 3° | 30 | 80 | 12 |
| | 4RTE 080 050 230 | 8 | 5° | 23 | 85 | 12 |
| New | 4RTE 085 0147 240 | 8.5 | 1°47 | 24 | 75 | 10 |
| | 4RTE 100 003 300 | 10 | 0°30 | 30 | 80 | 12 |
| | 4RTE 100 010 300 | 10 | 1° | 30 | 80 | 12 |
| | 4RTE 100 013 300 | 10 | 1°30 | 30 | 80 | 12 |
| New | 4RTE 100 0147 320 | 10 | 1°47 | 32 | 85 | 12 |
| | 4RTE 100 020 280 | 10 | 2° | 28 | 80 | 12 |
| | 4RTE 100 030 400 | 10 | 3° | 40 | 100 | 16 |
| | 4RTE 100 050 340 | 10 | 5° | 34 | 100 | 16 |

TAPER

# 2CRC

*Fraise 2 Coupes Rayon Concave*

## *Fresa 2 Tagli a Raggio Concavo*




- **Fresa per differenti applicazioni su vari materiali, ghisa, acciai legati, acciai bonificati e temprati.**
- Ottima resistenza all'usura grazie al rivestimento PVD a base SI.
- Elevata tolleranza del filo tagliente.
- Ottima finitura superficiale.
- Prestazioni eccellenti in alta velocità garantite dal metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour différentes applications sur divers matières, fonte, aciers alliés et trempés.***
- *Excellent contre l'usure rapide grâce au revêtement PVD à base de SI.*
- *Tolérance élevée des arêtes de coupe.*
- *Excellente finition de surface.*
- *Performance excellentes à vitesse de coupe élevée.*
- *Carbure Submicrograin 0,2 µm.*

2 | WC 미립자 | TISIN Coating | R ±0.01 (0.1 ~ 2.5R) | R ±0.02 (3 ~ 8R) | 0° Helix Angle | €

List. p.177

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.5 ~ 0.9 | +0 ~ −0.01 mm |
| ø 1.4 ~ 5.9 | +0 ~ −0.02 mm |

Unità: mm

| Numero d'Ordine *Reference* | D x R | d1 | L2 | L | d |
|---|---|---|---|---|---|
| 2CRC 005 001 S04 | 0.5 X R0.1 | 0.8 | 2.5 | 45 | 4 |
| 2CRC 005 0015 S04 | 0.5 X R0.15 | 0.9 | 2.5 | 45 | 4 |
| 2CRC 005 002 S04 | 0.5 X R0.2 | 1 | 2.5 | 45 | 4 |
| 2CRC 005 0025 S04 | 0.5 X R0.25 | 1.1 | 2.5 | 45 | 4 |
| 2CRC 005 003 S04 | 0.5 X R0.3 | 1.2 | 2.5 | 45 | 4 |
| 2CRC 005 0035 S04 | 0.5 X R0.35 | 1.3 | 2.5 | 45 | 4 |
| 2CRC 005 004 S04 | 0.5 X R0.4 | 1.4 | 2.5 | 45 | 4 |
| 2CRC 005 0045 S04 | 0.5 X R0.45 | 1.5 | 2.5 | 45 | 4 |
| 2CRC 005 005 S04 | 0.5 X R0.5 | 1.6 | 2.5 | 45 | 4 |
| 2CRC 009 005 S04 | 0.9 X R0.5 | 2 | 3 | 45 | 4 |
| 2CRC 049 005 S06 | 4.9 X R0.5 | 6 | - | 50 | 6 |
| 2CRC 005 0055 S04 | 0.5 X R0.55 | 1.7 | 3 | 45 | 4 |
| 2CRC 005 006 S04 | 0.5 X R0.6 | 1.8 | 3 | 45 | 4 |
| 2CRC 005 0065 S04 | 0.5 X R0.65 | 1.9 | 3 | 45 | 4 |
| 2CRC 005 007 S04 | 0.5 X R0.7 | 2 | 3 | 45 | 4 |
| 2CRC 009 0075 S04 | 0.9 X R0.75 | 2.5 | 4 | 45 | 4 |
| 2CRC 009 008 S04 | 0.9 X R0.8 | 2.6 | 4 | 45 | 4 |
| 2CRC 009 0085 S04 | 0.9 X R0.85 | 2.7 | 4 | 45 | 4 |
| 2CRC 009 009 S04 | 0.9 X R0.9 | 2.8 | 4 | 45 | 4 |
| 2CRC 009 0095 S04 | 0.9 X R0.95 | 2.9 | 4 | 45 | 4 |
| 2CRC 009 010 S06 | 0.9 X R1 | 3 | 5 | 50 | 6 |
| 2CRC 039 010 S06 | 3.9 X R1 | 6 | - | 50 | 6 |
| 2CRC 059 010 S08 | 5.9 X R1 | 8 | - | 60 | 8 |
| 2CRC 009 0125 S06 | 0.9 X R1.25 | 3.5 | 5 | 50 | 6 |
| 2CRC 034 0125 S06 | 3.4 X R1.25 | 6 | - | 50 | 6 |
| 2CRC 014 015 S06 | 1.4 X R1.5 | 4.5 | 8 | 50 | 6 |
| 2CRC 049 015 S08 | 4.9 X R1.5 | 8 | - | 60 | 8 |
| 2CRC 014 020 S06 | 1.4 X R2 | 5.5 | 10 | 50 | 6 |
| 2CRC 039 020 S08 | 3.9 X R2 | 8 | - | 60 | 8 |
| 2CRC 019 025 S08 | 1.9 X R2.5 | 7 | 13 | 60 | 8 |
| 2CRC 019 030 S08 | 1.9 X R3 | 8 | - | 60 | 8 |
| 2CRC 019 035 S10 | 1.9 X R3.5 | 9 | 13 | 70 | 10 |
| 2CRC 019 040 S10 | 1.9 X R4 | 10 | - | 70 | 10 |
| 2CRC 019 045 S12 | 1.9 X R4.5 | 11 | 13 | 80 | 12 |
| 2CRC 019 050 S12 | 1.9 X R5 | 12 | - | 80 | 12 |
| 2CRC 039 060 S16 | 3.9 X R6 | 16 | - | 90 | 16 |
| 2CRC 059 070 S20 | 5.9 X R7 | 20 | - | 90 | 20 |
| 2CRC 039 080 S20 | 3.9 X R8 | 20 | - | 90 | 20 |

| Numero d'Ordine *Reference* | D x R | d1 | L2 | L | d |
|---|---|---|---|---|---|

GENERAL PURPOSE

# 4CRC

## Fraise 4 Coupes Rayon Concave
## Fresa 4 Tagli a Raggio Concavo

- **Fresa per differenti applicazioni su vari materiali, ghisa, acciai legati, acciai bonificati e temprati.**
- Ottima resistenza all'usura grazie al rivestimento PVD a base SI.
- Elevata tolleranza del filo tagliente.
- Ottima finitura superficiale.
- Prestazioni eccellenti in alta velocità garantite dal metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour différentes applications sur divers matières, fonte, aciers alliés et trempés.***
- *Excellent contre l'usure rapide grâce au revêtement PVD à base de SI.*
- *Tolérance élevée des arêtes de coupe.*
- *Excellente finition de surface.*
- *Performance excellentes à vitesse de coupe élevée.*
- *Carbure Submicrograin 0,2 µm.*

4 | WC 미립자 | TISIN Coating | R ±0.01 (0.5 ~ 2.5R) | R ±0.02 (3 ~ 6R) | 0° Helix Angle | €

List. p.177

| d | Tolleranza/*Tolérance* |
|---|---|
| ø1.4 ~ 5.9 | +0 ~ −0.02 mm |

Unità: mm

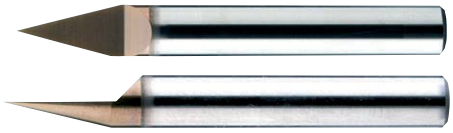
| Numero d'Ordine *Reference* | D x R | d1 | L2 | L | d |
|---|---|---|---|---|---|
| 4CRC 029 005 S04 | 2.9 X R0.5 | 4 | - | 50 | 4 |
| 4CRC 024 0075 S04 | 2.4 X R0.75 | 4 | - | 50 | 4 |
| 4CRC 019 010 S04 | 1.9 X R1 | 4 | - | 50 | 4 |
| New 4CRC 014 0125 S06 | 1.4 X R1.25 | 4 | 8 | 50 | 6 |
| 4CRC 049 005 S06 | 4.9 X R0.5 | 6 | - | 50 | 6 |
| 4CRC 044 0075 S06 | 4.4 X R0.75 | 6 | - | 50 | 6 |
| 4CRC 039 010 S06 | 3.9 X R1 | 6 | - | 50 | 6 |
| 4CRC 059 010 S08 | 5.9 X R1 | 8 | - | 60 | 8 |
| New 4CRC 054 0125 S08 | 5.4 X R1.25 | 8 | - | 60 | 8 |
| 4CRC 049 015 S08 | 4.9 X R1.5 | 8 | - | 60 | 8 |
| 4CRC 039 020 S08 | 3.9 X R2 | 8 | - | 60 | 8 |
| 4CRC 059 020 S10 | 5.9 X R2 | 10 | - | 70 | 10 |
| 4CRC 049 025 S10 | 4.9 X R2.5 | 10 | - | 70 | 10 |
| 4CRC 039 030 S10 | 3.9 X R3 | 10 | - | 70 | 10 |
| 4CRC 059 030 S12 | 5.9 X R3 | 12 | - | 75 | 12 |
| 4CRC 039 040 S12 | 3.9 X R4 | 12 | - | 75 | 12 |
| 4CRC 059 050 S16 | 5.9 X R5 | 16 | - | 80 | 16 |
| 4CRC 039 060 S16 | 3.9 X R6 | 16 | - | 80 | 16 |

| Numero d'Ordine *Reference* | D x R | d1 | L2 | L | d |
|---|---|---|---|---|---|

# 1STE

*Fraise pour Incisions*

## *Fresa Monotagliente per Incisioni*



- **Fresa per differenti applicazioni su vari materiali, ghisa, acciai legati, acciai bonificati e temprati.**
- Ottima resistenza all'usura grazie al rivestimento PVD a base SI.
- Ideale per incisioni grazie al tagliente dritto.
- Vari diametri ed inclinazioni per offrire la massima efficienza.
- ***Fraise pour différentes applications sur divers matières, fonte, aciers alliés et trempés.***
- *Excellent contre l'usure rapide grâce au revêtement PVD à base de SI.*
- *Différents diamétres et inclinations pour une efficacité maximale.*

1 | WC 미립자 | TISIN Coating | D +0.05−0 (ø0) | D +0−0.02 (ø0.1 ~ 0.2) | 0 Helix Angle | € List. p.178

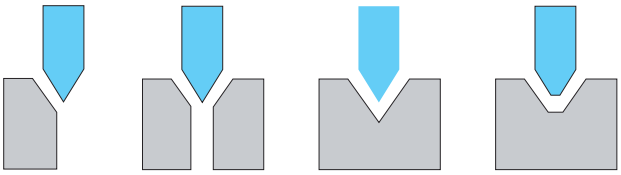
| d | Tolleranza/*Tolérance* |
|---|---|
| ø0 | +0.05~ −0mm |
| ø0.1 ~ 0.2 | +0~ −0.02mm |

Unità: mm

| Numero d'Ordine *Reference* | D | Angolo *Angle* | L1 | L | d |
|---|---|---|---|---|---|
| 1STE 000 200 S04 | 0 | 20° | 5 | 40 | 4 |
| 1STE 000 300 S04 | 0 | 30° | 5 | 40 | 4 |
| 1STE 000 900 S04 | 0 | 90° | 2 | 40 | 4 |
| 1STE 000 200 S06 | 0 | 20° | 5 | 50 | 6 |
| 1STE 000 300 S06 | 0 | 30° | 5 | 50 | 6 |
| 1STE 000 900 S06 | 0 | 90° | 3 | 50 | 6 |
| 1STE 000 1200 S06 | 0 | 120° | 1.73 | 50 | 6 |
| 1STE 0005 200 S04 | 0.05 | 20° | 5 | 40 | 4 |
| 1STE 0005 300 S04 | 0.05 | 30° | 5 | 40 | 4 |
| 1STE 0005 900 S04 | 0.05 | 90° | 1.97 | 40 | 4 |
| 1STE 0005 200 S06 | 0.05 | 20° | 5 | 50 | 6 |
| 1STE 0005 300 S06 | 0.05 | 30° | 5 | 50 | 6 |
| 1STE 0005 900 S06 | 0.05 | 90° | 2.97 | 50 | 6 |
| 1STE 0005 1200 S06 | 0.05 | 120° | 1.71 | 50 | 6 |
| 1STE 001 200 S04 | 0.1 | 20° | 5 | 40 | 4 |
| 1STE 001 300 S04 | 0.1 | 30° | 5 | 40 | 4 |
| New 1STE 001 600 S04 | 0.1 | 60° | 3.37 | 40 | 4 |
| 1STE 001 900 S04 | 0.1 | 90° | 1.95 | 40 | 4 |
| 1STE 001 200 S06 | 0.1 | 20° | 5 | 50 | 6 |
| 1STE 001 300 S06 | 0.1 | 30° | 5 | 50 | 6 |
| 1STE 001 900 S06 | 0.1 | 90° | 2.95 | 50 | 6 |
| 1STE 001 1200 S06 | 0.1 | 120° | 1.7 | 50 | 6 |
| 1STE 0015 200 S04 | 0.15 | 20° | 5 | 40 | 4 |
| 1STE 0015 300 S04 | 0.15 | 30° | 5 | 40 | 4 |
| New 1STE 0015 600 S04 | 0.15 | 60° | 3.33 | 40 | 4 |
| 1STE 0015 900 S04 | 0.15 | 90° | 1.92 | 40 | 4 |
| 1STE 0015 200 S06 | 0.15 | 20° | 5 | 50 | 6 |
| 1STE 0015 300 S06 | 0.15 | 30° | 5 | 50 | 6 |
| 1STE 0015 900 S06 | 0.15 | 90° | 2.92 | 50 | 6 |
| 1STE 0015 1200 S06 | 0.15 | 120° | 1.68 | 50 | 6 |
| 1STE 002 200 S04 | 0.2 | 20° | 5 | 40 | 4 |
| 1STE 002 300 S04 | 0.2 | 30° | 5 | 40 | 4 |
| New 1STE 002 600 S04 | 0.2 | 60° | 3.29 | 40 | 4 |
| 1STE 002 900 S04 | 0.2 | 90° | 1.9 | 40 | 4 |
| 1STE 002 200 S06 | 0.2 | 20° | 5 | 50 | 6 |
| 1STE 002 300 S06 | 0.2 | 30° | 5 | 50 | 6 |
| 1STE 002 900 S06 | 0.2 | 90° | 2.9 | 50 | 6 |
| 1STE 002 1200 S06 | 0.2 | 120° | 1.67 | 50 | 6 |

| Numero d'Ordine *Reference* | D | Angolo *Angle* | L1 | L | d |
|---|---|---|---|---|---|
| New 1STE 003 200 S04 | 0.3 | 20° | 5 | 40 | 4 |
| New 1STE 003 300 S04 | 0.3 | 30° | 5 | 40 | 4 |
| New 1STE 003 600 S04 | 0.3 | 60° | 3.2 | 40 | 4 |
| New 1STE 003 900 S04 | 0.3 | 90° | 1.85 | 40 | 4 |

Esempi di Lavorazione/*Example*

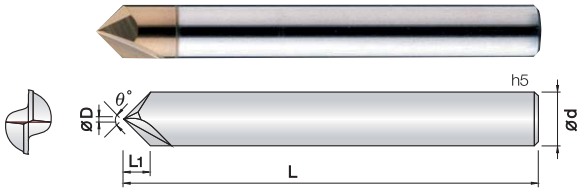


GENERAL PURPOSE

# 2STE

*Fraise 2 Coupes pour Incisions*

## *Fresa 2 Tagli per Incisioni*




- **Fresa per differenti applicazioni su vari materiali, ghisa, acciai legati, acciai bonificati e temprati.**
- Ottima resistenza all'usura grazie al rivestimento PVD a base SI.
- Ideale per incisioni grazie al tagliente dritto.
- Possibilità di lavorare plastiche e resine con frese non rivestite.
- ***Fraise pour différentes applications sur divers matières, fonte, aciers alliés et trempés.***
- *Excellent contre l'usure rapide grâce au revêtement PVD à base de SI.*
- *Possibilité de plastiques et de résines avec counteaux de travail non revêtue.*

2 | WC 미립자 | TISIN Coating | D +0.05 −0 | 0° Helix Angle | €

Ø0

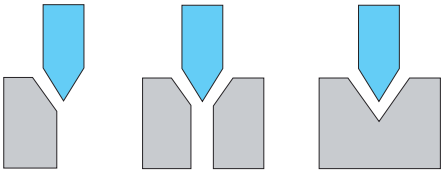
List. p.178/9

| d | Tolleranza/*Tolérance* |
|---|---|
| ø0 | +0.05~ −0mm |

Unità: mm

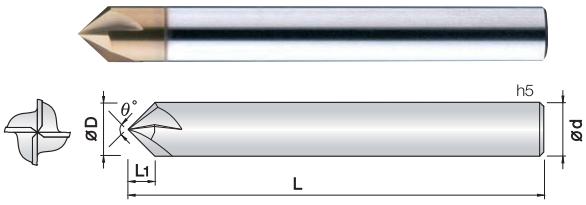
| Numero d'Ordine *Reference* NON rivestito/Non Revêtue | Rivestito R-TAC/Revêtue R-TAC | D | Angolo *Angle* | L1 | L | d | | |
|---|---|---|---|---|---|---|---|---|
| 2STE 000 300 S03 | 2STEC 000 300 S03 | 0 | 30° | 5.5 | 60 | 3 | | |
| 2STE 000 600 S03 | 2STEC 000 600 S03 | 0 | 60° | 2.5 | 60 | 3 | | |
| 2STE 000 900 S03 | 2STEC 000 900 S03 | 0 | 90° | 1.5 | 60 | 3 | | |
| | 2STEC 000 900 080 | 0 | 90° | 1.5 | 80 | 3 | | |
| 2STE 000 1200 S03 | 2STEC 000 1200 S03 | 0 | 120° | 0.86 | 60 | 3 | | |
| 2STE 000 300 S04 | 2STEC 000 300 S04 | 0 | 30° | 7.4 | 60 | 4 | | |
| 2STE 000 600 S04 | 2STEC 000 600 S04 | 0 | 60° | 3.4 | 60 | 4 | | |
| 2STE 000 900 S04 | 2STEC 000 900 S04 | 0 | 90° | 2 | 60 | 4 | | |
| | 2STEC 000 900 100 | 0 | 90° | 2 | 100 | 4 | | |
| 2STE 000 1200 S04 | 2STEC 000 1200 S04 | 0 | 120° | 1.15 | 60 | 4 | | |
| 2STE 000 300 S06 | 2STEC 000 300 S06 | 0 | 30° | 11.1 | 60 | 6 | | |
| 2STE 000 600 S06 | 2STEC 000 600 S06 | 0 | 60° | 5.1 | 60 | 6 | | |
| 2STE 000 900 S06 | 2STEC 000 900 S06 | 0 | 90° | 3 | 60 | 6 | | |
| | 2STEC 000 900 110 | 0 | 90° | 3 | 110 | 6 | | |
| 2STE 000 1200 S06 | 2STEC 0001200 S06 | 0 | 120° | 1.73 | 60 | 6 | | |
| 2STE 000 600 S08 | 2STEC 000 600 S08 | 0 | 60° | 6.9 | 65 | 8 | | |
| 2STE 000 900 S08 | 2STEC 000 900 S08 | 0 | 90° | 4 | 65 | 8 | | |
| | 2STEC 000 900 120 | 0 | 90° | 4 | 120 | 8 | | |
| 2STE 000 1200 S08 | 2STEC 000 1200 S08 | 0 | 120° | 2.3 | 65 | 8 | | |
| 2STE 000 600 S10 | 2STEC 000 600 S10 | 0 | 60° | 8.6 | 70 | 10 | | |
| 2STE 000 900 S10 | 2STEC 000 900 S10 | 0 | 90° | 5 | 70 | 10 | | |
| | 2STEC 000 900 150 | 0 | 90° | 5 | 150 | 10 | | |
| 2STE 000 1200 S10 | 2STEC 000 1200 S10 | 0 | 120° | 2.88 | 70 | 10 | | |
| 2STE 000 600 S12 | 2STEC 000 600 S12 | 0 | 60° | 10.3 | 75 | 12 | | |
| 2STE 000 900 S12 | 2STEC 000 900 S12 | 0 | 90° | 6 | 75 | 12 | | |
| | 2STEC 000 900 160 | 0 | 90° | 6 | 160 | 12 | | |
| 2STE 000 1200 S12 | 2STEC 000 1200 S12 | 0 | 120° | 3.46 | 75 | 12 | | |

Esempi di Lavorazione/*Example*



# 4STE

## Fraise 4 Coupes pour Incisions
## Fresa 4 Tagli per Incisioni




- **Fresa per differenti applicazioni su vari materiali, ghisa, acciai legati, acciai bonificati e temprati.**
- Ottima resistenza all'usura grazie al rivestimento PVD a base SI.
- Ideale per incisioni grazie al tagliente dritto.
- Prestazioni eccellenti in alta velocità garantite dal metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour différentes applications sur divers matières, fonte, aciers alliés et trempés.***
- *Excellent contre l'usure rapide grâce au revêtement PVD à base de SI.*
- *Performance excellentes à vitesse de coupe élevée.*
- *Carbure Submicrograin 0,2 µm.*

4 | WC 미립자 | TISIN Coating | D +0.05 −0 | 0 Helix Angle | €

| d | Tolleranza/*Tolérance* |
|---|---|
| ø0 | +0.05~ −0mm |

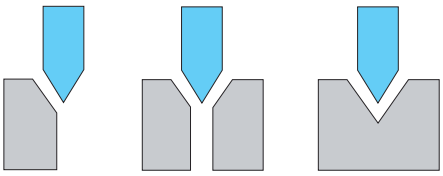
ø0 — List. p.179

Unità: mm

| | Numero d'Ordine *Reference* | D | Angolo *Angle* | L1 | L | d | |
|---|---|---|---|---|---|---|---|
| | 4STE 000 600 S03 | 0 | 60° | 2.5 | 50 | 3 | |
| | 4STE 000 900 S03 | 0 | 90° | 1.5 | 50 | 3 | |
| | 4STE 000 600 S04 | 0 | 60° | 3.4 | 50 | 4 | |
| | 4STE 000 900 S04 | 0 | 90° | 2 | 50 | 4 | |
| | 4STE 000 600 S06 | 0 | 60° | 5.1 | 60 | 6 | |
| | 4STE 000 900 S06 | 0 | 90° | 3 | 60 | 6 | |
| New | 4STE 000 900 030 | 0 | 90° | 3 | 100 | 6 | |
| | 4STE 000 600 S08 | 0 | 60° | 6.9 | 65 | 8 | |
| | 4STE 000 900 S08 | 0 | 90° | 4 | 65 | 8 | |
| New | 4STE 000 900 040 | 0 | 90° | 4 | 100 | 8 | |
| | 4STE 000 600 S10 | 0 | 60° | 8.6 | 75 | 10 | |
| | 4STE 000 900 S10 | 0 | 90° | 5 | 75 | 10 | |
| New | 4STE 000 900 050 | 0 | 90° | 5 | 100 | 10 | |
| | 4STE 000 600 S12 | 0 | 60° | 10.3 | 80 | 12 | |
| | 4STE 000 900 S12 | 0 | 90° | 6 | 80 | 12 | |
| New | 4STE 000 900 080 | 0 | 90° | 8 | 100 | 16 | |

| Numero d'Ordine *Reference* | D | Angolo *Angle* | L1 | L | d | |
|---|---|---|---|---|---|---|
| | | | | | | |

Esempi di Lavorazione/*Example*



GENERAL PURPOSE

# 2CHA

*Fraise 2 Coupes pour Biseau à 45°*

## *Fresa 2 Tagli per Smussatura a 45°*

- **Fresa per differenti applicazioni su vari materiali, ghisa, acciai legati, acciai bonificati e temprati.**
- Ottima resistenza all'usura grazie al rivestimento PVD a base SI.
- Elica a 2 tagli per un minore rendimento di smussatura.
- Prestazioni eccellenti in alta velocità garantite dal metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour différentes applications sur divers matières, fonte, aciers alliés et trempés.***
- *Excellent contre l'usure rapide grâce au revêtement PVD à base de SI.*
- *2 coupes de hélice pour une meilleure performance dans le lissage.*
- *Performance excellentes à vitesse de coupe élevée.*
- *Carbure Submicrograin 0,2 µm.*

2 | WC 미립자 | TISIN Coating | D +0 −0.02 | 30° Helix Angle | €

ø0.8~ ø1 — List. p.179

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.8 ~ 1 | +0 ~ −0.02 mm |

Unità: mm

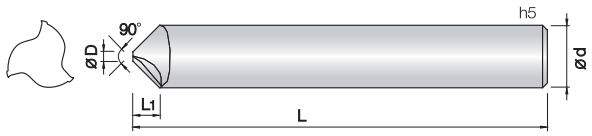
| Numero d'Ordine *Reference* | D | Angolo *Angle* | L1 | L | d | |
|---|---|---|---|---|---|---|
| 2CHA 008 900 011 | 0.8 | 90° | 1.1 | 50 | 3 | |
| 2CHA 008 900 016 | 0.8 | 90° | 1.6 | 50 | 4 | |
| 2CHA 010 900 025 | 1 | 90° | 2.5 | 60 | 6 | |
| 2CHA 010 900 035 | 1 | 90° | 3.5 | 70 | 8 | |
| 2CHA 010 900 045 | 1 | 90° | 4.5 | 80 | 10 | |
| 2CHA 010 900 055 | 1 | 90° | 5.5 | 90 | 12 | |

| Numero d'Ordine *Reference* | D | Angolo *Angle* | L1 | L | d | |
|---|---|---|---|---|---|---|

# 3CHA

*Fraise 3 Coupes pour Biseau à 45°*

## *Fresa 3 Tagli per Smussatura a 45°*




- **Fresa per differenti applicazioni su vari materiali, ghisa, acciai legati, acciai bonificati e temprati.**
- Ottima resistenza all'usura grazie al rivestimento PVD a base SI.
- Elica a 3 tagli per un minore rendimento di smussatura.
- Prestazioni eccellenti in alta velocità garantite dal metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour différentes applications sur divers matières, fonte, aciers alliés et trempés.***
- *Excellent contre l'usure rapide grâce au revêtement PVD à base de SI.*
- *3 coupes de hélice pour une meilleure performance dans le lissage.*
- *Performance excellentes à vitesse de coupe élevée.*
- *Carbure Submicrograin 0,2 µm.*

3 | WC 미립자 | TISIN Coating | D +0 −0.02 | 30° Helix Angle | €

ø0.8~ ø2 — List. p.180

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.8 ~ 2 | +0 ~ −0.02 mm |

Unità: mm

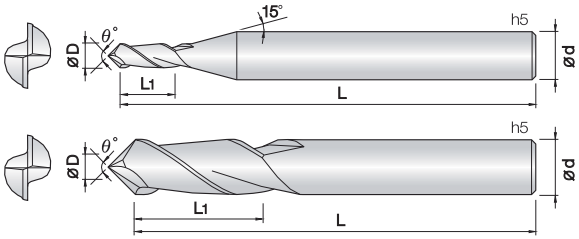
| Numero d'Ordine *Reference* | D | Angolo *Angle* | L1 | L | d | |
|---|---|---|---|---|---|---|
| 3CHA 008 900 011 | 0.8 | 90° | 1.1 | 50 | 3 | |
| 3CHA 008 900 016 | 0.8 | 90° | 1.6 | 50 | 4 | |
| 3CHA 010 900 025 | 1 | 90° | 2.5 | 60 | 6 | |
| 3CHA 010 900 035 | 1 | 90° | 3.5 | 65 | 8 | |
| 3CHA 020 900 045 | 2 | 90° | 4.5 | 75 | 10 | |
| 3CHA 020 900 055 | 2 | 90° | 5.5 | 80 | 12 | |

| Numero d'Ordine *Reference* | D | Angolo *Angle* | L1 | L | d | |
|---|---|---|---|---|---|---|

# 2CEN

*Fraise Multifunction 2 Coupes 60° - 90°*

## *Fresa Multifunzione 2 Tagli 60°-90°*




- **Fresa per materiali acrilici, A.B.S., alluminio e materiali non ferrosi.**
- Fresa multifunzionale per smussatura, fresatura e centratura.
- Materiale Ultra Micrograna ottimizzato per lavorazioni su materiali non ferrosi.
- Versione anche rivestita per lavorazioni di acciai bonificati, temprati e ghise.
- ***Fraise pour acryliques, A.B.S., aluminium et métaux non ferreux.***
- *Fraise multifunction pour ébavurage, fraisage, pointage.*
- *Carbure Micrograin pour usinage métaux non ferreux.*
- *Prevue en version revetue pour aciérs trempés et fonte.*

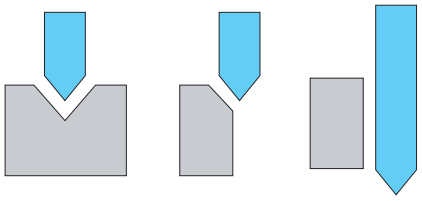
2 | WC 미립자 | JCRO Coating | D +0 −0.01 (Ø0.3~Ø5) | D −0.01 −0.025 (Ø6~Ø12) | D −0.015 −0.03 (Ø14~Ø16) | 30° Helix Angle | € List. p.180

| d | Tolleranza/*Tolérance* |
|---|---|
| ø3 ~ 5 | +0 ~ −0.01 mm |
| ø6 ~ 12 | −0.01 ~ −0.025 mm |
| ø14 ~ 16 | −0.015 ~ −0.03 mm |

Unità: mm

| Numero d'Ordine *Reference* | | D | Angolo *Angle* | L1 | L | d |
|---|---|---|---|---|---|---|
| New 2CEN 002 600 S03 | New 2CENC 002 600 S03 | 0.2 | 60° | 0.4 | 40 | 3 |
| New 2CEN 002 900 S03 | New 2CENC 002 900 S03 | 0.2 | 90° | 0.4 | 40 | 3 |
| 2CEN 003 600 S03 | 2CENC 003 600 S03 | 0.3 | 60° | 0.6 | 45 | 3 |
| 2CEN 003 900 S03 | 2CENC 003 900 S03 | 0.3 | 90° | 0.6 | 45 | 3 |
| 2CEN 005 600 S03 | 2CENC 005 600 S03 | 0.5 | 60° | 1 | 50 | 3 |
| 2CEN 005 900 S03 | 2CENC 005 900 S03 | 0.5 | 90° | 1 | 50 | 3 |
| 2CEN 008 600 S03 | 2CENC 008 600 S03 | 0.8 | 60° | 1.6 | 50 | 3 |
| 2CEN 008 900 S03 | 2CENC 008 900 S03 | 0.8 | 90° | 1.6 | 50 | 3 |
| 2CEN 010 600 S03 | 2CENC 010 600 S03 | 1 | 60° | 2 | 50 | 3 |
| 2CEN 010 900 S03 | 2CENC 010 900 S03 | 1 | 90° | 2 | 50 | 3 |
| New 2CEN 015 600 S03 | New 2CENC 015 600 S03 | 1.5 | 60° | 3 | 50 | 3 |
| New 2CEN 015 900 S03 | New 2CENC 015 900 S03 | 1.5 | 90° | 3 | 50 | 3 |
| 2CEN 020 600 S03 | 2CENC 020 600 S03 | 2 | 60° | 4 | 50 | 3 |
| 2CEN 020 900 S03 | 2CENC 020 900 S03 | 2 | 90° | 4 | 50 | 3 |
| 2CEN 030 600 S03 | 2CENC 030 600 S03 | 3 | 60° | 6 | 50 | 3 |
| 2CEN 030 900 S03 | 2CENC 030 900 S03 | 3 | 90° | 6 | 50 | 3 |
| 2CEN 030 600 S06 | 2CENC 030 600 S06 | 3 | 60° | 6 | 50 | 6 |
| 2CEN 030 900 S06 | 2CENC 030 900 S06 | 3 | 90° | 6 | 50 | 6 |
| 2CEN 040 600 S06 | 2CENC 040 600 S06 | 4 | 60° | 8 | 50 | 6 |
| 2CEN 040 900 S06 | 2CENC 040 900 S06 | 4 | 90° | 8 | 50 | 6 |
| 2CEN 050 600 S06 | 2CENC 050 600 S06 | 5 | 60° | 10 | 50 | 6 |
| 2CEN 050 900 S06 | 2CENC 050 900 S06 | 5 | 90° | 10 | 50 | 6 |
| 2CEN 060 600 S06 | 2CENC 060 600 S06 | 6 | 60° | 12 | 60 | 6 |
| 2CEN 060 900 S06 | 2CENC 060 900 S06 | 6 | 90° | 12 | 60 | 6 |
| 2CEN 080 600 S08 | 2CENC 080 600 S08 | 8 | 60° | 16 | 70 | 8 |
| 2CEN 080 900 S08 | 2CENC 080 900 S08 | 8 | 90° | 16 | 70 | 8 |
| 2CEN 100 600 S10 | 2CENC 100 600 S10 | 10 | 60° | 18 | 70 | 10 |
| 2CEN 100 900 S10 | 2CENC 100 900 S10 | 10 | 90° | 18 | 70 | 10 |
| 2CEN 120 600 S12 | 2CENC 120 600 S12 | 12 | 60° | 20 | 75 | 12 |
| 2CEN 120 900 S12 | 2CENC 120 900 S12 | 12 | 90° | 20 | 75 | 12 |
| 2CEN 140 600 S14 | 2CENC 140 600 S14 | 14 | 60° | 26 | 80 | 14 |
| 2CEN 140 900 S14 | 2CENC 140 900 S14 | 14 | 90° | 26 | 80 | 14 |
| 2CEN 160 600 S16 | 2CENC 160 600 S16 | 16 | 60° | 32 | 100 | 16 |
| 2CEN 160 900 S16 | 2CENC 160 900 S16 | 16 | 90° | 32 | 100 | 16 |

Esempi di Lavorazione/*Example*

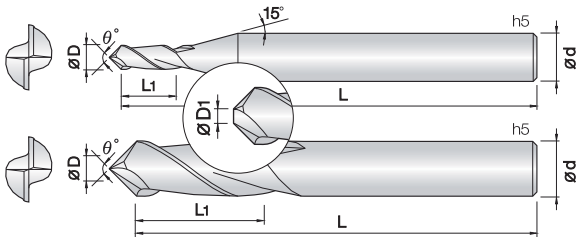


GENERAL PURPOSE

# 2CENE

*Fraise Multifunction 2 Coupes 60° - 90°*

## *Fresa Multifunzione 2 Tagli 60°-90°*




- **Fresa per materiali duri, acciai inossidabili e temprati fino a 50HRc.**
- Fresa multifunzionale per smussatura, fresatura e centratura.
- Materiale Ultra Micrigrana ottimizzato per lavorazioni su materiali non ferrosi.
- Versione anche rivestita per lavorazioni di acciai bonificati, temprati e ghise.
- ***Fraise pour acier dur, acier inoxydable et trémpé jusqu'à 50 HRc.***
- *Fraise multifunction pour ébavurage, fraisage, pointage.*
- *Carbure Micrograin pour usinage métaux non ferreux.*
- *Prevue en version revetue pour aciérs trempés et fonte.*

ø0.5~ø3

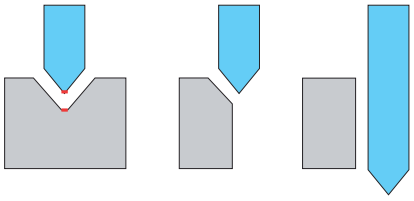
List. p.181

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.5 ~ 3 | +0 ~ −0.01 mm |

Unità: mm

| Numero d'Ordine *Reference* | D | D1 | L1 | L | d | | |
|---|---|---|---|---|---|---|---|
| 2CENE 005 0005 090 | 0.5 | 0.05 | 90° | 1 | 40 | 3 | |
| 2CENE 006 0005 090 | 0.6 | 0.05 | 90° | 1.2 | 40 | 3 | |
| 2CENE 007 0005 090 | 0.7 | 0.05 | 90° | 1.4 | 40 | 3 | |
| 2CENE 008 0005 090 | 0.8 | 0.05 | 90° | 1.6 | 40 | 3 | |
| 2CENE 010 0005 090 | 1 | 0.05 | 90° | 2 | 40 | 3 | |
| 2CENE 010 001 090 | 1 | 0.1 | 90° | 2 | 40 | 3 | |
| 2CENE 010 001 120 | 1 | 0.1 | 120° | 2 | 40 | 3 | |
| 2CENE 012 001 090 | 1.2 | 0.1 | 90° | 2.4 | 40 | 3 | |
| 2CENE 015 001 090 | 1.5 | 0.1 | 90° | 3 | 40 | 3 | |
| 2CENE 015 001 120 | 1.5 | 0.1 | 120° | 3 | 40 | 3 | |
| 2CENE 020 001 090 | 2 | 0.1 | 90° | 4 | 40 | 3 | |
| 2CENE 020 002 090 | 2 | 0.2 | 90° | 4 | 40 | 3 | |
| 2CENE 020 002 120 | 2 | 0.2 | 120° | 4 | 40 | 3 | |
| 2CENE 025 002 090 | 2.5 | 0.2 | 90° | 5 | 40 | 3 | |
| 2CENE 030 002 090 | 3 | 0.2 | 90° | 6 | 40 | 3 | |
| 2CENE 030 002 120 | 3 | 0.2 | 120° | 6 | 40 | 3 | |

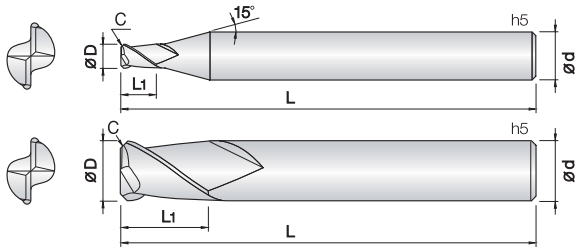
Esempi di Lavorazione/*Example*



# 2CCMC

*Fraise 2 Coupes*

## *Fresa 2 Tagli*




- **Fresa per alluminio e materiali non ferrosi.**
- Il rivestimento J-CRO migliora la resistenza all'usura e riduce lo sforzo nel taglio in varie applicazioni.
- Ideale per smussature ad angolo.
- Materiale Ultra Micrigrana ottimizzato per lavorazioni su materiali non ferrosi.
- ***Fraise pour acier dur, acier inoxydable et trémpé jusqu'à 50 HRc.***
- *Fraise multifunction pour ébavurage, fraisage, pointage.*
- *Carbure Micrograin pour usinage métaux non ferreux.*
- *Prevue en version revetue pour aciérs trempés et fonte.*

2 | WC 미립자 | JCRO Coating | D +0 –0.01 (Ø1~Ø5) | D –0.01 –0.025 (Ø6~ Ø12) | 30° Helix Angle | €

List. p.181

| d | Tolleranza/*Tolérance* |
|---|---|
| ø1 ~ 5 | +0 ~ −0.01 mm |
| ø6 ~ 12 | −0.01 ~ −0.025 mm |

Unità: mm

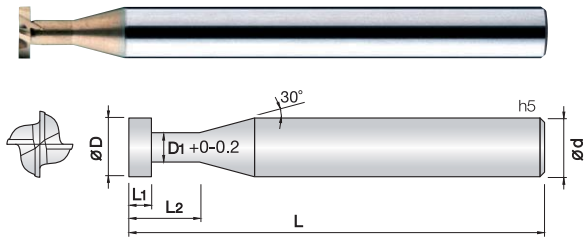
| Numero d'Ordine *Reference* | D | C | L1 | L | d |
|---|---|---|---|---|---|
| 2CCMC 010 0002 S04 | 1 | 0.02 | 2.5 | 45 | 4 |
| 2CCMC 010 0005 S04 | 1 | 0.05 | 2.5 | 45 | 4 |
| 2CCMC 010 001 S04 | 1 | 0.1 | 2.5 | 45 | 4 |
| 2CCMC 010 002 S04 | 1 | 0.2 | 2.5 | 45 | 4 |
| 2CCMC 010 003 S04 | 1 | 0.3 | 2.5 | 45 | 4 |
| 2CCMC 015 0005 S04 | 1.5 | 0.05 | 4 | 45 | 4 |
| 2CCMC 015 001 S04 | 1.5 | 0.1 | 4 | 45 | 4 |
| 2CCMC 015 002 S04 | 1.5 | 0.2 | 4 | 45 | 4 |
| 2CCMC 015 003 S04 | 1.5 | 0.3 | 4 | 45 | 4 |
| 2CCMC 015 005 S04 | 1.5 | 0.5 | 4 | 45 | 4 |
| 2CCMC 020 0005 S04 | 2 | 0.05 | 6 | 45 | 4 |
| 2CCMC 020 001 S04 | 2 | 0.1 | 6 | 45 | 4 |
| 2CCMC 020 002 S04 | 2 | 0.2 | 6 | 45 | 4 |
| 2CCMC 020 003 S04 | 2 | 0.3 | 6 | 45 | 4 |
| 2CCMC 020 004 S04 | 2 | 0.4 | 6 | 45 | 4 |
| 2CCMC 020 005 S04 | 2 | 0.5 | 6 | 45 | 4 |
| 2CCMC 030 0005 S06 | 3 | 0.05 | 8 | 50 | 6 |
| 2CCMC 030 001 S06 | 3 | 0.1 | 8 | 50 | 6 |
| 2CCMC 030 002 S06 | 3 | 0.2 | 8 | 50 | 6 |
| 2CCMC 030 003 S06 | 3 | 0.3 | 8 | 50 | 6 |
| 2CCMC 030 005 S06 | 3 | 0.5 | 8 | 50 | 6 |
| 2CCMC 030 010 S06 | 3 | 1 | 8 | 50 | 6 |
| 2CCMC 040 0005 S06 | 4 | 0.05 | 11 | 50 | 6 |
| 2CCMC 040 001 S06 | 4 | 0.1 | 11 | 50 | 6 |
| 2CCMC 040 002 S06 | 4 | 0.2 | 11 | 50 | 6 |
| 2CCMC 040 003 S06 | 4 | 0.3 | 11 | 50 | 6 |
| 2CCMC 040 005 S06 | 4 | 0.5 | 11 | 50 | 6 |
| 2CCMC 040 010 S06 | 4 | 1 | 11 | 50 | 6 |
| 2CCMC 040 015 S06 | 4 | 1.5 | 11 | 50 | 6 |
| 2CCMC 050 001 S06 | 5 | 0.1 | 13 | 60 | 6 |
| 2CCMC 050 002 S06 | 5 | 0.2 | 13 | 60 | 6 |
| 2CCMC 050 005 S06 | 5 | 0.5 | 13 | 60 | 6 |
| 2CCMC 050 010 S06 | 5 | 1 | 13 | 60 | 6 |
| 2CCMC 050 015 S06 | 5 | 1.5 | 13 | 60 | 6 |
| 2CCMC 050 020 S06 | 5 | 2 | 13 | 60 | 6 |
| 2CCMC 060 0005 S06 | 6 | 0.05 | 13 | 60 | 6 |
| 2CCMC 060 001 S06 | 6 | 0.1 | 13 | 60 | 6 |
| 2CCMC 060 002 S06 | 6 | 0.2 | 13 | 60 | 6 |
| 2CCMC 060 003 S06 | 6 | 0.3 | 13 | 60 | 6 |
| 2CCMC 060 005 S06 | 6 | 0.5 | 13 | 60 | 6 |
| 2CCMC 060 010 S06 | 6 | 1 | 13 | 60 | 6 |
| 2CCMC 060 015 S06 | 6 | 1.5 | 13 | 60 | 6 |
| 2CCMC 060 020 S06 | 6 | 2 | 13 | 60 | 6 |
| 2CCMC 060 025 S06 | 6 | 2.5 | 13 | 60 | 6 |
| 2CCMC 080 001 S08 | 8 | 0.1 | 19 | 70 | 8 |
| 2CCMC 080 002 S08 | 8 | 0.2 | 19 | 70 | 8 |
| 2CCMC 080 005 S08 | 8 | 0.5 | 19 | 70 | 8 |
| 2CCMC 080 010 S08 | 8 | 1 | 19 | 70 | 8 |
| 2CCMC 080 015 S08 | 8 | 1.5 | 19 | 70 | 8 |
| 2CCMC 080 020 S08 | 8 | 2 | 19 | 70 | 8 |

| Numero d'Ordine *Reference* | D | C | L1 | L | d |
|---|---|---|---|---|---|
| 2CCMC 080 025 S08 | 8 | 2.5 | 19 | 70 | 8 |
| 2CCMC 080 030 S08 | 8 | 3 | 19 | 70 | 8 |
| 2CCMC 100 001 S10 | 10 | 0.1 | 22 | 75 | 10 |
| 2CCMC 100 002 S10 | 10 | 0.2 | 22 | 75 | 10 |
| 2CCMC 100 005 S10 | 10 | 0.5 | 22 | 75 | 10 |
| 2CCMC 100 010 S10 | 10 | 1 | 22 | 75 | 10 |
| 2CCMC 100 015 S10 | 10 | 1.5 | 22 | 75 | 10 |
| 2CCMC 100 020 S10 | 10 | 2 | 22 | 75 | 10 |
| 2CCMC 100 030 S10 | 10 | 3 | 22 | 75 | 10 |
| 2CCMC 100 040 S10 | 10 | 4 | 22 | 75 | 10 |
| 2CCMC 120 001 S12 | 12 | 0.1 | 26 | 80 | 12 |
| 2CCMC 120 002 S12 | 12 | 0.2 | 26 | 80 | 12 |
| 2CCMC 120 005 S12 | 12 | 0.5 | 26 | 80 | 12 |
| 2CCMC 120 010 S12 | 12 | 1 | 26 | 80 | 12 |
| 2CCMC 120 015 S12 | 12 | 1.5 | 26 | 80 | 12 |
| 2CCMC 120 020 S12 | 12 | 2 | 26 | 80 | 12 |
| 2CCMC 120 030 S12 | 12 | 3 | 26 | 80 | 12 |
| 2CCMC 120 040 S12 | 12 | 4 | 26 | 80 | 12 |
| 2CCMC 120 050 S12 | 12 | 5 | 26 | 80 | 12 |

# 4TES

*Fraise T 4 Coupes*

## *Fresa T 4 Tagli*




- **Fresa per differenti applicazioni su vari materiali, ghisa, acciai legati, bonificati e temprati.**
- Il rivestimento J-CRO migliora la resistenza all'usura e riduce lo sforzo nel taglio in varie applicazioni.
- Geometria a 4 tagli per ridurre scheggiature.
- Ampia gamma per ottimizzare il rendimento.
- ***Fraise pour différentes applications sur divers matériaux, fonte, aciers alliés et trempés.***
- *Le revêtement J-CRO apporte une bonne résistance à l'usure pour différentes applications.*
- *Géométrie avec 4 coupes pour réduire l'écaillage.*

| d | Tolleranza/*Tolérance* |
|---|---|
| ø2 ~ 5 | +0 ~ −0.02 mm |
| ø6 ~ 10 | −0.01 ~ −0.03 mm |

4 | WC 미립자 | JCRO Coating | D +0 −0.02 (ø2~ø5) | D −0.01 −0.03 (ø6~ø10) | L1 ±0.03 (ø2 ~ 5) | L1 ±0.05 (ø6 ~ 10) | 15° Helix Angle | € List. p.182

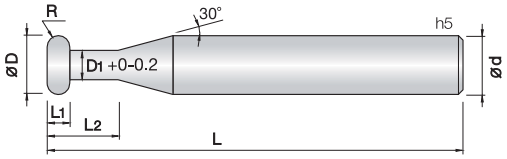
Unità: mm

| Numero d'Ordine *Reference* NON rivestito/Non Revêtue | Rivestito R-TAC/Revêtue R-TAC | D | L1 | L2 | D1 | L | d | | |
|---|---|---|---|---|---|---|---|---|---|
| 4TES 020 003 040 | 4TESC 020 003 040 | 2 | 0.3 | 4 | 1 | 50 | 6 | | |
| 4TES 020 005 040 | 4TESC 020 005 040 | 2 | 0.5 | 4 | 1 | 50 | 6 | | |
| 4TES 030 003 045 | 4TESC 030 003 045 | 3 | 0.3 | 4.5 | 1.5 | 50 | 6 | | |
| 4TES 030 005 045 | 4TESC 030 005 045 | 3 | 0.5 | 4.5 | 1.5 | 50 | 6 | | |
| 4TES 030 010 045 | 4TESC 030 010 045 | 3 | 1 | 4.5 | 1.5 | 50 | 6 | | |
| 4TES 040 003 050 | 4TESC 040 003 050 | 4 | 0.3 | 5 | 2 | 50 | 6 | | |
| 4TES 040 005 050 | 4TESC 040 005 050 | 4 | 0.5 | 5 | 2 | 50 | 6 | | |
| 4TES 040 010 050 | 4TESC 040 010 050 | 4 | 1 | 5 | 2 | 50 | 6 | | |
| 4TES 050 005 045 | 4TESC 050 005 045 | 5 | 0.5 | 4.5 | 2.5 | 50 | 6 | | |
| 4TES 050 010 050 | 4TESC 050 010 050 | 5 | 1 | 5 | 2.5 | 50 | 6 | | |
| 4TES 050 015 055 | 4TESC 050 015 055 | 5 | 1.5 | 5.5 | 2.5 | 50 | 6 | | |
| 4TES 050 020 060 | 4TESC 050 020 060 | 5 | 2 | 6 | 2.5 | 50 | 6 | | |
| 4TES 060 005 045 | 4TESC 060 005 045 | 6 | 0.5 | 4.5 | 3 | 60 | 6 | | |
| 4TES 060 010 050 | 4TESC 060 010 050 | 6 | 1 | 5 | 3 | 60 | 6 | | |
| 4TES 060 015 055 | 4TESC 060 015 055 | 6 | 1.5 | 5.5 | 3 | 60 | 6 | | |
| 4TES 060 020 060 | 4TESC 060 020 060 | 6 | 2 | 6 | 3 | 60 | 6 | | |
| 4TES 080 005 045 | 4TESC 080 005 045 | 8 | 0.5 | 4.5 | 4 | 60 | 8 | | |
| 4TES 080 010 050 | 4TESC 080 010 050 | 8 | 1 | 5 | 4 | 60 | 8 | | |
| 4TES 080 015 055 | 4TESC 080 015 055 | 8 | 1.5 | 5.5 | 4 | 60 | 8 | | |
| 4TES 080 020 060 | 4TESC 080 020 060 | 8 | 2 | 6 | 4 | 60 | 8 | | |
| 4TES 080 030 070 | 4TESC 080 030 070 | 8 | 3 | 7 | 4 | 60 | 8 | | |
| 4TES 100 010 070 | 4TESC 100 010 070 | 10 | 1 | 7 | 5 | 70 | 10 | | |
| 4TES 100 020 080 | 4TESC 100 020 080 | 10 | 2 | 8 | 5 | 70 | 10 | | |
| 4TES 100 030 090 | 4TESC 100 030 090 | 10 | 3 | 9 | 5 | 70 | 10 | | |

# 4TRS

*Fraise T 4 Coupes - Radial*

## *Fresa T 4 Tagli - Raggiata*




- **Fresa per differenti applicazioni su vari materiali, ghisa, acciai legati, bonificati e temprati.**
- Il rivestimento J-CRO migliora la resistenza all'usura e riduce lo sforzo nel taglio in varie applicazioni.
- Geometria a 4 tagli per ridurre scheggiature.
- Ampia gamma per ottimizzare il rendimento.
- ***Fraise pour différentes applications sur divers matériaux, fonte, aciers alliés et trempés.***
- *Le revêtement J-CRO apporte une bonne résistance à l'usure pour différentes applications.*
- *Géométrie avec 4 coupes pour réduire l'écaillage.*

List. p.183

| d | Tolleranza/*Tolérance* |
|---|---|
| ø5 ~ 12 | -0.01~ -0.025mm |

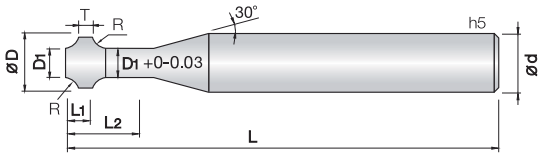
Unità: mm

| Numero d'Ordine *Reference* | D X R | L1 | L2 | D1 | L | d |
|---|---|---|---|---|---|---|
| 4TRS 050 010 045 | 5 X 0.5R | 1 | 4.5 | 2.5 | 50 | 6 |
| 4TRS 050 010 070 | 5 X 0.5R | 1 | 7 | 2.5 | 50 | 6 |
| 4TRS 050 020 055 | 5 X 1R | 2 | 5.5 | 2.5 | 50 | 6 |
| 4TRS 060 010 050 | 6 X 0.5R | 1 | 5 | 3 | 50 | 6 |
| 4TRS 060 010 080 | 6 X 0.5R | 1 | 8 | 3 | 50 | 6 |
| 4TRS 060 015 055 | 6 X 0.75R | 1.5 | 5.5 | 3 | 50 | 6 |
| 4TRS 060 020 060 | 6 X 1R | 2 | 6 | 3 | 50 | 6 |
| 4TRS 060 020 100 | 6 X 1R | 2 | 10 | 3 | 50 | 6 |
| 4TRS 080 020 070 | 8 X 1R | 2 | 7 | 4 | 60 | 8 |
| 4TRS 080 020 130 | 8 X 1R | 2 | 13 | 4 | 60 | 8 |
| 4TRS 080 030 080 | 8 X 1.5R | 3 | 8 | 4 | 60 | 8 |
| 4TRS 100 040 100 | 10 X 2R | 4 | 10 | 4.5 | 70 | 10 |
| 4TRS 100 040 160 | 10 X 2R | 4 | 16 | 4.5 | 70 | 10 |
| 4TRS 120 060 150 | 12 X 3R | 6 | 15 | 5 | 75 | 12 |
| 4TRS 120 060 210 | 12 X 3R | 6 | 21 | 5 | 75 | 12 |

# 3TRC

*Fraise T 3 Coupes - Double Rayon Concave*

## *Fresa T 3 Tagli - Doppio Raggio Concavo*




- **Fresa per differenti applicazioni su vari materiali, ghisa, acciai legati, bonificati e temprati.**
- Il rivestimento J-CRO migliora la resistenza all'usura e riduce lo sforzo nel taglio in varie applicazioni.
- Geometria a 4 tagli per ridurre scheggiature.
- Ampia gamma per ottimizzare il rendimento.
- ***Fraise pour différentes applications sur divers matériaux, fonte, aciers alliés et trempés.***
- *Le revêtement J-CRO apporte une bonne résistance à l'usure pour différentes applications.*
- *Géométrie avec 4 coupes pour réduire l'écaillage.*

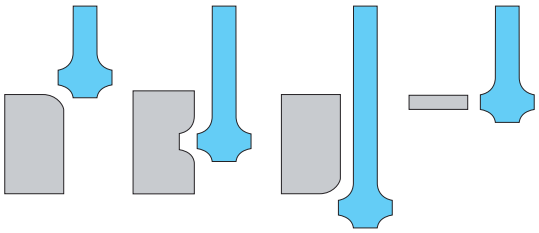
3 | WC 미립자 | JCRO Coating | R ±0.02 (0.2R~3R) | D +0 −0.03 (ø1.9~ø12) | 0° Helix Angle | € List. p.183

| d | Tolleranza/*Tolérance* |
|---|---|
| ø1.9 ~ 12 | 0 ~ −0.03 mm |

Unità: mm

| Numero d'Ordine *Reference* | D X R | D1 | T | L1 | L2 | L | d |
|---|---|---|---|---|---|---|---|
| 3TRC 019 002 080 | 1.9 X R0.2 | 1.45 | 0.9 | 1.45 | 8 | 60 | 4 |
| 3TRC 024 003 090 | 2.4 X R0.3 | 1.75 | 1.2 | 1.95 | 9 | 60 | 4 |
| 3TRC 026 004 100 | 2.6 X R0.4 | 1.75 | 1.5 | 2.5 | 10 | 60 | 4 |
| 3TRC 029 005 120 | 2.9 X R0.5 | 1.85 | 1.8 | 3 | 12 | 60 | 4 |
| 3TRC 049 005 150 | 4.9 X R0.5 | 3.8 | 2 | 3.3 | 15 | 80 | 6 |
| 3TRC 068 010 200 | 6.8 X R1 | 4.7 | 2.2 | 4.3 | 20 | 80 | 8 |
| 3TRC 079 015 250 | 7.9 X R1.5 | 4.7 | 2.5 | 5.8 | 25 | 80 | 8 |
| 3TRC 099 020 300 | 9.9 X R2 | 5.8 | 2.8 | 6.8 | 30 | 80 | 10 |
| 3TRC 119 030 350 | 11.9 X R3 | 5.8 | 3 | 8.8 | 35 | 80 | 12 |

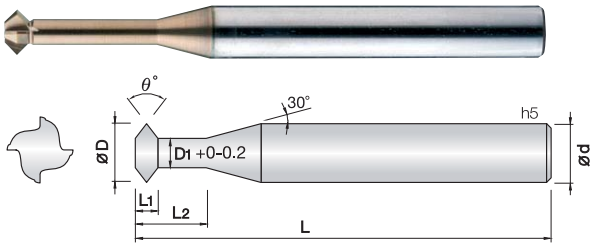
Esempi di Lavorazione/*Example*



# 4&6TDA

*Fraise T 4&6 Coupes - Angle Double*

## *Fresa T 4/6 Tagli - Doppio Angolo*




- **Fresa per differenti applicazioni su vari materiali, ghisa, acciai legati, bonificati e temprati.**
- Il rivestimento J-CRO migliora la resistenza all'usura e riduce lo sforzo nel taglio in varie applicazioni.
- Geometria a 4 tagli per ridurre scheggiature.
- Ampia gamma per ottimizzare il rendimento.
- ***Fraise pour différentes applications sur divers matériaux, fonte, aciers alliés et trempés.***
- *Le revêtement J-CRO apporte une bonne résistance à l'usure pour différentes applications.*
- *Géométrie avec 4 coupes pour réduire l'écaillage.*

4 | 6 | WC 미립자 | JCRO Coating | D +0 –0.02 (ø1.5~ø5) | D –0.01 –0.03 (ø6~ø12) | L1 ±0.03 (ø1.5~ø5) | L1 ±0.05 (ø6 ~ 12) | 0° Helix Angle | €

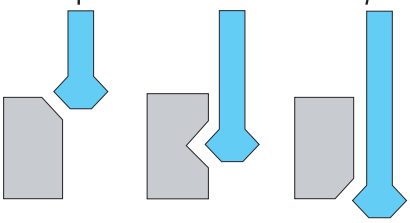
List. p.183

| d | |
|---|---|
| ø1.5 ~ 5 | +0 ~ −0.02 mm |
| ø6 ~ 12 | −0.01 ~ −0.03 mm |

Unità: mm

| Numero d'Ordine *Reference* | D | Angolo *Angle* | L1 | L2 | D1 | L | d |
|---|---|---|---|---|---|---|---|
| 4TDA 015 600 030 | 1.5 | 60° | 0.43 | 3 | 0.75 | 45 | 4 |
| 4TDA 015 900 030 | 1.5 | 90° | 0.75 | 3 | 0.75 | 45 | 4 |
| 4TDA 020 600 050 | 2 | 60° | 0.57 | 5 | 1 | 50 | 4 |
| 4TDA 020 900 050 | 2 | 90° | 1 | 5 | 1 | 50 | 4 |
| 4TDA 025 600 060 | 2.5 | 60° | 0.75 | 6 | 1.2 | 50 | 4 |
| 4TDA 025 900 060 | 2.5 | 90° | 1.3 | 6 | 1.2 | 50 | 4 |
| 4TDA 030 600 075 | 3 | 60° | 0.86 | 7.5 | 1.5 | 50 | 4 |
| 4TDA 030 600 120 | 3 | 60° | 0.86 | 12 | 1.5 | 50 | 4 |
| 4TDA 030 900 075 | 3 | 90° | 1.5 | 7.5 | 1.5 | 50 | 4 |
| 4TDA 030 900 120 | 3 | 90° | 1.5 | 12 | 1.5 | 50 | 4 |
| 4TDA 040 600 100 | 4 | 60° | 1.15 | 10 | 2 | 50 | 4 |
| 4TDA 040 600 160 | 4 | 60° | 1.15 | 16 | 2 | 50 | 4 |
| 4TDA 040 900 100 | 4 | 90° | 2 | 10 | 2 | 50 | 4 |
| 4TDA 040 900 160 | 4 | 90° | 2 | 16 | 2 | 50 | 4 |
| 4TDA 050 600 125 | 5 | 60° | 1.44 | 12.5 | 2.5 | 60 | 6 |
| 4TDA 050 600 200 | 5 | 60° | 1.44 | 20 | 2.5 | 60 | 6 |
| 4TDA 050 900 125 | 5 | 90° | 2.4 | 12.5 | 2.5 | 60 | 6 |
| 4TDA 050 900 200 | 5 | 90° | 2.4 | 20 | 2.5 | 60 | 6 |
| 4TDA 060 600 150 | 6 | 60° | 1.73 | 15 | 3 | 60 | 6 |
| 4TDA 060 600 250 | 6 | 60° | 1.73 | 25 | 3 | 60 | 6 |
| 4TDA 060 900 150 | 6 | 90° | 2.8 | 15 | 3 | 60 | 6 |
| 4TDA 060 900 250 | 6 | 90° | 2.8 | 25 | 3 | 60 | 6 |
| 6TDA 080 600 200 | 8 | 60° | 2.3 | 20 | 4 | 70 | 8 |
| 6TDA 080 600 280 | 8 | 60° | 2.3 | 28 | 4 | 70 | 8 |
| 6TDA 080 900 200 | 8 | 90° | 3.8 | 20 | 4 | 70 | 8 |
| 6TDA 080 900 280 | 8 | 90° | 3.8 | 28 | 4 | 70 | 8 |
| 6TDA 100 600 250 | 10 | 60° | 2.8 | 25 | 5 | 75 | 10 |
| 6TDA 100 600 350 | 10 | 60° | 2.8 | 35 | 5 | 75 | 10 |
| 6TDA 100 900 250 | 10 | 90° | 4.8 | 25 | 6 | 80 | 10 |
| 6TDA 100 900 350 | 10 | 90° | 4.8 | 35 | 6 | 80 | 10 |
| 6TDA 120 600 300 | 12 | 60° | 3.4 | 30 | 6 | 80 | 12 |
| 6TDA 120 600 420 | 12 | 60° | 3.4 | 42 | 6 | 80 | 12 |
| 6TDA 120 900 300 | 12 | 90° | 5.8 | 30 | 6 | 80 | 12 |
| 6TDA 120 900 420 | 12 | 90° | 5.8 | 42 | 6 | 80 | 12 |

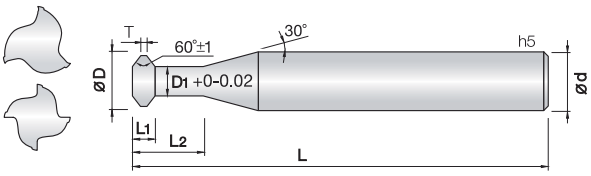
Esempi di Lavorazione/*Example*



# 3&4THC

*Fraise T 3 /4 Coupes - Outil à tourbilloner*

## *Fresa a Filettare 3/4 Tagli*




- **Fresa per differenti applicazioni su vari materiali, ghisa, acciai legati, bonificati e temprati.**
- Il rivestimento J-CRO migliora la resistenza all'usura e riduce lo sforzo nel taglio in varie applicazioni.
- Geometria a 4 tagli per ridurre scheggiature.
- Ampia gamma per ottimizzare il rendimento.
- ***Fraise pour différentes applications sur divers matériaux, fonte, aciers alliés et trempés.***
- *Le revêtement J-CRO apporte une bonne résistance à l'usure pour différentes applications.*
- *Géométrie avec 4 coupes pour réduire l'écaillage.*

3 | 4 | WC 미립자 | JCRO Coating | D +0 −0.02 | T ±0.01 | 0° Helix Angle | €

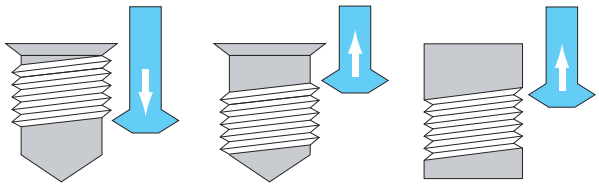
ø0.57~ø8 ø0.01~ø0.09 List. p.184

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 5 ~ 12 | -0.01~ −0.025mm |

Unità: mm

| Numero d'Ordine *Reference* | D | T | L1 | L2 | D1 | L | d |
|---|---|---|---|---|---|---|---|
| 3THC 0057 025 M008 | 0.57 | 0.01 | 0.16 | 2.5 | 0.3 | 40 | 4 |
| 3THC 0065 028 M009 | 0.65 | 0.01 | 0.18 | 2.8 | 0.35 | 40 | 4 |
| 3THC 007 030 M01 | 0.7 | 0.015 | 0.19 | 3 | 0.4 | 40 | 4 |
| 3THC 009 036 M012 | 0.9 | 0.015 | 0.2 | 3.6 | 0.57 | 40 | 4 |
| 3THC 0105 045 M014 | 1.05 | 0.02 | 0.24 | 4.5 | 0.66 | 40 | 4 |
| 3THC 012 050 M016 | 1.2 | 0.02 | 0.28 | 5 | 0.75 | 40 | 4 |
| 4THC 015 060 M02 | 1.5 | 0.025 | 0.31 | 6 | 1 | 45 | 4 |
| 4THC 019 070 M025 | 1.9 | 0.025 | 0.34 | 7 | 1.35 | 45 | 4 |
| 4THC 023 090 M03 | 2.3 | 0.03 | 0.43 | 9 | 1.6 | 65 | 6 |
| 4THC 031 120 M04 | 3.1 | 0.04 | 0.56 | 12 | 2.2 | 65 | 6 |
| 4THC 040 150 M05 | 4 | 0.05 | 0.62 | 15 | 3 | 65 | 6 |
| 4THC 048 180 M06 | 4.8 | 0.07 | 0.79 | 18 | 3.55 | 75 | 6 |
| 4THC 065 230 M08 | 6.5 | 0.08 | 0.94 | 23 | 5 | 80 | 8 |
| 4THC 079 260 M10 | 7.9 | 0.09 | 1.13 | 26 | 6.1 | 80 | 8 |

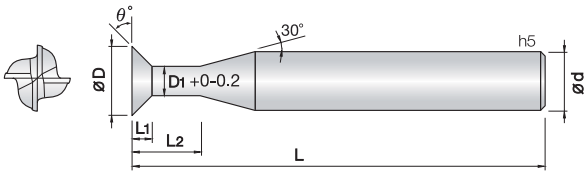
Esempi di Lavorazione/*Example*



# 4&6TAC

*Fraise T 4/6 Coupes - Queue d'Aronde*

## *Fresa T 4/6 tagli - Coda di Rondine*




- **Fresa per differenti applicazioni su vari materiali, ghisa, acciai legati, bonificati e temprati.**
- Il rivestimento J-CRO migliora la resistenza all'usura e riduce lo sforzo nel taglio in varie applicazioni.
- Geometria a 4 tagli per ridurre scheggiature.
- Ampia gamma per ottimizzare il rendimento.
- ***Fraise pour différentes applications sur divers matériaux, fonte, aciers alliés et trempés.***
- *Le revêtement J-CRO apporte une bonne résistance à l'usure pour différentes applications.*
- *Géométrie avec 4 coupes pour réduire l'écaillage.*

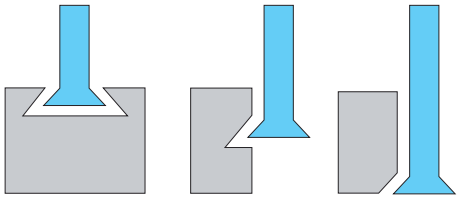
4 | 6 | WC 미립자 | JCRO Coating | D +0 –0.02 ø1.5~ø5 | D –0.01 –0.03 ø6~ø12 | L1 ±0.03 ø1.5~ø5 | L1 ±0.05 ø6 ~ 12 | 0° Helix Angle | € List. p.184

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 1.5 ~ 5 | +0 ~ −0.02 mm |
| ø 6 ~ 12 | −0.01 ~ −0.03 mm |

Unità: mm

| Numero d'Ordine *Reference* | D | Angolo *Angle* | L1 | L2 | D1 | L | d |
|---|---|---|---|---|---|---|---|
| 4TAC 015 300 030 | 1.5 | 30° | 0.21 | 3 | 0.75 | 45 | 4 |
| 4TAC 015 450 030 | 1.5 | 45° | 0.37 | 3 | 0.75 | 45 | 4 |
| 4TAC 020 300 050 | 2 | 30° | 0.28 | 5 | 1 | 50 | 4 |
| 4TAC 020 450 050 | 2 | 45° | 0.5 | 5 | 1 | 50 | 4 |
| 4TAC 025 300 060 | 2.5 | 30° | 0.37 | 6 | 1.2 | 50 | 4 |
| 4TAC 025 450 060 | 2.5 | 45° | 0.65 | 6 | 1.2 | 50 | 4 |
| 4TAC 030 300 075 | 3 | 30° | 0.43 | 7.5 | 1.5 | 50 | 4 |
| 4TAC 030 300 120 | 3 | 30° | 0.43 | 12 | 1.5 | 50 | 4 |
| 4TAC 030 450 075 | 3 | 45° | 0.75 | 7.5 | 1.5 | 50 | 4 |
| 4TAC 030 450 120 | 3 | 45° | 0.75 | 12 | 1.5 | 50 | 4 |
| 4TAC 040 300 100 | 4 | 30° | 0.57 | 10 | 2 | 50 | 4 |
| 4TAC 040 300 160 | 4 | 30° | 0.57 | 16 | 2 | 50 | 4 |
| 4TAC 040 450 100 | 4 | 45° | 1 | 10 | 2 | 50 | 4 |
| 4TAC 040 450 160 | 4 | 45° | 1 | 16 | 2 | 50 | 4 |
| 4TAC 050 300 125 | 5 | 30° | 0.72 | 12.5 | 2.5 | 60 | 6 |
| 4TAC 050 450 125 | 5 | 45° | 1.25 | 12.5 | 2.5 | 60 | 6 |
| 4TAC 060 300 150 | 6 | 30° | 0.86 | 15 | 3 | 60 | 6 |
| 4TAC 060 300 240 | 6 | 30° | 0.86 | 24 | 3 | 60 | 6 |
| 4TAC 060 450 150 | 6 | 45° | 1.5 | 15 | 3 | 60 | 6 |
| 4TAC 060 450 240 | 6 | 45° | 1.5 | 24 | 3 | 60 | 6 |
| 6TAC 080 300 200 | 8 | 30° | 1.15 | 20 | 4 | 70 | 8 |
| 6TAC 080 300 280 | 8 | 30° | 1.15 | 28 | 4 | 70 | 8 |
| 6TAC 080 450 200 | 8 | 45° | 2 | 20 | 4 | 70 | 8 |
| 6TAC 080 450 280 | 8 | 45° | 2 | 28 | 4 | 70 | 8 |
| 6TAC 100 300 250 | 10 | 30° | 1.44 | 25 | 5 | 75 | 10 |
| 6TAC 100 300 350 | 10 | 30° | 1.44 | 35 | 5 | 75 | 10 |
| 6TAC 100 450 250 | 10 | 45° | 2.5 | 25 | 5 | 75 | 10 |
| 6TAC 100 450 350 | 10 | 45° | 2.5 | 35 | 5 | 75 | 10 |
| 6TAC 120 300 300 | 12 | 30° | 1.73 | 30 | 6 | 80 | 12 |
| 6TAC 120 300 420 | 12 | 30° | 1.73 | 42 | 6 | 80 | 12 |
| 6TAC 120 450 300 | 12 | 45° | 3 | 30 | 6 | 80 | 12 |
| 6TAC 120 450 420 | 12 | 45° | 3 | 42 | 6 | 80 | 12 |

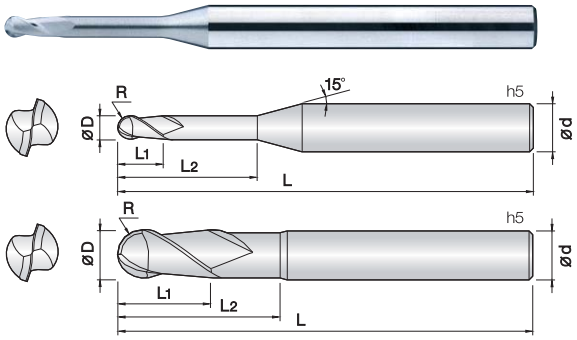
Esempi di Lavorazione/*Example*



# 2MRB

*Fraise Hémisphérique 2 Coupes pour Rainurage*

## *Fresa Emisferica 2 Tagli per Nervature*




- **Fresa per materiali acrilici, A.B.S., alluminio e materiali non ferrosi.**
- Riduzione di vibrazioni grazie all'elica corta.
- Geometria rinforzata per prevenire scheggiature.
- Eccellente rigidità ad alte velocità e avanzamenti.
- Eccellente resistenza all'usura grazie al metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour acryliques, A.B.S., aluminium et métaux non ferreux.***
- *Reduit les vibrations grâce à la faible hauteur de coupe.*
- *Excellent pour la grande vitesse et avance.*
- *Géométrie renforcée pour prévenir de l'usure de l'arête de coupe.*
- *Excellente résistance à l'usure grâce au Carbure Submicrograin (0,2 µm).*

2 | WC 미립자 | R ±0.005 (0.1 ~ 2.5R) | R ±0.01 (3R) | 30 Helix Angle | € List. p.185

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 6 ~ 5 | +0 ~ −0.01 mm |
| ø 6 | −0.005~ −0.015 mm |

Unità: mm

| Numero d'Ordine *Reference* | R x D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2MRB 002 005 S04 | 0.1R X 0.2 | 0.3 | 0.5 | 40 | 4 |
| 2MRB 002 010 S04 | 0.1R X 0.2 | 0.3 | 1 | 40 | 4 |
| 2MRB 002 015 S04 | 0.1R X 0.2 | 0.3 | 1.5 | 40 | 4 |
| 2MRB 002 020 S04 | 0.1R X 0.2 | 0.3 | 2 | 40 | 4 |
| 2MRB 003 010 S04 | 0.15R X 0.3 | 0.45 | 1 | 40 | 4 |
| 2MRB 003 020 S04 | 0.15R X 0.3 | 0.45 | 2 | 40 | 4 |
| 2MRB 003 030 S04 | 0.15R X 0.3 | 0.45 | 3 | 40 | 4 |
| 2MRB 003 050 S04 | 0.15R X 0.3 | 0.45 | 5 | 40 | 4 |
| 2MRB 004 020 S04 | 0.2R X 0.4 | 0.6 | 2 | 40 | 4 |
| 2MRB 004 030 S04 | 0.2R X 0.4 | 0.6 | 3 | 40 | 4 |
| 2MRB 004 040 S04 | 0.2R X 0.4 | 0.6 | 4 | 40 | 4 |
| 2MRB 004 050 S04 | 0.2R X 0.4 | 0.6 | 5 | 40 | 4 |
| 2MRB 004 060 S04 | 0.2R X 0.4 | 0.6 | 6 | 40 | 4 |
| 2MRB 005 020 S04 | 0.25R X 0.5 | 1 | 2 | 45 | 4 |
| 2MRB 005 040 S04 | 0.25R X 0.5 | 1 | 4 | 45 | 4 |
| 2MRB 005 060 S04 | 0.25R X 0.5 | 1 | 6 | 45 | 4 |
| 2MRB 005 080 S04 | 0.25R X 0.5 | 1 | 8 | 45 | 4 |
| 2MRB 005 100 S04 | 0.25R X 0.5 | 1 | 10 | 45 | 4 |
| 2MRB 006 020 S04 | 0.3R X 0.6 | 1.2 | 2 | 45 | 4 |
| 2MRB 006 040 S04 | 0.3R X 0.6 | 1.2 | 4 | 45 | 4 |
| 2MRB 006 060 S04 | 0.3R X 0.6 | 1.2 | 6 | 45 | 4 |
| 2MRB 006 080 S04 | 0.3R X 0.6 | 1.2 | 8 | 45 | 4 |
| 2MRB 006 100 S04 | 0.3R X 0.6 | 1.2 | 10 | 45 | 4 |
| 2MRB 007 040 S04 | 0.35R X 0.7 | 1.4 | 4 | 45 | 4 |
| 2MRB 007 060 S04 | 0.35R X 0.7 | 1.4 | 6 | 45 | 4 |
| 2MRB 007 080 S04 | 0.35R X 0.7 | 1.4 | 8 | 45 | 4 |
| 2MRB 007 100 S04 | 0.35R X 0.7 | 1.4 | 10 | 45 | 4 |
| 2MRB 008 040 S04 | 0.4R X 0.8 | 1.6 | 4 | 45 | 4 |
| 2MRB 008 060 S04 | 0.4R X 0.8 | 1.6 | 6 | 45 | 4 |
| 2MRB 008 080 S04 | 0.4R X 0.8 | 1.6 | 8 | 45 | 4 |
| 2MRB 008 100 S04 | 0.4R X 0.8 | 1.6 | 10 | 45 | 4 |
| 2MRB 008 120 S04 | 0.4R X 0.8 | 1.6 | 12 | 45 | 4 |
| 2MRB 009 060 S04 | 0.45R X 0.9 | 1.8 | 6 | 45 | 4 |
| 2MRB 009 100 S04 | 0.45R X 0.9 | 1.8 | 10 | 45 | 4 |
| 2MRB 009 120 S04 | 0.45R X 0.9 | 1.8 | 12 | 45 | 4 |
| 2MRB 010 060 S04 | 0.5R X 1 | 2 | 6 | 50 | 4 |
| 2MRB 010 080 S04 | 0.5R X 1 | 2 | 8 | 50 | 4 |
| 2MRB 010 100 S04 | 0.5R X 1 | 2 | 10 | 50 | 4 |
| 2MRB 010 120 S04 | 0.5R X 1 | 2 | 12 | 50 | 4 |
| 2MRB 010 160 S04 | 0.5R X 1 | 2 | 16 | 50 | 4 |
| 2MRB 010 200 S04 | 0.5R X 1 | 2 | 20 | 60 | 4 |
| 2MRB 010 250 S04 | 0.5R X 1 | 2 | 25 | 60 | 4 |
| 2MRB 012 060 S04 | 0.6R X 1.2 | 2.4 | 6 | 50 | 4 |
| 2MRB 012 080 S04 | 0.6R X 1.2 | 2.4 | 8 | 50 | 4 |
| 2MRB 012 100 S04 | 0.6R X 1.2 | 2.4 | 10 | 50 | 4 |
| 2MRB 012 120 S04 | 0.6R X 1.2 | 2.4 | 12 | 50 | 4 |
| 2MRB 012 160 S04 | 0.6R X 1.2 | 2.4 | 16 | 50 | 4 |
| 2MRB 014 060 S04 | 0.7R X 1.4 | 2.8 | 6 | 50 | 4 |
| 2MRB 014 100 S04 | 0.7R X 1.4 | 2.8 | 10 | 50 | 4 |
| 2MRB 014 160 S04 | 0.7R X 1.4 | 2.8 | 16 | 50 | 4 |

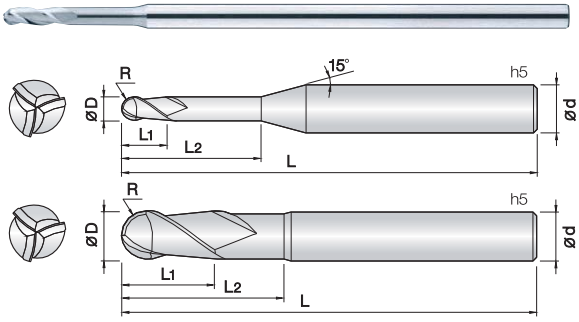
| Numero d'Ordine *Reference* | R x D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2MRB 015 060 S04 | 0.75R X 1.5 | 3 | 6 | 50 | 4 |
| 2MRB 015 100 S04 | 0.75R X 1.5 | 3 | 10 | 50 | 4 |
| 2MRB 015 140 S04 | 0.75R X 1.5 | 3 | 14 | 50 | 4 |
| 2MRB 015 160 S04 | 0.75R X 1.5 | 3 | 16 | 50 | 4 |
| 2MRB 015 200 S04 | 0.75R X 1.5 | 3 | 20 | 60 | 4 |
| 2MRB 015 250 S04 | 0.75R X 1.5 | 3 | 25 | 60 | 4 |
| 2MRB 015 300 S04 | 0.75R X 1.5 | 3 | 30 | 70 | 4 |
| 2MRB 016 060 S04 | 0.8R X 1.6 | 3.2 | 6 | 50 | 4 |
| 2MRB 020 080 S04 | 1R X 2 | 4 | 8 | 50 | 4 |
| 2MRB 020 100 S04 | 1R X 2 | 4 | 10 | 50 | 4 |
| 2MRB 020 120 S04 | 1R X 2 | 4 | 12 | 50 | 4 |
| 2MRB 020 140 S04 | 1R X 2 | 4 | 14 | 50 | 4 |
| 2MRB 020 160 S04 | 1R X 2 | 4 | 16 | 50 | 4 |
| 2MRB 020 180 S04 | 1R X 2 | 4 | 18 | 50 | 4 |
| 2MRB 020 200 S04 | 1R X 2 | 4 | 20 | 60 | 4 |
| 2MRB 020 250 S04 | 1R X 2 | 4 | 25 | 60 | 4 |
| 2MRB 020 300 S04 | 1R X 2 | 4 | 30 | 70 | 4 |
| 2MRB 020 350 S04 | 1R X 2 | 4 | 35 | 80 | 4 |
| 2MRB 020 400 S04 | 1R X 2 | 4 | 40 | 80 | 4 |
| 2MRB 025 120 S04 | 1.25R X 2.5 | 5 | 12 | 60 | 4 |
| 2MRB 025 200 S04 | 1.25R X 2.5 | 5 | 20 | 60 | 4 |
| 2MRB 030 080 S06 | 1.5R X 3 | 6 | 8 | 70 | 6 |
| 2MRB 030 120 S06 | 1.5R X 3 | 6 | 12 | 70 | 6 |
| 2MRB 030 160 S06 | 1.5R X 3 | 6 | 16 | 70 | 6 |
| 2MRB 030 200 S06 | 1.5R X 3 | 6 | 20 | 70 | 6 |
| 2MRB 030 250 S06 | 1.5R X 3 | 6 | 25 | 70 | 6 |
| 2MRB 030 300 S06 | 1.5R X 3 | 6 | 30 | 80 | 6 |
| 2MRB 030 400 S06 | 1.5R X 3 | 6 | 40 | 90 | 6 |
| 2MRB 030 450 S06 | 1.5R X 3 | 6 | 45 | 90 | 6 |
| 2MRB 040 120 S06 | 2R X 4 | 8 | 12 | 70 | 6 |
| 2MRB 040 160 S06 | 2R X 4 | 8 | 16 | 70 | 6 |
| 2MRB 040 200 S06 | 2R X 4 | 8 | 20 | 70 | 6 |
| 2MRB 040 250 S06 | 2R X 4 | 8 | 25 | 70 | 6 |
| 2MRB 040 300 S06 | 2R X 4 | 8 | 30 | 70 | 6 |
| 2MRB 040 350 S06 | 2R X 4 | 8 | 35 | 80 | 6 |
| 2MRB 040 400 S06 | 2R X 4 | 8 | 40 | 80 | 6 |
| 2MRB 040 500 S06 | 2R X 4 | 8 | 50 | 100 | 6 |
| 2MRB 050 160 S06 | 2.5R X 5 | 10 | 16 | 80 | 6 |
| 2MRB 050 250 S06 | 2.5R X 5 | 10 | 25 | 80 | 6 |
| 2MRB 050 350 S06 | 2.5R X 5 | 10 | 35 | 80 | 6 |
| 2MRB 060 250 S06 | 3R X 6 | 12 | 25 | 80 | 6 |
| 2MRB 060 350 S06 | 3R X 6 | 12 | 35 | 80 | 6 |
| 2MRB 060 500 S06 | 3R X 6 | 12 | 50 | 120 | 6 |
| 2MRB 060 600 S06 | 3R X 6 | 12 | 60 | 120 | 6 |

FOR A.B.S

# 3MRB

*Fraise Hémisphérique 3 Coupes pour Rainurage*

## *Fresa Emisferica 3 Tagli per Nervature*




- **Fresa per materiali acrilici, A.B.S., alluminio e materiali non ferrosi.**
- Riduzione di vibrazioni grazie all'elica corta.
- Geometria rinforzata per prevenire scheggiature.
- Eccellente rigidità ad alte velocità e avanzamenti.
- Eccellente resistenza all'usura grazie al metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour acryliques, A.B.S., aluminium et métaux non ferreux.***
- *Reduit les vibrations grâce à la faible hauteur de coupe.*
- *Excellent pour la grande vitesse et avance.*
- *Géométrie renforcée pour prévenir de l'usure de l'arête de coupe.*
- *Excellente résistance à l'usure grâce au Carbure Submicrograin (0,2 µm).*

| d | Tolleranza/*Tolérance* |
|---|---|
| ø1 ~ 4 | +0 ~ −0.01mm |
| ø6 ~ 12 | −0.005 ~ −0.015mm |
| ø16 | −0.01 ~ −0.02mm |

Unità: mm

3 | WC 미립자 | R ±0.005 (0.5 ~ 2R) | R ±0.01 (3 ~ 6R) | R ±0.015 (8R) | 30° Helix Angle | € List. p.186

| Numero d'Ordine *Reference* | R x D | L1 | L2 | L | d | |
|---|---|---|---|---|---|---|
| 3MRB 010 050 S04 | 0.5R X 1 | 3 | 5 | 70 | 4 | |
| 3MRB 010 100 S04 | 0.5R X 1 | 3 | 10 | 70 | 4 | |
| 3MRB 010 150 S04 | 0.5R X 1 | 3 | 15 | 70 | 4 | |
| 3MRB 010 200 S04 | 0.5R X 1 | 3 | 20 | 70 | 4 | |
| 3MRB 010 250 S04 | 0.5R X 1 | 3 | 25 | 70 | 4 | |
| 3MRB 015 100 S04 | 0.75R X 1.5 | 4.5 | 10 | 70 | 4 | |
| 3MRB 015 150 S04 | 0.75R X 1.5 | 4.5 | 15 | 70 | 4 | |
| 3MRB 015 200 S04 | 0.75R X 1.5 | 4.5 | 20 | 70 | 4 | |
| 3MRB 015 250 S04 | 0.75R X 1.5 | 4.5 | 25 | 70 | 4 | |
| 3MRB 015 300 S04 | 0.75R X 1.5 | 4.5 | 30 | 70 | 4 | |
| 3MRB 020 100 S04 | 1R X 2 | 6 | 10 | 70 | 4 | |
| 3MRB 020 150 S04 | 1R X 2 | 6 | 15 | 70 | 4 | |
| 3MRB 020 200 S04 | 1R X 2 | 6 | 20 | 70 | 4 | |
| 3MRB 020 250 S04 | 1R X 2 | 6 | 25 | 70 | 4 | |
| 3MRB 020 300 S04 | 1R X 2 | 6 | 30 | 70 | 4 | |
| 3MRB 030 200 080 | 1.5R X 3 | 15 | 20 | 80 | 3 | |
| 3MRB 030 200 S04 | 1.5R X 3 | 9 | 20 | 80 | 4 | |
| 3MRB 030 300 100 | 1.5R X 3 | 15 | 30 | 100 | 3 | |
| 3MRB 030 300 S04 | 1.5R X 3 | 9 | 30 | 80 | 4 | |
| 3MRB 040 200 080 | 2R X 4 | 12 | 20 | 80 | 4 | |
| 3MRB 040 300 100 | 2R X 4 | 12 | 30 | 100 | 4 | |
| 3MRB 060 300 100 | 3R X 6 | 18 | 30 | 100 | 6 | |
| 3MRB 060 400 150 | 3R X 6 | 18 | 40 | 150 | 6 | |
| 3MRB 080 400 120 | 4R X 8 | 24 | 40 | 120 | 8 | |
| 3MRB 080 500 150 | 4R X 8 | 24 | 50 | 150 | 8 | |
| 3MRB 100 500 120 | 5R X 10 | 30 | 50 | 120 | 10 | |
| 3MRB 100 600 150 | 5R X 10 | 30 | 60 | 150 | 10 | |
| 3MRB 120 600 150 | 6R X 12 | 36 | 60 | 150 | 12 | |
| 3MRB 160 700 160 | 8R X 16 | 54 | 70 | 160 | 16 | |

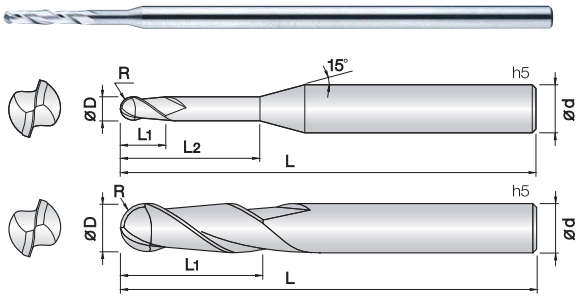
| Numero d'Ordine *Reference* | R x D | L1 | L2 | L | d | |
|---|---|---|---|---|---|---|

FOR A.B.S

# 2MLB

*Fraise Hémisphérique 2 Coupes pour Prototypage*

## *Fresa Emisferica 2 Tagli per Prototipazione*




- **Fresa per materiali acrilici, A.B.S., alluminio e materiali non ferrosi.**
- Riduzione di vibrazioni grazie a run out e tolleranze precise.
- Geometria rinforzata per prevenire scheggiature.
- Elica lunga per migliorare l'evacuazione del truciolo in lavorazioni profonde.
- Eccellente resistenza all'usura grazie al metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour acryliques, A.B.S., aluminium et métaux non ferreux.***
- *Reduit les vibrations grâce à la hauteur de coupe faible et tolérances précises.*
- *Géométrie renforcée pour prévenir de l'usure de l'arête de coupe.*
- *Longue hélice pour améliorer l'évacuation des copeaux.*
- *Excellente résistance à l'usure grâce au Carbure Submicrograin (0,2 µm).*

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 2 ~ 5 | +0 ~ −0.01 mm |
| ø 6 ~ 12 | −0.005 ~ −0.015 mm |
| ø 16 | −0.01 ~ −0.02 mm |

Unità: mm

2 | WC 미립자 | R ±0.005 (0.1 ~ 2.5R) | R ±0.01 (3 ~ 6R) | R ±0.015 (8R) | 30° Helix Angle | € List. p.186

| Numero d'Ordine *Reference* | R x D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2MLB 002 010 S03 | 0.1R X 0.2 | 0.4 | 1 | 40 | 3 |
| 2MLB 002 015 S03 | 0.1R X 0.2 | 0.4 | 1.5 | 40 | 3 |
| 2MLB 002 020 S03 | 0.1R X 0.2 | 0.4 | 2 | 40 | 3 |
| 2MLB 003 010 S03 | 0.15R X 0.3 | 1 | - | 45 | 3 |
| 2MLB 003 015 S03 | 0.15R X 0.3 | 1 | 1.5 | 45 | 3 |
| 2MLB 003 018 S03 | 0.15R X 0.3 | 1.8 | - | 45 | 3 |
| 2MLB 003 020 S03 | 0.15R X 0.3 | 1 | 2 | 45 | 3 |
| 2MLB 003 025 S03 | 0.15R X 0.3 | 1 | 2.5 | 45 | 3 |
| 2MLB 003 030 S03 | 0.15R X 0.3 | 1 | 3 | 45 | 3 |
| 2MLB 003 040 S03 | 0.15R X 0.3 | 1 | 4 | 45 | 3 |
| 2MLB 004 012 S03 | 0.2R X 0.4 | 1.2 | - | 45 | 3 |
| 2MLB 004 020 S03 | 0.2R X 0.4 | 2 | - | 45 | 3 |
| 2MLB 004 030 S03 | 0.2R X 0.4 | 1.2 | 3 | 45 | 3 |
| 2MLB 004 040 S03 | 0.2R X 0.4 | 1.2 | 4 | 45 | 3 |
| 2MLB 004 050 S03 | 0.2R X 0.4 | 1.2 | 5 | 45 | 3 |
| 2MLB 005 015 S03 | 0.25R X 0.5 | 1.5 | - | 50 | 3 |
| 2MLB 005 020 S03 | 0.25R X 0.5 | 2 | - | 50 | 3 |
| 2MLB 005 030 S03 | 0.25R X 0.5 | 1.5 | 3 | 50 | 3 |
| 2MLB 005 040 S03 | 0.25R X 0.5 | 1.5 | 4 | 50 | 3 |
| 2MLB 005 050 S03 | 0.25R X 0.5 | 1.5 | 5 | 50 | 3 |
| 2MLB 005 060 S03 | 0.25R X 0.5 | 1.5 | 6 | 50 | 3 |
| 2MLB 005 080 S03 | 0.25R X 0.5 | 1.5 | 8 | 50 | 3 |
| 2MLB 005 100 S03 | 0.25R X 0.5 | 1.5 | 10 | 50 | 3 |
| 2MLB 006 030 S03 | 0.3R X 0.6 | 3 | - | 50 | 3 |
| 2MLB 006 060 S03 | 0.3R X 0.6 | 3 | 6 | 50 | 3 |
| 2MLB 006 080 S03 | 0.3R X 0.6 | 3 | 8 | 50 | 3 |
| 2MLB 006 100 S03 | 0.3R X 0.6 | 3 | 10 | 50 | 3 |
| 2MLB 007 030 S03 | 0.35R X 0.7 | 3 | - | 50 | 3 |
| 2MLB 007 070 S03 | 0.35R X 0.7 | 3 | 7 | 50 | 3 |
| 2MLB 007 100 S03 | 0.35R X 0.7 | 3 | 10 | 50 | 3 |
| 2MLB 007 120 S03 | 0.35R X 0.7 | 3 | 12 | 50 | 3 |
| 2MLB 008 040 S03 | 0.4R X 0.8 | 4 | - | 50 | 3 |
| 2MLB 008 080 S03 | 0.4R X 0.8 | 4 | 8 | 50 | 3 |
| 2MLB 008 100 S03 | 0.4R X 0.8 | 4 | 10 | 50 | 3 |
| 2MLB 008 120 S03 | 0.4R X 0.8 | 4 | 12 | 50 | 3 |
| 2MLB 009 040 S03 | 0.45R X 0.9 | 4 | - | 50 | 3 |
| 2MLB 009 060 S03 | 0.45R X 0.9 | 4 | 6 | 50 | 3 |
| 2MLB 009 080 S03 | 0.45R X 0.9 | 4 | 8 | 50 | 3 |
| 2MLB 009 100 S03 | 0.45R X 0.9 | 4 | 10 | 50 | 3 |
| 2MLB 010 050 S03 | 0.5R X 1 | 5 | - | 80 | 3 |
| 2MLB 010 050 S04 | 0.5R X 1 | 5 | - | 80 | 4 |
| 2MLB 010 100 S03 | 0.5R X 1 | 5 | 10 | 80 | 3 |
| 2MLB 010 100 S04 | 0.5R X 1 | 5 | 10 | 80 | 4 |
| 2MLB 010 150 S03 | 0.5R X 1 | 5 | 15 | 80 | 3 |
| 2MLB 010 150 S04 | 0.5R X 1 | 5 | 15 | 80 | 4 |
| 2MLB 010 200 S03 | 0.5R X 1 | 5 | 20 | 80 | 3 |
| 2MLB 010 200 S04 | 0.5R X 1 | 5 | 20 | 80 | 4 |
| 2MLB 010 250 S03 | 0.5R X 1 | 5 | 25 | 80 | 3 |
| 2MLB 010 250 S04 | 0.5R X 1 | 5 | 25 | 80 | 4 |
| 2MLB 010 300 S03 | 0.5R X 1 | 5 | 30 | 80 | 3 |

| Numero d'Ordine *Reference* | R x D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2MLB 010 300 S04 | 0.5R X 1 | 5 | 30 | 80 | 4 |
| 2MLB 010 350 S04 | 0.5R X 1 | 5 | 35 | 100 | 4 |
| 2MLB 010 400 S04 | 0.5R X 1 | 5 | 40 | 100 | 4 |
| 2MLB 015 100 S03 | 0.75R X 1.5 | 10 | - | 80 | 3 |
| 2MLB 015 100 S04 | 0.75R X 1.5 | 10 | - | 80 | 4 |
| 2MLB 015 150 S03 | 0.75R X 1.5 | 10 | 15 | 80 | 3 |
| 2MLB 015 150 S04 | 0.75R X 1.5 | 10 | 15 | 80 | 4 |
| 2MLB 015 200 S03 | 0.75R X 1.5 | 10 | 20 | 80 | 3 |
| 2MLB 015 200 S04 | 0.75R X 1.5 | 10 | 20 | 80 | 4 |
| 2MLB 015 250 S03 | 0.75R X 1.5 | 10 | 25 | 80 | 3 |
| 2MLB 015 250 S04 | 0.75R X 1.5 | 10 | 25 | 80 | 4 |
| 2MLB 015 300 S03 | 0.75R X 1.5 | 10 | 30 | 80 | 3 |
| 2MLB 015 300 S04 | 0.75R X 1.5 | 10 | 30 | 80 | 4 |
| 2MLB 015 350 S04 | 0.75R X 1.5 | 10 | 35 | 100 | 4 |
| 2MLB 015 400 S04 | 0.75R X 1.5 | 10 | 40 | 100 | 4 |
| 2MLB 020 100 S03 | 1R X 2 | 10 | - | 80 | 3 |
| 2MLB 020 100 S04 | 1R X 2 | 10 | - | 80 | 4 |
| 2MLB 020 150 S03 | 1R X 2 | 10 | 15 | 80 | 3 |
| 2MLB 020 150 S04 | 1R X 2 | 10 | 15 | 80 | 4 |
| 2MLB 020 200 S03 | 1R X 2 | 10 | 20 | 80 | 3 |
| 2MLB 020 200 S04 | 1R X 2 | 10 | 20 | 80 | 4 |
| 2MLB 020 250 S03 | 1R X 2 | 10 | 25 | 80 | 3 |
| 2MLB 020 250 S04 | 1R X 2 | 10 | 25 | 80 | 4 |
| 2MLB 020 300 S03 | 1R X 2 | 10 | 30 | 80 | 3 |
| 2MLB 020 300 S04 | 1R X 2 | 10 | 30 | 80 | 4 |
| 2MLB 020 350 S03 | 1R X 2 | 10 | 35 | 80 | 3 |
| 2MLB 020 350 S04 | 1R X 2 | 10 | 35 | 100 | 4 |
| 2MLB 020 400 S03 | 1R X 2 | 10 | 40 | 80 | 3 |
| 2MLB 020 400 S04 | 1R X 2 | 10 | 40 | 100 | 4 |
| 2MLB 025 100 S03 | 1.25R X 2.5 | 10 | - | 80 | 3 |
| 2MLB 025 150 S03 | 1.25R X 2.5 | 15 | - | 80 | 3 |
| 2MLB 025 200 S03 | 1.25R X 2.5 | 15 | 20 | 80 | 3 |
| 2MLB 030 100 060 | 1.5R X 3 | 10 | - | 60 | 3 |
| 2MLB 030 200 080 | 1.5R X 3 | 20 | - | 80 | 3 |
| 2MLB 030 200 100 | 1.5R X 3 | 20 | - | 100 | 3 |
| 2MLB 030 200 120 | 1.5R X 3 | 20 | - | 120 | 3 |
| 2MLB 030 150 S06 | 1.5R X 3 | 15 | - | 100 | 6 |
| 2MLB 030 200 S06 | 1.5R X 3 | 15 | 20 | 100 | 6 |
| 2MLB 030 250 S06 | 1.5R X 3 | 15 | 25 | 100 | 6 |
| 2MLB 030 300 S06 | 1.5R X 3 | 15 | 30 | 100 | 6 |
| 2MLB 030 400 S06 | 1.5R X 3 | 15 | 40 | 100 | 6 |
| 2MLB 040 200 080 | 2R X 4 | 20 | - | 80 | 4 |
| 2MLB 040 200 100 | 2R X 4 | 20 | - | 100 | 4 |
| 2MLB 040 200 130 | 2R X 4 | 20 | - | 130 | 4 |
| 2MLB 040 200 S06 | 2R X 4 | 20 | - | 100 | 6 |
| 2MLB 040 250 S06 | 2R X 4 | 20 | 25 | 100 | 6 |
| 2MLB 040 300 S06 | 2R X 4 | 20 | 30 | 100 | 6 |
| 2MLB 040 400 S06 | 2R X 4 | 20 | 40 | 120 | 6 |
| 2MLB 040 500 S06 | 2R X 4 | 20 | 50 | 120 | 6 |
| 2MLB 050 300 100 | 2.5R X 5 | 30 | - | 100 | 5 |

FOR A.B.S

Unità: mm

| Numero d'Ordine *Reference* | R x D | L1 | L2 | L | d | |
|---|---|---|---|---|---|---|
| **2MLB 050 300 120** | 2.5R X 5 | 30 | - | 120 | 5 | |
| **2MLB 060 300 080** | 3R X 6 | 30 | - | 80 | 6 | |
| **2MLB 060 400 100** | 3R X 6 | 40 | - | 100 | 6 | |
| **2MLB 060 400 120** | 3R X 6 | 40 | - | 120 | 6 | |
| **2MLB 060 400 150** | 3R X 6 | 40 | - | 150 | 6 | |
| **2MLB 080 450 120** | 4R X 8 | 45 | - | 120 | 8 | |
| **2MLB 080 450 150** | 4R X 8 | 45 | - | 150 | 8 | |
| **2MLB 100 500 120** | 5R X 10 | 50 | - | 120 | 10 | |
| **2MLB 100 500 150** | 5R X 10 | 50 | - | 150 | 10 | |
| **2MLB 120 550 130** | 6R X 12 | 55 | - | 130 | 12 | |
| **2MLB 120 550 150** | 6R X 12 | 55 | - | 150 | 12 | |
| **2MLB 160 700 160** | 8R X 16 | 70 | - | 160 | 16 | |

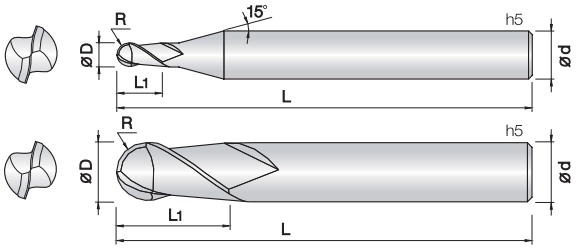
| Numero d'Ordine *Reference* | R x D | L1 | L2 | L | d | |
|---|---|---|---|---|---|---|

FOR A.B.S

# 2MBE

*Fraise Hémisphérique 2 Coupes*

## *Fresa Emisferica 2 Tagli*




- **Fresa per acciai dolci, A.B.S., alluminio e materiali non ferrosi.**
- Riduzione di vibrazioni grazie a run out e tolleranze precise.
- Ottima finitura superficiale.
- Eccellente resistenza all'usura grazie al metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour aciers doux, A.B.S., aluminium et métaux non ferreux.***
- *Reduit les vibrations grâce à la hauteur de coupe faible et tolérances précises.*
- *Excellent finition de surface.*
- *Excellente résistance à l'usure grâce au Carbure Submicrograin (0,2 µm).*

0.05 ~ 2.5R 3 ~ 6R

List. p.188

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.1 ~ 0.15 | +0 ~ −0.005 mm |
| ø 0.2 ~ 5 | +0 ~ −0.01 mm |
| ø 6 ~ 12 | −0.005 ~ −0.015 mm |

Unità: mm

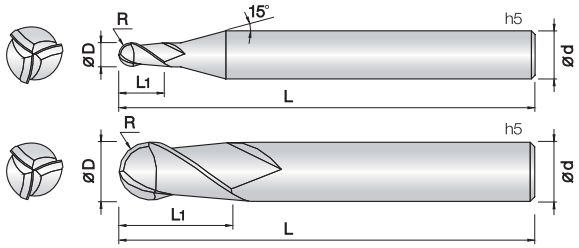
| Numero d'Ordine *Reference* | R x D | L1 | L | d | |
|---|---|---|---|---|---|
| 2MBE 001 002 S03 | 0.05R X 0.1 | 0.2 | 40 | 3 | |
| 2MBE 0015 003 S03 | 0.075R X 0.15 | 0.3 | 40 | 3 | |
| 2MBE 002 004 S03 | 0.1R X 0.2 | 0.4 | 40 | 3 | |
| 2MBE 003 006 S03 | 0.15R X 0.3 | 0.6 | 40 | 3 | |
| 2MBE 004 008 S03 | 0.2R X 0.4 | 0.8 | 40 | 3 | |
| 2MBE 005 010 S03 | 0.25R X 0.5 | 1 | 40 | 3 | |
| 2MBE 006 012 S03 | 0.3R X 0.6 | 1.2 | 40 | 3 | |
| 2MBE 007 014 S03 | 0.35R X 0.7 | 1.4 | 40 | 3 | |
| 2MBE 008 016 S03 | 0.4R X 0 .8 | 1.6 | 40 | 3 | |
| 2MBE 009 018 S03 | 0.45R X 0.9 | 1.8 | 40 | 3 | |
| 2MBE 010 025 S03 | 0.5R X 1 | 2.5 | 50 | 3 | |
| 2MBE 010 025 S06 | 0.5R X 1 | 2.5 | 50 | 6 | |
| 2MBE 010 025 100 | 0.5R X 1 | 2.5 | 100 | 6 | |
| 2MBE 011 025 S03 | 0.55R X 1.1 | 2.5 | 50 | 3 | |
| 2MBE 012 030 S03 | 0.6R X 1.2 | 3 | 50 | 3 | |
| 2MBE 015 040 S03 | 0.75R X 1.5 | 4 | 50 | 3 | |
| 2MBE 015 040 100 | 0.75R X 1.5 | 4 | 100 | 6 | |
| 2MBE 020 050 S03 | 1R X 2 | 5 | 50 | 3 | |
| 2MBE 020 050 S06 | 1R X 2 | 5 | 50 | 6 | |
| 2MBE 020 050 100 | 1R X 2 | 5 | 100 | 6 | |
| 2MBE 025 060 S03 | 1.25R X 2.5 | 6 | 50 | 3 | |
| 2MBE 025 060 100 | 1.25R X 2.5 | 6 | 100 | 6 | |
| 2MBE 030 080 S03 | 1.5R X 3 | 8 | 60 | 3 | |
| 2MBE 030 080 S06 | 1.5R X 3 | 8 | 60 | 6 | |
| 2MBE 030 080 100 | 1.5R X 3 | 8 | 100 | 6 | |
| 2MBE 035 080 S06 | 1.75R X 3.5 | 8 | 65 | 6 | |
| 2MBE 040 080 S06 | 2R X 4 | 8 | 70 | 6 | |
| 2MBE 040 080 120 | 2R X 4 | 8 | 120 | 6 | |
| 2MBE 050 120 S06 | 2.5R X 5 | 12 | 75 | 6 | |
| 2MBE 060 120 080 | 3R X 6 | 12 | 80 | 6 | |
| 2MBE 060 120 100 | 3RX 6 | 12 | 100 | 6 | |
| 2MBE 080 140 090 | 4R X 8 | 14 | 90 | 8 | |
| 2MBE 080 140 110 | 4RX 8 | 14 | 110 | 8 | |
| 2MBE 100 180 100 | 5R X 10 | 18 | 100 | 10 | |
| 2MBE 100 180 120 | 5RX 10 | 18 | 120 | 10 | |
| 2MBE 120 220 110 | 6R X 12 | 22 | 110 | 12 | |
| 2MBE 120 220 130 | 6RX 12 | 22 | 130 | 12 | |

| Numero d'Ordine *Reference* | R x D | L1 | L | d | |
|---|---|---|---|---|---|

FOR A.B.S

# 3MBE

## Fraise Hémisphérique 3 Coupes
## Fresa Emisferica 3 Tagli




- **Fresa per acciai dolci, A.B.S., alluminio e materiali non ferrosi.**
- Riduzione di vibrazioni grazie a run out e tolleranze precise.
- Ottima finitura superficiale.
- Eccellente resistenza all'usura grazie al metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour aciers doux, A.B.S., aluminium et métaux non ferreux.***
- *Reduit les vibrations grâce à la hauteur de coupe faible et tolérances précises.*
- *Excellent finition de surface.*
- *Excellente résistance à l'usure grâce au Carbure Submicrograin (0,2 µm).*

3 | WC 미립자 | R ±0.005 (0.15R ~ 2R) | R ±0.01 (3R) | 30° Helix Angle | € List. p.189

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.3 ~ 4 | +0 ~ −0.01 mm |
| ø 6 | −0.005 ~ −0.015 mm |

Unità: mm

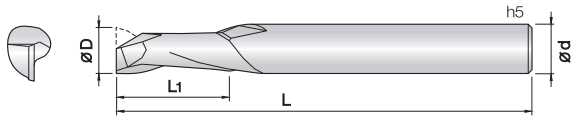
| Numero d'Ordine *Reference* | R x D | L1 | L | d |
|---|---|---|---|---|
| 3MBE 003 008 S04 | 0.15R X 0.3 | 0.8 | 40 | 4 |
| 3MBE 003 012 S04 | 0.15R X 0.3 | 1.2 | 40 | 4 |
| 3MBE 004 010 S04 | 0.2R X 0.4 | 1 | 40 | 4 |
| 3MBE 004 015 S04 | 0.2R X 0.4 | 1.5 | 40 | 4 |
| 3MBE 005 013 S04 | 0.25R X 0.5 | 1.3 | 45 | 4 |
| 3MBE 005 020 S04 | 0.25R X 0.5 | 2 | 45 | 4 |
| 3MBE 006 015 S04 | 0.3R X 0.6 | 1.5 | 45 | 4 |
| 3MBE 006 024 S04 | 0.3R X 0.6 | 2.4 | 45 | 4 |
| 3MBE 007 018 S04 | 0.35R X 0.7 | 1.8 | 45 | 4 |
| 3MBE 007 028 S04 | 0.35R X 0.7 | 2.8 | 45 | 4 |
| 3MBE 008 020 S04 | 0.4R X 0.8 | 2 | 45 | 4 |
| 3MBE 008 032 S04 | 0.4R X 0.8 | 3.2 | 45 | 4 |
| 3MBE 009 025 S04 | 0.45R X 0.9 | 2.5 | 50 | 4 |
| 3MBE 009 036 S04 | 0.45R X 0.9 | 3.6 | 50 | 4 |
| 3MBE 010 025 S04 | 0.5R X 1 | 2.5 | 50 | 4 |
| 3MBE 010 040 S04 | 0.5R X 1 | 4 | 50 | 4 |
| 3MBE 010 060 S04 | 0.5R X 1 | 6 | 60 | 4 |
| 3MBE 012 030 S04 | 0.6R X 1.2 | 3 | 50 | 4 |
| 3MBE 012 050 S04 | 0.6R X 1.2 | 5 | 50 | 4 |
| 3MBE 012 070 S04 | 0.6R X 1.2 | 7 | 60 | 4 |
| 3MBE 015 040 S04 | 0.75R X 1.5 | 4 | 50 | 4 |
| 3MBE 015 060 S04 | 0.75R X 1.5 | 6 | 50 | 4 |
| 3MBE 015 090 S04 | 0.75R X 1.5 | 9 | 60 | 4 |
| 3MBE 020 050 S04 | 1R X 2 | 5 | 50 | 4 |
| 3MBE 020 080 S04 | 1R X 2 | 8 | 50 | 4 |
| 3MBE 020 100 S04 | 1R X 2 | 10 | 60 | 4 |
| 3MBE 025 060 S04 | 1.25R X 2.5 | 6 | 50 | 4 |
| 3MBE 025 100 S04 | 1.25R X 2.5 | 10 | 60 | 4 |
| 3MBE 025 150 S04 | 1.25R X 2.5 | 15 | 70 | 4 |
| 3MBE 030 080 S04 | 1.5R X 3 | 8 | 50 | 4 |
| 3MBE 030 120 S04 | 1.5R X 3 | 12 | 60 | 4 |
| 3MBE 030 150 S04 | 1.5R X 3 | 15 | 80 | 4 |
| 3MBE 040 100 S04 | 2R X 4 | 10 | 60 | 4 |
| 3MBE 040 150 S04 | 2R X 4 | 15 | 80 | 4 |
| 3MBE 060 200 S06 | 3R X 6 | 20 | 80 | 6 |
| 3MBE 060 300 S06 | 3R X 6 | 30 | 110 | 6 |

FOR A.B.S

# 1MEM

*Fraise Coupe Simple*

## *Fresa Monotagliente*




- **Fresa per materiali acrilici, A.B.S., alluminio e materiali non ferrosi.**
- Eccellente evacuazione del truciolo grazie alla geometria specifica.
- Ottima per il taglio e lavorazioni in parete.
- Eccellente resistenza all'usura grazie al metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour acryliques, A.B.S., aluminium et métaux non ferreux.***
- *Excellent évacuation des copeaux grâce à la géométrie spéciale.*
- *Excellente résistance à l'usure grâce au Carbure Submicrograin (0,2 µm).*

1 | WC 미립자 | D +0 −0.01 (ø0.2 ~ 5) | D −0.01 −0.025 (ø6 ~ 12) | 30° Helix Angle | Affilato | € List. p.189

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.2 ~ 5 | +0 ~ −0.01 mm |
| ø 6 ~ 12 | −0.01 ~ −0.025 mm |

Unità: mm

| Numero d'Ordine *Reference* | D | L1 | L | d |
|---|---|---|---|---|
| 1MEM 002 004 S04 | 0.2 | 0.4 | 40 | 4 |
| 1MEM 002 005 S04 | 0.2 | 0.5 | 40 | 4 |
| 1MEM 003 006 S04 | 0.3 | 0.6 | 40 | 4 |
| 1MEM 003 009 S04 | 0.3 | 0.9 | 40 | 4 |
| 1MEM 004 008 S04 | 0.4 | 0.8 | 40 | 4 |
| 1MEM 004 012 S04 | 0.4 | 1.2 | 40 | 4 |
| 1MEM 005 010 S04 | 0.5 | 1 | 40 | 4 |
| 1MEM 005 015 S04 | 0.5 | 1.5 | 40 | 4 |
| 1MEM 006 012 S04 | 0.6 | 1.2 | 40 | 4 |
| 1MEM 006 018 S04 | 0.6 | 1.8 | 40 | 4 |
| 1MEM 007 014 S04 | 0.7 | 1.4 | 40 | 4 |
| 1MEM 007 021 S04 | 0.7 | 2.1 | 40 | 4 |
| 1MEM 008 016 S04 | 0.8 | 1.6 | 40 | 4 |
| 1MEM 008 024 S04 | 0.8 | 2.4 | 40 | 4 |
| 1MEM 009 018 S04 | 0.9 | 1.8 | 40 | 4 |
| 1MEM 009 027 S04 | 0.9 | 2.7 | 40 | 4 |
| 1MEM 010 025 S06 | 1 | 2.5 | 45 | 6 |
| 1MEM 010 030 S06 | 1 | 3 | 45 | 6 |
| 1MEM 010 035 S06 | 1 | 3.5 | 45 | 6 |
| 1MEM 010 045 S06 | 1 | 4.5 | 45 | 6 |
| 1MEM 010 060 S06 | 1 | 6 | 50 | 6 |
| 1MEM 010 070 S06 | 1 | 7 | 50 | 6 |
| 1MEM 012 030 S06 | 1.2 | 3 | 45 | 6 |
| 1MEM 012 050 S06 | 1.2 | 5 | 45 | 6 |
| 1MEM 012 060 S06 | 1.2 | 6 | 50 | 6 |
| 1MEM 015 040 S06 | 1.5 | 4 | 45 | 6 |
| 1MEM 015 060 S06 | 1.5 | 6 | 50 | 6 |
| 1MEM 015 080 S06 | 1.5 | 8 | 50 | 6 |
| 1MEM 015 100 S06 | 1.5 | 10 | 50 | 6 |
| 1MEM 015 120 S06 | 1.5 | 12 | 50 | 6 |
| 1MEM 020 060 S06 | 2 | 6 | 50 | 6 |
| 1MEM 020 080 S06 | 2 | 8 | 50 | 6 |
| 1MEM 020 100 S06 | 2 | 10 | 50 | 6 |
| 1MEM 020 120 S06 | 2 | 12 | 50 | 6 |
| 1MEM 020 140 S06 | 2 | 14 | 55 | 6 |
| 1MEM 020 160 S06 | 2 | 16 | 60 | 6 |
| New 1MEM 025 080 S06 | 2.5 | 8 | 50 | 6 |
| New 1MEM 025 100 S06 | 2.5 | 10 | 50 | 6 |
| New 1MEM 025 120 S06 | 2.5 | 12 | 50 | 6 |
| New 1MEM 025 160 S06 | 2.5 | 16 | 60 | 6 |
| 1MEM 030 080 S06 | 3 | 8 | 50 | 6 |
| 1MEM 030 120 S06 | 3 | 12 | 50 | 6 |
| 1MEM 030 150 S06 | 3 | 15 | 50 | 6 |
| 1MEM 030 200 S06 | 3 | 20 | 60 | 6 |
| 1MEM 030 250 S06 | 3 | 25 | 70 | 6 |
| 1MEM 040 100 S06 | 4 | 10 | 50 | 6 |
| 1MEM 040 150 S06 | 4 | 15 | 50 | 6 |
| 1MEM 040 200 S06 | 4 | 20 | 60 | 6 |
| 1MEM 040 250 S06 | 4 | 25 | 70 | 6 |
| 1MEM 040 300 S06 | 4 | 30 | 75 | 6 |

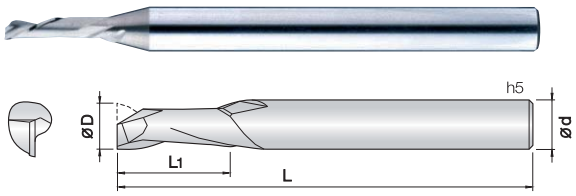
| Numero d'Ordine *Reference* | D | L1 | L | d |
|---|---|---|---|---|
| 1MEM 050 130 S06 | 5 | 13 | 60 | 6 |
| 1MEM 050 200 S06 | 5 | 20 | 60 | 6 |
| 1MEM 050 250 S06 | 5 | 25 | 60 | 6 |
| 1MEM 050 300 S06 | 5 | 30 | 75 | 6 |
| 1MEM 060 150 S06 | 6 | 15 | 60 | 6 |
| 1MEM 060 200 S06 | 6 | 20 | 60 | 6 |
| 1MEM 060 250 S06 | 6 | 25 | 60 | 6 |
| 1MEM 060 300 S06 | 6 | 30 | 70 | 6 |
| 1MEM 060 410 S06 | 6 | 41 | 90 | 6 |
| 1MEM 080 190 S08 | 8 | 19 | 70 | 8 |
| 1MEM 080 250 S08 | 8 | 25 | 75 | 8 |
| 1MEM 080 300 S08 | 8 | 30 | 80 | 8 |
| 1MEM 080 410 S08 | 8 | 41 | 90 | 8 |
| 1MEM 100 220 S10 | 10 | 22 | 75 | 10 |
| 1MEM 100 300 S10 | 10 | 30 | 80 | 10 |
| 1MEM 100 410 S10 | 10 | 41 | 100 | 10 |
| 1MEM 120 260 S12 | 12 | 26 | 75 | 12 |
| 1MEM 120 350 S12 | 12 | 35 | 90 | 12 |
| 1MEM 120 510 S12 | 12 | 51 | 110 | 12 |

FOR A.B.S

# 1REM

*Fraise Coupe Simple Hèlice Gauche*

## *Fresa Monotagliente Elica Sinistra*




- **Fresa per materiali acrilici, A.B.S., alluminio e materiali non ferrosi.**
- Eccellente evacuazione del truciolo verso il basso grazie all'elica sinistra.
- Ottima per staffaggi non rigidi.
- Lavorazioni senza bave.
- Eccellente resistenza all'usura grazie al metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour acryliques, A.B.S., aluminium et métaux non ferreux.***
- *Evacuation des copeaux grâce à la l'hélice gauche.*
- *Usinage sans bavure.*
- *Excellente résistance à l'usure grâce au Carbure Submicrograin (0,2 µm).*

1 | WC 미립자 | D +0 −0.01 ø0.5 ~ 5 | D −0.01 −0.025 ø6 ~ 12 | 30° Helix Angle | Affilato | € List. p.190

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.5 ~ 5 | +0 ~ −0.01 mm |
| ø 6 ~ 12 | −0.01 ~ −0.025 mm |

Unità: mm

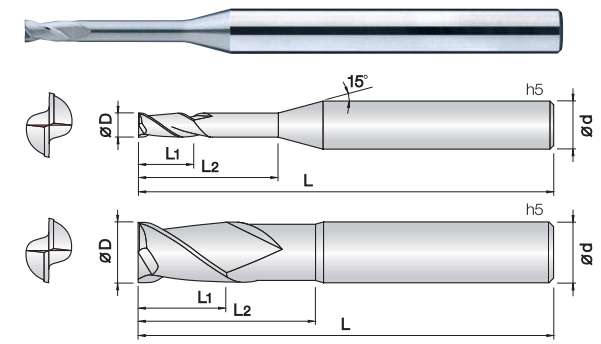
| Numero d'Ordine *Reference* | D | L1 | L | d | | Numero d'Ordine *Reference* | D | L1 | L | d | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1REM 005 010 S04 | 0.5 | 1 | 45 | 4 | | | | | | | |
| 1REM 005 015 S04 | 0.5 | 1.5 | 45 | 4 | | | | | | | |
| 1REM 005 020 S04 | 0.5 | 2 | 45 | 4 | | | | | | | |
| 1REM 006 012 S04 | 0.6 | 1.2 | 45 | 4 | | | | | | | |
| 1REM 006 018 S04 | 0.6 | 1.8 | 45 | 4 | | | | | | | |
| 1REM 006 025 S04 | 0.6 | 2.5 | 45 | 4 | | | | | | | |
| 1REM 007 014 S04 | 0.7 | 1.4 | 45 | 4 | | | | | | | |
| 1REM 007 021 S04 | 0.7 | 2.1 | 45 | 4 | | | | | | | |
| 1REM 008 016 S04 | 0.8 | 1.6 | 45 | 4 | | | | | | | |
| 1REM 008 024 S04 | 0.8 | 2.4 | 45 | 4 | | | | | | | |
| 1REM 008 030 S04 | 0.8 | 3 | 45 | 4 | | | | | | | |
| 1REM 009 018 S04 | 0.9 | 1.8 | 45 | 4 | | | | | | | |
| 1REM 010 030 S06 | 1 | 3 | 50 | 6 | | | | | | | |
| 1REM 010 040 S06 | 1 | 4 | 50 | 6 | | | | | | | |
| 1REM 010 050 S06 | 1 | 5 | 50 | 6 | | | | | | | |
| 1REM 010 060 S06 | 1 | 6 | 60 | 6 | | | | | | | |
| 1REM 012 040 S06 | 1.2 | 4 | 50 | 6 | | | | | | | |
| 1REM 012 060 S06 | 1.2 | 6 | 50 | 6 | | | | | | | |
| 1REM 015 040 S06 | 1.5 | 4 | 50 | 6 | | | | | | | |
| 1REM 015 060 S06 | 1.5 | 6 | 50 | 6 | | | | | | | |
| 1REM 015 080 S06 | 1.5 | 8 | 50 | 6 | | | | | | | |
| 1REM 020 060 S06 | 2 | 6 | 60 | 6 | | | | | | | |
| 1REM 020 080 S06 | 2 | 8 | 60 | 6 | | | | | | | |
| 1REM 020 100 S06 | 2 | 10 | 60 | 6 | | | | | | | |
| 1REM 020 120 S06 | 2 | 12 | 60 | 6 | | | | | | | |
| 1REM 025 060 S06 | 2.5 | 6 | 60 | 6 | | | | | | | |
| 1REM 025 080 S06 | 2.5 | 8 | 60 | 6 | | | | | | | |
| 1REM 025 100 S06 | 2.5 | 10 | 60 | 6 | | | | | | | |
| 1REM 030 080 S06 | 3 | 8 | 60 | 6 | | | | | | | |
| 1REM 030 120 S06 | 3 | 12 | 65 | 6 | | | | | | | |
| 1REM 030 160 S06 | 3 | 16 | 70 | 6 | | | | | | | |
| 1REM 040 120 S06 | 4 | 12 | 65 | 6 | | | | | | | |
| 1REM 040 160 S06 | 4 | 16 | 70 | 6 | | | | | | | |
| 1REM 040 200 S06 | 4 | 20 | 70 | 6 | | | | | | | |
| 1REM 050 150 S06 | 5 | 15 | 70 | 6 | | | | | | | |
| 1REM 050 220 S06 | 5 | 22 | 75 | 6 | | | | | | | |
| 1REM 060 270 S06 | 6 | 27 | 75 | 6 | | | | | | | |
| 1REM 080 260 S08 | 8 | 26 | 80 | 8 | | | | | | | |
| 1REM 080 320 S08 | 8 | 32 | 90 | 8 | | | | | | | |
| 1REM 100 300 S10 | 10 | 30 | 90 | 10 | | | | | | | |
| 1REM 120 350 S12 | 12 | 35 | 100 | 12 | | | | | | | |

FOR A.B.S

# 2MRE

*Fraise Cylindrique 2 Coupes pour Rainurage*

## *Fresa Cilindrica 2 Tagli per Nervature*




- **Fresa per materiali acrilici, A.B.S., alluminio e materiali non ferrosi.**
- Riduzione di vibrazioni grazie all'elica corta.
- Eccellente rigidità ad alte velocità e avanzamenti.
- Geometria rinforzata per prevenire scheggiature.
- Eccellente resistenza all'usura grazie al metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour acryliques, A.B.S., aluminium et métaux non ferreux.***
- *Reduit les vibrations grâce à la hauter de coupe faible.*
- *Excellent pour la grande vitesse et avance.*
- *Géométrie renforcée pour prévenir de l'usure de l'arête de coupe.*
- *Excellente résistance à l'usure grâce au Carbure Submicrograin (0,2 µm).*

Ø0.2 ~ 5 Ø6 Affilato List. p.191

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.2 ~ 5 | +0 ~ −0.01mm |
| ø 6 | −0.01 ~ −0.025mm |

Unità: mm

| Numero d'Ordine *Reference* | D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2MRE 002 005 S04 | 0.2 | 0.3 | 0.5 | 40 | 4 |
| 2MRE 002 010 S04 | 0.2 | 0.3 | 1 | 40 | 4 |
| 2MRE 002 015 S04 | 0.2 | 0.3 | 1.5 | 40 | 4 |
| 2MRE 002 020 S04 | 0.2 | 0.3 | 2 | 40 | 4 |
| 2MRE 003 010 S04 | 0.3 | 0.45 | 1 | 40 | 4 |
| 2MRE 003 020 S04 | 0.3 | 0.45 | 2 | 40 | 4 |
| 2MRE 003 030 S04 | 0.3 | 0.45 | 3 | 40 | 4 |
| 2MRE 003 050 S04 | 0.3 | 0.45 | 5 | 40 | 4 |
| 2MRE 004 020 S04 | 0.4 | 0.6 | 2 | 40 | 4 |
| 2MRE 004 030 S04 | 0.4 | 0.6 | 3 | 40 | 4 |
| 2MRE 004 040 S04 | 0.4 | 0.6 | 4 | 40 | 4 |
| 2MRE 004 050 S04 | 0.4 | 0.6 | 5 | 40 | 4 |
| 2MRE 004 060 S04 | 0.4 | 0.6 | 6 | 40 | 4 |
| 2MRE 005 020 S04 | 0.5 | 1 | 2 | 45 | 4 |
| 2MRE 005 040 S04 | 0.5 | 1 | 4 | 45 | 4 |
| 2MRE 005 060 S04 | 0.5 | 1 | 6 | 45 | 4 |
| 2MRE 005 080 S04 | 0.5 | 1 | 8 | 45 | 4 |
| 2MRE 005 100 S04 | 0.5 | 1 | 10 | 45 | 4 |
| 2MRE 006 020 S04 | 0.6 | 1.2 | 2 | 45 | 4 |
| 2MRE 006 040 S04 | 0.6 | 1.2 | 4 | 45 | 4 |
| 2MRE 006 060 S04 | 0.6 | 1.2 | 6 | 45 | 4 |
| 2MRE 006 080 S04 | 0.6 | 1.2 | 8 | 45 | 4 |
| 2MRE 006 100 S04 | 0.6 | 1.2 | 10 | 45 | 4 |
| 2MRE 007 040 S04 | 0.7 | 1.4 | 4 | 45 | 4 |
| 2MRE 007 060 S04 | 0.7 | 1.4 | 6 | 45 | 4 |
| 2MRE 007 080 S04 | 0.7 | 1.4 | 8 | 45 | 4 |
| 2MRE 007 100 S04 | 0.7 | 1.4 | 10 | 45 | 4 |
| 2MRE 008 040 S04 | 0.8 | 1.6 | 4 | 45 | 4 |
| 2MRE 008 060 S04 | 0.8 | 1.6 | 6 | 45 | 4 |
| 2MRE 008 080 S04 | 0.8 | 1.6 | 8 | 45 | 4 |
| 2MRE 008 100 S04 | 0.8 | 1.6 | 10 | 45 | 4 |
| 2MRE 008 120 S04 | 0.8 | 1.6 | 12 | 45 | 4 |
| 2MRE 009 060 S04 | 0.9 | 1.8 | 6 | 45 | 4 |
| 2MRE 009 100 S04 | 0.9 | 1.8 | 10 | 45 | 4 |
| 2MRE 009 120 S04 | 0.9 | 1.8 | 12 | 45 | 4 |
| 2MRE 010 060 S04 | 1 | 2 | 6 | 50 | 4 |
| 2MRE 010 080 S04 | 1 | 2 | 8 | 50 | 4 |
| 2MRE 010 100 S04 | 1 | 2 | 10 | 50 | 4 |
| 2MRE 010 120 S04 | 1 | 2 | 12 | 50 | 4 |
| 2MRE 010 160 S04 | 1 | 2 | 16 | 50 | 4 |
| 2MRE 010 200 S04 | 1 | 2 | 20 | 60 | 4 |
| 2MRE 010 250 S04 | 1 | 2 | 25 | 60 | 4 |
| 2MRE 012 060 S04 | 1.2 | 2.4 | 6 | 50 | 4 |
| 2MRE 012 080 S04 | 1.2 | 2.4 | 8 | 50 | 4 |
| 2MRE 012 100 S04 | 1.2 | 2.4 | 10 | 50 | 4 |
| 2MRE 012 120 S04 | 1.2 | 2.4 | 12 | 50 | 4 |
| 2MRE 012 160 S04 | 1.2 | 2.4 | 16 | 50 | 4 |
| 2MRE 014 060 S04 | 1.4 | 2.8 | 6 | 50 | 4 |
| 2MRE 014 100 S04 | 1.4 | 2.8 | 10 | 50 | 4 |
| 2MRE 014 160 S04 | 1.4 | 2.8 | 16 | 50 | 4 |

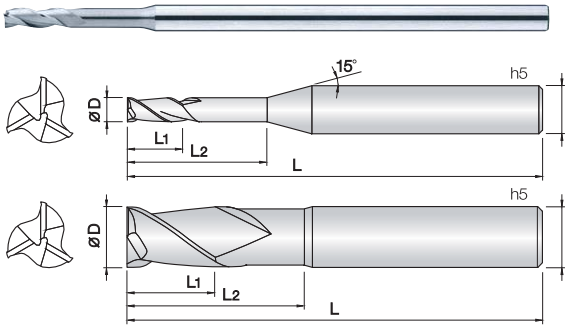
| Numero d'Ordine *Reference* | D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2MRE 015 060 S04 | 1.5 | 3 | 6 | 50 | 4 |
| 2MRE 015 100 S04 | 1.5 | 3 | 10 | 50 | 4 |
| 2MRE 015 140 S04 | 1.5 | 3 | 14 | 50 | 4 |
| 2MRE 015 160 S04 | 1.5 | 3 | 16 | 50 | 4 |
| 2MRE 015 200 S04 | 1.5 | 3 | 20 | 60 | 4 |
| 2MRE 015 250 S04 | 1.5 | 3 | 25 | 60 | 4 |
| 2MRE 015 300 S04 | 1.5 | 3 | 30 | 70 | 4 |
| 2MRE 016 060 S04 | 1.6 | 3.2 | 6 | 50 | 4 |
| 2MRE 020 080 S04 | 2 | 4 | 8 | 50 | 4 |
| 2MRE 020 100 S04 | 2 | 4 | 10 | 50 | 4 |
| 2MRE 020 120 S04 | 2 | 4 | 12 | 50 | 4 |
| 2MRE 020 140 S04 | 2 | 4 | 14 | 50 | 4 |
| 2MRE 020 160 S04 | 2 | 4 | 16 | 50 | 4 |
| 2MRE 020 180 S04 | 2 | 4 | 18 | 50 | 4 |
| 2MRE 020 200 S04 | 2 | 4 | 20 | 60 | 4 |
| 2MRE 020 250 S04 | 2 | 4 | 25 | 60 | 4 |
| 2MRE 020 300 S04 | 2 | 4 | 30 | 70 | 4 |
| 2MRE 020 350 S04 | 2 | 4 | 35 | 80 | 4 |
| 2MRE 020 400 S04 | 2 | 4 | 40 | 80 | 4 |
| 2MRE 025 120 S04 | 2.5 | 5 | 12 | 60 | 4 |
| 2MRE 025 200 S04 | 2.5 | 5 | 20 | 60 | 4 |
| 2MRE 030 080 S06 | 3 | 6 | 8 | 70 | 6 |
| 2MRE 030 120 S06 | 3 | 6 | 12 | 70 | 6 |
| 2MRE 030 160 S06 | 3 | 6 | 16 | 70 | 6 |
| 2MRE 030 200 S06 | 3 | 6 | 20 | 70 | 6 |
| 2MRE 030 250 S06 | 3 | 6 | 25 | 70 | 6 |
| 2MRE 030 300 S06 | 3 | 6 | 30 | 80 | 6 |
| 2MRE 030 400 S06 | 3 | 6 | 40 | 90 | 6 |
| 2MRE 030 450 S06 | 3 | 6 | 45 | 90 | 6 |
| 2MRE 040 120 S06 | 4 | 8 | 12 | 70 | 6 |
| 2MRE 040 160 S06 | 4 | 8 | 16 | 70 | 6 |
| 2MRE 040 200 S06 | 4 | 8 | 20 | 70 | 6 |
| 2MRE 040 250 S06 | 4 | 8 | 25 | 70 | 6 |
| 2MRE 040 300 S06 | 4 | 8 | 30 | 70 | 6 |
| 2MRE 040 350 S06 | 4 | 8 | 35 | 80 | 6 |
| 2MRE 040 400 S06 | 4 | 8 | 40 | 80 | 6 |
| 2MRE 040 500 S06 | 4 | 8 | 50 | 100 | 6 |
| 2MRE 050 160 S06 | 5 | 10 | 16 | 80 | 6 |
| 2MRE 050 250 S06 | 5 | 10 | 25 | 80 | 6 |
| 2MRE 050 350 S06 | 5 | 10 | 35 | 80 | 6 |
| 2MRE 060 250 S06 | 6 | 12 | 25 | 80 | 6 |
| 2MRE 060 350 S06 | 6 | 12 | 35 | 80 | 6 |
| 2MRE 060 500 S06 | 6 | 12 | 50 | 120 | 6 |
| 2MRE 060 600 S06 | 6 | 12 | 60 | 120 | 6 |

FOR A.B.S

# 3MRE

*Fraise Cylindrique 3 Coupes pour Rainurage*

## *Fresa Cilindrica 3 Tagli per Nervature*




- **Fresa per materiali acrilici, A.B.S., alluminio e materiali non ferrosi.**
- Riduzione di vibrazioni grazie all'elica corta.
- Eccellente rigidità ad alte velocità e avanzamenti.
- Geometria rinforzata per prevenire scheggiature.
- Eccellente resistenza all'usura grazie al metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour acryliques, A.B.S., aluminium et métaux non ferreux.***
- *Reduit les vibrations grâce à la hauter de coupe faible.*
- *Excellent pour la grande vitesse et avance.*
- *Géométrie renforcée pour prévenir de l'usure de l'arête de coupe.*
- *Excellente résistance à l'usure grâce au Carbure Submicrograin (0,2 µm).*

ø1 ~ 4 | ø6 ~12 | ø16 | Affilato | List. p.192

| d | Tolleranza/*Tolérance* |
|---|---|
| ø1 ~ 4 | +0 ~ −0.01 mm |
| ø6 ~ 12 | −0.01 ~ −0.025 mm |
| ø16 | −0.015 ~ −0.03 mm |

Unità: mm

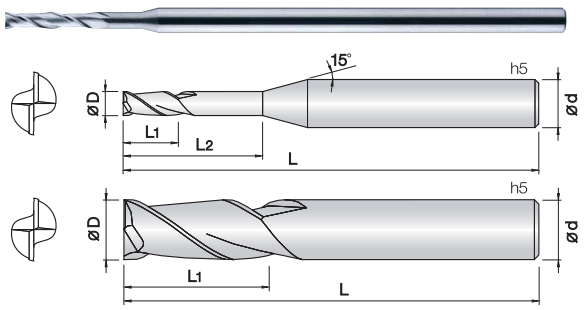
| Numero d'Ordine *Reference* | D | L1 | L2 | L | d | | Numero d'Ordine *Reference* | D | L1 | L2 | L | d | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3MRE 010 050 S04 | 1 | 3 | 5 | 70 | 4 | | | | | | | | |
| 3MRE 010 100 S04 | 1 | 3 | 10 | 70 | 4 | | | | | | | | |
| 3MRE 010 150 S04 | 1 | 3 | 15 | 70 | 4 | | | | | | | | |
| 3MRE 010 200 S04 | 1 | 3 | 20 | 70 | 4 | | | | | | | | |
| 3MRE 010 250 S04 | 1 | 3 | 25 | 70 | 4 | | | | | | | | |
| 3MRE 015 100 S04 | 1.5 | 4.5 | 10 | 70 | 4 | | | | | | | | |
| 3MRE 015 150 S04 | 1.5 | 4.5 | 15 | 70 | 4 | | | | | | | | |
| 3MRE 015 200 S04 | 1.5 | 4.5 | 20 | 70 | 4 | | | | | | | | |
| 3MRE 015 250 S04 | 1.5 | 4.5 | 25 | 70 | 4 | | | | | | | | |
| 3MRE 015 300 S04 | 1.5 | 4.5 | 30 | 70 | 4 | | | | | | | | |
| 3MRE 020 100 S04 | 2 | 6 | 10 | 70 | 4 | | | | | | | | |
| 3MRE 020 150 S04 | 2 | 6 | 15 | 70 | 4 | | | | | | | | |
| 3MRE 020 200 S04 | 2 | 6 | 20 | 70 | 4 | | | | | | | | |
| 3MRE 020 250 S04 | 2 | 6 | 25 | 70 | 4 | | | | | | | | |
| 3MRE 020 300 S04 | 2 | 6 | 30 | 70 | 4 | | | | | | | | |
| 3MRE 030 200 080 | 3 | 15 | 20 | 80 | 3 | | | | | | | | |
| 3MRE 030 200 S04 | 3 | 9 | 20 | 80 | 4 | | | | | | | | |
| 3MRE 030 300 100 | 3 | 15 | 30 | 100 | 3 | | | | | | | | |
| 3MRE 030 300 S04 | 3 | 9 | 30 | 80 | 4 | | | | | | | | |
| 3MRE 040 200 080 | 4 | 12 | 20 | 80 | 4 | | | | | | | | |
| 3MRE 040 300 100 | 4 | 12 | 30 | 100 | 4 | | | | | | | | |
| 3MRE 060 300 100 | 6 | 18 | 30 | 100 | 6 | | | | | | | | |
| 3MRE 060 400 150 | 6 | 18 | 40 | 150 | 6 | | | | | | | | |
| 3MRE 080 400 120 | 8 | 24 | 40 | 120 | 8 | | | | | | | | |
| 3MRE 080 500 150 | 8 | 24 | 50 | 150 | 8 | | | | | | | | |
| 3MRE 100 500 120 | 10 | 30 | 50 | 120 | 10 | | | | | | | | |
| 3MRE 100 600 150 | 10 | 30 | 60 | 150 | 10 | | | | | | | | |
| 3MRE 120 600 150 | 12 | 36 | 60 | 150 | 12 | | | | | | | | |
| 3MRE 160 700 160 | 16 | 54 | 70 | 160 | 16 | | | | | | | | |

FOR A.B.S

# 2MLE

*Fraise Cylindrique 2 Coupes pour Prototypage*

## *Fresa Cilindrica 2 Tagli per Prototipazione*




- **Fresa per materiali acrilici, A.B.S., alluminio e materiali non ferrosi.**
- Riduzione di vibrazioni grazie arun-out e tolleranze precise.
- Elica lunga per migliorare l'evacuazione del truciolo in lavorazioni profonde.
- Geometria rinforzata per prevenire scheggiature.
- Eccellente resistenza all'usura grazie al metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour acryliques, A.B.S., aluminium et métaux non ferreux.***
- *Reduit les vibrations grâce à la hauter de coupe faible et tolérances précises.*
- *Longue hélice pour améliorer l'évacuation des copeaux.*
- *Géométrie renforcée pour prévenir de l'usure de l'arête de coupe.*
- *Excellente résistance à l'usure grâce au Carbure Submicrograin (0,2 µm).*

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.2 ~ 5 | +0 ~ −0.01 mm |
| ø 6 ~ 12 | −0.01 ~ −0.025 mm |
| ø 16 | −0.015 ~ −0.03 mm |

Unità: mm

2 | WC 미립자 | D +0 −0.01 ø0.2 ~ 5 | D −0.01 −0.025 ø6 ~ 12 | D −0.015 −0.03 ø16 | 30° Helix Angle | Affilato | € List. p.193

| Numero d'Ordine *Reference* | D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2MLE 002 010 S03 | 0.2 | 0.4 | 1 | 40 | 3 |
| 2MLE 002 015 S03 | 0.2 | 0.4 | 1.5 | 40 | 3 |
| 2MLE 002 020 S03 | 0.2 | 0.4 | 2 | 40 | 3 |
| 2MLE 003 010 S03 | 0.3 | 1 | - | 45 | 3 |
| 2MLE 003 015 S03 | 0.3 | 1 | 1.5 | 45 | 3 |
| 2MLE 003 018 S03 | 0.3 | 1.8 | - | 45 | 3 |
| 2MLE 003 020 S03 | 0.3 | 1 | 2 | 45 | 3 |
| 2MLE 003 025 S03 | 0.3 | 1 | 2.5 | 45 | 3 |
| 2MLE 003 030 S03 | 0.3 | 1 | 3 | 45 | 3 |
| 2MLE 003 040 S03 | 0.3 | 1 | 4 | 45 | 3 |
| 2MLE 004 012 S03 | 0.4 | 1.2 | - | 45 | 3 |
| 2MLE 004 020 S03 | 0.4 | 2 | - | 45 | 3 |
| 2MLE 004 030 S03 | 0.4 | 1.2 | 3 | 45 | 3 |
| 2MLE 004 040 S03 | 0.4 | 1.2 | 4 | 45 | 3 |
| 2MLE 004 050 S03 | 0.4 | 1.2 | 5 | 45 | 3 |
| 2MLE 005 015 S03 | 0.5 | 1.5 | - | 50 | 3 |
| 2MLE 005 020 S03 | 0.5 | 2 | - | 50 | 3 |
| 2MLE 005 030 S03 | 0.5 | 1.5 | 3 | 50 | 3 |
| 2MLE 005 040 S03 | 0.5 | 1.5 | 4 | 50 | 3 |
| 2MLE 005 050 S03 | 0.5 | 1.5 | 5 | 50 | 3 |
| 2MLE 005 060 S03 | 0.5 | 1.5 | 6 | 50 | 3 |
| 2MLE 005 080 S03 | 0.5 | 1.5 | 8 | 50 | 3 |
| 2MLE 005 100 S03 | 0.5 | 1.5 | 10 | 50 | 3 |
| 2MLE 006 030 S03 | 0.6 | 3 | - | 50 | 3 |
| 2MLE 006 060 S03 | 0.6 | 3 | 6 | 50 | 3 |
| 2MLE 006 080 S03 | 0.6 | 3 | 8 | 50 | 3 |
| 2MLE 006 100 S03 | 0.6 | 3 | 10 | 50 | 3 |
| 2MLE 007 030 S03 | 0.7 | 3 | - | 50 | 3 |
| 2MLE 007 070 S03 | 0.7 | 3 | 7 | 50 | 3 |
| 2MLE 007 100 S03 | 0.7 | 3 | 10 | 50 | 3 |
| 2MLE 007 120 S03 | 0.7 | 3 | 12 | 50 | 3 |
| 2MLE 008 040 S03 | 0.8 | 4 | - | 50 | 3 |
| 2MLE 008 080 S03 | 0.8 | 4 | 8 | 50 | 3 |
| 2MLE 008 100 S03 | 0.8 | 4 | 10 | 50 | 3 |
| 2MLE 008 120 S03 | 0.8 | 4 | 12 | 50 | 3 |
| 2MLE 009 040 S03 | 0.9 | 4 | - | 50 | 3 |
| 2MLE 009 060 S03 | 0.9 | 4 | 6 | 50 | 3 |
| 2MLE 009 080 S03 | 0.9 | 4 | 8 | 50 | 3 |
| 2MLE 009 100 S03 | 0.9 | 4 | 10 | 50 | 3 |
| 2MLE 010 050 S03 | 1 | 5 | - | 80 | 3 |
| 2MLE 010 050 S04 | 1 | 5 | - | 80 | 4 |
| 2MLE 010 100 S03 | 1 | 5 | 10 | 80 | 3 |
| 2MLE 010 100 S04 | 1 | 5 | 10 | 80 | 4 |
| 2MLE 010 150 S03 | 1 | 5 | 15 | 80 | 3 |
| 2MLE 010 150 S04 | 1 | 5 | 15 | 80 | 4 |
| 2MLE 010 200 S03 | 1 | 5 | 20 | 80 | 3 |
| 2MLE 010 200 S04 | 1 | 5 | 20 | 80 | 4 |
| 2MLE 010 250 S03 | 1 | 5 | 25 | 80 | 3 |
| 2MLE 010 250 S04 | 1 | 5 | 25 | 80 | 4 |
| 2MLE 010 300 S03 | 1 | 5 | 30 | 80 | 3 |

| Numero d'Ordine *Reference* | D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2MLE 010 300 S04 | 1 | 5 | 30 | 80 | 4 |
| 2MLE 010 350 S04 | 1 | 5 | | | |
| 2MLE 010 400 S04 | 1 | 5 | 40 | 100 | 4 |
| 2MLE 015 100 S03 | 1.5 | 10 | | | |
| 2MLE 015 100 S04 | 1.5 | 10 | - | 80 | 4 |
| 2MLE 015 150 S03 | 1.5 | 10 | | | |
| 2MLE 015 150 S04 | 1.5 | 10 | 15 | 80 | 4 |
| 2MLE 015 200 S03 | 1.5 | 10 | | | |
| 2MLE 015 200 S04 | 1.5 | 10 | 20 | 80 | 4 |
| 2MLE 015 250 S03 | 1.5 | 10 | | | |
| 2MLE 015 250 S04 | 1.5 | 10 | 25 | 80 | 4 |
| 2MLE 015 300 S03 | 1.5 | 10 | | | |
| 2MLE 015 300 S04 | 1.5 | 10 | 30 | 80 | 4 |
| 2MLE 015 350 S04 | 1.5 | 10 | | | |
| 2MLE 015 400 S04 | 1.5 | 10 | 40 | 100 | 4 |
| 2MLE 020 100 S03 | 2 | 10 | | | |
| 2MLE 020 100 S04 | 2 | 10 | - | 80 | 4 |
| 2MLE 020 150 S03 | 2 | 10 | | | |
| 2MLE 020 150 S04 | 2 | 10 | 15 | 80 | 4 |
| 2MLE 020 200 S03 | 2 | 10 | | | |
| 2MLE 020 200 S04 | 2 | 10 | 20 | 80 | 4 |
| 2MLE 020 250 S03 | 2 | 10 | | | |
| 2MLE 020 250 S04 | 2 | 10 | 25 | 80 | 4 |
| 2MLE 020 300 S03 | 2 | 10 | | | |
| 2MLE 020 300 S04 | 2 | 10 | 30 | 80 | 4 |
| 2MLE 020 350 S03 | 2 | 10 | | | |
| 2MLE 020 350 S04 | 2 | 10 | 35 | 100 | 4 |
| 2MLE 020 400 S03 | 2 | 10 | | | |
| 2MLE 020 400 S04 | 2 | 10 | 40 | 100 | 4 |
| 2MLE 025 100 S03 | 2.5 | 10 | | | |
| 2MLE 025 150 S03 | 2.5 | 15 | - | 80 | 3 |
| 2MLE 025 200 S03 | 2.5 | 15 | | | |
| 2MLE 030 100 060 | 3 | 10 | - | 60 | 3 |
| 2MLE 030 200 080 | 3 | 20 | | | |
| 2MLE 030 200 100 | 3 | 20 | - | 100 | 3 |
| 2MLE 030 200 120 | 3 | 20 | | | |
| 2MLE 030 150 S06 | 3 | 15 | - | 100 | 6 |
| 2MLE 030 200 S06 | 3 | 15 | | | |
| 2MLE 030 250 S06 | 3 | 15 | 25 | 100 | 6 |
| 2MLE 030 300 S06 | 3 | 15 | | | |
| 2MLE 040 200 080 | 4 | 20 | - | 80 | 4 |
| 2MLE 040 200 100 | 4 | 20 | | | |
| 2MLE 040 200 130 | 4 | 20 | - | 130 | 4 |
| 2MLE 040 200 S06 | 4 | 20 | | | |
| 2MLE 040 250 S06 | 4 | 20 | 25 | 100 | 6 |
| 2MLE 040 300 S06 | 4 | 20 | | | |
| 2MLE 040 400 S06 | 4 | 20 | 40 | 120 | 6 |
| 2MLE 050 200 S06 | 5 | 20 | | | |
| 2MLE 050 300 100 | 5 | 30 | - | 100 | 5 |
| 2MLE 050 300 120 | 5 | 30 | | | |

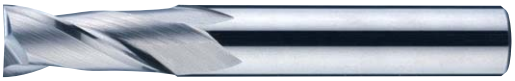
FOR A.B.S

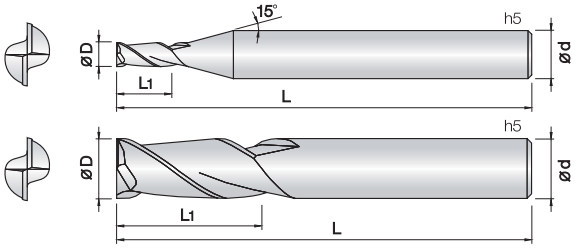
Unità: mm

| Numero d'Ordine *Reference* | D | L1 | L2 | L | d | | Numero d'Ordine *Reference* | D | L1 | L2 | L | d | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2MLE 060 250 080 | 6 | 25 | - | 80 | 6 | | | | | | | | |
| 2MLE 060 300 080 | 6 | 30 | - | 80 | 6 | | | | | | | | |
| 2MLE 060 400 100 | 6 | 40 | - | 100 | 6 | | | | | | | | |
| 2MLE 060 400 120 | 6 | 40 | - | 120 | 6 | | | | | | | | |
| 2MLE 060 400 150 | 6 | 40 | - | 150 | 6 | | | | | | | | |
| 2MLE 080 300 080 | 8 | 30 | - | 80 | 8 | | | | | | | | |
| 2MLE 080 350 090 | 8 | 35 | - | 90 | 8 | | | | | | | | |
| 2MLE 080 400 100 | 8 | 40 | - | 100 | 8 | | | | | | | | |
| 2MLE 080 450 120 | 8 | 45 | - | 120 | 8 | | | | | | | | |
| 2MLE 080 450 150 | 8 | 45 | - | 150 | 8 | | | | | | | | |
| 2MLE 100 300 080 | 10 | 30 | - | 80 | 10 | | | | | | | | |
| 2MLE 100 350 090 | 10 | 35 | - | 90 | 10 | | | | | | | | |
| 2MLE 100 400 100 | 10 | 40 | - | 100 | 10 | | | | | | | | |
| 2MLE 100 500 120 | 10 | 50 | - | 120 | 10 | | | | | | | | |
| 2MLE 100 500 150 | 10 | 50 | - | 150 | 10 | | | | | | | | |
| 2MLE 120 300 090 | 12 | 30 | - | 90 | 12 | | | | | | | | |
| 2MLE 120 400 100 | 12 | 40 | - | 100 | 12 | | | | | | | | |
| 2MLE 120 500 110 | 12 | 50 | - | 110 | 12 | | | | | | | | |
| 2MLE 120 550 130 | 12 | 55 | - | 130 | 12 | | | | | | | | |
| 2MLE 120 550 150 | 12 | 55 | - | 150 | 12 | | | | | | | | |
| 2MLE 160 700 160 | 16 | 70 | - | 160 | 16 | | | | | | | | |

# 2MEM

## Fraise Cylindrique 2 Coupes
## *Fresa Cilindrica 2 Tagli*






- **Fresa per acciai dolci, A.B.S., alluminio e materiali non ferrosi.**
- Riduzione di vibrazioni grazie a run out e tolleranze precise.
- Geometria rinforzata per prevenire scheggiature.
- Eccellente resistenza all'usura grazie al metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour aciers doux, A.B.S., aluminium et métaux non ferreux.***
- *Réduction des vibrations, tolérances précises.*
- *Géométrie renforcée pour empecher l'ecaillage.*
- *Excellente résistance à l'usure grâce au Carbure Submicrograin (0,2 µm).*

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.1 ~ 0.15 | +0 ~ −0.005 mm |
| ø 0.2 ~ 5 | +0 ~ −0.01 mm |
| ø 6 ~ 12 | −0.01 ~ −0.025 mm |

2 | WC 미립자 | D +0 −0.005 (ø0.1 ~ 0.15) | D +0 −0.01 (ø0.2 ~ 5) | D −0.01 −0.025 (ø6 ~ 12) | 30° Helix Angle | Affilato | € List. p.194

Unità: mm

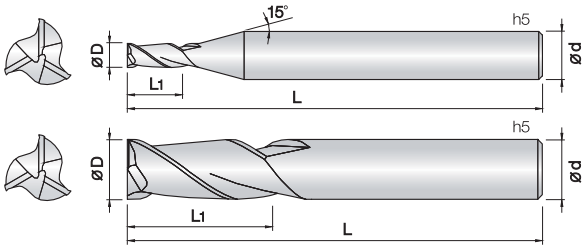
| Numero d'Ordine *Reference* | D | L1 | L | d | | Numero d'Ordine *Reference* | D | L1 | L | d | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2MEM 001 002 S03 | 0.1 | 0.2 | 40 | 3 | | | | | | | |
| 2MEM 0015 003 S03 | 0.15 | 0.3 | 40 | 3 | | | | | | | |
| 2MEM 002 004 S03 | 0.2 | 0.4 | 40 | 3 | | | | | | | |
| 2MEM 003 006 S03 | 0.3 | 0.6 | 40 | 3 | | | | | | | |
| 2MEM 004 008 S03 | 0.4 | 0.8 | 40 | 3 | | | | | | | |
| 2MEM 005 010 S03 | 0.5 | 1 | 40 | 3 | | | | | | | |
| 2MEM 006 012 S03 | 0.6 | 1.2 | 40 | 3 | | | | | | | |
| 2MEM 007 014 S03 | 0.7 | 1.4 | 40 | 3 | | | | | | | |
| 2MEM 008 016 S03 | 0.8 | 1.6 | 40 | 3 | | | | | | | |
| 2MEM 009 018 S03 | 0.9 | 1.8 | 40 | 3 | | | | | | | |
| 2MEM 010 025 S03 | 1 | 2.5 | 40 | 3 | | | | | | | |
| 2MEM 010 025 S06 | 1 | 2.5 | 40 | 6 | | | | | | | |
| 2MEM 011 025 S03 | 1.1 | 2.5 | 40 | 3 | | | | | | | |
| 2MEM 012 035 S03 | 1.2 | 3.5 | 40 | 3 | | | | | | | |
| 2MEM 013 040 S03 | 1.3 | 4 | 40 | 3 | | | | | | | |
| 2MEM 014 040 S03 | 1.4 | 4 | 40 | 3 | | | | | | | |
| 2MEM 015 040 S03 | 1.5 | 4 | 40 | 3 | | | | | | | |
| 2MEM 015 040 S06 | 1.5 | 4 | 40 | 6 | | | | | | | |
| 2MEM 016 040 S03 | 1.6 | 4 | 40 | 3 | | | | | | | |
| 2MEM 017 050 S03 | 1.7 | 5 | 40 | 3 | | | | | | | |
| 2MEM 018 055 S03 | 1.8 | 5.5 | 40 | 3 | | | | | | | |
| 2MEM 019 060 S03 | 1.9 | 6 | 40 | 3 | | | | | | | |
| 2MEM 020 060 S03 | 2 | 6 | 40 | 3 | | | | | | | |
| 2MEM 020 060 S06 | 2 | 6 | 40 | 6 | | | | | | | |
| 2MEM 025 080 S03 | 2.5 | 8 | 40 | 3 | | | | | | | |
| 2MEM 025 080 S06 | 2.5 | 8 | 40 | 6 | | | | | | | |
| 2MEM 030 080 S03 | 3 | 8 | 45 | 3 | | | | | | | |
| 2MEM 030 080 S06 | 3 | 8 | 45 | 6 | | | | | | | |
| 2MEM 035 100 S06 | 3.5 | 10 | 45 | 6 | | | | | | | |
| 2MEM 040 110 S06 | 4 | 11 | 45 | 6 | | | | | | | |
| 2MEM 045 110 S06 | 4.5 | 11 | 45 | 6 | | | | | | | |
| 2MEM 050 130 S06 | 5 | 13 | 50 | 6 | | | | | | | |
| 2MEM 060 130 S06 | 6 | 13 | 50 | 6 | | | | | | | |
| 2MEM 070 160 S08 | 7 | 16 | 60 | 8 | | | | | | | |
| 2MEM 080 190 S08 | 8 | 19 | 60 | 8 | | | | | | | |
| 2MEM 090 190 S10 | 9 | 19 | 70 | 10 | | | | | | | |
| 2MEM 100 220 S10 | 10 | 22 | 70 | 10 | | | | | | | |
| 2MEM 120 260 S12 | 12 | 26 | 75 | 12 | | | | | | | |

FOR A.B.S

# 3MEM

*Fraise Cylindrique 3 Coupes*

## *Fresa Cilindrica 3 Tagli*




- **Fresa per acciai dolci, A.B.S., alluminio e materiali non ferrosi.**
- Riduzione di vibrazioni grazie a run out e tolleranze precise.
- Geometria rinforzata per prevenire scheggiature.
- Eccellente resistenza all'usura grazie al metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour aciers doux, A.B.S., aluminium et métaux non ferreux.***
- *Réduction des vibrations, tolérances précises.*
- *Géométrie renforcée pour empecher l'ecaillage.*
- *Excellente résistance à l'usure grâce au Carbure Submicrograin (0,2 µm).*

3 | WC 미립자 | D +0 −0.01 | D −0.01 −0.025 | 30° Helix Angle | Affilato | €

ø0.3~ 4 | ø6 | Affilato | List. p.195

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.3 ~ 4 | +0 ~ −0.01 mm |
| ø 6 | -0.01 ~ −0.025 mm |

Unità: mm

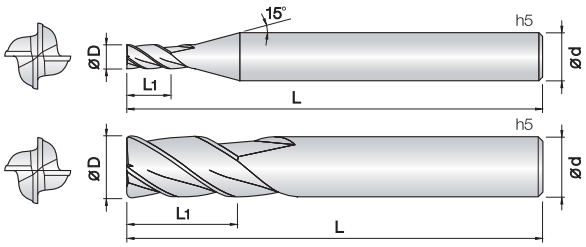
| Numero d'Ordine *Reference* | D | L1 | L | d | | Numero d'Ordine *Reference* | D | L1 | L | d | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3MEM 003 008 S04 | 0.3 | 0.8 | 40 | 4 | | | | | | | |
| 3MEM 003 012 S04 | 0.3 | 1.2 | 40 | 4 | | | | | | | |
| 3MEM 004 010 S04 | 0.4 | 1 | 40 | 4 | | | | | | | |
| 3MEM 004 015 S04 | 0.4 | 1.5 | 40 | 4 | | | | | | | |
| 3MEM 005 013 S04 | 0.5 | 1.3 | 40 | 4 | | | | | | | |
| 3MEM 005 020 S04 | 0.5 | 2 | 45 | 4 | | | | | | | |
| 3MEM 006 015 S04 | 0.6 | 1.5 | 40 | 4 | | | | | | | |
| 3MEM 006 024 S04 | 0.6 | 2.4 | 45 | 4 | | | | | | | |
| 3MEM 007 018 S04 | 0.7 | 1.8 | 40 | 4 | | | | | | | |
| 3MEM 007 028 S04 | 0.7 | 2.8 | 45 | 4 | | | | | | | |
| 3MEM 008 020 S04 | 0.8 | 2 | 40 | 4 | | | | | | | |
| 3MEM 008 032 S04 | 0.8 | 3.2 | 45 | 4 | | | | | | | |
| 3MEM 009 025 S04 | 0.9 | 2.5 | 40 | 4 | | | | | | | |
| 3MEM 009 036 S04 | 0.9 | 3.6 | 45 | 4 | | | | | | | |
| 3MEM 010 025 S04 | 1 | 2.5 | 40 | 4 | | | | | | | |
| 3MEM 010 040 S04 | 1 | 4 | 45 | 4 | | | | | | | |
| 3MEM 010 060 S04 | 1 | 6 | 50 | 4 | | | | | | | |
| 3MEM 012 030 S04 | 1.2 | 3 | 40 | 4 | | | | | | | |
| 3MEM 012 050 S04 | 1.2 | 5 | 40 | 4 | | | | | | | |
| 3MEM 012 070 S04 | 1.2 | 7 | 50 | 4 | | | | | | | |
| 3MEM 015 040 S04 | 1.5 | 4 | 40 | 4 | | | | | | | |
| 3MEM 015 060 S04 | 1.5 | 6 | 40 | 4 | | | | | | | |
| 3MEM 015 090 S04 | 1.5 | 9 | 60 | 4 | | | | | | | |
| 3MEM 020 050 S04 | 2 | 5 | 40 | 4 | | | | | | | |
| 3MEM 020 080 S04 | 2 | 8 | 50 | 4 | | | | | | | |
| 3MEM 020 100 S04 | 2 | 10 | 60 | 4 | | | | | | | |
| 3MEM 025 060 S04 | 2.5 | 6 | 45 | 4 | | | | | | | |
| 3MEM 025 100 S04 | 2.5 | 10 | 50 | 4 | | | | | | | |
| 3MEM 025 150 S04 | 2.5 | 15 | 60 | 4 | | | | | | | |
| 3MEM 030 080 S04 | 3 | 8 | 50 | 4 | | | | | | | |
| 3MEM 030 120 S04 | 3 | 12 | 60 | 4 | | | | | | | |
| 3MEM 030 150 S04 | 3 | 15 | 80 | 4 | | | | | | | |
| 3MEM 040 100 S04 | 4 | 10 | 50 | 4 | | | | | | | |
| 3MEM 040 150 S04 | 4 | 15 | 80 | 4 | | | | | | | |
| 3MEM 060 200 S06 | 6 | 20 | 80 | 6 | | | | | | | |
| 3MEM 060 300 S06 | 6 | 30 | 110 | 6 | | | | | | | |

FOR A.B.S

# 4MEM

*Fraise Cylindrique 4 Coupes*

## *Fresa Cilindrica 4 Tagli*




- **Fresa per acciai dolci, A.B.S., alluminio e materiali non ferrosi.**
- Riduzione di vibrazioni grazie a run out e tolleranze precise.
- Geometria rinforzata per prevenire scheggiature.
- Eccellente resistenza all'usura grazie al metallo duro Ultra Micrograna (0,2 µm).
- ***Fraise pour aciers doux, A.B.S., aluminium et métaux non ferreux.***
- *Réduction des vibrations, tolérances précises.*
- *Géométrie renforcée pour empecher l'ecaillage.*
- *Excellente résistance à l'usure grâce au Carbure Submicrograin (0,2 µm).*

4 | WC 미립자 | D +0 −0.01 Ø1 ~ 5 | D −0.01 −0.025 Ø6 ~12 | 30° Helix Angle | Affilato | € List. p.195

| d | Tolleranza/*Tolérance* |
|---|---|
| ø1 ~ 5 | +0 ~ −0.01 mm |
| ø6 ~ 12 | -0.01 ~ −0.025 mm |

Unità: mm

| Numero d'Ordine *Reference* | D | L1 | L | d | |
|---|---|---|---|---|---|
| 4MEM 010 025 S04 | 1 | 2.5 | 40 | 4 | |
| 4MEM 010 040 S04 | 1 | 4 | 45 | 4 | |
| 4MEM 015 040 S04 | 1.5 | 4 | 40 | 4 | |
| 4MEM 015 060 S04 | 1.5 | 6 | 45 | 4 | |
| 4MEM 020 050 S04 | 2 | 5 | 40 | 4 | |
| 4MEM 020 080 S04 | 2 | 8 | 45 | 4 | |
| 4MEM 025 080 S04 | 2.5 | 8 | 45 | 4 | |
| 4MEM 025 100 S04 | 2.5 | 10 | 50 | 4 | |
| 4MEM 030 080 S06 | 3 | 8 | 45 | 6 | |
| 4MEM 030 120 S06 | 3 | 12 | 50 | 6 | |
| 4MEM 040 110 S06 | 4 | 11 | 45 | 6 | |
| 4MEM 040 160 S06 | 4 | 16 | 55 | 6 | |
| 4MEM 050 130 S06 | 5 | 13 | 50 | 6 | |
| 4MEM 050 200 S06 | 5 | 20 | 60 | 6 | |
| 4MEM 060 130 S06 | 6 | 13 | 50 | 6 | |
| 4MEM 060 240 S06 | 6 | 24 | 70 | 6 | |
| 4MEM 080 200 S08 | 8 | 20 | 60 | 8 | |
| 4MEM 080 320 S08 | 8 | 32 | 80 | 8 | |
| 4MEM 100 220 S10 | 10 | 22 | 70 | 10 | |
| 4MEM 100 400 S10 | 10 | 40 | 100 | 10 | |
| 4MEM 120 260 S12 | 12 | 26 | 75 | 12 | |
| 4MEM 120 480 S12 | 12 | 48 | 100 | 12 | |

| Numero d'Ordine *Reference* | D | L1 | L | d | |
|---|---|---|---|---|---|

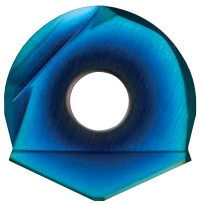
FOR A.B.S

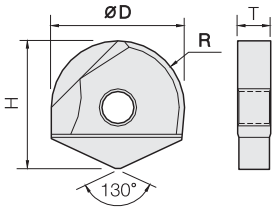
# 2HHINB

*Plaquettes hélicoïdales sphérique HH pour aciers trempés*

## *Inserti Sferici Elicati HH per Acciai Temprati*

New






- **Inserti sferici per copiatura acciai temprati (~HRc62) e acciai bonificati.**
- Ottima resistenza all'usura grazie al rivestimento TiSiN-S.
- La nuova geometria elicata riduce le forze di taglio.
- Progettati per ridurre al massimo il rischio di scheggiature.
- Riduzione di rotture grazie alla Ultra Micrograna impiegata (0,3 µm).
- ***Plaquettes sphériques pour copier les aciers trempés(~HRc62) et aciers durs.***
- *Excellente resistance à l'usure grâce au revêtement TiSiN-S.*
- *La nouvelle géométrie hélicoïdale réduit les efforts de coupe.*
- *Conçu pour minimiser le risque d'écaillage.*
- *Réduction des casses grâce au micro-grain utilisé (0,3 µm).*

2 | UWC 초미립자 | TISIN-S Coating | R 5~6.5R | R ±0.015 8~15R | D +0 −0.01 Ø10~Ø13 | D +0 −0.02 Ø16~Ø30 | JOIN ±0.02 5~15R | € List. p.196

| d | Tolleranza/*Tolérance* |
|---|---|
| ø10 ~ 13 | +0 ~ −0.01 mm |
| ø16 ~ 30 | +0 ~ −0.02 mm |

Unità: mm

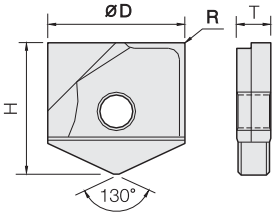
| Numero d'Ordine *Reference* | R x D | H | T | Numero d'Ordine *Reference* | R x D | H | T |
|---|---|---|---|---|---|---|---|
| 2HHINB 100 | 5R X 10 | 12.1 | 2.7 | | | | |
| 2HHINB 120 | 6R X 12 | 14.6 | 3.2 | | | | |
| 2HHINB 160 | 8R X 16 | 16.5 | 4.2 | | | | |
| 2HHINB 200 | 10R X 20 | 20.4 | 5.2 | | | | |
| 2HHINB 250 | 12.5R X 25 | 24.1 | 6.2 | | | | |
| 2HHINB 300 | 15R X 30 | 29.1 | 7.2 | | | | |

# 2HHINC

*Plaquettes toriques HH pour aciers trempés*

## *Inserti Torici HH per Acciai Temprati*

New




- **Inserti torici per copiatura acciai temprati (~HRc62) e acciai bonificati.**
- Ottima resistenza all'usura grazie al rivestimento TiSiN-S.
- La nuova geometria elicata riduce le forze di taglio.
- Progettati per ridurre al massimo il rischio di scheggiature.
- Riduzione di rotture grazie alla Ultra Micrograna impiegata (0,3 µm).
- ***Plaquettes toriques pour copier les aciers trempés(~HRc62) et aciers durs.***
- *Excellente resistance à l'usure grâce au revêtement TiSiN-S.*
- *La nouvelle géométrie hélicoïdale réduit les efforts de coupe.*
- *Conçu pour minimiser le risque d'écaillage.*
- *Réduction des casses grâce au micro-grain utilisé (0,3 µm).*

2 | UWC 초미립자 | TISIN-S Coating | R ±0.015 0.5~2R | D +0 −0.01 Ø10~Ø13 | D +0 −0.02 Ø16~Ø30 | JOIN ±0.02 Ø10~Ø30 | € List. p.196

| d | Tolleranza/*Tolérance* |
|---|---|
| ø10 ~ 13 | +0 ~ −0.01 mm |
| ø16 ~ 30 | +0 ~ −0.02 mm |

Unità: mm

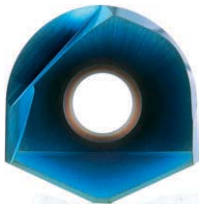
| Numero d'Ordine *Reference* | D x R | H | T | Numero d'Ordine *Reference* | D x R | H | T |
|---|---|---|---|---|---|---|---|
| 2HHINC 100 003 | 10 X R0.3 | 12.1 | 2.7 | 2HHINC 250 005 | 25 X R0.5 | 24.1 | 6.2 |
| 2HHINC 100 005 | 10 X R0.5 | 12.1 | 2.7 | 2HHINC 250 010 | 25 X R1 | 24.1 | 6.2 |
| 2HHINC 100 010 | 10 X R1 | 12.1 | 2.7 | 2HHINC 250 020 | 25 X R2 | 24.1 | 6.2 |
| 2HHINC 120 003 | 12 X R0.3 | 14.6 | 3.2 | 2HHINC 300 005 | 30 X R0.5 | 29.1 | 7.2 |
| 2HHINC 120 005 | 12 X R0.5 | 14.6 | 3.2 | 2HHINC 300 010 | 30 X R1 | 29.1 | 7.2 |
| 2HHINC 120 010 | 12 X R1 | 14.6 | 3.2 | 2HHINC 300 020 | 30 X R2 | 29.1 | 7.2 |
| 2HHINC 120 020 | 12 X R2 | 14.6 | 3.2 | | | | |
| 2HHINC 160 003 | 16 X R0.3 | 16.5 | 4.2 | | | | |
| 2HHINC 160 005 | 16 X R0.5 | 16.5 | 4.2 | | | | |
| 2HHINC 160 010 | 16 X R1 | 16.5 | 4.2 | | | | |
| 2HHINC 160 020 | 16 X R2 | 16.5 | 4.2 | | | | |
| 2HHINC 200 003 | 20 X R0.3 | 20.4 | 5.2 | | | | |
| 2HHINC 200 005 | 20 X R0.5 | 20.4 | 5.2 | | | | |
| 2HHINC 200 010 | 20 X R1 | 20.4 | 5.2 | | | | |
| 2HHINC 200 020 | 20 X R2 | 20.4 | 5.2 | | | | |

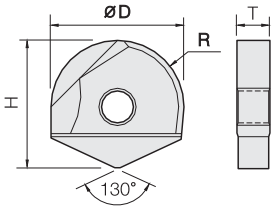
# 2JJINB

*Plaquettes JJ sphériques pour aciers trempés*

## *Inserti Sferici JJ per Acciai Temprati*

New






- **Inserti sferici per copiatura acciai temprati (~HRc62) e acciai bonificati.**
- Ottima resistenza all'usura grazie al rivestimento TiSiN-S.
- Progettati per ridurre al massimo il rischio di scheggiature.
- Riduzione di rotture grazie alla Ultra Micrograna impiegata (0,3 µm).
- ***Plaquettes sphériques pour copier les aciers Alliés(~HRc62) et aciers trempés.***
- *Excellente resistance à l'usure grâce au revêtement TiSiN-S.*
- *Conçu pour minimiser le risque d'écaillage.*
- *Réduction des casses grâce au micro-grain utilisé (0,3 µm).*

2 | UWC 초미립자 | TISIN-S Coating | R ±0.01 (5~6.5R) | R ±0.015 (8~15R) | D +0 −0.01 (Ø10~Ø13) | D +0 −0.02 (Ø16~Ø30) | JOIN ±0.02 (5~15R) | CUTTING DATA 374P | € List. p.196

| d | Tolleranza/*Tolérance* |
|---|---|
| Ø10 ~ 13 | +0 ~ −0.01 mm |
| Ø16 ~ 30 | +0 ~ −0.02 mm |

Unità: mm

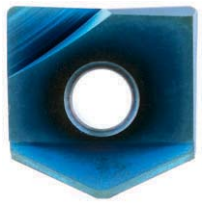
| Numero d'Ordine *Reference* | R x D | H | T | Numero d'Ordine *Reference* | R x D | H | T |
|---|---|---|---|---|---|---|---|
| 2JJINB 100 | 5R X 10 | 12.1 | 2.7 | | | | |
| 2JJINB 120 | 6R X 12 | 14.6 | 3.2 | | | | |
| 2JJINB 160 | 8R X 16 | 16.5 | 4.2 | | | | |
| 2JJINB 200 | 10R X 20 | 20.4 | 5.2 | | | | |
| 2JJINB 250 | 12.5R X 25 | 24.1 | 6.2 | | | | |
| 2JJINB 300 | 15R X 30 | 29.1 | 7.2 | | | | |

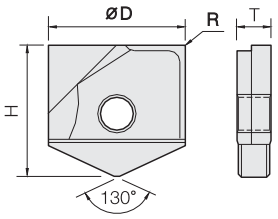
# 2JJINC

*Plaquettes JJ toriques pour aciers trempés*

## *Inserti Torici JJ per Acciai Temprati*

New






- **Inserti torici per copiatura acciai temprati (~HRc62) e acciai bonificati.**
- Ottima resistenza all'usura grazie al rivestimento TiSiN-S.
- Progettati per ridurre al massimo il rischio di scheggiature.
- Riduzione di rotture grazie alla Ultra Micrograna impiegata (0,3 µm).
- ***Plaquettes toriques pour copier les aciers traités (~HRc62) et aciers trempés.***
- *Excellente resistance à l'usure grâce au revêtement TiSiN-S.*
- *Conçu pour minimiser le risque d'écaillage.*
- *Réduction des casses grâce au micro-grain utilisé (0,3 µm).*

2 | UWC 초미립자 | TISIN-S Coating | R ±0.015 (0.5~2R) | D +0 −0.01 (Ø10~Ø13) | D +0 −0.02 (Ø16~Ø30) | JOIN ±0.02 (Ø10~Ø30) | CUTTING DATA 374P | € List. p.197

| d | Tolleranza/*Tolérance* |
|---|---|
| Ø10 ~ 13 | +0 ~ −0.01 mm |
| Ø16 ~ 30 | +0 ~ −0.02 mm |

Unità: mm

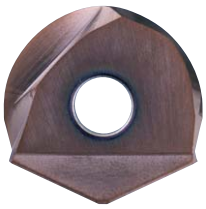
| Numero d'Ordine *Reference* | D x R | H | T | Numero d'Ordine *Reference* | D x R | H | T |
|---|---|---|---|---|---|---|---|
| 2JJINC 100 003 | 10 X R0.3 | 12.1 | 2.7 | 2JJINC 250 010 | 25 X R1 | 24.1 | 6.2 |
| 2JJINC 100 005 | 10 X R0.5 | 12.1 | 2.7 | 2JJINC 250 020 | 25 X R2 | 24.1 | 6.2 |
| 2JJINC 100 010 | 10 X R1 | 12.1 | 2.7 | 2JJINC 300 005 | 30 X R0.5 | 29.1 | 7.2 |
| 2JJINC 120 003 | 12 X R0.3 | 14.6 | 3.2 | 2JJINC 300 010 | 30 X R1 | 29.1 | 7.2 |
| 2JJINC 120 005 | 12 X R0.5 | 14.6 | 3.2 | 2JJINC 300 020 | 30 X R2 | 29.1 | 7.2 |
| 2JJINC 120 010 | 12 X R1 | 14.6 | 3.2 | | | | |
| 2JJINC 120 020 | 12 X R2 | 14.6 | 3.2 | | | | |
| 2JJINC 160 003 | 16 X R0.3 | 16.5 | 4.2 | | | | |
| 2JJINC 160 005 | 16 X R0.5 | 16.5 | 4.2 | | | | |
| 2JJINC 160 010 | 16 X R1 | 16.5 | 4.2 | | | | |
| 2JJINC 160 020 | 16 X R2 | 16.5 | 4.2 | | | | |
| 2JJINC 200 003 | 20 X R0.3 | 20.4 | 5.2 | | | | |
| 2JJINC 200 005 | 20 X R0.5 | 20.4 | 5.2 | | | | |
| 2JJINC 200 010 | 20 X R1 | 20.4 | 5.2 | | | | |
| 2JJINC 200 020 | 20 X R2 | 20.4 | 5.2 | | | | |
| 2JJINC 250 005 | 25 X R0.5 | 24.1 | 6.2 | | | | |

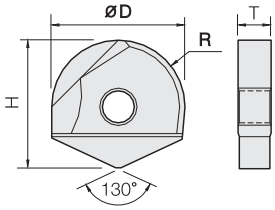
# 2GINB

*Plaquettes Sphériques Hélicöidales à usage général*

## *Inserti Sferici Elicati General Purpose*

New






- **Inserti sferici per acciai in genere e acciai temprati (~HRc52).**
- Progettato per ridurre il rischio di scheggiature con rivestimento TiSiN-S.
- Nuova geometria per ridurre stress di taglio e scheggiature.
- Riduzione di rotture grazie all'alto valore TRS e alla Micrograna impiegata (0,3 µm).
- ***Plaquettes sphériques pour aciers général et aciers trempés (~HRc52).***
- *Conçu pour minimiser le risque d'écaillage avec le revêtement TiSiN-S.*
- *La nouvelle géométrie pour réduire les contraintes de coupe.*
- *Réduction des casses grâce à la valeur TRS élevée et à la micro-grain utilisé (0,3 µm).*

2 | WC 미립자 | TISIN Coating | R ±0.01 (5 ~ 6.5R) | R ±0.015 (8 ~ 15R) | D +0 −0.01 (Ø10~ Ø13) | D +0 −0.02 (Ø16~ Ø30) | JOIN ±0.02 (5 ~ 15R) | € List. p.197

| d | Tolleranza/*Tolérance* |
|---|---|
| Ø10 ~ 13 | +0 ~ −0.01 mm |
| Ø16 ~ 30 | +0 ~ −0.02 mm |

Unità: mm

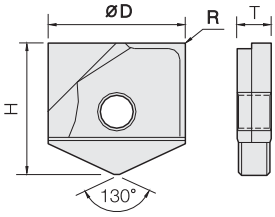
| Numero d'Ordine *Reference* | R x D | H | T | Numero d'Ordine *Reference* | R x D | H | T |
|---|---|---|---|---|---|---|---|
| 2GINB 100 | 5R X 10 | 12.1 | 2.7 | | | | |
| 2GINB 120 | 6R X 12 | 14.6 | 3.2 | | | | |
| 2GINB 160 | 8R X 16 | 16.5 | 4.2 | | | | |
| 2GINB 200 | 10R X 20 | 20.4 | 5.2 | | | | |
| 2GINB 250 | 12.5R X 25 | 24.1 | 6.2 | | | | |
| 2GINB 300 | 15R X 30 | 29.1 | 7.2 | | | | |

# 2GINC

*Plaquettes Toriques Hélicöidales à usage général*

## *Inserti Torici Elicati General Purpose*

New




- **Inserti torici per acciai in genere e acciai temprati (~HRc52).**
- Progettato per ridurre il rischio di scheggiature con rivestimento TiSiN-S.
- Nuova geometria per ridurre stress di taglio e scheggiature.
- Riduzione di rotture grazie all'alto valore TRS e alla Micrograna impiegata (0,3 µm).
- ***Plaquettes toriques pour aciers général et aciers trempés (~HRc52).***
- *Conçu pour minimiser le risque d'écaillage avec le revêtement TiSiN-S.*
- *La nouvelle géométrie pour réduire les contraintes de coupe.*
- *Réduction des casses grâce à la valeur TRS élevée et à la micro-grain utilisé (0,3 µm).*

2 | WC 미립자 | TISIN Coating | R ±0.015 (0.5 ~ 2R) | D +0 −0.01 (Ø10~ Ø13) | D +0 −0.02 (Ø16~ Ø30) | JOIN ±0.02 (Ø10~ Ø30) | € List. p.197

| d | Tolleranza/*Tolérance* |
|---|---|
| Ø10 ~ 13 | +0 ~ −0.01 mm |
| Ø16 ~ 30 | +0 ~ −0.02 mm |

Unità: mm

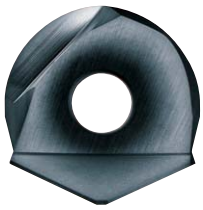
| Numero d'Ordine *Reference* | D x R | H | T | Numero d'Ordine *Reference* | D x R | H | T |
|---|---|---|---|---|---|---|---|
| 2GINC 100 003 | 10 X R0.3 | 12.1 | 2.7 | 2GINC 250 005 | 25 X R0.5 | 24.1 | 6.2 |
| 2GINC 100 005 | 10 X R0.5 | 12.1 | 2.7 | 2GINC 250 010 | 25 X R1 | 24.1 | 6.2 |
| 2GINC 100 010 | 10 X R1 | 12.1 | 2.7 | 2GINC 250 020 | 25 X R2 | 24.1 | 6.2 |
| 2GINC 120 003 | 12 X R0.3 | 14.6 | 3.2 | 2GINC 300 005 | 30 X R0.5 | 29.1 | 7.2 |
| 2GINC 120 005 | 12 X R0.5 | 14.6 | 3.2 | 2GINC 300 010 | 30 X R1 | 29.1 | 7.2 |
| 2GINC 120 010 | 12 X R1 | 14.6 | 3.2 | 2GINC 300 020 | 30 X R2 | 29.1 | 7.2 |
| 2GINC 120 020 | 12 X R2 | 14.6 | 3.2 | | | | |
| 2GINC 160 003 | 16 X R0.3 | 16.5 | 4.2 | | | | |
| 2GINC 160 005 | 16 X R0.5 | 16.5 | 4.2 | | | | |
| 2GINC 160 010 | 16 X R1 | 16.5 | 4.2 | | | | |
| 2GINC 160 020 | 16 X R2 | 16.5 | 4.2 | | | | |
| 2GINC 200 003 | 20 X R0.3 | 20.4 | 5.2 | | | | |
| 2GINC 200 005 | 20 X R0.5 | 20.4 | 5.2 | | | | |
| 2GINC 200 010 | 20 X R1 | 20.4 | 5.2 | | | | |
| 2GINC 200 020 | 20 X R2 | 20.4 | 5.2 | | | | |

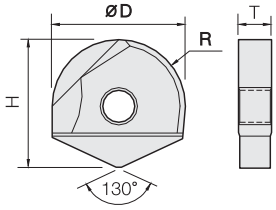
# 2DINB

*Plaquettes Sphériques Hélicöidales pour graphite*

## *Inserti Sferici Elicati Dia per Grafite*

New






- **Inserti sferici per copiatura su grafite e materiali non ferrosi.**
- Eccellente resistenza all'usura grazie al rivestimento diamante CVD.
- La nuova geometria elicata riduce le forze di taglio.
- ***Plaquettes sphériques de copiage pour Graphite et materiaux non ferreux.***
- *Excellente résistance à l'usure grâce au revétement Diamant CVD.*
- *La nouvelle géométrie hélicöidale réduit les effortes de coupe.*

2 | WC 미립자 | DIA. Coating | R ±0.01 (5 ~ 6.5R) | R ±0.015 (8 ~ 15R) | D +0 −0.01 (Ø10~ Ø13) | D +0 −0.02 (Ø16~ Ø30) | JOIN ±0.02 (5 ~ 15R) | € List. p.198

| d | Tolleranza/*Tolérance* |
|---|---|
| Ø10 ~ 13 | +0 ~ −0.01 mm |
| Ø16 ~ 30 | +0 ~ −0.02 mm |

Unità: mm

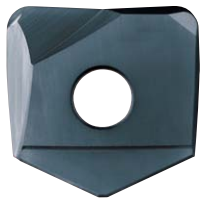
| Numero d'Ordine *Reference* | R x D | H | T | Numero d'Ordine *Reference* | R x D | H | T |
|---|---|---|---|---|---|---|---|
| 2DINB 100 | 5R X 10 | 12.1 | 2.7 | | | | |
| 2DINB 120 | 6R X 12 | 14.6 | 3.2 | | | | |
| 2DINB 160 | 8R X 16 | 16.5 | 4.2 | | | | |
| 2DINB 200 | 10R X 20 | 20.4 | 5.2 | | | | |
| 2DINB 250 | 12.5R X 25 | 24.1 | 6.2 | | | | |
| 2DINB 300 | 15R X 30 | 29.1 | 7.2 | | | | |

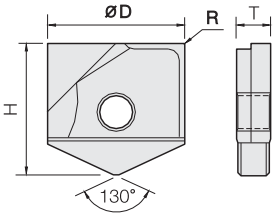
# 2DINC

*Plaquettes Toriques Hélicöidales pour graphite*

## *Inserti Torici Elicati Dia per Grafite*

New






- **Inserti torici per copiatura su grafite e materiali non ferrosi.**
- Eccellente resistenza all'usura grazie al rivestimento diamante CVD.
- La nuova geometria elicata riduce le forze di taglio.
- ***Plaquettes toriques de copiage pour Graphite et materiaux non ferreux.***
- *Excellente résistance à l'usure grâce au revétement Diamant CVD.*
- *La nouvelle géométrie hélicöidale réduit les effortes de coupe.*

2 | WC 미립자 | DIA. Coating | R ±0.015 (0.5 ~ 2R) | D +0 −0.01 (Ø10~ Ø13) | D +0 −0.02 (Ø16~ Ø30) | JOIN ±0.02 (Ø10~ Ø30) | € List. p.198

| d | Tolleranza/*Tolérance* |
|---|---|
| Ø10 ~ 13 | +0 ~ −0.01 mm |
| Ø16 ~ 30 | +0 ~ −0.02 mm |

Unità: mm

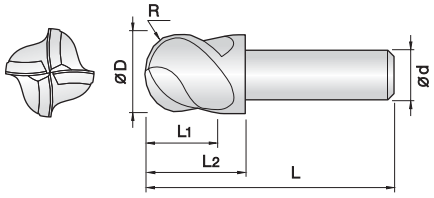
| Numero d'Ordine *Reference* | D x R | H | T | Numero d'Ordine *Reference* | D x R | H | T |
|---|---|---|---|---|---|---|---|
| 2DINC 100 003 | 10 X R0.3 | 12.1 | 2.7 | 2DINC 250 010 | 25 X R1 | 24.1 | 6.2 |
| 2DINC 100 005 | 10 X R0.5 | 12.1 | 2.7 | 2DINC 250 020 | 25 X R2 | 24.1 | 6.2 |
| 2DINC 100 010 | 10 X R1 | 12.1 | 2.7 | 2DINC 260 005 | 26 X R0.5 | 24.6 | 6.2 |
| 2DINC 120 003 | 12 X R0.3 | 14.6 | 3.2 | 2DINC 300 005 | 30 X R0.5 | 29.1 | 7.2 |
| 2DINC 120 005 | 12 X R0.5 | 14.6 | 3.2 | 2DINC 300 010 | 30 X R1 | 29.1 | 7.2 |
| 2DINC 120 010 | 12 X R1 | 14.6 | 3.2 | 2DINC 300 020 | 30 X R2 | 29.1 | 7.2 |
| 2DINC 120 020 | 12 X R2 | 14.6 | 3.2 | | | | |
| 2DINC 160 003 | 16 X R0.3 | 16.5 | 4.2 | | | | |
| 2DINC 160 005 | 16 X R0.5 | 16.5 | 4.2 | | | | |
| 2DINC 160 010 | 16 X R1 | 16.5 | 4.2 | | | | |
| 2DINC 160 020 | 16 X R2 | 16.5 | 4.2 | | | | |
| 2DINC 200 003 | 20 X R0.3 | 20.4 | 5.2 | | | | |
| 2DINC 200 005 | 20 X R0.5 | 20.4 | 5.2 | | | | |
| 2DINC 200 010 | 20 X R1 | 20.4 | 5.2 | | | | |
| 2DINC 200 020 | 20 X R2 | 20.4 | 5.2 | | | | |
| 2DINC 250 005 | 25 X R0.5 | 24.1 | 6.2 | | | | |

# 4SFJB

*Tête monobloc 4 coupes hémisphérique pour aciers trempés - Frettage*

## *Testina Integrale a 4 Tagli Emisferica a Calettare per Acciai Temprati*

New




- **Testina emisferica per acciai temprati (HRc52~62) e acciai bonificati.**
- Ottima resistenza all'usura grazie al rivestimento TiSiN-S.
- Eccellente forza di serraggio e precisione con il sistema a calettamento.
- Riduzione di rotture grazie alla Ultra Micrograna impiegata (0,4 μm) e all'alto valore diuTRS.
- ***Tête hémisphérique pour aciers trempés (HRc52~62) et aciers trempés.***
- *Excellente resistance à l'usure grâce au revêtement TiSiN-S.*
- *Excellente force de serrage et précision avec le systéme de frettage.*
- *Réduction des casses grâce au micro-grain utilisé (0,4 μm) et la valeur élevée de TRS.*

4 | WC 미립자 | TISIN-S Coating | R ±0.01 (5~6.5R) | R ±0.015 (8~10.5R) | 45° Helix Angle | €

List. p.199

| d | Tolleranza/*Tolérance* |
|---|---|
| Ø10 ~ 12 | −0.005 ~ −0.015 mm |
| Ø13 ~ 21 | −0.01 ~ −0.02 mm |

Unità: mm

| Numero d'Ordine *Reference* | R x D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 4SFJB 100 085 S06 | 5R X 10 | 8.5 | 12 | 37 | 6 |
| * 4SFJB 110 085 S06 | 5.5R X 11 | 8.5 | 12 | 37 | 6 |
| 4SFJB 120 090 S06 | 6R X 12 | 9 | 13 | 38 | 6 |
| * 4SFJB 130 090 S06 | 6.5R X 13 | 9 | 13 | 38 | 6 |
| 4SFJB 160 120 S10 | 8R X 16 | 12 | 17 | 48 | 10 |
| * 4SFJB 170 120 S10 | 8.5R X 17 | 12 | 17 | 48 | 10 |
| 4SFJB 200 150 S12 | 10R X 20 | 15 | 21 | 54 | 12 |
| 4SFJB 210 150 S12 | 10.5R X 21 | 15 | 21 | 54 | 12 |

| Numero d'Ordine *Reference* | R x D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| | | | | | |

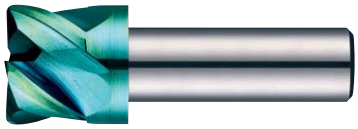
* **Su richiesta**/ *Sur demand*

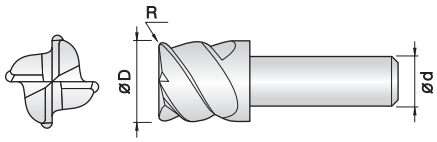
# 4SFJC

*Tête monobloc 4 coupes torique pour aciers trempés - Frettage*

## *Testina Integrale a 4 Tagli Torica a Calettare per Acciai Temprati*

New






- **Testina torica per acciai temprati (HRc52~62) e acciai bonificati.**
- Ottima resistenza all'usura grazie al rivestimento TiSiN-S.
- Eccellente forza di serraggio e precisione con il sistema a calettamento.
- Riduzione di rotture grazie alla Ultra Micrograna impiegata (0,4 μm) e all'alto valore diuTRS.
- ***Tête torique pour aciers trempés (HRc52~62) et aciers trempés.***
- *Excellente resistance à l'usure grâce au revêtement TiSiN-S.*
- *Excellente force de serrage et précision avec le systéme de frettage.*
- *Réduction des casses grâce au micro-grain utilisé (0,4 μm) et la valeur élevée de TRS.*

4 | WC 미립자 | TISIN-S Coating | R ±0.005 (R0.3~0.5) | R ±0.01 (R1) | 45° Helix Angle | €

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| d | Tolleranza/*Tolérance* |
|---|---|
| Ø10 ~ 12 | −0.005 ~ −0.015 mm |
| Ø13 ~ 21 | −0.01 ~ −0.02 mm |

Unità: mm

| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 4SFJC 100 003 085 | 10 X R0.3 | 8.5 | 12 | 37 | 6 |
| 4SFJC 100 005 085 | 10 X R0.5 | 8.5 | 12 | 37 | 6 |
| 4SFJC 100 010 085 | 10 X R1 | 8.5 | 12 | 37 | 6 |
| * 4SFJC 110 003 085 | 11 X R0.3 | 8.5 | 12 | 37 | 6 |
| * 4SFJC 110 005 085 | 11 X R0.5 | 8.5 | 12 | 37 | 6 |
| * 4SFJC 110 010 085 | 11 X R1 | 8.5 | 12 | 37 | 6 |
| 4SFJC 120 003 090 | 12 X R0.3 | 9 | 13 | 38 | 6 |
| 4SFJC 120 005 090 | 12 X R0.5 | 9 | 13 | 38 | 6 |
| 4SFJC 120 010 090 | 12 X R1 | 9 | 13 | 38 | 6 |
| * 4SFJC 130 003 090 | 13 X R0.3 | 9 | 13 | 38 | 6 |
| * 4SFJC 130 005 090 | 13 X R0.5 | 9 | 13 | 38 | 6 |

| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d |
|---|---|---|---|---|---|
| * 4SFJC 130 010 090 | 13 X R1 | 9 | 13 | 38 | 6 |
| 4SFJC 160 005 120 | 16 X R0.5 | 12 | 17 | 48 | 10 |
| 4SFJC 160 010 120 | 16 X R1 | 12 | 17 | 48 | 10 |
| * 4SFJC 170 005 120 | 17 X R0.5 | 12 | 17 | 48 | 10 |
| * 4SFJC 170 010 120 | 17 X R1 | 12 | 17 | 48 | 10 |
| 4SFJC 200 005 150 | 20 X R0.5 | 15 | 21 | 54 | 12 |
| 4SFJC 200 010 150 | 20 X R1 | 15 | 21 | 54 | 12 |
| * 4SFJC 210 005 150 | 21 X R0.5 | 15 | 21 | 54 | 12 |
| * 4SFJC 210 010 150 | 21 X R1 | 15 | 21 | 54 | 12 |

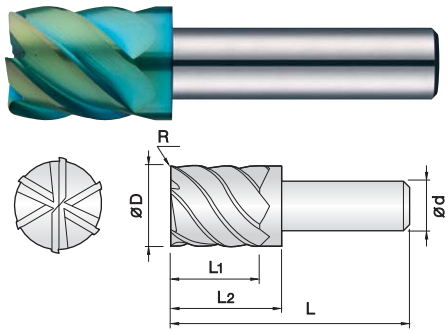
* **Su richiesta**/ *Sur demand*

# 6~12SFJC

*Tête Torique Monobloc 6~12 coupes pour aciers trempés - Frettage*

## Testina Integrale 6~12 Tagli Torica a Calettare per Acciai Temprati

New




- **Testina torica per acciai temprati (HRc52~62) e acciai bonificati.**
- Ottima resistenza all'usura grazie al rivestimento TiSiN-S.
- Lavorazione in alta velocità grazie alla geometria multitaglio.
- Eccellente forza di serraggio e precisione con il sistema a calettamento.
- Riduzione di rotture grazie alla Ultra Micrograna impiegata (0,4 µm) e all'alto valore diuTRS.
- ***Tête torique pour aciers trempés (HRc52~62) et aciers trempés.***
- *Excellente résistance à l'usure grâce au revêtement TiSiN-S.*
- *Usinage à grande vitesse grâce à la géométrie multi-coupes.*
- *Excellente force de serrage et précision avec le systéme de frettage.*
- *Réduction des casses grâce au micro-grain utilisé (0,4 µm) et la valeur élevée de TRS.*

6 ~ 12 | WC 미립자 | TISIN-S Coating | R ±0.005 (R0.3 ~ 0.5) | R ±0.01 (R1) | 45° Helix Angle | €

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| d | Tolleranza/Tolérance |
|---|---|
| Ø10 ~ 12 | −0.005 ~ −0.015 mm |
| Ø13 ~ 21 | −0.01 ~ −0.02 mm |

Unità: mm

| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 6SFJC 100 003 085 | 10 X R0.3 | 8.5 | 12 | 37 | 6 |
| 6SFJC 100 005 085 | 10 X R0.5 | 8.5 | 12 | 37 | 6 |
| 6SFJC 100 010 085 | 10 X R1 | 8.5 | 12 | 37 | 6 |
| * 6SFJC 110 003 085 | 11 X R0.3 | 8.5 | 12 | 37 | 6 |
| * 6SFJC 110 005 085 | 11 X R0.5 | 8.5 | 12 | 37 | 6 |
| * 6SFJC 110 010 085 | 11 X R1 | 8.5 | 12 | 37 | 6 |
| 8SFJC 120 003 090 | 12 X R0.3 | 9 | 13 | 38 | 6 |
| 8SFJC 120 005 090 | 12 X R0.5 | 9 | 13 | 38 | 6 |
| 8SFJC 120 010 090 | 12 X R1 | 9 | 13 | 38 | 6 |
| * 8SFJC 130 003 090 | 13 X R0.3 | 9 | 13 | 38 | 6 |
| * 8SFJC 130 005 090 | 13 X R0.5 | 9 | 13 | 38 | 6 |

| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d |
|---|---|---|---|---|---|
| * 8SFJC 130 010 090 | 13 X R1 | 9 | 13 | 38 | 6 |
| 10SFJC 160 005 120 | 16 X R0.5 | 12 | 17 | 48 | 10 |
| 10SFJC 160 010 120 | 16 X R1 | 12 | 17 | 48 | 10 |
| * 10SFJC 170 005 120 | 17 X R0.5 | 12 | 17 | 48 | 10 |
| * 10SFJC 170 010 120 | 17 X R1 | 12 | 17 | 48 | 10 |
| 12SFJC 200 005 150 | 20 X R0.5 | 15 | 21 | 54 | 12 |
| 12SFJC 200 010 150 | 20 X R1 | 15 | 21 | 54 | 12 |
| * 12SFJC 210 005 150 | 21 X R0.5 | 15 | 21 | 54 | 12 |
| * 12SFJC 210 010 150 | 21 X R1 | 15 | 21 | 54 | 12 |

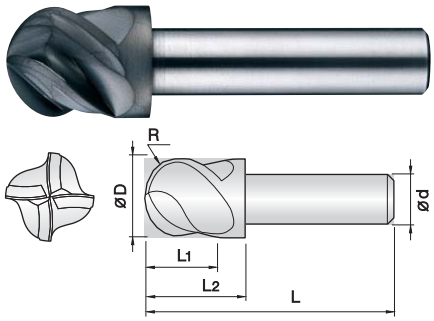
* **Su richiesta**/ *Sur demand*

# 4SFDB

*Tête Monobloc hémisphérique 4 coupes pour Graphite - Frettage*

## Testina Integrale 4 Tagli Emisferica Dia a Calettare per Grafite

New




- **Testina emisferica per grafite e materiali non ferrosi.**
- Eccellente resistenza all'usura grazie al rivestimento diamante CVD.
- La nuova geometria elicata riduce le forze di taglio.
- Eccellente forza di serraggio e precisione con il sistema a calettamento.
- ***Tête hémisphérique pour graphite et matériaux non ferreux.***
- *Excellente résistance à l'usure grâce au revêtement Diamant CVD.*
- *La nouvelle géométrie hélicöidale réduit les effortes de coupe.*
- *Excellente force de serrage et précision avec le systéme de frettage.*

4 | WC 미립자 | DIA. Coating | R ±0.01 (5 ~ 6.5R) | R ±0.015 (8 ~ 10.5R) | 45° Helix Angle | €

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| d | Tolleranza/Tolérance |
|---|---|
| Ø10 ~ 12 | +0 ~ −0.02 mm |
| Ø13 ~ 21 | +0 ~ −0.025 mm |

Unità: mm

| Numero d'Ordine *Reference* | R x D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 4SFDB 100 085 S06 | 5R X 10 | 8.5 | 12 | 37 | 6 |
| * 4SFDB 110 085 S06 | 5.5R X 11 | 8.5 | 12 | 37 | 6 |
| 4SFDB 120 090 S06 | 6R X 12 | 9 | 13 | 38 | 6 |
| * 4SFDB 130 090 S06 | 6.5R X 13 | 9 | 13 | 38 | 6 |
| 4SFDB 160 120 S10 | 8R X 16 | 12 | 17 | 48 | 10 |
| * 4SFDB 170 120 S10 | 8.5R X 17 | 12 | 17 | 48 | 10 |
| 4SFDB 200 150 S12 | 10R X 20 | 15 | 21 | 54 | 12 |
| * 4SFDB 210 150 S12 | 10.5R X 21 | 15 | 21 | 54 | 12 |

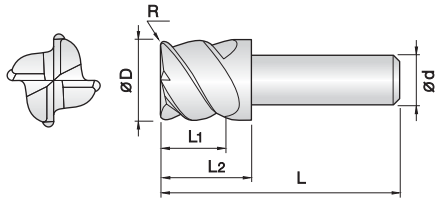
* **Su richiesta**/ *Sur demand*

# 4SFDC

*Tête Torique 4 coupes pour Graphite - Frettage*

## *Testina Integrale 4 Tagli Torica Dia a Calettare per Grafite*

New




- **Testina torica per grafite e materiali non ferrosi.**
- Eccellente resistenza all'usura grazie al rivestimento diamante CVD.
- La nuova geometria elicata riduce le forze di taglio.
- Eccellente forza di serraggio e precisione con il sistema a calettamento.
- ***Tête torique pour graphite et matériaux non ferreux.***
- *Excellente résistance à l'usure grâce au revêtement Diamant CVD.*
- *La nouvelle géométrie hélicöidale réduit les effortes de coupe.*
- *Excellente force de serrage et précision avec le systéme de frettage.*

4 | WC 미립자 | DIA. Coating | R ±0.01 (R0.3 ~ 1) | 45° Helix Angle | € List. p.200

| d | Tolleranza/*Tolérance* |
|---|---|
| Ø10 ~ 12 | −0.005 ~ −0.015 mm |
| Ø13 ~ 21 | −0.01 ~ −0.02 mm |

Unità: mm

| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 4SFDC 100 003 085 | 10 X R0.3 | 8.5 | 12 | 37 | 6 |
| 4SFDC 100 005 085 | 10 X R0.5 | 8.5 | 12 | 37 | 6 |
| 4SFDC 100 010 085 | 10 X R1 | 8.5 | 12 | 37 | 6 |
| * 4SFDC 110 003 085 | 11 X R0.3 | 8.5 | 12 | 37 | 6 |
| * 4SFDC 110 005 085 | 11 X R0.5 | 8.5 | 12 | 37 | 6 |
| * 4SFDC 110 010 085 | 11 X R1 | 8.5 | 12 | 37 | 6 |
| 4SFDC 120 003 090 | 12 X R0.3 | 9 | 13 | 38 | 6 |
| 4SFDC 120 005 090 | 12 X R0.5 | 9 | 13 | 38 | 6 |
| 4SFDC 120 010 090 | 12 X R1 | 9 | 13 | 38 | 6 |
| * 4SFDC 130 003 090 | 13 X R0.3 | 9 | 13 | 38 | 6 |
| * 4SFDC 130 005 090 | 13 X R0.5 | 9 | 13 | 38 | 6 |

| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d |
|---|---|---|---|---|---|
| * 4SFDC 130 010 090 | 13 X R1 | 9 | 13 | 38 | 6 |
| 4SFDC 160 005 120 | 16 X R0.5 | 12 | 17 | 48 | 10 |
| 4SFDC 160 010 120 | 16 X R1 | 12 | 17 | 48 | 10 |
| * 4SFDC 170 005 120 | 17 X R0.5 | 12 | 17 | 48 | 10 |
| * 4SFDC 170 010 120 | 17 X R1 | 12 | 17 | 48 | 10 |
| 4SFDC 200 005 150 | 20 X R0.5 | 15 | 21 | 54 | 12 |
| 4SFDC 200 010 150 | 20 X R1 | 15 | 21 | 54 | 12 |
| * 4SFDC 210 005 150 | 21 X R0.5 | 15 | 21 | 54 | 12 |
| * 4SFDC 210 010 150 | 21 X R1 | 15 | 21 | 54 | 12 |

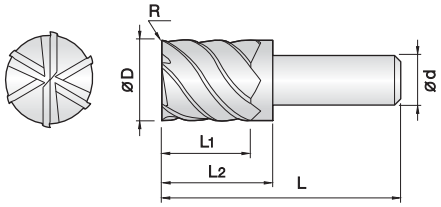
* **Su richiesta**/ *Sur demand*

# 6~12SFDC

*Tête Torique Monobloc 6~12 coupes pour Graphite - Frettage*

## *Testina Integrale 6~12 Tagli Torica Dia a Calettare per Grafite*

New




- **Testina torica per grafite e materiali non ferrosi.**
- Eccellente resistenza all'usura grazie al rivestimento diamante CVD.
- La nuova geometria elicata riduce le forze di taglio.
- Eccellente forza di serraggio e precisione con il sistema a calettamento.
- ***Tête torique pour graphite et matériaux non ferreux.***
- *Excellente résistance à l'usure grâce au revêtement Diamant CVD.*
- *La nouvelle géométrie hélicöidale réduit les effortes de coupe.*
- *Excellente force de serrage et précision avec le systéme de frettage.*

6 ~ 12 | WC 미립자 | DIA. Coating | R ±0.01 (R0.3 ~ 1) | 45° Helix Angle | € List. p.200

| d | Tolleranza/*Tolérance* |
|---|---|
| Ø10 ~ 12 | +0 ~ −0.02 mm |
| Ø13 ~ 21 | +0 ~ −0.025 mm |

Unità: mm

| Numero d'Ordine | D x R | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 6SFDC 100 003 085 | 10 X R0.3 | 8.5 | 12 | 37 | 6 |
| 6SFDC 100 005 085 | 10 X R0.5 | 8.5 | 12 | 37 | 6 |
| 6SFDC 100 010 085 | 10 X R1 | 8.5 | 12 | 37 | 6 |
| * 6SFDC 110 003 085 | 11 X R0.3 | 8.5 | 12 | 37 | 6 |
| * 6SFDC 110 005 085 | 11 X R0.5 | 8.5 | 12 | 37 | 6 |
| * 6SFDC 110 010 085 | 11 X R1 | 8.5 | 12 | 37 | 6 |
| 8SFDC 120 003 090 | 12 X R0.3 | 9 | 13 | 38 | 6 |
| 8SFDC 120 005 090 | 12 X R0.5 | 9 | 13 | 38 | 6 |
| 8SFDC 120 010 090 | 12 X R1 | 9 | 13 | 38 | 6 |
| * 8SFDC 130 003 090 | 13 X R0.3 | 9 | 13 | 38 | 6 |
| * 8SFDC 130 005 090 | 13 X R0.5 | 9 | 13 | 38 | 6 |

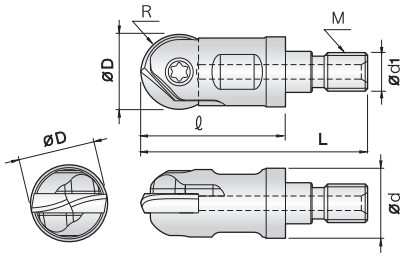
| Numero d'Ordine | D x R | L1 | L2 | L | d |
|---|---|---|---|---|---|
| * 8SFDC 130 010 090 | 13 X R1 | 9 | 13 | 38 | 6 |
| 10SFDC 160 005 120 | 16 X R0.5 | 12 | 17 | 48 | 10 |
| 10SFDC 160 010 120 | 16 X R1 | 12 | 17 | 48 | 10 |
| * 10SFDC 170 005 120 | 17 X R0.5 | 12 | 17 | 48 | 10 |
| * 10SFDC 170 010 120 | 17 X R1 | 12 | 17 | 48 | 10 |
| 12SFDC 200 005 150 | 20 X R0.5 | 15 | 21 | 54 | 12 |
| 12SFDC 200 010 150 | 20 X R1 | 15 | 21 | 54 | 12 |
| * 12SFDC 210 005 150 | 21 X R0.5 | 15 | 21 | 54 | 12 |
| * 12SFDC 210 010 150 | 21 X R1 | 15 | 21 | 54 | 12 |

* **Su richiesta**/ *Sur demand*

# MHE

*Tête Modulaire*

## *Testina Modulare*




- **Testina modulare per inserti a copiare.**
- Possibilità si montare inserti sia sferici che torici riducendo i costi.
- Intercambiabilità di testine sullo stesso stelo.
- ***Tête modulaire pour plaquettes de copiage***
- *Interchangeabilité des plaquettes spheriques et toriques.*
- *Réduction des couts.*

| Numero d'Ordine *Reference* | Dimensioni (mm) | | | | | | Inserto | Parti | |
|---|---|---|---|---|---|---|---|---|---|
| | M | D | L | ℓ | d | d 1 | | Vite | Chiave |
| **MHE 100 250 M06** | M06 | 10 | 40 | 25 | 9.5 | 6.5 | 2JJIN ☐ 100 / 2JJIN ☐ 110 | SC 100 581142 | T10 |
| **MHE 120 250 M06** | M06 | 12 | 40 | 25 | 11 | 6.5 | 2JJIN ☐ 120 / 2JJIN ☐ 130 | SC 120 581143 | T20 |
| **MHE 160 290 M08** | M08 | 16 | 45 | 29 | 14.5 | 8.5 | 2JJIN ☐ 160 / 2JJIN ☐ 170 | SC 160 581144 | T20 |
| **MHE 200 330 M10** | M10 | 20 | 55 | 33 | 18 | 10.5 | 2JJIN ☐ 200 / 2JJIN ☐ 210 | SC 200 581145 | T25 |
| **MHE 250 390 M12** | M12 | 25 | 60 | 39 | 22.5 | 12.5 | 2JJIN ☐ 250 / 2JJIN ☐ 260 | SC 250 581146 | T30 |
| **MHE 300 430 M16** | M16 | 30 | 70 | 43 | 28 | 17 | 2JJIN ☐ 300 | SC 300 581147 | T30 |

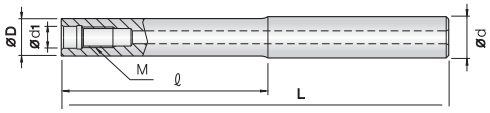
| Numero d'Ordine *Reference* | Vite |
|---|---|
| **SC 100 581142** | T10 |
| **SC 120 581143** | T20 |
| **SC 160 581144** | T20 |
| **SC 200 581145** | T25 |

| Numero d'Ordine *Reference* | Vite |
|---|---|
| SC 250 581146 | T30 |
| SC 300 581147 | T30 |

# CMA

*Tige filetée en metal dur*

## *Stelo filettato in metallo duro*




- **Prolunga filettata in metallo duro per testine MHE.**
- Varie lunghezze per soddisfare più esigenze.
- Riduzione dei costi grazie alla compatibilità con più testine.
- ***Rallonge filetée métal dur pour têtes MHE.***
- *Différentes longueurs pour répondre à de multiples besoins.*
- *Réduction des coûts grâce à la compatibilité avec plusieurs têtes.*

€

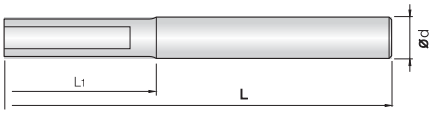
List. p.201

| Numero d'Ordine *Reference* | Dimensioni (mm) | | | | | |
|---|---|---|---|---|---|---|
| | M | D | d | d 1 | ℓ | L |
| CMA100 240 114 | M06 | 9.7 | 10 | 6.5 | 24 | 114 |
| CMA120 240 129 | M06 | 11 | 12 | 6.5 | 24 | 129 |
| CMA160 300 130 | M08 | 14.5 | 16 | 8.5 | 30 | 130 |
| CMA160 300 160 | M08 | 14.5 | 16 | 8.5 | 30 | 160 |
| CMA160 300 200 | M08 | 14.5 | 16 | 8.5 | 30 | 200 |
| CMA160 300 250 | M08 | 14.5 | 16 | 8.5 | 30 | 250 |
| CMA200 500 170 | M10 | 18.5 | 20 | 10.5 | 50 | 170 |
| CMA200 500 220 | M10 | 18.5 | 20 | 10.5 | 50 | 220 |
| CMA200 500 270 | M10 | 18.5 | 20 | 10.5 | 50 | 270 |
| CMA250 650 265 | M12 | 23 | 25 | 12.5 | 65 | 265 |
| CMA250 650 315 | M12 | 23 | 25 | 12.5 | 65 | 315 |
| CMA300 800 260 | M16 | 28 | 32 | 17 | 80 | 260 |
| CMA300 800 360 | M16 | 28 | 32 | 17 | 80 | 360 |

# SFMA

*Tige décolletée*

## *Stelo a Calettare*




- **Prolunga a calettare per testine integrali SF.**
- Varie lunghezze per soddisfare più esigenze.
- Riduzione dei costi grazie alla compatibilità con più testine.
- Eccellente forza di serraggio e precisione con il sistema a calettamento.
- ***Rallonge de Frettage pour têtes intégrales SF.***
- *Différentes longueurs pour répondre à de multiples besoins.*
- *Réduction des coûts grâce à la compatibilité sur plusieurs têtes.*
- *Excellente force de serrage et précision avec le systéme de frettage.*

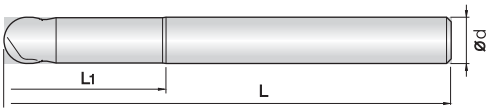
List. p.201

| Numero d'Ordine *Reference* | Dimensioni (mm) | | | | | |
|---|---|---|---|---|---|---|
| | D | d | L | L | d | |
| SFMA 100 028 108 | 9.8 | 6 | 28 | 108 | 10 | ☐SF ☐☐ 100 / ☐SF ☐☐ 110 |
| SFMA 100 028 148 | 9.8 | 6 | 28 | 148 | 10 | ☐SF ☐☐ 100 / ☐SF ☐☐ 110 |
| SFMA 100 048 188 | 9.8 | 6 | 48 | 188 | 10 | ☐SF ☐☐ 100 / ☐SF ☐☐ 110 |
| SFMA 120 027 117 | 11.8 | 6 | 27 | 117 | 12 | ☐SF ☐☐ 120 / ☐SF ☐☐ 130 |
| SFMA 120 027 147 | 11.8 | 6 | 27 | 147 | 12 | ☐SF ☐☐ 120 / ☐SF ☐☐ 130 |
| SFMA 120 047 187 | 11.8 | 6 | 47 | 187 | 12 | ☐SF ☐☐ 120 / ☐SF ☐☐ 130 |
| SFMA 160 033 143 | 15.8 | 10 | 33 | 143 | 16 | ☐SF ☐☐ 160 / ☐SF ☐☐ 170 |
| SFMA 160 053 183 | 15.8 | 10 | 53 | 183 | 16 | ☐SF ☐☐ 160 / ☐SF ☐☐ 170 |
| SFMA 200 039 139 | 19.8 | 12 | 39 | 139 | 20 | ☐SF ☐☐ 200 / ☐SF ☐☐ 210 |
| SFMA 200 059 179 | 19.8 | 12 | 59 | 179 | 20 | ☐SF ☐☐ 200 / ☐SF ☐☐ 210 |
| SFMA 200 079 229 | 19.8 | 12 | 79 | 229 | 20 | ☐SF ☐☐ 200 / ☐SF ☐☐ 210 |

# CICF

*Corps de fraise en carbure pour plaquettes de copiage*

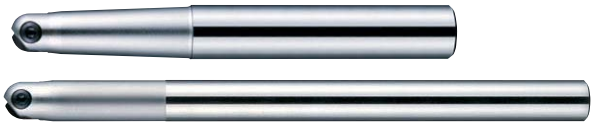
## *Corpo Fresa in Metallo Duro per Inserti a Copiare*

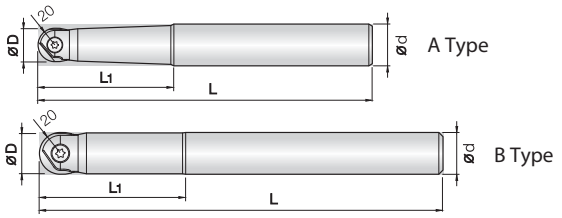



- **Stelo integrale in metallo duro per inserti a copiare.**
- Possibilità di montare inserti si sferici che torici riducendo i costi.
- Lavorazioni in alta velocità e precisione grazie all'elevata rigidità dell'accoppiamento.
- Utilizzare su macchine rigide per ridurre le vibrazioni sulle stelo.
- ***Rallonge filetée métal dur pour têtes MHE.***
- *Possibilité de monter des plaquettes sphériques et toriques.*
- *Réduction des coûts, précision usinage à grande vitesse.*
- *Utilisation sur des machines rigides pour réduire les vibrations. grande rigidité de l'accouplement.*

List. p.201

| Numero d'Ordine *Reference* | Dimensioni (mm) | | | | Inserto | Parti | |
|---|---|---|---|---|---|---|---|
| | D | L1 | L | d | | Vite | Chiave |
| CICF100 350 150 | 10 | 35 | 150 | 10 | 2JJIN ☐ 100 / 2JJIN | | |
| CICF120 450 160 | 12 | 45 | 160 | 12 | 2JJIN ☐ 120 / 2JJIN | | |
| CICF160 600 200 | 16 | 60 | 200 | 16 | 2JJIN ☐ 160 / 2JJIN | | |
| CICF160 600 230 | 16 | 60 | 230 | 16 | 2JJIN ☐ 160 / 2JJIN | | |
| CICF200 700 220 | 20 | 70 | 220 | 20 | 2JJIN ☐ 200 / 2JJIN | | |
| CICF250 800 250 | 25 | 80 | 250 | 25 | 2JJIN ☐ 250 / 2JJIN | | |
| CICF250 800 300 | 25 | 80 | 300 | 25 | 2JJIN ☐ 250 / 2JJIN | | |
| CICF300 1000 300 | 30 | 100 | 300 | 30 | 2JJIN ☐ 300 | | |






- **Stelo integrare in acciaio per inserti a copiare.**
- Possibilità di montare inserti sia sferici che torici riducendo i costi.
- Tipo A rastremato per ridurre le vibrazioni.
- Ampia gamma di lunghezze per soddisfare varie esigenze.
- ***Rallonge de Frettage pour têtes intégrales SF.***
- *Possibilité de monter des plaquettes sphériques et toriques réduction des coûts.*
- *Type A conique - Type B cylindrique.*
- *Large gamme de longueurs pour s'adapter aux divers besoins.*

List. p.202

| Numero d'Ordine *Reference* | Dimensioni (mm) | | | | | Inserto | Parti | |
|---|---|---|---|---|---|---|---|---|
| | D | L1 | L | d | Type | | Vite | Chiave |
| ICF 100 250 100 S12 | 10 | 25 | 100 | 12 | A | 2JJIN ☐ 100 / 2JJIN ☐ 110 | SC 100 581142 | T10 |
| ICF 100 500 150 S16 | 10 | 50 | 150 | 16 | A | 2JJIN ☐ 100 / 2JJIN ☐ 110 | SC 100 581142 | T10 |
| ICF 120 300 110 S12 | 12 | 30 | 110 | 12 | B | 2JJIN ☐ 120 / 2JJIN ☐ 130 | SC 120 581143 | T20 |
| ICF 120 600 160 S16 | 12 | 60 | 160 | 16 | A | 2JJIN ☐ 120 / 2JJIN ☐ 130 | SC 120 581143 | T20 |
| ICF 160 500 130 S20 | 16 | 50 | 130 | 20 | A | 2JJIN ☐ 160 / 2JJIN ☐ 170 | SC 160 581144 | T20 |
| ICF 160 600 220 S16 | 16 | 60 | 220 | 16 | B | 2JJIN ☐ 160 / 2JJIN ☐ 170 | SC 160 581144 | T20 |
| ICF 160 650 160 S20 | 16 | 65 | 160 | 20 | A | 2JJIN ☐ 160 / 2JJIN ☐ 170 | SC 160 581144 | T20 |
| ICF 200 700 220 S20 | 20 | 70 | 220 | 20 | B | 2JJIN ☐ 200 / 2JJIN ☐ 210 | SC 200 581145 | T25 |
| ICF 200 700 250 S20 | 20 | 70 | 250 | 20 | B | 2JJIN ☐ 200 / 2JJIN ☐ 210 | SC 200 581145 | T25 |
| ICF 200 800 180 S25 | 20 | 80 | 180 | 25 | A | 2JJIN ☐ 200 / 2JJIN ☐ 210 | SC 200 581145 | T25 |
| ICF 250 700 220 S25 | 25 | 70 | 220 | 25 | B | 2JJIN ☐ 250 / 2JJIN ☐ 260 | SC 250 581146 | T30 |
| ICF 250 800 250 S25 | 25 | 80 | 250 | 25 | B | 2JJIN ☐ 250 / 2JJIN ☐ 260 | SC 250 581146 | T30 |
| ICF 250 800 300 S25 | 25 | 80 | 300 | 25 | B | 2JJIN ☐ 250 / 2JJIN ☐ 260 | SC 250 581146 | T30 |
| ICF 300 1000 250 S32 | 30 | 100 | 250 | 32 | A | 2JJIN ☐ 300 | SC 300 581147 | T30 |
| ICF 300 1000 300 S32 | 30 | 100 | 300 | 32 | A | 2JJIN ☐ 300 | SC 300 581147 | T30 |
| ICF 300 1000 350 S32 | 30 | 100 | 350 | 32 | A | 2JJIN ☐ 300 | SC 300 581147 | T30 |

Linea limite di riaffilatura
*Limite de réaffutage*

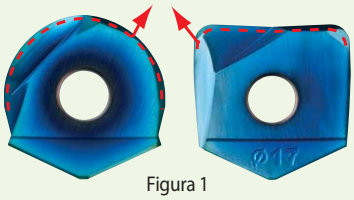


Figura 1

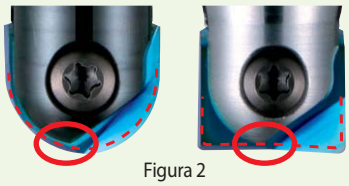


Figura 2

## Note per la riaffilatura degli inserti

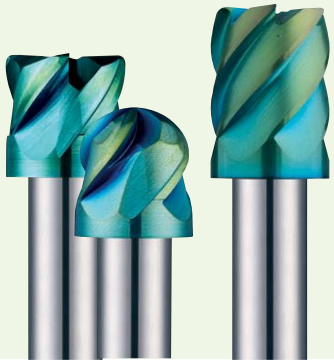
- Se gli inserti sono danneggiati sotto la linea limite (Fig. 1) la riaffilatura non è possibile.
- Quando viene eseguita la riaffilatura, l'altezza dell'inserto (H) sarà più corta da 0.3mm a 0.5mm, quindi il corpo fresa (Fig.2) potrebbe causare delle interferenze durante il processo di lavorazione. Prestare attenzione.

- Non è possibile riaffilare gli inserti per grafite con rivestimento in diamante.

## *Remarques pour le réattutage des plaquettes*

- *Si les plaquettes sont endommagées en dessous de la ligne limite (Fig. 1). Le réaffutage n'est pas possible!*
- *Lors du réaffûtage, la hauteur de la plaquette (H) >0,3/0,5 mm du corps de la fraise (Fig.2). Cela Peut provoquer des interérences pendant le processus de fabrication.*

- *Impossible de réaffûter les plaquettes en graphite revêtus de diamant (pour le Graphite).*



## Note per la riaffilatura delle testine integrali

- La riaffilatura delle testine integrali, non danneggiate, è possibile dalle due alle tre volte, questo lo rende un prodotto economico.
- Dopo la riaffilatura il rendimento risulta pari al nuovo.

- Non è possibile riaffilare gli inserti per grafite con rivestimento in diamante.

## *Notes pour le réaffûtage des têtes monobloc*

- *Le réaffutage des têtes monoblocs est possible deux à trois fois, cela en fait un produit économique.*
- *Aprés réaffûtage, la permorfance reste identique.*

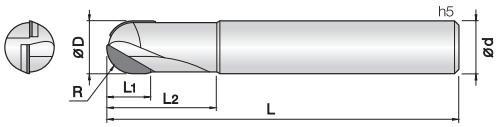
- *Impossible de réaffûter les plaquettes en graphite revêtus de diamant (pour le Graphite).*

# 1&2BPCD

*Fraise Hémisphérique PCD 1&2 coupes Traité au laser*

## *Fresa Emisferica PCD 1&2 Tagli Processata a Laser*

New




- **Fresa in PCD per leghe di alluminio e materiali non ferrosi.**
- La lavorazione a laser permette di ottenere entro i 5µ garantendo un eccellente rendimento e qualità di finitura del pezzo lavorato.
- Eccellente concentricità per lavorazioni di massima precisione.
- Un ulteriore processo di lucidatura ottimizza l'evacuazione del truciolo.
- ***Fraise PCD pour alliage d'aluminium et materiaux non ferreux.***
- *Le traitement au laser permet d'obtenir des tolérances de 5µ garantissant d'excellentes performances et une qualité de finition.*
- *Excellente concentricité pour un usinage de précision maximale.*
- *Un processus de polissage supplémentaire optimise l'évacuation des copeaux.*

| d | Tolleranza/*Tolérance* |
|---|---|
| Ø 3 ~ 6 | +0~ −0.012 mm |
| Ø 8 ~ 10 | +0~ −0.015 mm |
| Ø 12 | +0~ −0.018 mm |
| Ø 16 | +0~ −0.022 mm |

Unità: mm

1 | 2 | WC 미립자 | PCD | R ±0.005 (1.5 ~ 8R) | 0° Helix Angle | €

List. p.202

| Numero d'Ordine *Reference* | R x D | L1 | L2 | L | d | |
|---|---|---|---|---|---|---|
| 1BPCD 030 080 S06 | 1.5R X 3 | 2.3 | 8 | 50 | 6 | |
| 1BPCD 030 120 S06 | 1.5R X 3 | 2.3 | 12 | 50 | 6 | |
| 1BPCD 030 180 S06 | 1.5R X 3 | 2.3 | 18 | 60 | 6 | |
| 1BPCD 040 100 S06 | 2R X 4 | 3.3 | 10 | 50 | 6 | |
| 1BPCD 040 120 S06 | 2R X 4 | 3.3 | 12 | 50 | 6 | |
| 1BPCD 040 180 S06 | 2R X 4 | 3.3 | 18 | 60 | 6 | |
| 2BPCD 060 120 S06 | 3R X 6 | 5.1 | 12 | 60 | 6 | |
| 2BPCD 060 150 S06 | 3R X 6 | 5.1 | 15 | 65 | 6 | |
| 2BPCD 060 200 S06 | 3R X 6 | 5.1 | 20 | 70 | 6 | |
| 2BPCD 060 250 100 | 3R X 6 | 5.1 | 25 | 100 | 6 | |
| 2BPCD 080 150 S08 | 4R X 8 | 7 | 15 | 60 | 8 | |
| 2BPCD 080 300 110 | 4R X 8 | 7 | 30 | 110 | 8 | |
| 2BPCD 100 200 S10 | 5R X 10 | 8 | 20 | 70 | 10 | |
| 2BPCD 100 300 110 | 5R X 10 | 8 | 30 | 110 | 10 | |
| 2BPCD 100 350 150 | 5R X 10 | 8 | 35 | 150 | 10 | |
| 2BPCD 120 250 S12 | 6R X 12 | 9 | 25 | 80 | 12 | |
| 2BPCD 120 350 110 | 6R X 12 | 9 | 35 | 110 | 12 | |
| 2BPCD 120 400 150 | 6R X 12 | 9 | 40 | 150 | 12 | |
| 2BPCD 160 350 S16 | 8R X 16 | 12 | 35 | 90 | 16 | |
| 2BPCD 160 450 110 | 8R X 16 | 12 | 45 | 110 | 16 | |
| 2BPCD 160 500 150 | 8R X 16 | 12 | 50 | 150 | 16 | |

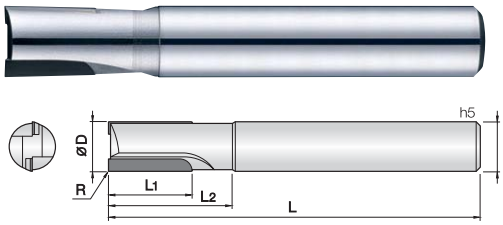
| Numero d'Ordine *Reference* | R x D | L1 | L2 | L | d | |
|---|---|---|---|---|---|---|

# 1~4PCD

*Fraise Cylindrique PCD 1&2 coupes Traité au laser*

## *Fresa Cilindrica PCD 1&2 Tagli Processata a Laser*

New




- **Fresa in PCD per leghe di alluminio e materiali non ferrosi.**
- La lavorazione a laser permette di ottenere entro i 5µ garantendo un eccellente rendimento e qualità di finitura del pezzo lavorato.
- Eccellente concentricità per lavorazioni di massima precisione.
- Un ulteriore processo di lucidatura ottimizza l'evacuazione del truciolo.
- ***Fraise PCD pour alliage d'aluminium et materiaux non ferreux.***
- *Le traitement au laser permet d'obtenir des tolérances de 5µ garantissant d'excellentes performances et une qualité de finition.*
- *Excellente concentricité pour un usinage de précision maximale.*
- *Un processus de polissage supplémentaire optimise l'évacuation des copeaux.*

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 3 ~ 6 | +0 ~ −0.012 mm |
| ø 8 ~ 10 | +0 ~ −0.015 mm |
| ø 12 | +0 ~ −0.018 mm |
| ø 16 ~ 20 | +0 ~ −0.022 mm |

Unità: mm

1 2 3 4 WC 미립자 PCD R ±0.005 R0.1 0° Helix Angle €

List. p.202

| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 1PCD 030 080 S04 | 3 X R0.1 | 4 | 8 | 50 | 4 |
| 1PCD 040 100 S06 | 4 X R0.1 | 5 | 10 | 50 | 6 |
| 2PCD 060 200 S06 | 6 X R0.1 | 10 | 20 | 60 | 6 |
| 2PCD 060 250 S06 | 6 X R0.1 | 15 | 25 | 60 | 6 |
| 2PCD 060 250 080 | 6 X R0.1 | 15 | 25 | 80 | 6 |
| 2PCD 080 200 S08 | 8 X R0.1 | 10 | 20 | 60 | 8 |
| 2PCD 080 250 S08 | 8 X R0.1 | 15 | 25 | 60 | 8 |
| 2PCD 080 300 S08 | 8 X R0.1 | 20 | 30 | 70 | 8 |
| 2PCD 080 300 100 | 8 X R0.1 | 20 | 30 | 100 | 8 |
| 2PCD 100 250 S10 | 10 X R0.1 | 10 | 25 | 70 | 10 |
| 2PCD 100 300 S10 | 10 X R0.1 | 15 | 30 | 70 | 10 |
| 2PCD 100 300 080 | 10 X R0.1 | 20 | 30 | 80 | 10 |
| 2PCD 100 300 110 | 10 X R0.1 | 20 | 30 | 110 | 10 |
| 2PCD 120 250 S12 | 12 X R0.1 | 10 | 25 | 80 | 12 |
| 2PCD 120 300 S12 | 12 X R0.1 | 15 | 30 | 80 | 12 |
| 2PCD 120 300 090 | 12 X R0.1 | 20 | 30 | 90 | 12 |
| 2PCD 120 300 130 | 12 X R0.1 | 20 | 30 | 130 | 12 |
| 2PCD 160 250 S16 | 16 X R0.1 | 10 | 25 | 90 | 16 |
| 2PCD 160 300 S16 | 16 X R0.1 | 15 | 30 | 90 | 16 |
| 2PCD 160 350 S16 | 16 X R0.1 | 20 | 35 | 100 | 16 |
| 2PCD 200 250 S20 | 20 X R0.1 | 10 | 25 | 90 | 20 |
| 2PCD 200 300 S20 | 20 X R0.1 | 15 | 30 | 90 | 20 |
| 2PCD 200 300 100 | 20 X R0.1 | 20 | 30 | 100 | 20 |

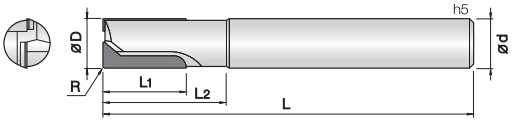
| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 3PCD 120 300 090 | 12 X R0.1 | 20 | 30 | 90 | 12 |
| 3PCD 160 250 S16 | 16 X R0.1 | 15 | 25 | 90 | 16 |
| 3PCD 160 350 S16 | 16 X R0.1 | 20 | 35 | 130 | 16 |
| 3PCD 160 400 S16 | 16 X R0.1 | 25 | 40 | 160 | 16 |
| 3PCD 200 250 S20 | 20 X R0.1 | 15 | 25 | 90 | 20 |
| 3PCD 200 350 S20 | 20 X R0.1 | 20 | 35 | 130 | 20 |
| 3PCD 200 400 S20 | 20 X R0.1 | 25 | 40 | 160 | 20 |
| 4PCD 160 250 S16 | 16 X R0.1 | 15 | 25 | 90 | 16 |
| 4PCD 160 350 S16 | 16 X R0.1 | 20 | 35 | 130 | 16 |
| 4PCD 160 400 S16 | 16 X R0.1 | 25 | 40 | 160 | 16 |
| 4PCD 200 250 S20 | 20 X R0.1 | 15 | 25 | 90 | 20 |
| 4PCD 200 350 S20 | 20 X R0.1 | 20 | 35 | 130 | 20 |
| 4PCD 200 400 S20 | 20 X R0.1 | 25 | 40 | 160 | 20 |

# 2~4CPCD

*Fraise Cylindrique PCD (coupes au centre)2&4 coupes Traité au laser*

## *Fresa Cilindrica PCD 2&4 Tagli Processata a Laser (Taglio al Centro)*

New




- **Fresa in PCD per leghe di alluminio e materiali non ferrosi.**
- La lavorazione a laser permette di ottenere entro i 5µ garantendo un eccellente rendimento e qualità di finitura del pezzo lavorato.
- Eccellente concentricità per lavorazioni di massima precisione.
- Un ulteriore processo di lucidatura ottimizza l'evacuazione del truciolo.
- ***Fraise PCD pour alliage d'aluminium et materiaux non ferreux.***
- *Le traitement au laser permet d'obtenir des tolérances de 5µ garantissant d'excellentes performances et une qualité de finition.*
- *Excellente concentricité pour un usinage de précision maximale.*
- *Un processus de polissage supplémentaire optimise l'évacuation des copeaux.*

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 6 | +0~ −0.012 mm |
| ø 8 ~ 10 | +0~ −0.015 mm |
| ø 12 | +0~ −0.018 mm |
| ø 16 ~ 20 | +0~ −0.022 mm |

2 | 3 | 4 | WC 미립자 | PCD | R ±0.005 R0.1 | 0° Helix Angle | €

List. p.203

Unità: mm

| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2CPCD 060 200 S06 | 6 X R0.1 | 10 | 20 | 60 | 6 |
| 2CPCD 060 250 S06 | 6 X R0.1 | 15 | 25 | 60 | 6 |
| 2CPCD 080 200 S08 | 8 X R0.1 | 10 | 20 | 60 | 8 |
| 2CPCD 080 250 S08 | 8 X R0.1 | 15 | 25 | 60 | 8 |
| 2CPCD 080 250 070 | 8 X R0.1 | 20 | 25 | 70 | 8 |
| 2CPCD 100 250 S10 | 10 X R0.1 | 10 | 25 | 70 | 10 |
| 2CPCD 100 300 S10 | 10 X R0.1 | 15 | 30 | 70 | 10 |
| 2CPCD 120 250 S12 | 12 X R0.1 | 10 | 25 | 80 | 12 |
| 2CPCD 120 300 S12 | 12 X R0.1 | 15 | 30 | 80 | 12 |
| 2CPCD 120 300 090 | 12 X R0.1 | 20 | 30 | 90 | 12 |
| 2CPCD 160 250 S16 | 16 X R0.1 | 10 | 25 | 90 | 16 |
| 2CPCD 160 300 S16 | 16 X R0.1 | 15 | 30 | 90 | 16 |
| 2CPCD 160 300 100 | 16 X R0.1 | 20 | 30 | 100 | 16 |
| 2CPCD 200 250 S20 | 20 X R0.1 | 10 | 25 | 90 | 20 |
| 2CPCD 200 300 S20 | 20 X R0.1 | 15 | 30 | 90 | 20 |
| 2CPCD 200 300 100 | 20 X R0.1 | 20 | 30 | 100 | 20 |

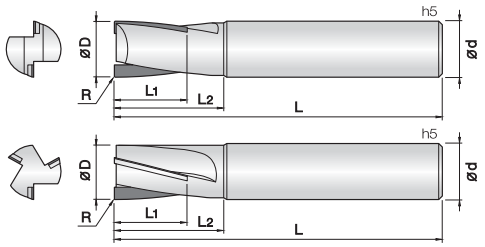
| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 3CPCD 160 250 S16 | 16 X R0.1 | 15 | 25 | 90 | 16 |
| 3CPCD 160 300 S16 | 16 X R0.1 | 20 | 30 | 100 | 16 |
| 4CPCD 200 300 S20 | 20 X R0.1 | 15 | 30 | 90 | 20 |
| 4CPCD 200 350 S20 | 20 X R0.1 | 20 | 35 | 100 | 20 |

# 1~3HPCD

*Fraise Cylindrique PCD 1&3 coupes Traité au laser*

## *Fresa Cilindrica PCD 1&3 Tagli Processata a Laser*

New




- **Fresa in PCD per leghe di alluminio e materiali non ferrosi.**
- La lavorazione a laser permette di ottenere entro i 5µ garentendo un eccellente rendimento e qualità di finitura del pezzo lavorato.
- Eccellente concentricità per lavorazioni di massima precisione.
- Un ulteriore processo di lucidatura ottimizza l'evacuazione del truciolo.
- ***Fraise PCD pour alliage d'aluminium et materiaux non ferreux.***
- *Le traitement au laser permet d'obtenir des tolérances de 5µ garantissant d'excellentes performances et une qualité de finition.*
- *Excellente concentricité pour un usinage de précision maximale.*
- *Un processus de polissage supplémentaire optimise l'évacuation des copeaux.*

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 6 | +0~ −0.012 mm |
| ø 8 ~ 10 | +0~ −0.015 mm |
| ø 12 | +0~ −0.018 mm |
| ø 16 ~ 20 | +0~ −0.022 mm |

1 | 2 | 3 | WC 미립자 | PCD | D +0 −0.012 ø4 ~ 6 | D +0 −0.015 ø8 ~ 10 | D +0 −0.018 ø12 | D +0 −0.022 ø16 ~ 20 | 20° Helix Angle A Type | 12° Helix Angle B Type | € List. p.203

Unità: mm

| Numero d'Ordine *Reference* | D x R | L1 | L2 | Type | L | d |
|---|---|---|---|---|---|---|
| 1HPCD 040 180 S06 | 4 X R0.1 | 10 | 18 | A | 60 | 6 |
| 2HPCD 060 180 S06 | 6 X R0.1 | 10 | 18 | A | 60 | 6 |
| 2HPCD 060 250 S06 | 6 X R0.1 | 15 | 25 | B | 80 | 6 |
| 2HPCD 080 200 S08 | 8 X R0.1 | 10 | 20 | A | 70 | 8 |
| 2HPCD 080 250 S08 | 8 X R0.1 | 20 | 25 | B | 90 | 8 |
| 2HPCD 100 220 S10 | 10 X R0.1 | 12 | 22 | A | 70 | 10 |
| 2HPCD 100 400 S10 | 10 X R0.1 | 25 | 40 | B | 100 | 10 |
| 2HPCD 120 250 S12 | 12 X R0.1 | 15 | 25 | A | 80 | 12 |
| 2HPCD 120 450 S12 | 12 X R0.1 | 30 | 45 | B | 100 | 12 |
| 2HPCD 160 300 S16 | 16 X R0.1 | 20 | 30 | A | 90 | 16 |
| 2HPCD 160 450 S16 | 16 X R0.1 | 30 | 45 | B | 110 | 16 |
| 2HPCD 200 400 S20 | 20 X R0.1 | 25 | 40 | A | 100 | 20 |
| 2HPCD 200 550 S20 | 20 X R0.1 | 40 | 55 | B | 110 | 20 |

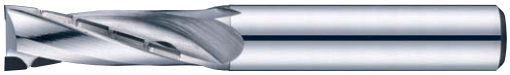
| Numero d'Ordine *Reference* | D x R | L1 | L2 | Type | L | d |
|---|---|---|---|---|---|---|
| 3HPCD 120 250 S12 | 12 X R0.1 | 15 | 25 | A | 80 | |
| 3HPCD 120 450 S12 | 12 X R0.1 | 30 | 45 | B | 100 | |
| 3HPCD 160 300 S16 | 16 X R0.1 | 20 | 30 | A | 90 | |
| 3HPCD 160 450 S16 | 16 X R0.1 | 30 | 45 | B | 110 | |
| 3HPCD 200 400 S20 | 20 X R0.1 | 25 | 40 | A | 100 | |
| 3HPCD 200 550 S20 | 20 X R0.1 | 40 | 55 | B | 110 | |

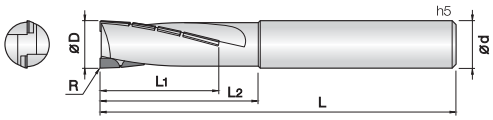
# 2&3RPCD

*Fraise d'ébauche PCD 2&3 coupes en bout Traité au laser*

## *Fresa a Sgrossare PCD 2&3 Tagli Processata a Laser*

New






- **Fresa in PCD per leghe di alluminio e materiali non ferrosi.**
- La lavorazione a laser permette di ottenere entro i 5µ garentendo un eccellente rendimento e qualità di finitura del pezzo lavorato.
- Eccellente concentricità per lavorazioni di massima precisione.
- Un ulteriore processo di lucidatura ottimizza l'evacuazione del truciolo.
- ***Fraise PCD pour alliage d'aluminium et materiaux non ferreux.***
- *Le traitement au laser permet d'obtenir des tolérances de 5µ garantissant d'excellentes performances et une qualité de finition.*
- *Excellente concentricité pour un usinage de précision maximale.*
- *Un processus de polissage supplémentaire optimise l'évacuation des copeaux.*

2 | 3 | WC 미립자 | PCD | D +0 −0.015 ø10 | D +0 −0.018 ø12 | D +0 −0.022 ø16 ~ 20 | 20° Helix Angle | €

List. p.204

| d | Tolleranza/*Tolérance* |
|---|---|
| ø10 | +0 ~ −0.015 mm |
| ø12 | +0 ~ −0.018 mm |
| ø16 ~ 20 | +0 ~ −0.022 mm |

Unità: mm

| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2RPCD 100 300 S10 | 10 X R0.1 | 20 | 30 | 80 | 10 |
| 2RPCD 100 400 S10 | 10 X R0.1 | 30 | 40 | 90 | 10 |
| 2RPCD 120 300 S12 | 12 X R0.1 | 20 | 30 | 80 | 12 |
| 2RPCD 120 400 S12 | 12 X R0.1 | 30 | 40 | 90 | 12 |
| 2RPCD 160 400 S16 | 16 X R0.1 | 30 | 40 | 100 | 16 |
| 2RPCD 160 650 S16 | 16 X R0.1 | 50 | 65 | 130 | 16 |
| 2RPCD 200 400 S20 | 20 X R0.1 | 30 | 40 | 100 | 20 |
| 2RPCD 200 650 S20 | 20 X R0.1 | 50 | 65 | 130 | 20 |

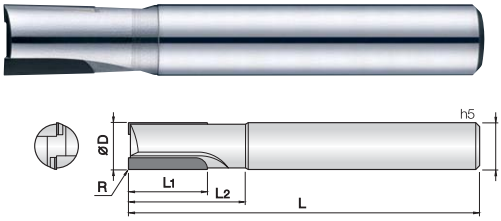
| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 3RPCD 100 300 S10 | 10 X R0.1 | 20 | 30 | 80 | 10 |
| 3RPCD 100 400 S10 | 10 X R0.1 | 30 | 40 | 90 | 10 |
| 3RPCD 120 300 S12 | 12 X R0.1 | 20 | 30 | 80 | 12 |
| 3RPCD 120 400 S12 | 12 X R0.1 | 30 | 40 | 90 | 12 |
| 3RPCD 160 400 S16 | 16 X R0.1 | 30 | 40 | 100 | 16 |
| 3RPCD 160 650 S16 | 16 X R0.1 | 50 | 65 | 130 | 16 |
| 3RPCD 200 400 S20 | 20 X R0.1 | 30 | 40 | 100 | 20 |
| 3RPCD 200 650 S20 | 20 X R0.1 | 50 | 65 | 130 | 20 |

# 1&2PCDC

*Fraise Torique PCD 1&2 coupes Traité au laser*

## *Fresa Torica PCD 1&2 Tagli Processata a Laser*

New




- **Fresa in PCD per leghe di alluminio e materiali non ferrosi.**
- La lavorazione a laser permette di ottenere entro i 5µ garantendo un eccellente rendimento e qualità di finitura del pezzo lavorato.
- Eccellente concentricità per lavorazioni di massima precisione.
- Un ulteriore processo di lucidatura ottimizza l'evacuazione del truciolo.
- ***Fraise PCD pour alliage d'aluminium et materiaux non ferreux.***
- *Le traitement au laser permet d'obtenir des tolérances de 5µ garantissant d'excellentes performances et une qualité de finition.*
- *Excellente concentricité pour un usinage de précision maximale.*
- *Un processus de polissage supplémentaire optimise l'évacuation des copeaux.*

1 | 2 | WC 미립자 | PCD | R ±0.005 R0.2 ~ 1 | 0° Helix Angle | €

List. p.204

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 4 ~ 6 | +0 ~ −0.012 mm |
| ø 8 ~ 10 | +0 ~ −0.015 mm |
| ø 12 | +0 ~ −0.018 mm |

Unità: mm

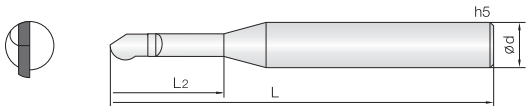
| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d | | Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1PCDC 040 002 100 | 4 X R0.2 | 5 | 10 | 50 | 6 | | | | | | | | |
| 1PCDC 040 003 100 | 4 X R0.3 | 5 | 10 | 50 | 6 | | | | | | | | |
| 2PCDC 060 003 200 | 6 X R0.3 | 6 | 20 | 60 | 6 | | | | | | | | |
| 2PCDC 060 003 250 | 6 X R0.3 | 15 | 25 | 60 | 6 | | | | | | | | |
| 2PCDC 060 005 200 | 6 X R0.5 | 6 | 20 | 60 | 6 | | | | | | | | |
| 2PCDC 060 005 250 | 6 X R0.5 | 15 | 25 | 60 | 6 | | | | | | | | |
| 2PCDC 060 010 200 | 6 X R1 | 6 | 20 | 60 | 6 | | | | | | | | |
| 2PCDC 060 010 250 | 6 X R1 | 15 | 25 | 60 | 6 | | | | | | | | |
| 2PCDC 080 003 200 | 8 X R0.3 | 8 | 20 | 60 | 8 | | | | | | | | |
| 2PCDC 080 003 250 | 8 X R0.3 | 15 | 25 | 60 | 8 | | | | | | | | |
| 2PCDC 080 005 200 | 8 X R0.5 | 8 | 20 | 60 | 8 | | | | | | | | |
| 2PCDC 080 005 250 | 8 X R0.5 | 15 | 25 | 60 | 8 | | | | | | | | |
| 2PCDC 080 010 200 | 8 X R1 | 8 | 20 | 60 | 8 | | | | | | | | |
| 2PCDC 080 010 250 | 8 X R1 | 15 | 25 | 60 | 8 | | | | | | | | |
| 2PCDC 100 005 250 | 10 X R0.5 | 10 | 25 | 70 | 10 | | | | | | | | |
| 2PCDC 100 005 300 | 10 X R0.5 | 15 | 30 | 70 | 10 | | | | | | | | |
| 2PCDC 100 010 250 | 10 X R1 | 10 | 25 | 70 | 10 | | | | | | | | |
| 2PCDC 100 010 300 | 10 X R1 | 15 | 30 | 70 | 10 | | | | | | | | |
| 2PCDC 120 005 250 | 12 X R0.5 | 10 | 25 | 80 | 12 | | | | | | | | |
| 2PCDC 120 005 300 | 12 X R0.5 | 15 | 30 | 80 | 12 | | | | | | | | |
| 2PCDC 120 010 250 | 12 X R1 | 10 | 25 | 80 | 12 | | | | | | | | |
| 2PCDC 120 010 300 | 12 X R1 | 15 | 30 | 80 | 12 | | | | | | | | |

# 1&2BPCDW

*Fraise Torique PCD 1&2 coupes Traité au Fil*

## *Fresa Emisferica PCD 1&2 Tagli Processata a Filo*

New




- **Fresa in PCD per grafite, leghe di alluminio e materiali non ferrosi.**
- La lavorazione del tagliente permette di ottenere finiture eccellenti e un'ottima resistenza all'usura nella lavorazione di grafite.
- Un ulteriore processo di lucidatura ottimizza l'evacuazione del truciolo.
- ***Fraise PCD pour Graphite, alliages d'aluminium et materiaux non ferreux.***
- *L'usinage du tranchant permet d'obtenir d'excellentes finitions, excellente résistance à l'usure dans le graphite.*
- *Un processus de polissage supplémentaire optimise l'évacuation des copeaux.*

R1.5 ~ 6

List. p.204

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 3 ~ 6 | +0 ~ −0.012 mm |
| ø 8 ~ 10 | +0 ~ −0.015 mm |
| ø 12 | +0 ~ −0.018 mm |

Unità: mm

| Numero d'Ordine *Reference* | R x D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 1BPCDW 030 060 S04 | 1.5R X 3 | 2.3 | 6 | 60 | 4 |
| 1BPCDW 030 100 S04 | 1.5R X 3 | 2.3 | 10 | 80 | 4 |
| 1BPCDW 030 200 S04 | 1.5R X 3 | 2.3 | 20 | 80 | 4 |
| 1BPCDW 030 300 S04 | 1.5R X 3 | 2.3 | 30 | 80 | 4 |
| 1BPCDW 040 060 S06 | 2R X 4 | 3.3 | 6 | 60 | 6 |
| 1BPCDW 040 100 S06 | 2R X 4 | 3.3 | 10 | 80 | 6 |
| 1BPCDW 040 200 S06 | 2R X 4 | 3.3 | 20 | 80 | 6 |
| 1BPCDW 040 300 S06 | 2R X 4 | 3.3 | 30 | 80 | 6 |
| 2BPCDW 060 051 S06 | 3R X 6 | 5.1 | - | 60 | 6 |
| 2BPCDW 060 200 S06 | 3R X 6 | 5.1 | 20 | 90 | 6 |
| 2BPCDW 060 300 S06 | 3R X 6 | 5.1 | 30 | 90 | 6 |
| 2BPCDW 060 400 S06 | 3R X 6 | 5.1 | 40 | 100 | 6 |
| 2BPCDW 080 300 S08 | 4R X 8 | 7 | 30 | 80 | 8 |
| 2BPCDW 080 500 S08 | 4R X 8 | 7 | 50 | 150 | 8 |
| 2BPCDW 100 300 S10 | 5R X 10 | 8 | 30 | 80 | 10 |
| 2BPCDW 100 500 S10 | 5R X 10 | 8 | 50 | 150 | 10 |
| 2BPCDW 120 300 S12 | 6R X 12 | 9 | 30 | 80 | 12 |
| 2BPCDW 120 500 S12 | 6R X 12 | 9 | 50 | 150 | 12 |

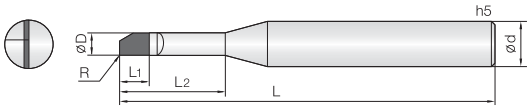
| Numero d'Ordine *Reference* | R x D | L1 | L2 | L | d |
|---|---|---|---|---|---|

# 1&2PCDW

*Fraise Cylindrique PCD 1&2 coupes Traité au Fil*

## *Fresa Cilindrica PCD 1&2 Tagli Processata a Filo*

New




- **Fresa in PCD per grafite, leghe di alluminio e materiali non ferrosi.**
- La lavorazione del tagliente permette di ottenere finiture eccellenti e un'ottima resistenza all'usura nella lavorazione di grafite.
- Un ulteriore processo di lucidatura ottimizza l'evacuazione del truciolo.
- ***Fraise PCD pour Graphite, alliages d'aluminium et materiaux non ferreux.***
- *L'usinage du tranchant permet d'obtenir d'excellentes finitions, excellente résistance à l'usure dans le graphite.*
- *Un processus de polissage supplémentaire optimise l'évacuation des copeaux.*

1 | 2 | WC 미립자 | PCD | R ±0.005 R0.1 | 0° Helix Angle | €

List. p.205

| d | Tolleranza/*Tolérance* |
|---|---|
| Ø 3 ~ 6 | +0 ~ −0.012 mm |
| Ø 8 ~ 10 | +0 ~ −0.015 mm |
| Ø 12 | +0 ~ −0.018 mm |

Unità: mm

| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d | |
|---|---|---|---|---|---|---|
| 1PCDW 030 060 S04 | 3 X R0.1 | 4 | 6 | 60 | 4 | |
| 1PCDW 030 100 S04 | 3 X R0.1 | 4 | 10 | 80 | 4 | |
| 1PCDW 030 200 S04 | 3 X R0.1 | 4 | 20 | 80 | 4 | |
| 1PCDW 030 300 S04 | 3 X R0.1 | 4 | 30 | 80 | 4 | |
| 1PCDW 040 060 S06 | 4 X R0.1 | 5 | 6 | 60 | 6 | |
| 1PCDW 040 100 S06 | 4 X R0.1 | 5 | 10 | 80 | 6 | |
| 1PCDW 040 200 S06 | 4 X R0.1 | 5 | 20 | 80 | 6 | |
| 1PCDW 040 300 S06 | 4 X R0.1 | 5 | 30 | 80 | 6 | |
| 2PCDW 060 100 S06 | 6 X R0.1 | 10 | - | 60 | 6 | |
| 2PCDW 060 200 S06 | 6 X R0.1 | 10 | 20 | 90 | 6 | |
| 2PCDW 060 300 S06 | 6 X R0.1 | 10 | 30 | 90 | 6 | |
| 2PCDW 060 400 S06 | 6 X R0.1 | 10 | 40 | 100 | 6 | |
| 2PCDW 080 300 S08 | 8 X R0.1 | 10 | 30 | 80 | 8 | |
| 2PCDW 080 500 S08 | 8 X R0.1 | 10 | 50 | 150 | 8 | |
| 2PCDW 100 300 S10 | 10 X R0.1 | 12 | 30 | 80 | 10 | |
| 2PCDW 100 500 S10 | 10 X R0.1 | 12 | 50 | 150 | 10 | |
| 2PCDW 120 300 S12 | 12 X R0.1 | 12 | 30 | 80 | 12 | |
| 2PCDW 120 500 S12 | 12 X R0.1 | 12 | 50 | 150 | 12 | |

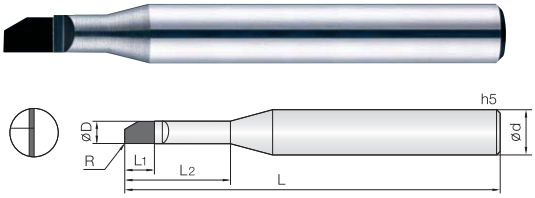
| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d | |
|---|---|---|---|---|---|---|

# 1&2CPCDW

*Fraise Torique PCD 1&2 coupes Traité au Fil*

***Fresa Torica PCD 1&2 Tagli Processata a Filo***

New




- **Fresa in PCD per grafite, leghe di alluminio e materiali non ferrosi.**
- La lavorazione del tagliente permette di ottenere finiture eccellenti e un'ottima resistenza all'usura nella lavorazione di grafite.
- Un ulteriore processo di lucidatura ottimizza l'evacuazione del truciolo.
- ***Fraise PCD pour Graphite, alliages d'aluminium et materiaux non ferreux.***
- *L'usinage du tranchant permet d'obtenir d'excellentes finitions, excellente résistance à l'usure dans le graphite.*
- *Un processus de polissage supplémentaire optimise l'évacuation des copeaux.*

1 | 2 | WC 미립자 | PCD | R ±0.005 R0.2 ~ 1 | 0° Helix Angle | €

List. p.205

| d | Tolleranza/*Tolérance* |
|---|---|
| Ø 4 ~ 6 | +0 ~ −0.012 mm |
| Ø 8 ~ 10 | +0 ~ −0.015 mm |
| Ø 12 | +0 ~ −0.018 mm |

Unità: mm

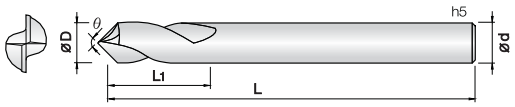
| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d | |
|---|---|---|---|---|---|---|
| 1CPCDW 040 002 100 | 4 X R0.2 | 5 | 10 | 50 | 6 | |
| 1CPCDW 040 003 100 | 4 X R0.3 | 5 | 10 | 50 | 6 | |
| 2CPCDW 060 003 200 | 6 X R0.3 | 6 | 20 | 60 | 6 | |
| 2CPCDW 060 003 250 | 6 X R0.3 | 15 | 25 | 60 | 6 | |
| 2CPCDW 060 005 200 | 6 X R0.5 | 6 | 20 | 60 | 6 | |
| 2CPCDW 060 005 250 | 6 X R0.5 | 15 | 25 | 60 | 6 | |
| 2CPCDW 060 010 200 | 6 X R1 | 6 | 20 | 60 | 6 | |
| 2CPCDW 060 010 250 | 6 X R1 | 15 | 25 | 60 | 6 | |
| 2CPCDW 080 003 200 | 8 X R0.3 | 8 | 20 | 60 | 8 | |
| 2CPCDW 080 003 250 | 8 X R0.3 | 15 | 25 | 60 | 8 | |
| 2CPCDW 080 005 200 | 8 X R0.5 | 8 | 20 | 60 | 8 | |
| 2CPCDW 080 005 250 | 8 X R0.5 | 15 | 25 | 60 | 8 | |
| 2CPCDW 080 010 200 | 8 X R1 | 8 | 20 | 60 | 8 | |
| 2CPCDW 080 010 250 | 8 X R1 | 15 | 25 | 60 | 8 | |
| 2CPCDW 100 005 250 | 10 X R0.5 | 10 | 25 | 70 | 10 | |
| 2CPCDW 100 005 300 | 10 X R0.5 | 15 | 30 | 70 | 10 | |
| 2CPCDW 100 010 250 | 10 X R1 | 10 | 25 | 70 | 10 | |
| 2CPCDW 100 010 300 | 10 X R1 | 15 | 30 | 70 | 10 | |
| 2CPCDW 120 005 250 | 12 X R0.5 | 10 | 25 | 80 | 12 | |
| 2CPCDW 120 005 300 | 12 X R0.5 | 15 | 30 | 80 | 12 | |
| 2CPCDW 120 010 250 | 12 X R1 | 10 | 25 | 80 | 12 | |
| 2CPCDW 120 010 300 | 12 X R1 | 15 | 30 | 80 | 12 | |

| Numero d'Ordine *Reference* | D x R | L1 | L2 | L | d | |
|---|---|---|---|---|---|---|

# 2SPO

*Foret à centrer CNC 2 coupes 90°-120°*

## *Punta da Centro CNC 2 Tagli 90°-120°*




- **Punta da centro per lavorazioni su vari materiali: ghise, acciai legati, bonificati e temprati.**
- Ottima resistenza all'usura grazie al rivestimento TiSiN.
- Ideale per centrature con l'elica a due taglienti.
- Utilizzabili anche su plastiche e resine.
- La micrograna impiegata permette di avere anche ottimi risultati su un'ampia gamma di amteriali non ferrosi e non metallici.
- ***Foret à centrer CNC fontes-aciers, alliés-traités et trempès.***
- *Excellente rèsistance à l'usure grâce au revêtement TiSiN.*
- *Idéal pour le centrage grâce à l'hélice à 2 coupes.*
- *Résultats sur une large gamme de matériaux non ferreux, les plastiques et les résines.*
- *Le micro-grain utilisé vous permet d'avoir également d'excellents résultats.*

2 | WC 미립자 | TISIN Coating | D +0 −0.01 (Ø0.3~ Ø4) | D −0.01 −0.025 (Ø6~ Ø12) | D −0.015 −0.03 (Ø16) | 30° Helix Angle | €

List. p.205

| d | Tolleranza/*Tolérance* |
|---|---|
| ø 0.3 ~ 4 | +0 ~ − 0.01 mm |
| ø 6 ~ 12 | − 0.01 ~ -0.025 mm |
| ø 16 | − 0.015 ~ − 0.03 mm |

Unità: mm

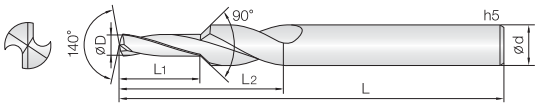
| Numero d'Ordine *Reference* NON rivestito/*Non Revêtue* | Rivestito R-TAC/*Revêtue R-TAC* | D | Ø | L1 | L | d |
|---|---|---|---|---|---|---|
| 2SPO 003 090 040 | 2SPOC 003 090 040 | 0.3 | 90° | 0.9 | 40 | 3 |
| 2SPO 005 090 040 | 2SPOC 005 090 040 | 0.5 | 90° | 1.5 | 40 | 3 |
| 2SPO 008 090 040 | 2SPOC 008 090 040 | 0.8 | 90° | 2.4 | 40 | 3 |
| 2SPO 010 090 050 | 2SPOC 010 090 050 | 1 | 90° | 3 | 50 | 3 |
| | 2SPOC 010 090 080 | 1 | 90° | 3 | 80 | 3 |
| 2SPO 010 120 050 | 2SPOC 010 120 050 | 1 | 120° | 3 | 50 | 3 |
| 2SPO 015 090 050 | 2SPOC 015 090 050 | 1.5 | 90° | 4.5 | 50 | 3 |
| 2SPO 020 090 050 | 2SPOC 020 090 050 | 2 | 90° | 6 | 50 | 3 |
| | 2SPOC 020 090 080 | 2 | 90° | 6 | 80 | 3 |
| 2SPO 020 120 050 | 2SPOC 020 120 050 | 2 | 120° | 6 | 50 | 3 |
| 2SPO 030 090 050 | 2SPOC 030 090 050 | 3 | 90° | 10 | 50 | 3 |
| 2SPO 030 120 050 | 2SPOC 030 120 050 | 3 | 120° | 10 | 50 | 3 |
| 2SPO 030 090 100 | 2SPOC 030 090 100 | 3 | 90° | 10 | 100 | 3 |
| 2SPO 030 120 100 | 2SPOC 030 120 100 | 3 | 120° | 10 | 100 | 3 |
| 2SPO 040 090 050 | 2SPOC 040 090 050 | 4 | 90° | 12 | 50 | 4 |
| 2SPO 040 120 050 | 2SPOC 040 120 050 | 4 | 120° | 12 | 50 | 4 |
| 2SPO 040 090 100 | 2SPOC 040 090 100 | 4 | 90° | 12 | 100 | 4 |
| 2SPO 040 120 100 | 2SPOC 040 120 100 | 4 | 120° | 12 | 100 | 4 |
| 2SPO 060 090 070 | 2SPOC 060 090 070 | 6 | 90° | 15 | 70 | 6 |
| 2SPO 060 120 070 | 2SPOC 060 120 070 | 6 | 120° | 15 | 70 | 6 |
| 2SPO 060 090 110 | 2SPOC 060 090 110 | 6 | 90° | 15 | 110 | 6 |
| | 2SPOC 060 090 150 | 6 | 90° | 15 | 150 | 6 |
| 2SPO 060 120 110 | 2SPOC 060 120 110 | 6 | 120° | 15 | 110 | 6 |
| 2SPO 080 090 080 | 2SPOC 080 090 080 | 8 | 90° | 25 | 80 | 8 |
| | 2SPOC 080 090 150 | 8 | 90° | 25 | 150 | 8 |
| 2SPO 080 120 080 | 2SPOC 080 120 080 | 8 | 120° | 25 | 80 | 8 |
| 2SPO 100 090 090 | 2SPOC 100 090 090 | 10 | 90° | 25 | 90 | 10 |
| 2SPO 100 120 090 | 2SPOC 100 120 090 | 10 | 120° | 25 | 90 | 10 |
| 2SPO 100 090 150 | 2SPOC 100 090 150 | 10 | 90° | 25 | 150 | 10 |
| 2SPO 100 120 150 | 2SPOC 100 120 150 | 10 | 120° | 25 | 150 | 10 |
| 2SPO 120 090 090 | 2SPOC 120 090 090 | 12 | 90° | 30 | 90 | 12 |
| 2SPO 120 120 090 | 2SPOC 120 120 090 | 12 | 120° | 30 | 90 | 12 |
| 2SPO 120 090 150 | 2SPOC 120 090 150 | 12 | 90° | 30 | 150 | 12 |
| 2SPO 120 120 150 | 2SPOC 120 120 150 | 12 | 120° | 30 | 150 | 12 |
| 2SPO 160 090 110 | 2SPOC 160 090 110 | 16 | 90° | 35 | 110 | 16 |
| 2SPO 160 120 110 | 2SPOC 160 120 110 | 16 | 120° | 35 | 110 | 16 |

# 2STD

*Foret Etagés 2 coupes*

## *Punta a Gradino 2 Tagli*

New




- **Punta per lavorazioni su vari materiali: ghise, acciai legati, bonificati e temprati.**
- Punta multifunzione che permette nella stessa operazione di compiere forature e svasature.
- Il rivestimento TiSiN-R riduce lo stress di taglio e migliora la rugosità del pezzo lavorato.
- Utilizzabili anche per prefori di maschiatura.
- ***Foret pour aciers - fontes - matériaux non ferreux.***
- *Forets multifonctions qui permet dans la même opération perçage et chanfreinage et pré-taraudage.*
- *Le revêtement TiSiN améliore l'état de surface.*
- *Utiliser pour le trou de prétaraudage.*

2 | WC 미립자 | R TISIN-R | 140 | 18° Helix Angle | €

List. p.206

| d | Tolleranza/*Tolérance* |
|---|---|
| Ø 3.4 ~ 5.1 | +0 ~ −0.02 mm |
| Ø 6.9 ~ 10.3 | +0 ~ −0.025 mm |

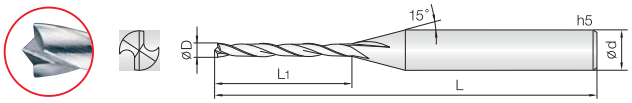
Unità: mm

| Numero d'Ordine *Reference* | D | TAP | L1 | L2 | L | d |
|---|---|---|---|---|---|---|
| 2STD 034 080 S06 | 3.4 | M4 | 8 | 22 | 75 | 6 |
| 2STD 034 120 S06 | 3.4 | M4 | 12 | 27 | 75 | 6 |
| 2STD 043 100 S08 | 4.3 | M5 | 10 | 25 | 80 | 8 |
| 2STD 043 150 S08 | 4.3 | M5 | 15 | 30 | 80 | 8 |
| 2STD 051 120 S08 | 5.1 | M6 | 12 | 30 | 90 | 8 |
| 2STD 051 180 S08 | 5.1 | M6 | 18 | 35 | 90 | 8 |
| 2STD 069 160 S10 | 6.9 | M8 | 16 | 40 | 90 | 10 |
| 2STD 069 240 S10 | 6.9 | M8 | 24 | 45 | 100 | 10 |
| 2STD 086 200 S12 | 8.6 | M10 | 20 | 45 | 110 | 12 |
| 2STD 086 300 S12 | 8.6 | M10 | 30 | 55 | 120 | 12 |
| 2STD 103 240 S14 | 10.3 | M12 | 24 | 50 | 110 | 14 |
| 2STD 103 360 S14 | 10.3 | M12 | 36 | 60 | 120 | 14 |

| Numero d'Ordine *Reference* | D | TAP | L1 | L2 | L | d |
|---|---|---|---|---|---|---|

# 2DED Microforet / Micropunta

New




- **Punta per lavorazioni su alluminio, rame, leghe non ferrose, A.B.S. e resine.**
- Speciale affilatura per ridurre al minimo eventuali sbavature.
- La posizione della punta e la dimensione del foro vengono garantiti dalla speciale affilatura che evita spostamenti dell'utensile durante la foratura.
- ***Perçage d'alliages d'aluminium, cuivre métaux non ferreux, A.B.S. et résines.***
- *Affûtage spécial pour minimiser les bavures*
- *La position de la pointe et la coupe spécifique viennent garantir le bon positionnement du foret pendant le perçage.*

2 | WC 미립자 | 90 | 25° Helix Angle | €

List. p.207

| d | Tolleranza/*Tolérance* |
|---|---|
| Ø 0.15 ~ 0.2 | +0 ~ −0.005 mm |
| Ø 0.21 ~ 3 | +0 ~ −0.01 mm |
| Ø 3.5 ~ 6 | +0 ~ −0.015 mm |

Unità: mm

| Numero d'Ordine *Reference* | D | L1 | L | d | |
|---|---|---|---|---|---|
| 2DED 0015 009 S03 | 0.15 | 0.9 | 40 | 3 | |
| 2DED 0015 018 S03 | 0.15 | 1.8 | 40 | 3 | |
| 2DED 0016 009 S03 | 0.16 | 0.9 | 40 | 3 | |
| 2DED 0016 018 S03 | 0.16 | 1.8 | 40 | 3 | |
| 2DED 0017 009 S03 | 0.17 | 0.9 | 40 | 3 | |
| 2DED 0017 018 S03 | 0.17 | 1.8 | 40 | 3 | |
| 2DED 0018 0105 S03 | 0.18 | 1.05 | 40 | 3 | |
| 2DED 0018 021 S03 | 0.18 | 2.1 | 40 | 3 | |
| 2DED 0019 0105 S03 | 0.19 | 1.05 | 40 | 3 | |
| 2DED 0019 021 S03 | 0.19 | 2.1 | 40 | 3 | |
| 2DED 002 012 S03 | 0.2 | 1.2 | 40 | 3 | |
| 2DED 002 024 S03 | 0.2 | 2.4 | 40 | 3 | |
| 2DED 0021 012 S03 | 0.21 | 1.2 | 40 | 3 | |
| 2DED 0021 024 S03 | 0.21 | 2.4 | 40 | 3 | |
| 2DED 0022 013 S03 | 0.22 | 1.3 | 40 | 3 | |
| 2DED 0022 026 S03 | 0.22 | 2.6 | 40 | 3 | |
| 2DED 0023 013 S03 | 0.23 | 1.3 | 40 | 3 | |
| 2DED 0023 026 S03 | 0.23 | 2.6 | 40 | 3 | |
| 2DED 0024 013 S03 | 0.24 | 1.3 | 40 | 3 | |
| 2DED 0024 026 S03 | 0.24 | 2.6 | 40 | 3 | |
| 2DED 0025 015 S03 | 0.25 | 1.5 | 40 | 3 | |
| 2DED 0025 030 S03 | 0.25 | 3 | 40 | 3 | |
| 2DED 0026 015 S03 | 0.26 | 1.5 | 40 | 3 | |
| 2DED 0026 030 S03 | 0.26 | 3 | 40 | 3 | |
| 2DED 0027 015 S03 | 0.27 | 1.5 | 40 | 3 | |
| 2DED 0027 030 S03 | 0.27 | 3 | 40 | 3 | |
| 2DED 0028 0165 S03 | 0.28 | 1.65 | 40 | 3 | |
| 2DED 0028 033 S03 | 0.28 | 3.3 | 40 | 3 | |
| 2DED 0029 0165 S03 | 0.29 | 1.65 | 40 | 3 | |
| 2DED 0029 033 S03 | 0.29 | 3.3 | 40 | 3 | |
| 2DED 003 025 S03 | 0.3 | 2.5 | 40 | 3 | |
| 2DED 003 050 S03 | 0.3 | 5 | 40 | 3 | |
| 2DED 0035 025 S03 | 0.35 | 2.5 | 40 | 3 | |
| 2DED 0035 050 S03 | 0.35 | 5 | 40 | 3 | |
| 2DED 004 030 S03 | 0.4 | 3 | 40 | 3 | |
| 2DED 004 060 S03 | 0.4 | 6 | 40 | 3 | |
| 2DED 0045 030 S03 | 0.45 | 3 | 40 | 3 | |
| 2DED 0045 060 S03 | 0.45 | 6 | 40 | 3 | |
| 2DED 005 030 S03 | 0.5 | 3 | 40 | 3 | |
| 2DED 005 060 S03 | 0.5 | 6 | 40 | 3 | |
| 2DED 0055 030 S03 | 0.55 | 3 | 40 | 3 | |
| 2DED 0055 060 S03 | 0.55 | 6 | 40 | 3 | |
| 2DED 006 035 S03 | 0.6 | 3.5 | 40 | 3 | |
| 2DED 006 070 S03 | 0.6 | 7 | 40 | 3 | |
| 2DED 0065 035 S03 | 0.65 | 3.5 | 40 | 3 | |
| 2DED 0065 070 S03 | 0.65 | 7 | 40 | 3 | |
| 2DED 007 040 S03 | 0.7 | 4 | 40 | 3 | |
| 2DED 007 080 S03 | 0.7 | 8 | 40 | 3 | |
| 2DED 0075 040 S03 | 0.75 | 4 | 40 | 3 | |
| 2DED 0075 080 S03 | 0.75 | 8 | 40 | 3 | |

| Numero d'Ordine *Reference* | D | L1 | L | d | |
|---|---|---|---|---|---|
| 2DED 008 040 S03 | 0.8 | 4 | 40 | 3 | |
| 2DED 008 080 S03 | 0.8 | 8 | 40 | 3 | |
| 2DED 0085 040 S03 | 0.85 | 4 | 40 | 3 | |
| 2DED 0085 080 S03 | 0.85 | 8 | 40 | 3 | |
| 2DED 009 040 S03 | 0.9 | 4 | 40 | 3 | |
| 2DED 009 080 S03 | 0.9 | 8 | 40 | 3 | |
| 2DED 0095 040 S03 | 0.95 | 4 | 40 | 3 | |
| 2DED 0095 080 S03 | 0.95 | 8 | 40 | 3 | |
| 2DED 010 050 S03 | 1 | 5 | 40 | 3 | |
| 2DED 010 100 S03 | 1 | 10 | 40 | 3 | |
| 2DED 011 050 S03 | 1.1 | 5 | 40 | 3 | |
| 2DED 011 100 S03 | 1.1 | 10 | 40 | 3 | |
| 2DED 012 050 S03 | 1.2 | 5 | 40 | 3 | |
| 2DED 012 100 S03 | 1.2 | 10 | 40 | 3 | |
| 2DED 013 050 S03 | 1.3 | 5 | 40 | 3 | |
| 2DED 013 100 S03 | 1.3 | 10 | 40 | 3 | |
| 2DED 014 050 S03 | 1.4 | 5 | 40 | 3 | |
| 2DED 014 100 S03 | 1.4 | 10 | 40 | 3 | |
| 2DED 015 075 S03 | 1.5 | 7.5 | 45 | 3 | |
| 2DED 015 150 S03 | 1.5 | 15 | 45 | 3 | |
| 2DED 016 075 S03 | 1.6 | 7.5 | 45 | 3 | |
| 2DED 016 150 S03 | 1.6 | 15 | 45 | 3 | |
| 2DED 017 075 S03 | 1.7 | 7.5 | 45 | 3 | |
| 2DED 017 150 S03 | 1.7 | 15 | 45 | 3 | |
| 2DED 018 075 S03 | 1.8 | 7.5 | 45 | 3 | |
| 2DED 018 150 S03 | 1.8 | 15 | 45 | 3 | |
| 2DED 019 075 S03 | 1.9 | 7.5 | 45 | 3 | |
| 2DED 019 150 S03 | 1.9 | 15 | 45 | 3 | |
| 2DED 020 110 S03 | 2 | 11 | 50 | 3 | |
| 2DED 020 220 S03 | 2 | 22 | 50 | 3 | |
| 2DED 021 110 S03 | 2.1 | 11 | 50 | 3 | |
| 2DED 021 220 S03 | 2.1 | 22 | 50 | 3 | |
| 2DED 022 110 S03 | 2.2 | 11 | 50 | 3 | |
| 2DED 022 220 S03 | 2.2 | 22 | 50 | 3 | |
| 2DED 023 110 S03 | 2.3 | 11 | 50 | 3 | |
| 2DED 023 220 S03 | 2.3 | 22 | 50 | 3 | |
| 2DED 024 110 S03 | 2.4 | 11 | 50 | 3 | |
| 2DED 024 220 S03 | 2.4 | 22 | 50 | 3 | |
| 2DED 025 110 S03 | 2.5 | 11 | 50 | 3 | |
| 2DED 025 220 S03 | 2.5 | 22 | 50 | 3 | |
| 2DED 026 110 S03 | 2.6 | 11 | 50 | 3 | |
| 2DED 026 220 S03 | 2.6 | 22 | 50 | 3 | |
| 2DED 027 125 S03 | 2.7 | 12.5 | 50 | 3 | |
| 2DED 027 250 S03 | 2.7 | 25 | 50 | 3 | |
| 2DED 028 125 S03 | 2.8 | 12.5 | 50 | 3 | |
| 2DED 028 250 S03 | 2.8 | 25 | 50 | 3 | |
| 2DED 029 125 S03 | 2.9 | 12.5 | 50 | 3 | |
| 2DED 029 250 S03 | 2.9 | 25 | 50 | 3 | |
| 2DED 030 125 S03 | 3 | 12.5 | 50 | 3 | |
| 2DED 030 250 S03 | 3 | 25 | 50 | 3 | |

Unità: mm

| Numero d'Ordine *Reference* | D | L1 | L | d | |
|---|---|---|---|---|---|
| 2DED 035 175 S04 | 3.5 | 17.5 | 75 | 4 | |
| 2DED 035 350 S04 | 3.5 | 35 | 75 | 4 | |
| 2DED 040 200 S04 | 4 | 20 | 85 | 4 | |
| 2DED 040 400 S04 | 4 | 40 | 85 | 4 | |
| 2DED 045 210 S06 | 4.5 | 21 | 85 | 6 | |
| 2DED 045 420 S06 | 4.5 | 42 | 85 | 6 | |
| 2DED 050 225 S06 | 5 | 22.5 | 90 | 6 | |
| 2DED 050 450 S06 | 5 | 45 | 90 | 6 | |
| 2DED 055 225 S06 | 5.5 | 22.5 | 95 | 6 | |
| 2DED 055 450 S06 | 5.5 | 45 | 95 | 6 | |
| 2DED 060 250 S06 | 6 | 25 | 100 | 6 | |
| 2DED 060 500 S06 | 6 | 50 | 100 | 6 | |

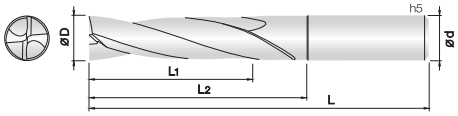
| Numero d'Ordine *Reference* | D | L1 | L | d | |
|---|---|---|---|---|---|

# 2FDR

*Foret Fond plat "Flat Drill" polyvalent 2 coupes 4xDiametre*

## *Punta "Flat Drill" 2 Tagli Multi-Purpose 4xD*

New




- **Punta per lavorazioni su acciai in genere, acciai bonificati (~HRc50), ghise, alluminio e materiali non ferrosi.**
- Punta con speciale affilatura a 180° (Flat Drill), eccellente rendimento nella foratura di superfici piane, inclinate e curve.
- Ottima evacuazione del truciolo e foratura stabile grazie all'elica a 20° e alla nuova affilatura.
- Riduzione delle sbavature durante la foratura.
- Il rivestimento TiSiN-R offre un'ottima resistenza al calore e all'usura incrementando la vita utensile.
- ***Conçu pour le perçage des aciers- aciers trempés (~HRc50)- fontes, aluminium et matériaux non ferreux.***
- *Foret avec affûtage spécial à 180° (Flat Drill), excellent efficacité dans le forage de surfaces planes, inclinées et courbes.*
- *Excellente évacuation des copeaux et perçage stable grâce à l'hélice à 20° et le nouvel affûtage.*
- *Réduction des bavures lors du perçage.*
- *Le revêtement TiSiN-R offre une excellente résistance à la chaleur et à l'usure, augmentant la durée de vie de l'outil.*

2 | WC 미립자 | R TISIN-R | h7 Tolerence | 20° Helix Angle | €

List. p.208

Unità: mm

| Numero d'Ordine *Reference* | D | L1 | L2 | L | d | |
|---|---|---|---|---|---|---|
| 2FDR 002 009 S03 | 0.2 | 0.8 | 0.9 | 50 | 3 | |
| 2FDR 0025 011 S03 | 0.25 | 1 | 1.1 | 50 | 3 | |
| 2FDR 003 013 S03 | 0.3 | 1.2 | 1.3 | 50 | 3 | |
| 2FDR 0035 015 S03 | 0.35 | 1.4 | 1.5 | 50 | 3 | |
| 2FDR 004 017 S03 | 0.4 | 1.6 | 1.7 | 50 | 3 | |
| 2FDR 0045 019 S03 | 0.45 | 1.8 | 1.9 | 50 | 3 | |
| 2FDR 005 022 S03 | 0.5 | 2 | 2.2 | 50 | 3 | |
| 2FDR 0055 024 S03 | 0.55 | 2.2 | 2.4 | 50 | 3 | |
| 2FDR 006 026 S03 | 0.6 | 2.4 | 2.6 | 50 | 3 | |
| 2FDR 0065 028 S03 | 0.65 | 2.6 | 2.8 | 50 | 3 | |
| 2FDR 007 030 S03 | 0.7 | 2.8 | 3 | 50 | 3 | |
| 2FDR 0075 032 S03 | 0.75 | 3 | 3.2 | 50 | 3 | |
| 2FDR 008 034 S03 | 0.8 | 3.2 | 3.4 | 50 | 3 | |
| 2FDR 0085 037 S03 | 0.85 | 3.4 | 3.7 | 50 | 3 | |
| 2FDR 009 039 S03 | 0.9 | 3.6 | 3.9 | 50 | 3 | |
| 2FDR 0095 041 S03 | 0.95 | 3.8 | 4.1 | 50 | 3 | |
| 2FDR 010 043 S03 | 1 | 4 | 4.3 | 50 | 3 | |
| 2FDR 011 047 S03 | 1.1 | 4.4 | 4.7 | 50 | 3 | |
| 2FDR 012 052 S03 | 1.2 | 4.8 | 5.2 | 50 | 3 | |
| 2FDR 013 056 S03 | 1.3 | 5.2 | 5.6 | 50 | 3 | |
| 2FDR 014 060 S03 | 1.4 | 5.6 | 6 | 50 | 3 | |
| 2FDR 015 065 S03 | 1.5 | 6 | 6.5 | 50 | 3 | |
| 2FDR 016 069 S03 | 1.6 | 6.4 | 6.9 | 50 | 3 | |
| 2FDR 017 073 S03 | 1.7 | 6.8 | 7.3 | 50 | 3 | |
| 2FDR 018 077 S03 | 1.8 | 7.2 | 7.7 | 50 | 3 | |
| 2FDR 019 082 S03 | 1.9 | 7.6 | 8.2 | 50 | 3 | |
| 2FDR 020 086 S04 | 2 | 8 | 8.6 | 50 | 4 | |
| 2FDR 021 090 S04 | 2.1 | 8.4 | 9 | 50 | 4 | |
| 2FDR 022 095 S04 | 2.2 | 8.8 | 9.5 | 50 | 4 | |
| 2FDR 023 099 S04 | 2.3 | 9.2 | 9.9 | 50 | 4 | |
| 2FDR 024 103 S04 | 2.4 | 9.6 | 10.3 | 50 | 4 | |
| 2FDR 025 108 S04 | 2.5 | 10 | 10.8 | 50 | 4 | |
| 2FDR 026 112 S04 | 2.6 | 10.4 | 11.2 | 50 | 4 | |
| 2FDR 027 116 S04 | 2.7 | 10.8 | 11.6 | 50 | 4 | |
| 2FDR 028 120 S04 | 2.8 | 11.2 | 12 | 50 | 4 | |
| 2FDR 029 125 S04 | 2.9 | 11.6 | 12.5 | 50 | 4 | |
| 2FDR 030 129 S06 | 3 | 12 | 12.9 | 50 | 6 | |
| 2FDR 031 133 S06 | 3.1 | 12.4 | 13.3 | 50 | 6 | |
| 2FDR 032 138 S06 | 3.2 | 12.8 | 13.8 | 50 | 6 | |
| 2FDR 033 142 S06 | 3.3 | 13.2 | 14.2 | 50 | 6 | |
| 2FDR 034 146 S06 | 3.4 | 13.6 | 14.6 | 50 | 6 | |
| 2FDR 035 151 S06 | 3.5 | 14 | 15.1 | 50 | 6 | |
| 2FDR 036 155 S06 | 3.6 | 14.4 | 15.5 | 50 | 6 | |
| 2FDR 037 159 S06 | 3.7 | 14.8 | 15.9 | 50 | 6 | |
| 2FDR 038 163 S06 | 3.8 | 15.2 | 16.3 | 50 | 6 | |
| 2FDR 039 168 S06 | 3.9 | 15.6 | 16.8 | 50 | 6 | |
| 2FDR 040 172 S06 | 4 | 16 | 17.2 | 50 | 6 | |
| 2FDR 041 176 S06 | 4.1 | 16.4 | 17.6 | 60 | 6 | |
| 2FDR 042 181 S06 | 4.2 | 16.8 | 18.1 | 60 | 6 | |
| 2FDR 043 185 S06 | 4.3 | 17.2 | 18.5 | 60 | 6 | |

| Numero d'Ordine *Reference* | D | L1 | L2 | L | d | |
|---|---|---|---|---|---|---|
| 2FDR 044 189 S06 | 4.4 | 17.6 | 18.9 | 60 | 6 | |
| 2FDR 045 194 S06 | 4.5 | 18 | 19.4 | 60 | 6 | |
| 2FDR 046 198 S06 | 4.6 | 18.4 | 19.8 | 60 | 6 | |
| 2FDR 047 202 S06 | 4.7 | 18.8 | 20.2 | 60 | 6 | |
| 2FDR 048 206 S06 | 4.8 | 19.2 | 20.6 | 60 | 6 | |
| 2FDR 049 211 S06 | 4.9 | 19.6 | 21.1 | 60 | 6 | |
| 2FDR 050 215 S06 | 5 | 20 | 21.5 | 60 | 6 | |
| 2FDR 051 219 S06 | 5.1 | 20.4 | 21.9 | 60 | 6 | |
| 2FDR 052 224 S06 | 5.2 | 20.8 | 22.4 | 60 | 6 | |
| 2FDR 053 228 S06 | 5.3 | 21.2 | 22.8 | 60 | 6 | |
| 2FDR 054 232 S06 | 5.4 | 21.6 | 23.2 | 60 | 6 | |
| 2FDR 055 237 S06 | 5.5 | 22 | 23.7 | 60 | 6 | |
| 2FDR 056 241 S06 | 5.6 | 22.4 | 24.1 | 60 | 6 | |
| 2FDR 057 245 S06 | 5.7 | 22.8 | 24.5 | 60 | 6 | |
| 2FDR 058 249 S06 | 5.8 | 23.2 | 24.9 | 60 | 6 | |
| 2FDR 059 254 S06 | 5.9 | 23.6 | 25.4 | 60 | 6 | |
| 2FDR 060 258 S06 | 6 | 24 | 25.8 | 60 | 6 | |
| 2FDR 061 262 S08 | 6.1 | 24.4 | 26.2 | 70 | 8 | |
| 2FDR 062 267 S08 | 6.2 | 24.8 | 26.7 | 70 | 8 | |
| 2FDR 063 271 S08 | 6.3 | 25.2 | 27.1 | 70 | 8 | |
| 2FDR 064 275 S08 | 6.4 | 25.6 | 27.5 | 70 | 8 | |
| 2FDR 065 280 S08 | 6.5 | 26 | 28 | 70 | 8 | |
| 2FDR 066 284 S08 | 6.6 | 26.4 | 28.4 | 70 | 8 | |
| 2FDR 067 288 S08 | 6.7 | 26.8 | 28.8 | 70 | 8 | |
| 2FDR 068 292 S08 | 6.8 | 27.2 | 29.2 | 70 | 8 | |
| 2FDR 069 297 S08 | 6.9 | 27.6 | 29.7 | 70 | 8 | |
| 2FDR 070 301 S08 | 7 | 28 | 30.1 | 70 | 8 | |
| 2FDR 071 305 S08 | 7.1 | 28.4 | 30.5 | 70 | 8 | |
| 2FDR 072 310 S08 | 7.2 | 28.8 | 31 | 70 | 8 | |
| 2FDR 073 314 S08 | 7.3 | 29.2 | 31.4 | 70 | 8 | |
| 2FDR 074 318 S08 | 7.4 | 29.6 | 31.8 | 70 | 8 | |
| 2FDR 075 323 S08 | 7.5 | 30 | 32.3 | 70 | 8 | |
| 2FDR 076 327 S08 | 7.6 | 30.4 | 32.7 | 70 | 8 | |
| 2FDR 077 331 S08 | 7.7 | 30.8 | 33.1 | 70 | 8 | |
| 2FDR 078 335 S08 | 7.8 | 31.2 | 33.5 | 70 | 8 | |
| 2FDR 079 340 S08 | 7.9 | 31.6 | 34 | 70 | 8 | |
| 2FDR 080 344 S08 | 8 | 32 | 34.4 | 70 | 8 | |
| 2FDR 081 348 S10 | 8.1 | 32.4 | 34.8 | 80 | 10 | |
| 2FDR 082 353 S10 | 8.2 | 32.8 | 35.3 | 80 | 10 | |
| 2FDR 083 357 S10 | 8.3 | 33.2 | 35.7 | 80 | 10 | |
| 2FDR 084 361 S10 | 8.4 | 33.6 | 36.1 | 80 | 10 | |
| 2FDR 085 366 S10 | 8.5 | 34 | 36.6 | 80 | 10 | |
| 2FDR 086 370 S10 | 8.6 | 34.4 | 37 | 80 | 10 | |
| 2FDR 087 374 S10 | 8.7 | 34.8 | 37.4 | 80 | 10 | |
| 2FDR 088 378 S10 | 8.8 | 35.2 | 37.8 | 80 | 10 | |
| 2FDR 089 383 S10 | 8.9 | 35.6 | 38.3 | 80 | 10 | |
| 2FDR 090 387 S10 | 9 | 36 | 38.7 | 80 | 10 | |
| 2FDR 091 391 S10 | 9.1 | 36.4 | 39.1 | 80 | 10 | |
| 2FDR 092 396 S10 | 9.2 | 36.8 | 39.6 | 80 | 10 | |
| 2FDR 093 400 S10 | 9.3 | 37.2 | 40 | 80 | 10 | |

Unità: mm

| Numero d'Ordine *Reference* | D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2FDR 094 404 S10 | 9.4 | 37.6 | 40.4 | 80 | 10 |
| 2FDR 095 409 S10 | 9.5 | 38 | 40.9 | 80 | 10 |
| 2FDR 096 413 S10 | 9.6 | 38.4 | 41.3 | 80 | 10 |
| 2FDR 097 417 S10 | 9.7 | 38.8 | 41.7 | 80 | 10 |
| 2FDR 098 421 S10 | 9.8 | 39.2 | 42.1 | 80 | 10 |
| 2FDR 099 426 S10 | 9.9 | 39.6 | 42.6 | 80 | 10 |
| 2FDR 100 430 S10 | 10 | 40 | 43 | 80 | 10 |
| 2FDR 101 434 S12 | 10.1 | 40.4 | 43.4 | 90 | 12 |
| 2FDR 102 439 S12 | 10.2 | 40.8 | 43.9 | 90 | 12 |
| 2FDR 103 443 S12 | 10.3 | 41.2 | 44.3 | 90 | 12 |
| 2FDR 104 447 S12 | 10.4 | 41.6 | 44.7 | 90 | 12 |
| 2FDR 105 452 S12 | 10.5 | 42 | 45.2 | 90 | 12 |
| 2FDR 106 456 S12 | 10.6 | 42.4 | 45.6 | 90 | 12 |
| 2FDR 107 460 S12 | 10.7 | 42.8 | 46 | 90 | 12 |
| 2FDR 108 464 S12 | 10.8 | 43.2 | 46.4 | 90 | 12 |
| 2FDR 109 469 S12 | 10.9 | 43.6 | 46.9 | 90 | 12 |
| 2FDR 110 473 S12 | 11 | 44 | 47.3 | 90 | 12 |
| 2FDR 111 477 S12 | 11.1 | 44.4 | 47.7 | 90 | 12 |
| 2FDR 112 482 S12 | 11.2 | 44.8 | 48.2 | 90 | 12 |
| 2FDR 113 486 S12 | 11.3 | 45.2 | 48.6 | 90 | 12 |
| 2FDR 114 490 S12 | 11.4 | 45.6 | 49 | 90 | 12 |
| 2FDR 115 495 S12 | 11.5 | 46 | 49.5 | 90 | 12 |
| 2FDR 116 499 S12 | 11.6 | 46.4 | 49.9 | 90 | 12 |
| 2FDR 117 503 S12 | 11.7 | 46.8 | 50.3 | 90 | 12 |
| 2FDR 118 507 S12 | 11.8 | 47.2 | 50.7 | 90 | 12 |
| 2FDR 119 512 S12 | 11.9 | 47.6 | 51.2 | 90 | 12 |
| 2FDR 120 516 S12 | 12 | 48 | 51.6 | 90 | 12 |
| 2FDR 121 520 S14 | 12.1 | 48.4 | 52 | 100 | 14 |
| 2FDR 122 525 S14 | 12.2 | 48.8 | 52.5 | 100 | 14 |
| 2FDR 123 529 S14 | 12.3 | 49.2 | 52.9 | 100 | 14 |
| 2FDR 124 533 S14 | 12.4 | 49.6 | 53.3 | 100 | 14 |
| 2FDR 125 538 S14 | 12.5 | 50 | 53.8 | 100 | 14 |
| 2FDR 126 542 S14 | 12.6 | 50.4 | 54.2 | 100 | 14 |
| 2FDR 127 546 S14 | 12.7 | 50.8 | 54.6 | 100 | 14 |
| 2FDR 128 550 S14 | 12.8 | 51.2 | 55 | 100 | 14 |
| 2FDR 129 555 S14 | 12.9 | 51.6 | 55.5 | 100 | 14 |
| 2FDR 130 559 S14 | 13 | 52 | 55.9 | 100 | 14 |
| 2FDR 131 563 S14 | 13.1 | 52.4 | 56.3 | 100 | 14 |
| 2FDR 132 568 S14 | 13.2 | 52.8 | 56.8 | 100 | 14 |
| 2FDR 133 572 S14 | 13.3 | 53.2 | 57.2 | 100 | 14 |
| 2FDR 134 576 S14 | 13.4 | 53.6 | 57.6 | 100 | 14 |
| 2FDR 135 581 S14 | 13.5 | 54 | 58.1 | 100 | 14 |
| 2FDR 136 585 S14 | 13.6 | 54.4 | 58.5 | 100 | 14 |
| 2FDR 137 589 S14 | 13.7 | 54.8 | 58.9 | 100 | 14 |
| 2FDR 138 593 S14 | 13.8 | 55.2 | 59.3 | 100 | 14 |
| 2FDR 139 598 S14 | 13.9 | 55.6 | 59.8 | 100 | 14 |
| 2FDR 140 602 S14 | 14 | 56 | 60.2 | 100 | 14 |
| 2FDR 141 606 S16 | 14.1 | 56.4 | 60.6 | 105 | 16 |
| 2FDR 142 611 S16 | 14.2 | 56.8 | 61.1 | 105 | 16 |
| 2FDR 143 615 S16 | 14.3 | 57.2 | 61.5 | 105 | 16 |

| Numero d'Ordine *Reference* | D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2FDR 144 619 S16 | 14.4 | 57.6 | 61.9 | 105 | 16 |
| 2FDR 145 624 S16 | 14.5 | 58 | 62.4 | 105 | 16 |
| 2FDR 146 628 S16 | 14.6 | 58.4 | 62.8 | 105 | 16 |
| 2FDR 147 632 S16 | 14.7 | 58.8 | 63.2 | 105 | 16 |
| 2FDR 148 636 S16 | 14.8 | 59.2 | 63.6 | 105 | 16 |
| 2FDR 149 641 S16 | 14.9 | 59.6 | 64.1 | 105 | 16 |
| 2FDR 150 645 S16 | 15 | 60 | 64.5 | 105 | 16 |
| 2FDR 151 649 S16 | 15.1 | 60.4 | 64.9 | 115 | 16 |
| 2FDR 152 654 S16 | 15.2 | 60.8 | 65.4 | 115 | 16 |
| 2FDR 153 658 S16 | 15.3 | 61.2 | 65.8 | 115 | 16 |
| 2FDR 154 662 S16 | 15.4 | 61.6 | 66.2 | 115 | 16 |
| 2FDR 155 667 S16 | 15.5 | 62 | 66.7 | 115 | 16 |
| 2FDR 156 671 S16 | 15.6 | 62.4 | 67.1 | 115 | 16 |
| 2FDR 157 675 S16 | 15.7 | 62.8 | 67.5 | 115 | 16 |
| 2FDR 158 679 S16 | 15.8 | 63.2 | 67.9 | 115 | 16 |
| 2FDR 159 684 S16 | 15.9 | 63.6 | 68.4 | 115 | 16 |
| 2FDR 160 688 S16 | 16 | 64 | 68.8 | 115 | 16 |
| 2FDR 165 710 S18 | 16.5 | 66 | 71 | 125 | 18 |
| 2FDR 170 731 S18 | 17 | 68 | 73.1 | 125 | 18 |
| 2FDR 175 753 S18 | 17.5 | 70 | 75.3 | 125 | 18 |
| 2FDR 180 774 S18 | 18 | 72 | 77.4 | 125 | 18 |
| 2FDR 185 796 S20 | 18.5 | 74 | 79.6 | 135 | 20 |
| 2FDR 190 817 S20 | 19 | 76 | 81.7 | 135 | 20 |
| 2FDR 195 839 S20 | 19.5 | 78 | 83.9 | 145 | 20 |
| 2FDR 200 860 S20 | 20 | 80 | 86 | 145 | 20 |

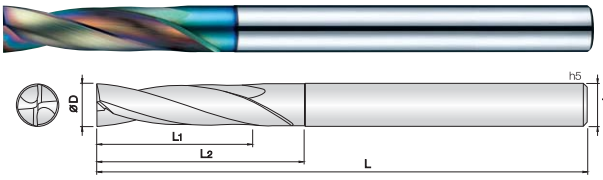
# 2FDRL

*Foret Fond plat "Flat Drill" polyvalent 2 coupes 4xDiametre Serie Longue*

## *Punta "Flat Drill" 2 Tagli Multi-Purpose 4xD Gambo Lungo*

New

**Su richiesta**/ *Sur demand*




2 | WC 미립자 | R TISIN-R | h7 Tolerence | 20° Helix Angle | €

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- **Punta per lavorazioni su acciai in genere, acciai bonificati (~HRc50), ghise, alluminio e materiali non ferrosi.**
- Punta con speciale affilatura a 180° (Flat Drill), eccellente rendimento nella foratura di superfici piane, inclinate e curve.
- Ottima evacuazione del truciolo e foratura stabile grazie all'elica a 20° e alla nuova affilatura.
- Riduzione delle sbavature durante la foratura.
- Il rivestimento TiSiN-R offre un'ottima resistenza al calore e all'usura incrementando la vita utensile.
- ***Conçu pour le perçage des aciers- aciers trempés (~HRc50)- fontes, aluminium et matériaux non ferreux.***
- *Foret avec affûtage spécial à 180° (Flat Drill), excellent efficacité dans le forage de surfaces planes, inclinées et courbes.*
- *Excellente évacuation des copeaux et perçage stable grâce à l'hélice à 20°et le nouvel affûtage.*
- *Réduction des bavures lors du perçage.*
- *Le revêtement TiSiN-R offre une excellente résistance à la chaleur et à l'usure, augmentant la durée de vie de l'outil.*

Unità: mm

| Numero d'Ordine *Reference* | D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2FDRL 030 300 S06 | 3 | 12 | 30 | 100 | 6 |
| 2FDRL 031 310 S06 | 3.1 | 12.4 | 31 | 100 | 6 |
| 2FDRL 032 320 S06 | 3.2 | 12.8 | 32 | 100 | 6 |
| 2FDRL 033 330 S06 | 3.3 | 13.2 | 33 | 100 | 6 |
| 2FDRL 034 340 S06 | 3.4 | 13.6 | 34 | 100 | 6 |
| 2FDRL 035 350 S06 | 3.5 | 14 | 35 | 100 | 6 |
| 2FDRL 036 360 S06 | 3.6 | 14.4 | 36 | 100 | 6 |
| 2FDRL 037 370 S06 | 3.7 | 14.8 | 37 | 100 | 6 |
| 2FDRL 038 380 S06 | 3.8 | 15.2 | 38 | 100 | 6 |
| 2FDRL 039 390 S06 | 3.9 | 15.6 | 39 | 100 | 6 |
| 2FDRL 040 400 S06 | 4 | 16 | 40 | 100 | 6 |
| 2FDRL 041 410 S06 | 4.1 | 16.4 | 41 | 100 | 6 |
| 2FDRL 042 420 S06 | 4.2 | 16.8 | 42 | 100 | 6 |
| 2FDRL 043 430 S06 | 4.3 | 17.2 | 43 | 100 | 6 |
| 2FDRL 044 440 S06 | 4.4 | 17.6 | 44 | 100 | 6 |
| 2FDRL 045 450 S06 | 4.5 | 18 | 45 | 100 | 6 |
| 2FDRL 046 460 S06 | 4.6 | 18.4 | 46 | 100 | 6 |
| 2FDRL 047 470 S06 | 4.7 | 18.8 | 47 | 100 | 6 |
| 2FDRL 048 480 S06 | 4.8 | 19.2 | 48 | 100 | 6 |
| 2FDRL 049 490 S06 | 4.9 | 19.6 | 49 | 100 | 6 |
| 2FDRL 050 500 S06 | 5 | 20 | 50 | 100 | 6 |
| 2FDRL 051 510 S06 | 5.1 | 20.4 | 51 | 110 | 6 |
| 2FDRL 052 520 S06 | 5.2 | 20.8 | 52 | 110 | 6 |
| 2FDRL 053 530 S06 | 5.3 | 21.2 | 53 | 110 | 6 |
| 2FDRL 054 540 S06 | 5.4 | 21.6 | 54 | 110 | 6 |
| 2FDRL 055 550 S06 | 5.5 | 22 | 55 | 110 | 6 |
| 2FDRL 056 560 S06 | 5.6 | 22.4 | 56 | 110 | 6 |
| 2FDRL 057 570 S06 | 5.7 | 22.8 | 57 | 110 | 6 |
| 2FDRL 058 580 S06 | 5.8 | 23.2 | 58 | 110 | 6 |
| 2FDRL 059 590 S06 | 5.9 | 23.6 | 59 | 110 | 6 |
| 2FDRL 060 480 S06 | 6 | 24 | 48 | 110 | 6 |
| 2FDRL 061 488 S08 | 6.1 | 24.4 | 48.8 | 120 | 8 |
| 2FDRL 062 496 S08 | 6.2 | 24.8 | 49.6 | 120 | 8 |
| 2FDRL 063 504 S08 | 6.3 | 25.2 | 50.4 | 120 | 8 |
| 2FDRL 064 512 S08 | 6.4 | 25.6 | 51.2 | 120 | 8 |
| 2FDRL 065 520 S08 | 6.5 | 26 | 52 | 120 | 8 |
| 2FDRL 066 528 S08 | 6.6 | 26.4 | 52.8 | 120 | 8 |
| 2FDRL 067 536 S08 | 6.7 | 26.8 | 53.6 | 120 | 8 |
| 2FDRL 068 544 S08 | 6.8 | 27.2 | 54.4 | 120 | 8 |
| 2FDRL 069 552 S08 | 6.9 | 27.6 | 55.2 | 120 | 8 |
| 2FDRL 070 560 S08 | 7 | 28 | 56 | 120 | 8 |
| 2FDRL 071 568 S08 | 7.1 | 28.4 | 56.8 | 120 | 8 |
| 2FDRL 072 576 S08 | 7.2 | 28.8 | 57.6 | 120 | 8 |
| 2FDRL 073 584 S08 | 7.3 | 29.2 | 58.4 | 120 | 8 |
| 2FDRL 074 592 S08 | 7.4 | 29.6 | 59.2 | 120 | 8 |
| 2FDRL 075 600 S08 | 7.5 | 30 | 60 | 120 | 8 |
| 2FDRL 076 608 S08 | 7.6 | 30.4 | 60.8 | 120 | 8 |
| 2FDRL 077 616 S08 | 7.7 | 30.8 | 61.6 | 120 | 8 |
| 2FDRL 078 624 S08 | 7.8 | 31.2 | 62.4 | 120 | 8 |
| 2FDRL 079 632 S08 | 7.9 | 31.6 | 63.2 | 120 | 8 |
| 2FDRL 080 640 S08 | 8 | 32 | 64 | 120 | 8 |
| 2FDRL 081 648 S10 | 8.1 | 32.4 | 64.8 | 130 | 10 |
| 2FDRL 082 656 S10 | 8.2 | 32.8 | 65.6 | 130 | 10 |
| 2FDRL 083 664 S10 | 8.3 | 33.2 | 66.4 | 130 | 10 |

| Numero d'Ordine *Reference* | D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2FDRL 084 672 S10 | 8.4 | 33.6 | 67.2 | 130 | 10 |
| 2FDRL 085 680 S10 | 8.5 | 34 | 68 | 130 | 10 |
| 2FDRL 086 688 S10 | 8.6 | 34.4 | 68.8 | 130 | 10 |
| 2FDRL 087 696 S10 | 8.7 | 34.8 | 69.6 | 130 | 10 |
| 2FDRL 088 704 S10 | 8.8 | 35.2 | 70.4 | 130 | 10 |
| 2FDRL 089 712 S10 | 8.9 | 35.6 | 71.2 | 130 | 10 |
| 2FDRL 090 720 S10 | 9 | 36 | 72 | 130 | 10 |
| 2FDRL 091 728 S10 | 9.1 | 36.4 | 72.8 | 130 | 10 |
| 2FDRL 092 736 S10 | 9.2 | 36.8 | 73.6 | 130 | 10 |
| 2FDRL 093 744 S10 | 9.3 | 37.2 | 74.4 | 130 | 10 |
| 2FDRL 094 752 S10 | 9.4 | 37.6 | 75.2 | 130 | 10 |
| 2FDRL 095 760 S10 | 9.5 | 38 | 76 | 130 | 10 |
| 2FDRL 096 768 S10 | 9.6 | 38.4 | 76.8 | 130 | 10 |
| 2FDRL 097 776 S10 | 9.7 | 38.8 | 77.6 | 130 | 10 |
| 2FDRL 098 784 S10 | 9.8 | 39.2 | 78.4 | 130 | 10 |
| 2FDRL 099 792 S10 | 9.9 | 39.6 | 79.2 | 130 | 10 |
| 2FDRL 100 800 S10 | 10 | 40 | 80 | 130 | 10 |
| 2FDRL 101 808 S12 | 10.1 | 40.4 | 80.8 | 150 | 12 |
| 2FDRL 102 816 S12 | 10.2 | 40.8 | 81.6 | 150 | 12 |
| 2FDRL 103 824 S12 | 10.3 | 41.2 | 82.4 | 150 | 12 |
| 2FDRL 104 832 S12 | 10.4 | 41.6 | 83.2 | 150 | 12 |
| 2FDRL 105 840 S12 | 10.5 | 42 | 84 | 150 | 12 |
| 2FDRL 106 848 S12 | 10.6 | 42.4 | 84.8 | 150 | 12 |
| 2FDRL 107 856 S12 | 10.7 | 42.8 | 85.6 | 150 | 12 |
| 2FDRL 108 864 S12 | 10.8 | 43.2 | 86.4 | 150 | 12 |
| 2FDRL 109 872 S12 | 10.9 | 43.6 | 87.2 | 150 | 12 |
| 2FDRL 110 880 S12 | 11 | 44 | 88 | 150 | 12 |
| 2FDRL 111 888 S12 | 11.1 | 44.4 | 88.8 | 150 | 12 |
| 2FDRL 112 896 S12 | 11.2 | 44.8 | 89.6 | 150 | 12 |
| 2FDRL 113 904 S12 | 11.3 | 45.2 | 90.4 | 150 | 12 |
| 2FDRL 114 912 S12 | 11.4 | 45.6 | 91.2 | 150 | 12 |
| 2FDRL 115 920 S12 | 11.5 | 46 | 92 | 150 | 12 |
| 2FDRL 116 928 S12 | 11.6 | 46.4 | 92.8 | 150 | 12 |
| 2FDRL 117 936 S12 | 11.7 | 46.8 | 93.6 | 150 | 12 |
| 2FDRL 118 944 S12 | 11.8 | 47.2 | 94.4 | 150 | 12 |
| 2FDRL 119 952 S12 | 11.9 | 47.6 | 95.2 | 150 | 12 |
| 2FDRL 120 960 S12 | 12 | 48 | 96 | 150 | 12 |
| 2FDRL 125 1000 S14 | 12.5 | 50 | 100 | 180 | 14 |
| 2FDRL 130 1040 S14 | 13 | 52 | 104 | 180 | 14 |
| 2FDRL 135 1080 S14 | 13.5 | 54 | 108 | 180 | 14 |
| 2FDRL 140 1120 S14 | 14 | 56 | 112 | 180 | 14 |
| 2FDRL 145 1160 S16 | 14.5 | 58 | 116 | 200 | 16 |
| 2FDRL 150 1200 S16 | 15 | 60 | 120 | 200 | 16 |
| 2FDRL 155 1240 S16 | 15.5 | 62 | 124 | 200 | 16 |
| 2FDRL 160 1280 S16 | 16 | 64 | 128 | 200 | 16 |
| 2FDRL 165 1320 S18 | 16.5 | 66 | 132 | 220 | 18 |
| 2FDRL 170 1360 S18 | 17 | 68 | 136 | 220 | 18 |
| 2FDRL 175 1400 S18 | 17.5 | 70 | 140 | 220 | 18 |
| 2FDRL 180 1440 S18 | 18 | 72 | 144 | 220 | 18 |
| 2FDRL 185 1480 S20 | 18.5 | 74 | 148 | 250 | 20 |
| 2FDRL 190 1520 S20 | 19 | 76 | 152 | 250 | 20 |
| 2FDRL 195 1560 S20 | 19.5 | 78 | 156 | 250 | 20 |
| 2FDRL 200 1600 S20 | 20 | 80 | 160 | 250 | 20 |

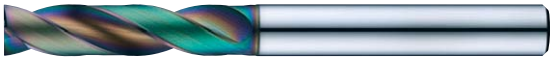
# 2FDRW

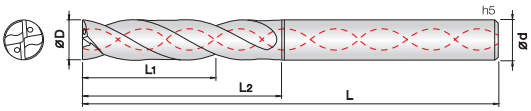
*Foret Fond plat "Flat Drill" polyvalent 2 coupes 4xD Arrosage central*

## *Punta "Flat Drill" 2 Tagli Multi-Purpose 4xD IK*

New

**Su richiesta**/ *Sur demand*






- **Punta per lavorazioni su acciai in genere, acciai bonificati (~HRc50), ghise, alluminio e materiali non ferrosi.**
- Punta con speciale affilatura a 180° (Flat Drill), eccellente rendimento nella foratura di superfici piane, inclinate e curve.
- Ottima evacuazione del truciolo e foratura stabile grazie all'elica a 20° e alla nuova affilatura.
- Riduzione delle sbavature durante la foratura.
- Il rivestimento TiSiN-R offre un'ottima resistenza al calore e all'usura incrementando la vita utensile.
- ***Conçu pour le perçage des aciers- aciers trempés (~HRc50)- fontes, aluminium et matériaux non ferreux.***
- *Foret avec affûtage spécial à 180° (Flat Drill), excellent efficacité dans le forage de surfaces planes, inclinées et courbes.*
- *Excellente évacuation des copeaux et perçage stable grâce à l'hélice à 20°et le nouvel affûtage.*
- *Réduction des bavures lors du perçage.*
- *Le revêtement TiSiN-R offre une excellente résistance à la chaleur et à l'usure, augmentant la durée de vie de l'outil.*

2 | WC 미립자 | R TISIN-R | h7 Tolerence | 24° ~30° Helix Angle | €

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Unità: mm

| Numero d'Ordine *Reference* | D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2FDRW 030 165 S04 | 3 | 13.5 | 16.5 | 60 | 4 |
| 2FDRW 031 170 S04 | 3.1 | 14 | 17 | 60 | 4 |
| 2FDRW 032 174 S04 | 3.2 | 14.4 | 17.4 | 60 | 4 |
| 2FDRW 033 179 S04 | 3.3 | 14.9 | 17.9 | 60 | 4 |
| 2FDRW 034 183 S04 | 3.4 | 15.3 | 18.3 | 60 | 4 |
| 2FDRW 035 188 S04 | 3.5 | 15.8 | 18.8 | 60 | 4 |
| 2FDRW 036 192 S04 | 3.6 | 16.2 | 19.2 | 60 | 4 |
| 2FDRW 037 197 S04 | 3.7 | 16.7 | 19.7 | 60 | 4 |
| 2FDRW 038 201 S04 | 3.8 | 17.1 | 20.1 | 60 | 4 |
| 2FDRW 039 206 S04 | 3.9 | 17.6 | 20.6 | 60 | 4 |
| 2FDRW 040 210 S06 | 4 | 18 | 21 | 60 | 6 |
| 2FDRW 041 215 S06 | 4.1 | 18.5 | 21.5 | 70 | 6 |
| 2FDRW 042 219 S06 | 4.2 | 18.9 | 21.9 | 70 | 6 |
| 2FDRW 043 224 S06 | 4.3 | 19.4 | 22.4 | 70 | 6 |
| 2FDRW 044 228 S06 | 4.4 | 19.8 | 22.8 | 70 | 6 |
| 2FDRW 045 233 S06 | 4.5 | 20.3 | 23.3 | 70 | 6 |
| 2FDRW 046 237 S06 | 4.6 | 20.7 | 23.7 | 70 | 6 |
| 2FDRW 047 242 S06 | 4.7 | 21.2 | 24.2 | 70 | 6 |
| 2FDRW 048 246 S06 | 4.8 | 21.6 | 24.6 | 70 | 6 |
| 2FDRW 049 251 S06 | 4.9 | 22.1 | 25.1 | 70 | 6 |
| 2FDRW 050 255 S06 | 5 | 22.5 | 25.5 | 70 | 6 |
| 2FDRW 051 260 S06 | 5.1 | 23 | 26 | 70 | 6 |
| 2FDRW 052 264 S06 | 5.2 | 23.4 | 26.4 | 70 | 6 |
| 2FDRW 053 269 S06 | 5.3 | 23.9 | 26.9 | 70 | 6 |
| 2FDRW 054 273 S06 | 5.4 | 24.3 | 27.3 | 70 | 6 |
| 2FDRW 055 278 S06 | 5.5 | 24.8 | 27.8 | 70 | 6 |
| 2FDRW 056 282 S06 | 5.6 | 25.2 | 28.2 | 70 | 6 |
| 2FDRW 057 287 S06 | 5.7 | 25.7 | 28.7 | 70 | 6 |
| 2FDRW 058 291 S06 | 5.8 | 26.1 | 29.1 | 70 | 6 |
| 2FDRW 059 296 S06 | 5.9 | 26.6 | 29.6 | 70 | 6 |
| 2FDRW 060 300 S06 | 6 | 27 | 30 | 70 | 6 |
| 2FDRW 061 305 S08 | 6.1 | 27.5 | 30.5 | 80 | 8 |
| 2FDRW 062 309 S08 | 6.2 | 27.9 | 30.9 | 80 | 8 |
| 2FDRW 063 314 S08 | 6.3 | 28.4 | 31.4 | 80 | 8 |
| 2FDRW 064 318 S08 | 6.4 | 28.8 | 31.8 | 80 | 8 |
| 2FDRW 065 323 S08 | 6.5 | 29.3 | 32.3 | 80 | 8 |
| 2FDRW 066 327 S08 | 6.6 | 29.7 | 32.7 | 80 | 8 |
| 2FDRW 067 332 S08 | 6.7 | 30.2 | 33.2 | 80 | 8 |
| 2FDRW 068 336 S08 | 6.8 | 30.6 | 33.6 | 80 | 8 |
| 2FDRW 069 341 S08 | 6.9 | 31.1 | 34.1 | 80 | 8 |
| 2FDRW 070 345 S08 | 7 | 31.5 | 34.5 | 80 | 8 |
| 2FDRW 071 350 S08 | 7.1 | 32 | 35 | 80 | 8 |
| 2FDRW 072 354 S08 | 7.2 | 32.4 | 35.4 | 80 | 8 |
| 2FDRW 073 359 S08 | 7.3 | 32.9 | 35.9 | 80 | 8 |
| 2FDRW 074 363 S08 | 7.4 | 33.3 | 36.3 | 80 | 8 |
| 2FDRW 075 368 S08 | 7.5 | 33.8 | 36.8 | 80 | 8 |
| 2FDRW 076 372 S08 | 7.6 | 34.2 | 37.2 | 80 | 8 |
| 2FDRW 077 377 S08 | 7.7 | 34.7 | 37.7 | 80 | 8 |
| 2FDRW 078 381 S08 | 7.8 | 35.1 | 38.1 | 80 | 8 |
| 2FDRW 079 386 S08 | 7.9 | 35.6 | 38.6 | 80 | 8 |

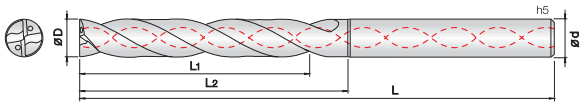
| Numero d'Ordine *Reference* | D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2FDRW 080 390 S08 | 8 | 36 | 39 | 80 | 8 |
| 2FDRW 081 395 S10 | 8.1 | 36.5 | 39.5 | 90 | 10 |
| 2FDRW 082 399 S10 | 8.2 | 36.9 | 39.9 | 90 | 10 |
| 2FDRW 083 404 S10 | 8.3 | 37.4 | 40.4 | 90 | 10 |
| 2FDRW 084 408 S10 | 8.4 | 37.8 | 40.8 | 90 | 10 |
| 2FDRW 085 413 S10 | 8.5 | 38.3 | 41.3 | 90 | 10 |
| 2FDRW 086 417 S10 | 8.6 | 38.7 | 41.7 | 90 | 10 |
| 2FDRW 087 422 S10 | 8.7 | 39.2 | 42.2 | 90 | 10 |
| 2FDRW 088 426 S10 | 8.8 | 39.6 | 42.6 | 90 | 10 |
| 2FDRW 089 431 S10 | 8.9 | 40.1 | 43.1 | 90 | 10 |
| 2FDRW 090 435 S10 | 9 | 40.5 | 43.5 | 90 | 10 |
| 2FDRW 091 440 S10 | 9.1 | 41 | 44 | 90 | 10 |
| 2FDRW 092 444 S10 | 9.2 | 41.4 | 44.4 | 90 | 10 |
| 2FDRW 093 449 S10 | 9.3 | 41.9 | 44.9 | 90 | 10 |
| 2FDRW 094 453 S10 | 9.4 | 42.3 | 45.3 | 90 | 10 |
| 2FDRW 095 458 S10 | 9.5 | 42.8 | 45.8 | 90 | 10 |
| 2FDRW 096 462 S10 | 9.6 | 43.2 | 46.2 | 90 | 10 |
| 2FDRW 097 467 S10 | 9.7 | 43.7 | 46.7 | 90 | 10 |
| 2FDRW 098 471 S10 | 9.8 | 44.1 | 47.1 | 90 | 10 |
| 2FDRW 099 476 S10 | 9.9 | 44.6 | 47.6 | 90 | 10 |
| 2FDRW 100 480 S10 | 10 | 45 | 48 | 90 | 10 |
| 2FDRW 101 485 S12 | 10.1 | 45.5 | 48.5 | 100 | 12 |
| 2FDRW 102 489 S12 | 10.2 | 45.9 | 48.9 | 100 | 12 |
| 2FDRW 103 494 S12 | 10.3 | 46.4 | 49.4 | 100 | 12 |
| 2FDRW 104 498 S12 | 10.4 | 46.8 | 49.8 | 100 | 12 |
| 2FDRW 105 503 S12 | 10.5 | 47.3 | 50.3 | 100 | 12 |
| 2FDRW 106 507 S12 | 10.6 | 47.7 | 50.7 | 100 | 12 |
| 2FDRW 107 512 S12 | 10.7 | 48.2 | 51.2 | 100 | 12 |
| 2FDRW 108 516 S12 | 10.8 | 48.6 | 51.6 | 100 | 12 |
| 2FDRW 109 521 S12 | 10.9 | 49.1 | 52.1 | 100 | 12 |
| 2FDRW 110 525 S12 | 11 | 49.5 | 52.5 | 100 | 12 |
| 2FDRW 111 530 S12 | 11.1 | 50 | 53 | 110 | 12 |
| 2FDRW 112 534 S12 | 11.2 | 50.4 | 53.4 | 110 | 12 |
| 2FDRW 113 539 S12 | 11.3 | 50.9 | 53.9 | 110 | 12 |
| 2FDRW 114 543 S12 | 11.4 | 51.3 | 54.3 | 110 | 12 |
| 2FDRW 115 548 S12 | 11.5 | 51.8 | 54.8 | 110 | 12 |
| 2FDRW 116 552 S12 | 11.6 | 52.2 | 55.2 | 110 | 12 |
| 2FDRW 117 557 S12 | 11.7 | 52.7 | 55.7 | 110 | 12 |
| 2FDRW 118 561 S12 | 11.8 | 53.1 | 56.1 | 110 | 12 |
| 2FDRW 119 566 S12 | 11.9 | 53.6 | 56.6 | 110 | 12 |
| 2FDRW 120 570 S12 | 12 | 54 | 57 | 110 | 12 |
| 2FDRW 125 593 S14 | 12.5 | 56.3 | 59.3 | 120 | 14 |
| 2FDRW 130 615 S14 | 13 | 58.5 | 61.5 | 120 | 14 |
| 2FDRW 135 638 S14 | 13.5 | 60.8 | 63.8 | 120 | 14 |
| 2FDRW 140 660 S14 | 14 | 63 | 66 | 120 | 14 |
| 2FDRW 145 683 S16 | 14.5 | 65.3 | 68.3 | 130 | 16 |
| 2FDRW 150 705 S16 | 15 | 67.5 | 70.5 | 130 | 16 |
| 2FDRW 155 728 S16 | 15.5 | 69.8 | 72.8 | 130 | 16 |
| 2FDRW 160 750 S16 | 16 | 72 | 75 | 130 | 16 |

# 2FDRLW

*Foret Fond plat "Flat Drill" polyvalent 2 coupes 6,5xD Arrosage central*

## Punta "Flat Drill" 2 Tagli Multi-Purpose 6,5xD IK

**Su richiesta**/ *Sur demand*




- **Punta con fori di lubrificazione per lavorazioni su acciai in genere, acciai bonificati (~HRc50), ghise, alluminio e materiali non ferrosi.**
- Punta con speciale geometria a 180° (Flat Drill) e fori di lubrificazione, consente forature in alta velocità su superfici piane, inclinate e curve.
- Foratura stabile, ottima evacuazione del truicolo grazie alla nuova geometria con elica a 24°-30°.
- Riduzione delle sbavature durante la foratura.
- Il rivestimento TiSiN-R offre un'ottima resistenza al calore e all'usura incrementando la vita utensile.
- **Foret lubrification centrale pour usinage sur des aciers en général, *aciers trempés (~HRc50)- fontes, aluminium et matériaux non ferreux.***
- *Foret à géométrie spéciale, affûtage à 180° (Flat Drill) avec lubrification centrale, permet un perçage à grande vitesse sur des surfaces planes, inclinées et courbes.*
- *Perçage stable, excellente évacuation des copeaux grâce à la nouvelle géométrie d'hélice à 24°-30°.*
- *Réduction des bavures lors du perçage.*
- *Le revêtement TiSiN-R offre une excellente résistance à la chaleur et à l'usure, augmentant la durée de vie de l'outil.*

List. p.213

Unità: mm

| Numero d'Ordine *Reference* | D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2FDRLW 030 231 S04 | 3 | 20.1 | 23.1 | 70 | 4 |
| 2FDRLW 031 238 S04 | 3.1 | 20.8 | 23.8 | 70 | 4 |
| 2FDRLW 032 244 S04 | 3.2 | 21.4 | 24.4 | 70 | 4 |
| 2FDRLW 033 251 S04 | 3.3 | 22.1 | 25.1 | 70 | 4 |
| 2FDRLW 034 258 S04 | 3.4 | 22.8 | 25.8 | 70 | 4 |
| 2FDRLW 035 265 S04 | 3.5 | 23.5 | 26.5 | 70 | 4 |
| 2FDRLW 036 271 S04 | 3.6 | 24.1 | 27.1 | 70 | 4 |
| 2FDRLW 037 278 S04 | 3.7 | 24.8 | 27.8 | 70 | 4 |
| 2FDRLW 038 285 S04 | 3.8 | 25.5 | 28.5 | 70 | 4 |
| 2FDRLW 039 291 S04 | 3.9 | 26.1 | 29.1 | 70 | 4 |
| 2FDRLW 040 298 S06 | 4 | 26.8 | 29.8 | 70 | 6 |
| 2FDRLW 041 305 S06 | 4.1 | 27.5 | 30.5 | 85 | 6 |
| 2FDRLW 042 311 S06 | 4.2 | 28.1 | 31.1 | 85 | 6 |
| 2FDRLW 043 318 S06 | 4.3 | 28.8 | 31.8 | 85 | 6 |
| 2FDRLW 044 325 S06 | 4.4 | 29.5 | 32.5 | 85 | 6 |
| 2FDRLW 045 332 S06 | 4.5 | 30.2 | 33.2 | 85 | 6 |
| 2FDRLW 046 338 S06 | 4.6 | 30.8 | 33.8 | 85 | 6 |
| 2FDRLW 047 345 S06 | 4.7 | 31.5 | 34.5 | 85 | 6 |
| 2FDRLW 048 352 S06 | 4.8 | 32.2 | 35.2 | 85 | 6 |
| 2FDRLW 049 358 S06 | 4.9 | 32.8 | 35.8 | 85 | 6 |
| 2FDRLW 050 365 S06 | 5 | 33.5 | 36.5 | 85 | 6 |
| 2FDRLW 051 372 S06 | 5.1 | 34.2 | 37.2 | 85 | 6 |
| 2FDRLW 052 378 S06 | 5.2 | 34.8 | 37.8 | 85 | 6 |
| 2FDRLW 053 385 S06 | 5.3 | 35.5 | 38.5 | 85 | 6 |
| 2FDRLW 054 392 S06 | 5.4 | 36.2 | 39.2 | 85 | 6 |
| 2FDRLW 055 399 S06 | 5.5 | 36.9 | 39.9 | 85 | 6 |
| 2FDRLW 056 405 S06 | 5.6 | 37.5 | 40.5 | 85 | 6 |
| 2FDRLW 057 412 S06 | 5.7 | 38.2 | 41.2 | 85 | 6 |
| 2FDRLW 058 419 S06 | 5.8 | 38.9 | 41.9 | 85 | 6 |
| 2FDRLW 059 425 S06 | 5.9 | 39.5 | 42.5 | 85 | 6 |
| 2FDRLW 060 432 S06 | 6 | 40.2 | 43.2 | 85 | 6 |
| 2FDRLW 061 439 S08 | 6.1 | 40.9 | 43.9 | 100 | 8 |
| 2FDRLW 062 445 S08 | 6.2 | 41.5 | 44.5 | 100 | 8 |
| 2FDRLW 063 452 S08 | 6.3 | 42.2 | 45.2 | 100 | 8 |
| 2FDRLW 064 459 S08 | 6.4 | 42.9 | 45.9 | 100 | 8 |
| 2FDRLW 065 466 S08 | 6.5 | 43.6 | 46.6 | 100 | 8 |
| 2FDRLW 066 472 S08 | 6.6 | 44.2 | 47.2 | 100 | 8 |
| 2FDRLW 067 479 S08 | 6.7 | 44.9 | 47.9 | 100 | 8 |
| 2FDRLW 068 486 S08 | 6.8 | 45.6 | 48.6 | 100 | 8 |
| 2FDRLW 069 492 S08 | 6.9 | 46.2 | 49.2 | 100 | 8 |
| 2FDRLW 070 499 S08 | 7 | 46.9 | 49.9 | 100 | 8 |
| 2FDRLW 071 506 S08 | 7.1 | 47.6 | 50.6 | 100 | 8 |
| 2FDRLW 072 512 S08 | 7.2 | 48.2 | 51.2 | 100 | 8 |
| 2FDRLW 073 519 S08 | 7.3 | 48.9 | 51.9 | 100 | 8 |
| 2FDRLW 074 526 S08 | 7.4 | 49.6 | 52.6 | 100 | 8 |
| 2FDRLW 075 533 S08 | 7.5 | 50.3 | 53.3 | 100 | 8 |
| 2FDRLW 076 539 S08 | 7.6 | 50.9 | 53.9 | 100 | 8 |
| 2FDRLW 077 546 S08 | 7.7 | 51.6 | 54.6 | 100 | 8 |
| 2FDRLW 078 553 S08 | 7.8 | 52.3 | 55.3 | 100 | 8 |
| 2FDRLW 079 559 S08 | 7.9 | 52.9 | 55.9 | 100 | 8 |

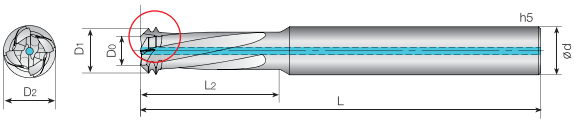
| Numero d'Ordine *Reference* | D | L1 | L2 | L | d |
|---|---|---|---|---|---|
| 2FDRLW 080 566 S08 | 8 | 53.6 | 56.6 | 100 | 8 |
| 2FDRLW 081 573 S10 | 8.1 | 54.3 | 57.3 | 110 | 10 |
| 2FDRLW 082 579 S10 | 8.2 | 54.9 | 57.9 | 110 | 10 |
| 2FDRLW 083 586 S10 | 8.3 | 55.6 | 58.6 | 110 | 10 |
| 2FDRLW 084 593 S10 | 8.4 | 56.3 | 59.3 | 110 | 10 |
| 2FDRLW 085 600 S10 | 8.5 | 57 | 60 | 110 | 10 |
| 2FDRLW 086 606 S10 | 8.6 | 57.6 | 60.6 | 110 | 10 |
| 2FDRLW 087 613 S10 | 8.7 | 58.3 | 61.3 | 110 | 10 |
| 2FDRLW 088 620 S10 | 8.8 | 59 | 62 | 110 | 10 |
| 2FDRLW 089 626 S10 | 8.9 | 59.6 | 62.6 | 110 | 10 |
| 2FDRLW 090 633 S10 | 9 | 60.3 | 63.3 | 110 | 10 |
| 2FDRLW 091 640 S10 | 9.1 | 61 | 64 | 110 | 10 |
| 2FDRLW 092 646 S10 | 9.2 | 61.6 | 64.6 | 110 | 10 |
| 2FDRLW 093 653 S10 | 9.3 | 62.3 | 65.3 | 110 | 10 |
| 2FDRLW 094 660 S10 | 9.4 | 63 | 66 | 110 | 10 |
| 2FDRLW 095 667 S10 | 9.5 | 63.7 | 66.7 | 110 | 10 |
| 2FDRLW 096 673 S10 | 9.6 | 64.3 | 67.3 | 110 | 10 |
| 2FDRLW 097 680 S10 | 9.7 | 65 | 68 | 110 | 10 |
| 2FDRLW 098 687 S10 | 9.8 | 65.7 | 68.7 | 110 | 10 |
| 2FDRLW 099 693 S10 | 9.9 | 66.3 | 69.3 | 110 | 10 |
| 2FDRLW 100 700 S10 | 10 | 67 | 70 | 110 | 10 |
| 2FDRLW 101 707 S12 | 10.1 | 67.7 | 70.7 | 125 | 12 |
| 2FDRLW 102 713 S12 | 10.2 | 68.3 | 71.3 | 125 | 12 |
| 2FDRLW 103 720 S12 | 10.3 | 69 | 72 | 125 | 12 |
| 2FDRLW 104 727 S12 | 10.4 | 69.7 | 72.7 | 125 | 12 |
| 2FDRLW 105 734 S12 | 10.5 | 70.4 | 73.4 | 125 | 12 |
| 2FDRLW 106 740 S12 | 10.6 | 71 | 74 | 125 | 12 |
| 2FDRLW 107 747 S12 | 10.7 | 71.7 | 74.7 | 125 | 12 |
| 2FDRLW 108 754 S12 | 10.8 | 72.4 | 75.4 | 125 | 12 |
| 2FDRLW 109 760 S12 | 10.9 | 73 | 76 | 125 | 12 |
| 2FDRLW 110 767 S12 | 11 | 73.7 | 76.7 | 125 | 12 |
| 2FDRLW 111 774 S12 | 11.1 | 74.4 | 77.4 | 135 | 12 |
| 2FDRLW 112 780 S12 | 11.2 | 75 | 78 | 135 | 12 |
| 2FDRLW 113 787 S12 | 11.3 | 75.7 | 78.7 | 135 | 12 |
| 2FDRLW 114 794 S12 | 11.4 | 76.4 | 79.4 | 135 | 12 |
| 2FDRLW 115 801 S12 | 11.5 | 77.1 | 80.1 | 135 | 12 |
| 2FDRLW 116 807 S12 | 11.6 | 77.7 | 80.7 | 135 | 12 |
| 2FDRLW 117 814 S12 | 11.7 | 78.4 | 81.4 | 135 | 12 |
| 2FDRLW 118 821 S12 | 11.8 | 79.1 | 82.1 | 135 | 12 |
| 2FDRLW 119 827 S12 | 11.9 | 79.7 | 82.7 | 135 | 12 |
| 2FDRLW 120 834 S12 | 12 | 80.4 | 83.4 | 135 | 12 |
| 2FDRLW 125 868 S14 | 12.5 | 83.8 | 86.8 | 140 | 14 |
| 2FDRLW 130 901 S14 | 13 | 87.1 | 90.1 | 140 | 14 |
| 2FDRLW 135 935 S14 | 13.5 | 90.5 | 93.5 | 140 | 14 |
| 2FDRLW 140 968 S14 | 14 | 93.8 | 96.8 | 140 | 14 |
| 2FDRLW 145 1002 S16 | 14.5 | 97.2 | 100.2 | 160 | 16 |
| 2FDRLW 150 1035 S16 | 15 | 100.5 | 103.5 | 160 | 16 |
| 2FDRLW 155 1069 S16 | 15.5 | 103.9 | 106.9 | 160 | 16 |
| 2FDRLW 160 1102 S16 | 16 | 107.2 | 110.2 | 160 | 16 |

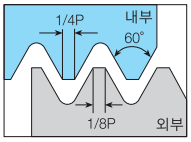
# 4ETM

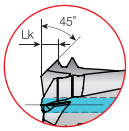
*Fraise à fileter Multifonctions à usage général à 4 coupes*

## *Fresa 4 Tagli a Filettare Moltifunzione General Purpose*

New

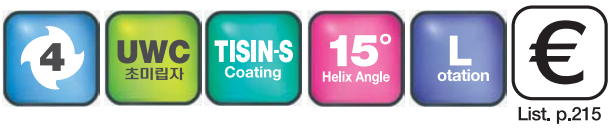



- **Fresa a filettare per lavorazioni su acciai in genere, acciai bonificati, temprati (~HRc50) e ghise.**
- La fresa 4ETM consente di effettuare foratura, filettatura e svasatura in un unica operazione.
- NON sono necessari prefori.
- Foratura e filettatura vengono eseguite simultaneamente, segue la svasatura.
- Questo utensile multi-funzione può essere usato sia per fori ciechi che passanti.
- Per i cordoli d. 8-10-12 si consiglia la lubrificazione interna.
- **Non è consigliabile l'utilizo con pinze ER.**

- ***Fraise à fileter pour l'usinage de l'acier en général, aciers trempés et revenus (~HRC50) et fontes.***
- *La fraise 4ETM permet en une seule opération perçage, filetage, fraisage.*
- *Les pré.trous ne sont pas nécessaires!*
- *Les perçage et le filetage sont effectués simultanément, le chanfreinage suit.*
- *Cet outil polyvalent peut être utilisé à la fois pour trous borgnes et débouchants.*
- *Pour les taraudages 8-10-12 une lubrification interne est recommandée. Attention! Rotation à gauche!*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***




List. p.215

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | Z | Zt | D0 | D1 | D2 | L2 | Lk | L | d |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Senza refrigerante |
| 4ETM 024 070 S06 M3 | M3 | 0.5 | 4 | 2 | 1.37 | 2.17 | 2.4 | 7 | 0.4 | 60 | 6 |
| 4ETM 024 085 S06 M3 | M3 | 0.5 | 4 | 2 | 1.37 | 2.17 | 2.4 | 8.5 | 0.4 | 60 | 6 |
| 4ETM 032 092 S06 M4 | M4 | 0.7 | 4 | 2 | 1.74 | 2.88 | 3.2 | 9.2 | 0.57 | 60 | 6 |
| 4ETM 032 112 S06 M4 | M4 | 0.7 | 4 | 2 | 1.74 | 2.88 | 3.2 | 11.2 | 0.57 | 60 | 6 |
| 4ETM 039 115 S06 M5 | M5 | 0.8 | 4 | 2 | 2.21 | 3.61 | 3.9 | 11.5 | 0.7 | 60 | 6 |
| 4ETM 039 144 S06 M5 | M5 | 0.8 | 4 | 2 | 2.21 | 3.61 | 3.9 | 14.4 | 0.7 | 60 | 6 |
| 4ETM 047 140 S06 M6 | M6 ~ M9 | 1 | 4 | 2 | 2.82 | 4.4 | 4.7 | 14 | 0.79 | 60 | 6 |
| 4ETM 047 170 S06 M6 | M6 ~ M9 | 1 | 4 | 2 | 2.82 | 4.4 | 4.7 | 17 | 0.79 | 60 | 6 |
| 4ETM 061 180 S08 M8 | M8 ~ M12 | 1.25 | 4 | 2 | 4 | 5.8 | 6.1 | 18 | 0.9 | 65 | 8 |
| 4ETM 061 220 S08 M8 | M8 ~ M12 | 1.25 | 4 | 2 | 4 | 5.8 | 6.1 | 22 | 0.9 | 65 | 8 |
| 4ETM 078 230 S08 M10 | M10 ~ M15 | 1.5 | 4 | 2 | 5.16 | 7.4 | 7.8 | 23 | 1.12 | 65 | 8 |
| 4ETM 078 280 S08 M10 | M10 ~ M15 | 1.5 | 4 | 2 | 5.16 | 7.4 | 7.8 | 28 | 1.12 | 65 | 8 |
| 4ETM 090 260 S10 M12 | M12 | 1.75 | 4 | 2 | 6.2 | 8.6 | 9 | 26 | 1.2 | 80 | 10 |
| 4ETM 090 330 S10 M12 | M12 | 1.75 | 4 | 2 | 6.2 | 8.6 | 9 | 33 | 1.2 | 80 | 10 |
| 4ETM 118 350 S12 M16 | M16 ~ M23 | 2 | 4 | 2 | 7.4 | 11.4 | 11.8 | 35 | 2 | 100 | 12 |
| 4ETM 118 430 S12 M16 | M16 ~ M23 | 2 | 4 | 2 | 7.4 | 11.4 | 11.8 | 43 | 2 | 100 | 12 |
| | | | | | | | | | | | Con refrigerante |
| 4ETM 047 140 S06 M6C | M6 ~ M9 | 1 | 4 | 2 | 2.82 | 4.4 | 4.7 | 14 | 0.79 | 60 | 6 |
| 4ETM 047 170 S06 M6C | M6 ~ M9 | 1 | 4 | 2 | 2.82 | 4.4 | 4.7 | 17 | 0.79 | 60 | 6 |
| 4ETM 061 180 S08 M8C | M8 ~ M12 | 1.25 | 4 | 2 | 4 | 5.8 | 6.1 | 18 | 0.9 | 65 | 8 |
| 4ETM 061 220 S08 M8C | M8 ~ M12 | 1.25 | 4 | 2 | 4 | 5.8 | 6.1 | 22 | 0.9 | 65 | 8 |
| 4ETM 078 230 S08 M10C | M10 ~ M15 | 1.5 | 4 | 2 | 5.16 | 7.4 | 7.8 | 23 | 1.12 | 65 | 8 |
| 4ETM 078 280 S08 M10C | M10 ~ M15 | 1.5 | 4 | 2 | 5.16 | 7.4 | 7.8 | 28 | 1.12 | 65 | 8 |
| 4ETM 090 260 S10 M12C | M12 | 1.75 | 4 | 2 | 6.2 | 8.6 | 9 | 26 | 1.2 | 80 | 10 |
| 4ETM 090 330 S10 M12C | M12 | 1.75 | 4 | 2 | 6.2 | 8.6 | 9 | 33 | 1.2 | 80 | 10 |
| 4ETM 118 350 S12 M16C | M16 ~ M23 | 2 | 4 | 2 | 7.4 | 11.4 | 11.8 | 35 | 2 | 100 | 12 |
| 4ETM 118 430 S12 M16C | M16 ~ M23 | 2 | 4 | 2 | 7.4 | 11.4 | 11.8 | 43 | 2 | 100 | 12 |

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | Z | Zt | D0 | D1 | D2 | L2 | Lk | L | d |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Senza refrigerante |
| 4ETM 021 072 S06 | NO.4-40 | 40 | 4 | 2 | 1 | 1.76 | 2.1 | 7.2 | 0.38 | 60 | 6 |
| 4ETM 021 088 S06 | NO.4-40 | 40 | 4 | 2 | 1 | 1.76 | 2.1 | 8.8 | 0.38 | 60 | 6 |
| 4ETM 026 086 S06 | NO.6-32 | 32 | 4 | 2 | 1.32 | 2.21 | 2.6 | 8.6 | 0.45 | 60 | 6 |
| 4ETM 026 105 S06 | NO.6-32 | 32 | 4 | 2 | 1.32 | 2.21 | 2.6 | 10.5 | 0.45 | 60 | 6 |
| 4ETM 030 100 S06 | NO.8-32 | 32 | 4 | 2 | 1.42 | 2.62 | 3 | 10 | 0.6 | 60 | 6 |
| 4ETM 030 122 S06 | NO.8-32 | 32 | 4 | 2 | 1.42 | 2.62 | 3 | 12.2 | 0.6 | 60 | 6 |
| 4ETM 035 114 S06 | NO.10-24 | 24 | 4 | 2 | 1.58 | 3.18 | 3.5 | 11.4 | 0.8 | 60 | 6 |
| 4ETM 048 145 S06 | 1/4" x 20 | 20 | 4 | 2 | 2.69 | 4.29 | 4.8 | 14.5 | 0.8 | 60 | 6 |
| 4ETM 048 180 S06 | 1/4" x 20 | 20 | 4 | 2 | 2.69 | 4.29 | 4.8 | 18 | 0.8 | 60 | 6 |
| 4ETM 050 144 S06 | 1/4" x 28 | 28 | 4 | 2 | 3.2 | 4.58 | 5 | 14.4 | 0.69 | 60 | 6 |
| 4ETM 050 178 S06 | 1/4" x 28 | 28 | 4 | 2 | 3.2 | 4.58 | 5 | 17.8 | 0.69 | 60 | 6 |
| | | | | | | | | | | | Con refrigerante |
| 4ETM 048 145 S08C | 1/4" x 20 | 20 | 4 | 2 | 2.69 | 4.29 | 4.8 | 14.5 | 0.8 | 65 | 6 |
| 4ETM 048 180 S08C | 1/4" x 20 | 20 | 4 | 2 | 2.69 | 4.29 | 4.8 | 18 | 0.8 | 65 | 6 |
| 4ETM 050 144 S08C | 1/4" x 28 | 28 | 4 | 2 | 3.2 | 4.58 | 5 | 14.4 | 0.69 | 65 | 8 |
| 4ETM 050 178 S08C | 1/4" x 28 | 28 | 4 | 2 | 3.2 | 4.58 | 5 | 17.8 | 0.69 | 65 | 8 |
| 4ETM 065 176 S08C | 5/16"-24 | 24 | 4 | 2 | 4.34 | 6.02 | 6.5 | 17.6 | 0.85 | 65 | 8 |
| 4ETM 065 218 S08C | 5/16"-24 | 24 | 4 | 2 | 4.34 | 6.02 | 6.5 | 21.8 | 0.85 | 65 | 8 |
| 4ETM 067 260 S08C | 3/8"-16 | 16 | 4 | 2 | 3.98 | 6.18 | 6.7 | 26 | 1.1 | 65 | 8 |

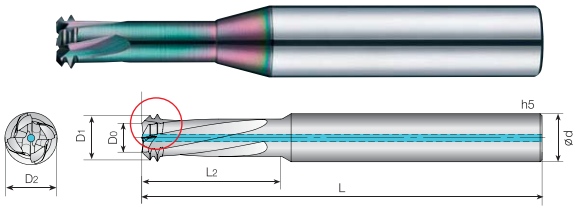
# 4ETMA

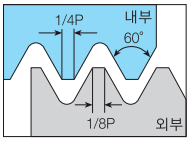
*Fraise à fileter Multifonctions 4 coupes pour Aluminium*

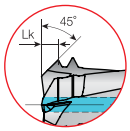
## *Fresa 4 Tagli a Filettare Multifunzione per Alluminio*

New

**Su richiesta**/ *Sur demand*




- **Fresa a filettare per lavorazioni su alluminio, leghe di alluminio, materiali non ferrosi e non metallici.**
- La fresa 4ETM consente di effettuare foratura, filettatura e svasatura in un unica operazione.
- NON sono necessari prefori.
- Foratura e filettatura vengono eseguite simultaneamente, segue la svasatura.
- Questo utensile multi-funzione può essere usato sia per fori ciechi che passanti.
- Per i cordoli d. 8-10-12 si consiglia la lubrificazione interna.
- **Non è consigliabile l'utilizo con pinze ER.**
- ***Fraise à fileter pour l'usinage d'aluminium, alliages materiaux non ferreux et non métalliques***
- *La fraise 4ETM permet en une seule opération perçage, filetage, fraisage.*
- *Les pré.trous ne sont pas nécessaires!*
- *Les perçage et le filetage sont effectués simultanément, le chanfreinage suit.*
- *Cet outil polyvalent peut être utilisé à la fois pour trous borgnes et débouchants.*
- *Pour les taraudages 8-10-12 une lubrification interne est recommandée. Attention! Rotation à gauche!*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

List. p.215

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | Z | Zt | D0 | D1 | D2 | L2 | Lk | L | d |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Senza refrigerante |
| 4ETMA 0105 033 S04 M014 | M1.4 | 0.3 | 4 | 2 | 0.61 | 0.95 | 1.05 | 3.3 | 0.17 | 45 | 4 |
| 4ETMA 0105 040 S04 M014 | M1.4 | 0.3 | 4 | 2 | 0.61 | 0.95 | 1.05 | 4 | 0.17 | 45 | 4 |
| 4ETMA 012 037 S04 M016 | M1.6~M1.8 | 0.35 | 4 | 2 | 0.65 | 1.04 | 1.2 | 3.7 | 0.195 | 45 | 4 |
| 4ETMA 012 045 S04 M016 | M1.6~M1.8 | 0.35 | 4 | 2 | 0.65 | 1.04 | 1.2 | 4.5 | 0.195 | 45 | 4 |
| 4ETMA 0155 045 S04 M2 | M2 | 0.4 | 4 | 2 | 0.94 | 1.4 | 1.55 | 4.5 | 0.23 | 45 | 4 |
| 4ETMA 0155 055 S04 M2 | M2 | 0.4 | 4 | 2 | 0.94 | 1.4 | 1.55 | 5.5 | 0.23 | 45 | 4 |
| 4ETMA 020 055 S04 M025 | M2.5~M2.6 | 0.45 | 4 | 2 | 1.16 | 1.85 | 2 | 5.5 | 0.345 | 45 | 4 |
| 4ETMA 020 0675 S04 M025 | M2.5~M2.6 | 0.45 | 4 | 2 | 1.16 | 1.85 | 2 | 6.75 | 0.345 | 45 | 4 |
| 4ETMA 024 070 S06 M3 | M3 | 0.5 | 4 | 2 | 1.37 | 2.17 | 2.4 | 7 | 0.4 | 60 | 6 |
| 4ETMA 024 085 S06 M3 | M3 | 0.5 | 4 | 2 | 1.37 | 2.17 | 2.4 | 8.5 | 0.4 | 60 | 6 |
| 4ETMA 032 092 S06 M4 | M4 | 0.7 | 4 | 2 | 1.74 | 2.88 | 3.2 | 9.2 | 0.57 | 60 | 6 |
| 4ETMA 032 112 S06 M4 | M4 | 0.7 | 4 | 2 | 1.74 | 2.88 | 3.2 | 11.2 | 0.57 | 60 | 6 |
| 4ETMA 039 115 S06 M5 | M5 | 0.8 | 4 | 2 | 2.21 | 3.61 | 3.9 | 11.5 | 0.7 | 60 | 6 |
| 4ETMA 039 144 S06 M5 | M5 | 0.8 | 4 | 2 | 2.21 | 3.61 | 3.9 | 14.4 | 0.7 | 60 | 6 |
| 4ETMA 047 140 S06 M6 | M6~M9 | 1 | 4 | 2 | 2.82 | 4.4 | 4.7 | 14 | 0.79 | 60 | 6 |
| 4ETMA 047 170 S06 M6 | M6~M9 | 1 | 4 | 2 | 2.82 | 4.4 | 4.7 | 17 | 0.79 | 60 | 6 |
| 4ETMA 061 180 S08 M8 | M8~M12 | 1.25 | 4 | 2 | 4 | 5.8 | 6.1 | 18 | 0.9 | 65 | 8 |
| 4ETMA 061 220 S08 M8 | M8~M12 | 1.25 | 4 | 2 | 4 | 5.8 | 6.1 | 22 | 0.9 | 65 | 8 |
| 4ETMA 078 230 S08 M10 | M10~M15 | 1.5 | 4 | 2 | 5.16 | 7.4 | 7.8 | 23 | 1.12 | 65 | 8 |
| 4ETMA 078 280 S08 M10 | M10~M15 | 1.5 | 4 | 2 | 5.16 | 7.4 | 7.8 | 28 | 1.12 | 65 | 8 |
| 4ETMA 090 260 S10 M12 | M12 | 1.75 | 4 | 2 | 6.2 | 8.6 | 9 | 26 | 1.2 | 80 | 10 |
| 4ETMA 090 330 S10 M12 | M12 | 1.75 | 4 | 2 | 6.2 | 8.6 | 9 | 33 | 1.2 | 80 | 10 |
| 4ETMA 118 350 S12 M16 | M16~M23 | 2 | 4 | 2 | 7.4 | 11.4 | 11.8 | 35 | 2 | 100 | 12 |
| 4ETMA 118 430 S12 M16 | M16~M23 | 2 | 4 | 2 | 7.4 | 11.4 | 11.8 | 43 | 2 | 100 | 12 |
| | | | | | | | | | | | Con refrigerante |
| 4ETMA 047 140 S06 M6C | M6~M9 | 1 | 4 | 2 | 2.82 | 4.4 | 4.7 | 14 | 0.79 | 60 | 6 |
| 4ETMA 047 170 S06 M6C | M6~M9 | 1 | 4 | 2 | 2.82 | 4.4 | 4.7 | 17 | 0.79 | 60 | 6 |
| 4ETMA 061 180 S08 M8C | M8~M12 | 1.25 | 4 | 2 | 4 | 5.8 | 6.1 | 18 | 0.9 | 65 | 8 |
| 4ETMA 061 220 S08 M8C | M8~M12 | 1.25 | 4 | 2 | 4 | 5.8 | 6.1 | 22 | 0.9 | 65 | 8 |
| 4ETMA 078 230 S08 M10C | M10~M15 | 1.5 | 4 | 2 | 5.16 | 7.4 | 7.8 | 23 | 1.12 | 65 | 8 |
| 4ETMA 078 280 S08 M10C | M10~M15 | 1.5 | 4 | 2 | 5.16 | 7.4 | 7.8 | 28 | 1.12 | 65 | 8 |
| 4ETMA 090 260 S10 M12C | M12 | 1.75 | 4 | 2 | 6.2 | 8.6 | 9 | 26 | 1.2 | 80 | 10 |
| 4ETMA 090 330 S10 M12C | M12 | 1.75 | 4 | 2 | 6.2 | 8.6 | 9 | 33 | 1.2 | 80 | 10 |
| 4ETMA 118 350 S12 M16C | M16~M23 | 2 | 4 | 2 | 7.4 | 11.4 | 11.8 | 35 | 2 | 100 | 12 |
| 4ETMA 118 430 S12 M16C | M16~M23 | 2 | 4 | 2 | 7.4 | 11.4 | 11.8 | 43 | 2 | 100 | 12 |

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | Z | Zt | D0 | D1 | D2 | L2 | Lk | L | d |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Senza refrigerante |
| 4ETMA 021 072 S06 | NO.4-40 | 40 | 4 | 2 | 1 | 1.76 | 2.1 | 7.2 | 0.38 | 60 | 6 |
| 4ETMA 021 088 S06 | NO.4-40 | 40 | 4 | 2 | 1 | 1.76 | 2.1 | 8.8 | 0.38 | 60 | 6 |
| 4ETMA 026 086 S06 | NO.6-32 | 32 | 4 | 2 | 1.32 | 2.21 | 2.6 | 8.6 | 0.45 | 60 | 6 |
| 4ETMA 026 105 S06 | NO.6-32 | 32 | 4 | 2 | 1.32 | 2.21 | 2.6 | 10.5 | 0.45 | 60 | 6 |
| 4ETMA 030 100 S06 | NO.8-32 | 32 | 4 | 2 | 1.42 | 2.62 | 3 | 10 | 0.6 | 60 | 6 |
| 4ETMA 030 122 S06 | NO.8-32 | 32 | 4 | 2 | 1.42 | 2.62 | 3 | 12.2 | 0.6 | 60 | 6 |
| 4ETMA 035 114 S06 | NO.10-24 | 24 | 4 | 2 | 1.58 | 3.18 | 3.5 | 11.4 | 0.8 | 60 | 6 |
| 4ETMA 048 145 S06 | 1/4" x 20 | 20 | 4 | 2 | 2.69 | 4.29 | 4.8 | 14.5 | 0.8 | 60 | 6 |
| 4ETMA 048 180 S06 | 1/4" x 20 | 20 | 4 | 2 | 2.69 | 4.29 | 4.8 | 18 | 0.8 | 60 | 6 |
| 4ETMA 050 144 S06 | 1/4" x 28 | 28 | 4 | 2 | 3.2 | 4.58 | 5 | 14.4 | 0.69 | 60 | 6 |
| 4ETMA 050 178 S06 | 1/4" x 28 | 28 | 4 | 2 | 3.2 | 4.58 | 5 | 17.8 | 0.69 | 60 | 6 |
| | | | | | | | | | | | Con refrigerante |
| 4ETMA 048 145 S08C | 1/4" x 20 | 20 | 4 | 2 | 2.69 | 4.29 | 4.8 | 14.5 | 0.8 | 65 | 8 |
| 4ETMA 048 180 S08C | 1/4" x 20 | 20 | 4 | 2 | 2.69 | 4.29 | 4.8 | 18 | 0.8 | 65 | 8 |
| 4ETMA 050 144 S08C | 1/4" x 28 | 28 | 4 | 2 | 3.2 | 4.58 | 5 | 14.4 | 0.69 | 65 | 8 |
| 4ETMA 050 178 S08C | 1/4" x 28 | 28 | 4 | 2 | 3.2 | 4.58 | 5 | 17.8 | 0.69 | 65 | 8 |
| 4ETMA 065 176 S08C | 5/16"-24 | 24 | 4 | 2 | 4.34 | 6.02 | 6.5 | 17.6 | 0.85 | 65 | 8 |
| 4ETMA 065 218 S08C | 5/16"-24 | 24 | 4 | 2 | 4.34 | 6.02 | 6.5 | 21.8 | 0.85 | 65 | 8 |
| 4ETMA 067 260 S08C | 3/8"-16 | 16 | 4 | 2 | 3.98 | 6.18 | 6.7 | 26 | 1.1 | 65 | 8 |

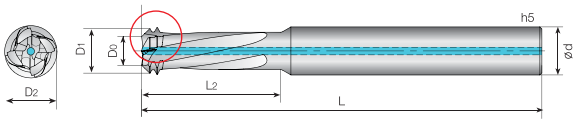
# 4ETMS

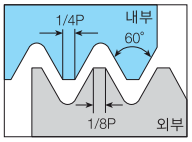
*Fraise à fileter Multifonctions 4 coupes pour Inox*

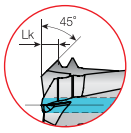
## *Fresa 4 Tagli a Filettare Multifunzione per Acciaio Inox*

New

**Su richiesta**/ *Sur demand*




- **Fresa a filettare per lavorazioni su acciai inissidabili, leghe di titanio, leghe di rame**
- La fresa 4ETM consente di effettuare foratura, filettatura e svasatura in un unica operazione.
- NON sono necessari prefori.
- Foratura e filettatura vengono eseguite simultaneamente, segue la svasatura.
- Questo utensile multi-funzione può essere usato sia per fori ciechi che passanti.
- Per i cordoli d. 8-10-12 si consiglia la lubrificazione interna.
- **Non è consigliabile l'utilizo con pinze ER.**

- ***Fraise à fileter pour l'usinage inox, alliages de titane, alliages de cuivre***
- *La fraise 4ETM permet en une seule opération perçage, filetage, fraisage.*
- *Les pré.trous ne sont pas nécessaires!*
- *Les perçage et le filetage sont effectués simultanément, le chanfreinage suit.*
- *Cet outil polyvalent peut être utilisé à la fois pour trous borgnes et débouchants.*
- *Pour les taraudages 8-10-12 une lubrification interne est recommandée. Attention! Rotation à gauche!*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

List. p.216

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | Z | Zt | D0 | D1 | D2 | L2 | Lk | L | d |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Senza refrigerante |
| 4ETMS 024 070 S06 M3 | M3 | 0.5 | 4 | 2 | 1.37 | 2.17 | 2.4 | 7 | 0.4 | 60 | 6 |
| 4ETMS 024 085 S06 M3 | M3 | 0.5 | 4 | 2 | 1.37 | 2.17 | 2.4 | 8.5 | 0.4 | 60 | 6 |
| 4ETMS 032 092 S06 M4 | M4 | 0.7 | 4 | 2 | 1.74 | 2.88 | 3.2 | 9.2 | 0.57 | 60 | 6 |
| 4ETMS 032 112 S06 M4 | M4 | 0.7 | 4 | 2 | 1.74 | 2.88 | 3.2 | 11.2 | 0.57 | 60 | 6 |
| 4ETMS 039 115 S06 M5 | M5 | 0.8 | 4 | 2 | 2.21 | 3.61 | 3.9 | 11.5 | 0.7 | 60 | 6 |
| 4ETMS 039 144 S06 M5 | M5 | 0.8 | 4 | 2 | 2.21 | 3.61 | 3.9 | 14.4 | 0.7 | 60 | 6 |
| 4ETMS 047 140 S06 M6 | M6 ~ M9 | 1 | 4 | 2 | 2.82 | 4.4 | 4.7 | 14 | 0.79 | 60 | 6 |
| 4ETMS 047 170 S06 M6 | M6 ~ M9 | 1 | 4 | 2 | 2.82 | 4.4 | 4.7 | 17 | 0.79 | 60 | 6 |
| 4ETMS 061 180 S08 M8 | M8 ~ M12 | 1.25 | 4 | 2 | 4 | 5.8 | 6.1 | 18 | 0.9 | 65 | 8 |
| 4ETMS 061 220 S08 M8 | M8 ~ M12 | 1.25 | 4 | 2 | 4 | 5.8 | 6.1 | 22 | 0.9 | 65 | 8 |
| 4ETMS 078 230 S08 M10 | M10 ~ M15 | 1.5 | 4 | 2 | 5.16 | 7.4 | 7.8 | 23 | 1.12 | 65 | 8 |
| 4ETMS 078 280 S08 M10 | M10 ~ M15 | 1.5 | 4 | 2 | 5.16 | 7.4 | 7.8 | 28 | 1.12 | 65 | 8 |
| 4ETMS 090 260 S10 M12 | M12 | 1.75 | 4 | 2 | 6.2 | 8.6 | 9 | 26 | 1.2 | 80 | 10 |
| 4ETMS 090 330 S10 M12 | M12 | 1.75 | 4 | 2 | 6.2 | 8.6 | 9 | 33 | 1.2 | 80 | 10 |
| 4ETMS 118 350 S12 M16 | M16 ~ M23 | 2 | 4 | 2 | 7.4 | 11.4 | 11.8 | 35 | 2 | 100 | 12 |
| 4ETMS 118 430 S12 M16 | M16 ~ M23 | 2 | 4 | 2 | 7.4 | 11.4 | 11.8 | 43 | 2 | 100 | 12 |
| | | | | | | | | | | | Con refrigerante |
| 4ETMS 047 140 S06 M6C | M6~M9 | 1 | 4 | 2 | 2.82 | 4.4 | 4.7 | 14 | 0.79 | 60 | 6 |
| 4ETMS 047 170 S06 M6C | M6~M9 | 1 | 4 | 2 | 2.82 | 4.4 | 4.7 | 17 | 0.79 | 60 | 6 |
| 4ETMS 061 180 S08 M8C | M8~M12 | 1.25 | 4 | 2 | 4 | 5.8 | 6.1 | 18 | 0.9 | 65 | 8 |
| 4ETMS 061 220 S08 M8C | M8~M12 | 1.25 | 4 | 2 | 4 | 5.8 | 6.1 | 22 | 0.9 | 65 | 8 |
| 4ETMS 078 230 S08 M10C | M10~M15 | 1.5 | 4 | 2 | 5.16 | 7.4 | 7.8 | 23 | 1.12 | 65 | 8 |
| 4ETMS 078 280 S08 M10C | M10~M15 | 1.5 | 4 | 2 | 5.16 | 7.4 | 7.8 | 28 | 1.12 | 65 | 8 |
| 4ETMS 090 260 S10 M12C | M12 | 1.75 | 4 | 2 | 6.2 | 8.6 | 9 | 26 | 1.2 | 80 | 10 |
| 4ETMS 090 330 S10 M12C | M12 | 1.75 | 4 | 2 | 6.2 | 8.6 | 9 | 33 | 1.2 | 80 | 10 |
| 4ETMS 118 350 S12 M16C | M16~M23 | 2 | 4 | 2 | 7.4 | 11.4 | 11.8 | 35 | 2 | 100 | 12 |
| 4ETMS 118 430 S12 M16C | M16~M23 | 2 | 4 | 2 | 7.4 | 11.4 | 11.8 | 43 | 2 | 100 | 12 |

**ISO**

Unità: mm

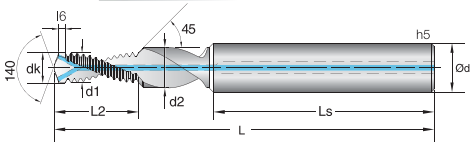
| Numero d'Ordine *Reference* | Filetto | Passo | Z | Zt | D0 | D1 | D2 | L2 | Lk | L | d |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Senza refrigerante |
| 4ETMS 021 072 S06 | NO.4-40 | 40 | 4 | 2 | 1 | 1.76 | 2.1 | 7.2 | 0.38 | 60 | 6 |
| 4ETMS 021 088 S06 | NO.4-40 | 40 | 4 | 2 | 1 | 1.76 | 2.1 | 8.8 | 0.38 | 60 | 6 |
| 4ETMS 026 086 S06 | NO.6-32 | 32 | 4 | 2 | 1.32 | 2.21 | 2.6 | 8.6 | 0.45 | 60 | 6 |
| 4ETMS 026 105 S06 | NO.6-32 | 32 | 4 | 2 | 1.32 | 2.21 | 2.6 | 10.5 | 0.45 | 60 | 6 |
| 4ETMS 030 100 S06 | NO.8-32 | 32 | 4 | 2 | 1.42 | 2.62 | 3 | 10 | 0.6 | 60 | 6 |
| 4ETMS 030 122 S06 | NO.8-32 | 32 | 4 | 2 | 1.42 | 2.62 | 3 | 12.2 | 0.6 | 60 | 6 |
| 4ETMS 035 114 S06 | NO.10-24 | 24 | 4 | 2 | 1.58 | 3.18 | 3.5 | 11.4 | 0.8 | 60 | 6 |
| 4ETMS 048 145 S06 | 1/4" x 20 | 20 | 4 | 2 | 2.69 | 4.29 | 4.8 | 14.5 | 0.8 | 60 | 6 |
| 4ETMS 048 180 S06 | 1/4" x 20 | 20 | 4 | 2 | 2.69 | 4.29 | 4.8 | 18 | 0.8 | 60 | 6 |
| 4ETMS 050 144 S06 | 1/4" x 28 | 28 | 4 | 2 | 3.2 | 4.58 | 5 | 14.4 | 0.69 | 60 | 6 |
| 4ETMS 050 178 S06 | 1/4" x 28 | 28 | 4 | 2 | 3.2 | 4.58 | 5 | 17.8 | 0.69 | 60 | 6 |
| | | | | | | | | | | | Con refrigerante |
| 4ETMS 048 145 S08C | 1/4" x 20 | 20 | 4 | 2 | 2.69 | 4.29 | 4.8 | 14.5 | 0.8 | 65 | 8 |
| 4ETMS 048 180 S08C | 1/4" x 20 | 20 | 4 | 2 | 2.69 | 4.29 | 4.8 | 18 | 0.8 | 65 | 8 |
| 4ETMS 050 144 S08C | 1/4" x 28 | 28 | 4 | 2 | 3.2 | 4.58 | 5 | 14.4 | 0.69 | 65 | 8 |
| 4ETMS 050 178 S08C | 1/4" x 28 | 28 | 4 | 2 | 3.2 | 4.58 | 5 | 17.8 | 0.69 | 65 | 8 |
| 4ETMS 065 176 S08C | 5/16"-24 | 24 | 4 | 2 | 4.34 | 6.02 | 6.5 | 17.6 | 0.85 | 65 | 8 |
| 4ETMS 065 218 S08C | 5/16"-24 | 24 | 4 | 2 | 4.34 | 6.02 | 6.5 | 21.8 | 0.85 | 65 | 8 |
| 4ETMS 067 260 S08C | 3/8"-16 | 16 | 4 | 2 | 3.98 | 6.18 | 6.7 | 26 | 1.1 | 65 | 8 |

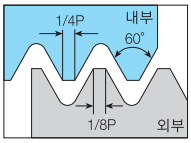
# 2DTM

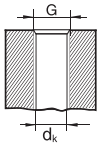
*Fraise à fileter Multifonctions 2 coupes pour Aluminium*

## *Fresa 2 Tagli a Filettare Multifunzione per Alluminio*

New




- **Fresa a filettare per lavorazioni su alluminio, leghe di alluminio, materiali non ferrosi e non metallici.**
- La fresa 2DTM consente di effettuare foratura, filettatura e svasatura in un unica operazione.
- NON sono necessari prefori.
- Foratura, filettatura e svasatura con un unico utensile.
- Massima profondità di filettatura: 2 x dk - 2,5 x dk
- Raccomandato per materiali non ferrosi.
- ***Fraise à fileter pour l'usinage d'aluminium, alliages materiaux non ferreux et non métalliques***
- *La fraise 2DTM perçage, filetage, fraisage en une seule opération.*
- *Les pré trous ne sont pas nécessaires!*
- *Les perçage et le filetage sont effectués simultanément, le chanfreinage suit.*
- *Profondeur de filetage maximale:* 2 / 2,5 le D.
- *Recomandé pour les matériaux non ferreux.*

ISO

List. p.217

Unità: mm

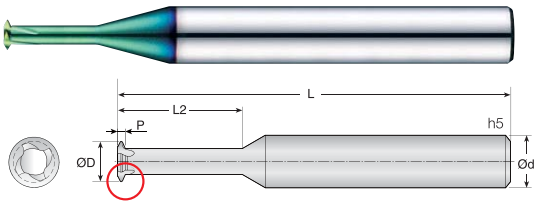
| Numero d'Ordine *Reference* Senza rivestimento *Non Revêtue* | Con rivestimento *Revêtue* | Filetto | Passo | dk | d1 | d2 | L2 | Ls | l6 | L | d |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Senza refrigerante |
| 2DTM 011 0276 M014 | 2DTMC 011 0276 M014 | M1.4 | 0.3 | 1.1 | 1.05 | 1.55 | 2.76 | 33 | 0.2 | 45 | 4 |
| 2DTM 011 0367 M014 | 2DTMC 011 0367 M014 | M1.4 | 0.3 | 1.1 | 1.05 | 1.55 | 3.67 | 33 | 0.2 | 45 | 4 |
| 2DTM 0125 032 M016 | 2DTMC 0125 032 M016 | M1.6 | 0.35 | 1.25 | 1.2 | 1.75 | 3.2 | 33 | 0.25 | 45 | 4 |
| 2DTM 0125 0425 M016 | 2DTMC 0125 0425 M016 | M1.6 | 0.35 | 1.25 | 1.2 | 1.75 | 4.25 | 33 | 0.25 | 45 | 4 |
| 2DTM 0145 0358 M018 | 2DTMC 0145 0358 M018 | M1.8 | 0.35 | 1.45 | 1.4 | 2 | 3.58 | 33 | 0.25 | 45 | 4 |
| 2DTM 0145 0463 M018 | 2DTMC 0145 0463 M018 | M1.8 | 0.35 | 1.45 | 1.4 | 2 | 4.63 | 33 | 0.25 | 45 | 4 |
| 2DTM 016 0448 M2 | 2DTMC 016 0448 M2 | M2 | 0.4 | 1.6 | 1.55 | 2.25 | 4.48 | 32 | 0.3 | 45 | 4 |
| 2DTM 016 0568 M2 | 2DTMC 016 0568 M2 | M2 | 0.4 | 1.6 | 1.55 | 2.25 | 5.68 | 32 | 0.3 | 45 | 4 |
| 2DTM 0205 0554 M025 | 2DTMC 0205 0554 M025 | M2.5 | 0.45 | 2.05 | 2 | 2.85 | 5.54 | 30.5 | 0.35 | 45 | 4 |
| 2DTM 0205 0689 M025 | 2DTMC 0205 0689 M025 | M2.5 | 0.45 | 2.05 | 2 | 2.85 | 6.89 | 30.5 | 0.35 | 45 | 4 |
| 2DTM 0215 0554 M026 | 2DTMC 0215 0554 M026 | M2.6 | 0.45 | 2.15 | 2.1 | 2.95 | 5.54 | 30.5 | 0.35 | 45 | 4 |
| 2DTM 0215 0691 M026 | 2DTMC 0215 0691 M026 | M2.6 | 0.45 | 2.15 | 2.1 | 2.95 | 6.91 | 30.5 | 0.35 | 45 | 4 |
| 2DTM 025 067 S06 M3 | 2DTMC 025 067 S06 M3 | M3 | 0.5 | 2.5 | 2.45 | 3.4 | 6.7 | 36 | 0.4 | 50 | 6 |
| 2DTM 025 082 S06 M3 | 2DTMC 025 082 S06 M3 | M3 | 0.5 | 2.5 | 2.45 | 3.4 | 8.2 | 36 | 0.4 | 50 | 6 |
| 2DTM 033 087 S06 M4 | 2DTMC 033 087 S06 M4 | M4 | 0.7 | 3.3 | 3.25 | 4.5 | 8.7 | 36 | 0.6 | 50 | 6 |
| 2DTM 033 108 S06 M4 | 2DTMC 033 108 S06 M4 | M4 | 0.7 | 3.3 | 3.25 | 4.5 | 10.8 | 36 | 0.6 | 50 | 6 |
| 2DTM 042 109 S06 M5 | 2DTMC 042 109 S06 M5 | M5 | 0.8 | 4.2 | 4 | 5.5 | 10.9 | 36 | 0.7 | 55 | 6 |
| 2DTM 042 133 S06 M5 | 2DTMC 042 133 S06 M5 | M5 | 0.8 | 4.2 | 4 | 5.5 | 13.3 | 36 | 0.7 | 55 | 6 |
| 2DTM 050 137 S08 M6 | 2DTMC 050 137 S08 M6 | M6 | 1 | 5 | 4.75 | 6.6 | 13.7 | 36 | 1 | 60 | 8 |
| 2DTM 050 167 S08 M6 | 2DTMC 050 167 S08 M6 | M6 | 1 | 5 | 4.75 | 6.6 | 16.7 | 36 | 1 | 60 | 8 |
| 2DTM 068 184 S10 M8 | 2DTMC 068 184 S10 M8 | M8 | 1.25 | 6.8 | 6.35 | 9 | 18.4 | 40 | 1.2 | 75 | 10 |
| 2DTM 068 221 S10 M8 | 2DTMC 068 221 S10 M8 | M8 | 1.25 | 6.8 | 6.35 | 9 | 22.1 | 40 | 1.2 | 75 | 10 |
| 2DTM 085 222 S12 M10 | 2DTMC 085 222 S12 M10 | M10 | 1.5 | 8.5 | 7.95 | 11 | 22.2 | 45 | 1.5 | 80 | 12 |
| 2DTM 085 267 S12 M10 | 2DTMC 085 267 S12 M10 | M10 | 1.5 | 8.5 | 7.95 | 11 | 26.7 | 45 | 1.5 | 80 | 12 |
| 2DTM 102 255 S14 M12 | 2DTMC 102 255 S14 M12 | M12 | 1.75 | 10.2 | 9.95 | 13.5 | 25.5 | 45 | 1.5 | 90 | 14 |
| 2DTM 102 308 S14 M12 | 2DTMC 102 308 S14 M12 | M12 | 1.75 | 10.2 | 9.95 | 13.5 | 30.8 | 45 | 1.5 | 90 | 14 |
| 2DTM 120 312 S16 M14 | 2DTMC 120 312 S16 M14 | M14 | 2 | 12 | 11.2 | 15.5 | 31.2 | 48 | 1.5 | 100 | 16 |
| 2DTM 120 392 S16 M14 | 2DTMC 120 392 S16 M14 | M14 | 2 | 12 | 11.2 | 15.5 | 39.2 | 48 | 1.5 | 100 | 16 |
| 2DTM 140 355 S18 M16 | 2DTMC 140 355 S18 M16 | M16 | 2 | 14 | 13.2 | 17.5 | 35.5 | 48 | 1.5 | 100 | 18 |
| 2DTM 140 435 S18 M16 | 2DTMC 140 435 S18 M16 | M16 | 2 | 14 | 13.2 | 17.5 | 43.5 | 48 | 1.5 | 100 | 18 |
| | | | | | | | | | | | Con refrigerante |
| 2DTM 033 087 S06 M4C | 2DTMC 033 087 S06 M4C | M4 | 0.7 | 3.3 | 3.25 | 4.5 | 8.7 | 36 | 0.6 | 50 | 6 |
| 2DTM 033 108 S06 M4C | 2DTMC 033 108 S06 M4C | M4 | 0.7 | 3.3 | 3.25 | 4.5 | 10.8 | 36 | 0.6 | 50 | 6 |
| 2DTM 042 109 S06 M5C | 2DTMC 042 109 S06 M5C | M5 | 0.8 | 4.2 | 4 | 5.5 | 10.9 | 36 | 0.7 | 55 | 6 |
| 2DTM 042 133 S06 M5C | 2DTMC 042 133 S06 M5C | M5 | 0.8 | 4.2 | 4 | 5.5 | 13.3 | 36 | 0.7 | 55 | 6 |
| 2DTM 050 137 S08 M6C | 2DTMC 050 137 S08 M6C | M6 | 1 | 5 | 4.75 | 6.6 | 13.7 | 36 | 1 | 60 | 8 |
| 2DTM 050 167 S08 M6C | 2DTMC 050 167 S08 M6C | M6 | 1 | 5 | 4.75 | 6.6 | 16.7 | 36 | 1 | 60 | 8 |
| 2DTM 068 184 S10 M8C | 2DTMC 068 184 S10 M8C | M8 | 1.25 | 6.8 | 6.35 | 9 | 18.4 | 40 | 1.2 | 75 | 10 |
| 2DTM 068 221 S10 M8C | 2DTMC 068 221 S10 M8C | M8 | 1.25 | 6.8 | 6.35 | 9 | 22.1 | 40 | 1.2 | 75 | 10 |
| 2DTM 085 222 S12 M10C | 2DTMC 085 222 S12 M10C | M10 | 1.5 | 8.5 | 7.95 | 11 | 22.2 | 45 | 1.5 | 80 | 12 |
| 2DTM 085 267 S12 M10C | 2DTMC 085 267 S12 M10C | M10 | 1.5 | 8.5 | 7.95 | 11 | 26.7 | 45 | 1.5 | 80 | 12 |
| 2DTM 102 255 S14 M12C | 2DTMC 102 255 S14 M12C | M12 | 1.75 | 10.2 | 9.95 | 13.5 | 25.5 | 45 | 1.5 | 90 | 14 |
| 2DTM 102 308 S14 M12C | 2DTMC 102 308 S14 M12C | M12 | 1.75 | 10.2 | 9.95 | 13.5 | 30.8 | 45 | 1.5 | 90 | 14 |
| 2DTM 120 312 S16 M14C | 2DTMC 120 312 S16 M14C | M14 | 2 | 12 | 11.2 | 15.5 | 31.2 | 48 | 1.5 | 100 | 16 |
| 2DTM 120 392 S16 M14C | 2DTMC 120 392 S16 M14C | M14 | 2 | 12 | 11.2 | 15.5 | 39.2 | 48 | 1.5 | 100 | 16 |
| 2DTM 140 355 S18 M16C | 2DTMC 140 355 S18 M16C | M16 | 2 | 14 | 13.2 | 17.5 | 35.5 | 48 | 1.5 | 100 | 18 |
| 2DTM 140 455 S18 M16C | 2DTMC 140 455 S18 M16C | M16 | 2 | 14 | 13.2 | 17.5 | 45.5 | 48 | 1.5 | 100 | 18 |

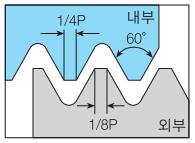
# 4MTM

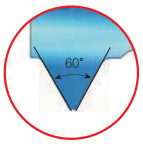
*Fraise à fileter 4 coupes 1 peigne à usage géneral*

## *Fresa 4 Tagli a Filettare a 1 Pettine general Purpose*

New




- **Fresa a filettare per lavorazioni su acciai in genere, acciai bonificati, temprati (~HRc52) e ghise.**
- La fresa 4MTM consente di effettuare filettature profonde anche su piccoli diametri.
- A seconda del profilo è possibile raggiungere la profondità massima.
- Supporta la specifica filettatura passo 0,25 x 3,6 di lunghezza.
- É possibile ottenere filettature ISO e UN (americana).
- **Non è consigliabile l'utilizo con pinze ER.**
- ***Fraise à fileter pour l'usinage de l'acier en général, aciers trempés et revenus (~HRc52) et fontes.***
- *La fraise 4MTM permet de réaliser des filetages profonds même sur de pitits diamétres.*
- *Selon le profile, il est possible d'atteindre la profondeur maximum.*
- *Prens en charge le filetage spécifique au pas de 0,25 x 3,6 en longueur.*
- *Cet outil polyvalent peut être utilisé à la fois pour trous borgnes et débouchants.*
- *Il est possible d'obtenir des filetage ISO e UN (américains)*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

4 | UWC 초미립자 | TISIN-S Coating | 15° Helix Angle | R Rotation | €

List. p.218

**ISO**

Unità: mm

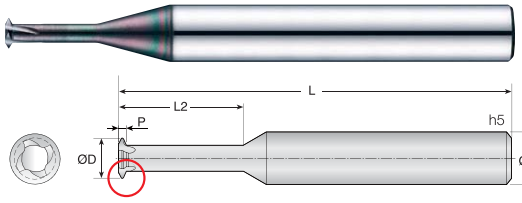
| Numero d'Ordine *Reference* | M Metrico | M Fine | UNC, UNF, UNS | Z | D | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4MTM 0072 036 S03 | M1 x 0.25 | | | 4 | 0.72 | 3.6 | 45 | |
| 4MTM 009 043 S03 | M1.2 x 0.25 | M1.4 x 0.25 | | 4 | 0.9 | 4.3 | 45 | |
| | | M1.6 x 0.25 | | | | | | |
| 4MTM 0105 050 S03 | M1.4 x 0.3 | | | 4 | 1.05 | 5 | 45 | |
| 4MTM 0115 031 S03 | M1.6 x 0.35 | M1.6 x 0.25 | 0-80 UNF | 4 | 1.15 | 3.1 | 45 | |
| | | M1.8 x 0.25 | | | | | | |
| | | M2 x 0.25 | | | | | | |
| 4MTM 012 057 S03 | M1.6 x 0.35 | M2 x 0.35 | | 4 | 1.2 | 5.7 | 45 | |
| | | M2.2 x 0.35 | | | | | | |
| 4MTM 014 037 S03 | M2 x 0.4 | M2 x 0.35 | 1-64 UNC, 1-72 UNF | 4 | 1.4 | 3.7 | 45 | |
| | M2.2 x 0.45 | M2.2 x 0.35 | 2-56 UNC, 2-64 UNF | | | | | |
| 4MTM 0155 071 S03 | M2 x 0.4 | | | 4 | 1.55 | 7.1 | 45 | |
| 4MTM 019 052 S03 | M2.5 x 0.45 | M2.5 x 0.35 | 3-48 UNC, 3-56 UNF | 4 | 1.9 | 5.2 | 45 | |
| | | M3 x 0.35 | 4-40 UNC, 4-48 UNF | | | | | |
| 4MTM 020 090 S03 | M2.5 x 0.45 | M2.6 x 0.45 | | 4 | 2 | 9 | 45 | |
| 4MTM 0237 0106 S03 | M3 x 0.5 | M3.5 x 0.5 | | 4 | 2.37 | 10.6 | 45 | |
| | | M4 x 0.5 | | | | | | |
| 4MTM 0245 070 S03 | M3 x 0.5 | M3.5 x 0.5 | 5-40 UNC, 5-44 UNF | 4 | 2.45 | 7 | 45 | |
| | M3.5 x 0.6 | | 6-32 UNC, 6-40 UNF | | | | | |
| 4MTM 032 095 S06 | M4 x 0.7 | M4 x 0.5 | 8-32 UNC, 8-36 UNF | 4 | 3.2 | 9.5 | 60 | |
| | M4.5 x 0.75 | | 10-24 UNC, 10-28 UNS | | | | | |
| | | | 10-32 UNF | | | | | |
| 4MTM 040 125 S06 | M5 x 0.8 | M5 x 0.5 | 10-36 UNS, 10-40 UNS | 4 | 4 | 12.5 | 60 | |
| | M6 x 1 | M5.5 x 0.5 | 10-48 UNS, 12-24 UNC | | | | | |
| | | M5 x 0.75 | 12-28 UNF | | | | | |

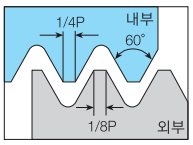
# 4MTMA

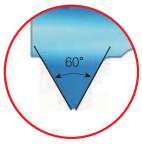
*Fraise à fileter 4 coupes 1 peigne pour Aluminium*

## *Fresa 4 Tagli a Filettare a 1 Pettine per Alluminio*

New




- **Fresa a filettare per lavorazioni su acciai in genere, acciai bonificati, temprati (~HRc52) e ghise.**
- La fresa 4MTM consente di effettuare filettature profonde anche su piccoli diametri.
- A seconda del profilo è possibile raggiungere la profondità massima.
- Supporta la specifica filettatura passo 0,25 x 3,6 di lunghezza.
- É possibile ottenere filettature ISO e UN (americana).
- **Non è consigliabile l'utilizo con pinze ER.**
- ***Fraise à fileter pour l'usinage de l'acier en général, aciers trempés et revenus (~HRc52) et fontes.***
- *La fraise 4MTM permet de réaliser des filetages profonds même sur de pitits diamétres.*
- *Selon le profile, il est possible d'atteindre la profondeur maximum.*
- *Prens en charge le filetage spécifique au pas de 0,25 x 3,6 en longueur.*
- *Cet outil polyvalent peut être utilisé à la fois pour trous borgnes et débouchants.*
- *Il est possible d'obtenir des filetage ISO e UN (américains)*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

4 | UWC 초미립자 | GTAC Coating | 15° Helix Angle | R Rotation | €

List. p.218

**ISO**

Unità: mm

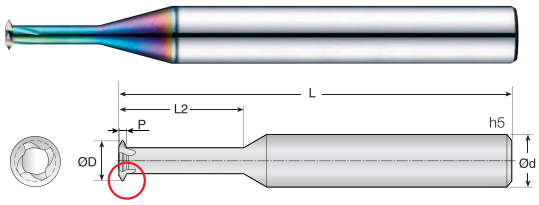
| Numero d'Ordine *Reference* | M Metrico | M Fine | UNC, UNF, UNS | Z | D | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4MTMA 0072 036 S03 | M1 x 0.25 | | | 4 | 0.72 | 3.6 | 45 | 3 |
| 4MTMA 009 043 S03 | M1.2 x 0.25 | M1.4 x 0.25 | | 4 | 0.9 | 4.3 | 45 | 3 |
| | | M1.6 x 0.25 | | | | | | |
| 4MTMA 0105 050 S03 | M1.4 x 0.3 | | | 4 | 1.05 | 5 | 45 | 3 |
| 4MTMA 0115 031 S03 | M1.6 x 0.35 | M1.6 x 0.25 | 0-80 UNF | 4 | 1.15 | 3.1 | 45 | 3 |
| | | M1.8 x 0.25 | | | | | | |
| | | M2 x 0.25 | | | | | | |
| 4MTMA 012 057 S03 | M1.6 x 0.35 | M2 x 0.35 | | 4 | 1.2 | 5.7 | 45 | 3 |
| | | M2.2 x 0.35 | | | | | | |
| 4MTMA 014 037 S03 | M2 x 0.4 | M2 x 0.35 | 1-64 UNC, 1-72 UNF | 4 | 1.4 | 3.7 | 45 | 3 |
| | M2.2 x 0.45 | M2.2 x 0.35 | 2-56 UNC, 2-64 UNF | | | | | |
| 4MTMA 0155 071 S03 | M2 x 0.4 | | | 4 | 1.55 | 7.1 | 45 | 3 |
| 4MTMA 019 052 S03 | M2.5 x 0.45 | M2.5 x 0.35 | 3-48 UNC, 3-56 UNF | 4 | 1.9 | 5.2 | 45 | 3 |
| | | M3 x 0.35 | 4-40 UNC, 4-48 UNF | | | | | |
| 4MTMA 020 090 S03 | M2.5 x 0.45 | M2.6 x 0.45 | | 4 | 2 | 9 | 45 | 3 |
| 4MTMA 0237 0106 S03 | M3 x 0.5 | M3.5 x 0.5 | | 4 | 2.37 | 10.6 | 45 | 3 |
| | | M4 x 0.5 | | | | | | |
| 4MTMA 0245 070 S03 | M3 x 0.5 | M3.5 x 0.5 | 5-40 UNC, 5-44 UNF | 4 | 2.45 | 7 | 45 | 3 |
| | M3.5 x 0.6 | | 6-32 UNC, 6-40 UNF | | | | | |
| 4MTMA 032 095 S06 | M4 x 0.7 | M4 x 0.5 | 8-32 UNC, 8-36 UNF | 4 | 3.2 | 9.5 | 60 | 6 |
| | M4.5 x 0.75 | | 10-24 UNC, 10-28 UNS | | | | | |
| | | | 10-32 UNF | | | | | |
| 4MTMA 040 125 S06 | M5 x 0.8 | M5 x 0.5 | 10-36 UNS, 10-40 UNS | 4 | 4 | 12.5 | 60 | 6 |
| | M6 x 1 | M5.5 x 0.5 | 10-48 UNS, 12-24 UNC | | | | | |
| | | M5 x 0.75 | 12-28 UNF | | | | | |

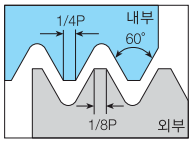
# 4MTMS

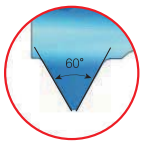
*Fraise à fileter 4 coupes 1 peigne pour Inox*

## *Fresa 4 Tagli a Filettare a 1 Pettine per Acciai Inox*

New




- **Fresa a filettare per lavorazioni su acciai inossidabili, leghe di titanio, leghe di rame.**
- La fresa 4MTM consente di effettuare filettature profonde anche su piccoli diametri.
- A seconda del profilo è possibile raggiungere la profondità massima.
- Supporta la specifica filettatura passo 0,25 x 3,6 di lunghezza.
- É possibile ottenere filettature ISO e UN (americana).
- **Non è consigliabile l'utilizo con pinze ER.**
- ***Fraise à fileter pour l'usinage Inox, alliage de titane, alliage de cuivre.***
- *La fraise 4MTM permet de réaliser des filetages profonds même sur de pitits diamétres.*
- *Selon le profile, il est possible d'atteindre la profondeur maximum.*
- *Prens en charge le filetage spécifique au pas de 0,25 x 3,6 en longueur.*
- *Cet outil polyvalent peut être utilisé à la fois pour trous borgnes et débouchants.*
- *Il est possible d'obtenir des filetage ISO e UN (américains)*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

4 | UWC 초미립자 | R TISIN-R | 15° Helix Angle | R Rotation | €

List. p.219

**ISO**

Unità: mm

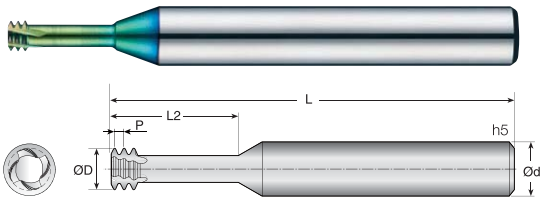
| Numero d'Ordine *Reference* | M Metrico | M Fine | UNC, UNF, UNS | Z | D | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4MTMS 0072 036 S03 | M1 x 0.25 | | | 4 | 0.72 | 3.6 | 45 | 3 |
| 4MTMS 009 043 S03 | M1.2 x 0.25 | M1.4 x 0.25 | | 4 | 0.9 | 4.3 | 45 | 3 |
| | | M1.6 x 0.25 | | | | | | |
| 4MTMS 0105 050 S03 | M1.4 x 0.3 | | | 4 | 1.05 | 5 | 45 | 3 |
| 4MTMS 0115 031 S03 | M1.6 x 0.35 | M1.6 x 0.25 | 0-80 UNF | 4 | 1.15 | 3.1 | 45 | 3 |
| | | M1.8 x 0.25 | | | | | | |
| | | M2 x 0.25 | | | | | | |
| 4MTMS 012 057 S03 | M1.6 x 0.35 | M2 x 0.35 | | 4 | 1.2 | 5.7 | 45 | 3 |
| | | M2.2 x 0.35 | | | | | | |
| 4MTMS 014 037 S03 | M2 x 0.4 | M2 x 0.35 | 1-64 UNC, 1-72 UNF | 4 | 1.4 | 3.7 | 45 | 3 |
| | M2.2 x 0.45 | M2.2 x 0.35 | 2-56 UNC, 2-64 UNF | | | | | |
| 4MTMS 0155 071 S03 | M2 x 0.4 | | | 4 | 1.55 | 7.1 | 45 | 3 |
| 4MTMS 019 052 S03 | M2.5 x 0.45 | M2.5 x 0.35 | 3-48 UNC, 3-56 UNF | 4 | 1.9 | 5.2 | 45 | 3 |
| | | M3 x 0.35 | 4-40 UNC, 4-48 UNF | | | | | |
| 4MTMS 020 090 S03 | M2.5 x 0.45 | M2.6 x 0.45 | | 4 | 2 | 9 | 45 | 3 |
| 4MTMS 0237 0106 S03 | M3 x 0.5 | M3.5 x 0.5 | | 4 | 2.37 | 10.6 | 45 | 3 |
| | | M4 x 0.5 | | | | | | |
| 4MTMS 0245 070 S03 | M3 x 0.5 | M3.5 x 0.5 | 5-40 UNC, 5-44 UNF | 4 | 2.45 | 7 | 45 | 3 |
| | M3.5 x 0.6 | | 6-32 UNC, 6-40 UNF | | | | | |
| 4MTMS 032 095 S06 | M4 x 0.7 | M4 x 0.5 | 8-32 UNC, 8-36 UNF | 4 | 3.2 | 9.5 | 60 | 6 |
| | M4.5 x 0.75 | | 10-24 UNC, 10-28 UNS | | | | | |
| | | | 10-32 UNF | | | | | |
| 4MTMS 040 125 S06 | M5 x 0.8 | M5 x 0.5 | 10-36 UNS, 10-40 UNS | 4 | 4 | 12.5 | 60 | 6 |
| | M6 x 1 | M5.5 x 0.5 | 10-48 UNS, 12-24 UNC | | | | | |
| | | M5 x 0.75 | 12-28 UNF | | | | | |

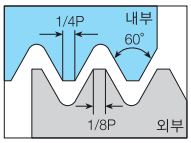
# 4STM

*Fraise à fileter 4 coupes à usage général*

## *Fresa 4 Tagli a Filettare General Purpose*

New




- **Fresa a filettare per lavorazioni su acciai bonificati, acciai temprati (~HRc52), acciai legati, acciai al carbonio e ghise.**
- Geometria del tagliente tenace e resistente per filettature su acciai temprati.
- Ottima asportazione ed evacuazione del truciolo riducendo il rischio di rotture all'interno del foro.
- Elevata rigidità e ridotta resistenza al taglio.
- Riduzione drastica di rotture.
- **Non è consigliabile l'utilizo con pinze ER.**

- ***Fraise à fileter pour l'usinage de l'acier en général, aciers trempés et revenus (~HRc52) et fontes.***
- *Géométrie des extrémités renforcée pour les filetages sur les aciers trempés.*
- *Excellente élimination et évacuation des copeaux réduisant le risque de casse à l'intérieur du trou.*
- *Rigidité élevée et faible résistance au cisaillement.*
- *Réduction drastique des casses.*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

List. p.219

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | Z | Zt | D | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4STM 0072 020 S04 M1 | M1 | 0.25 | 4 | 3 | 0.72 | 2 | 45 | 4 |
| 4STM 0072 025 S04 M1 | M1 | 0.25 | 4 | 3 | 0.72 | 2.5 | 45 | 4 |
| 4STM 009 024 S04 M012 | M1.2 | 0.25 | 4 | 3 | 0.9 | 2.4 | 45 | 4 |
| 4STM 009 030 S04 M012 | M1.2 | 0.25 | 4 | 3 | 0.9 | 3 | 45 | 4 |
| 4STM 0095 028 S06 M014 | M1.4 | 0.3 | 4 | 3 | 0.95 | 2.8 | 50 | 6 |
| 4STM 0095 035 S06 M014 | M1.4 | 0.3 | 4 | 3 | 0.95 | 3.5 | 50 | 6 |
| 4STM 011 032 S06 M016 | M1.6 | 0.35 | 4 | 3 | 1.1 | 3.2 | 50 | 6 |
| 4STM 011 040 S06 M016 | M1.6 | 0.35 | 4 | 3 | 1.1 | 4 | 50 | 6 |
| 4STM 012 050 S03 M016 | M1.6 | 0.35 | 4 | 3 | 1.2 | 5 | 40 | 3 |
| 4STM 014 040 S06 M2 | M2 | 0.4 | 4 | 3 | 1.4 | 4 | 50 | 6 |
| 4STM 014 050 S06 M2 | M2 | 0.4 | 4 | 3 | 1.4 | 5 | 50 | 6 |
| 4STM 0155 062 S03 M2 | M2 | 0.4 | 4 | 3 | 1.55 | 6.2 | 40 | 3 |
| 4STM 0155 062 S06 M2 | M2 | 0.4 | 4 | 3 | 1.55 | 6.2 | 60 | 6 |
| 4STM 016 044 S06 M022 | M2.2 | 0.45 | 4 | 3 | 1.6 | 4.4 | 50 | 6 |
| 4STM 016 055 S06 M022 | M2.2 | 0.45 | 4 | 3 | 1.6 | 5.5 | 50 | 6 |
| 4STM 018 050 S06 M025 | M2.5 | 0.45 | 4 | 3 | 1.8 | 5 | 50 | 6 |
| 4STM 018 0625 S06 M025 | M2.5 | 0.45 | 4 | 3 | 1.8 | 6.25 | 50 | 6 |
| 4STM 0195 077 S03 M025 | M2.5 | 0.45 | 4 | 3 | 1.95 | 7.7 | 40 | 3 |
| 4STM 0195 077 S06 M025 | M2.5 | 0.45 | 4 | 3 | 1.95 | 7.7 | 60 | 6 |
| 4STM 024 060 S06 M3 | M3 | 0.5 | 4 | 3 | 2.4 | 6 | 50 | 6 |
| 4STM 024 075 S06 M3 | M3 | 0.5 | 4 | 3 | 2.4 | 7.5 | 50 | 6 |
| 4STM 024 092 S03 M3 | M3 | 0.5 | 4 | 3 | 2.4 | 9.2 | 40 | 3 |
| 4STM 024 092 S06 M3 | M3 | 0.5 | 4 | 3 | 2.4 | 9.2 | 60 | 6 |
| 4STM 0275 108 S06 M035 | M3.5 | 0.6 | 4 | 3 | 2.75 | 10.8 | 60 | 6 |
| 4STM 031 080 S06 M4 | M4 | 0.7 | 4 | 3 | 3.1 | 8 | 50 | 6 |
| 4STM 031 100 S06 M4 | M4 | 0.7 | 4 | 3 | 3.1 | 10 | 50 | 6 |
| 4STM 0315 123 S06 M4 | M4 | 0.7 | 4 | 3 | 3.15 | 12.3 | 60 | 6 |
| 4STM 038 100 S06 M5 | M5 | 0.8 | 4 | 3 | 3.8 | 10 | 50 | 6 |
| 4STM 038 125 S06 M5 | M5 | 0.8 | 4 | 3 | 3.8 | 12.5 | 50 | 6 |
| 4STM 0405 154 S06 M5 | M5 | 0.8 | 4 | 3 | 4.05 | 15.4 | 60 | 6 |
| 4STM 046 120 S06 M6 | M6 | 1 | 4 | 3 | 4.6 | 12 | 50 | 6 |
| 4STM 046 150 S06 M6 | M6 | 1 | 4 | 3 | 4.6 | 15 | 50 | 6 |
| 4STM 048 185 S06 M6 | M6 | 1 | 4 | 3 | 4.8 | 18.5 | 60 | 6 |
| 4STM 062 160 S10 M8 | M8 | 1.25 | 4 | 3 | 6.2 | 16 | 70 | 10 |
| 4STM 062 200 S10 M8 | M8 | 1.25 | 4 | 3 | 6.2 | 20 | 70 | 10 |
| 4STM 065 246 S08 M8 | M8 | 1.25 | 4 | 3 | 6.5 | 24.6 | 65 | 8 |
| 4STM 075 200 S10 M10 | M10 | 1.5 | 4 | 3 | 7.5 | 20 | 70 | 10 |
| 4STM 075 250 S10 M10 | M10 | 1.5 | 4 | 3 | 7.5 | 25 | 70 | 10 |
| 4STM 082 308 S10 M10 | M10 | 1.5 | 4 | 3 | 8.2 | 30.8 | 80 | 10 |
| 4STM 090 240 S10 M12 | M12 | 1.75 | 4 | 3 | 9 | 24 | 80 | 10 |
| 4STM 090 300 S10 M12 | M12 | 1.75 | 4 | 3 | 9 | 30 | 80 | 10 |
| 4STM 099 370 S10 M12 | M12 | 1.75 | 4 | 3 | 9.9 | 37 | 85 | 10 |
| 4STM 115 320 S12 M16 | M16 | 2 | 4 | 3 | 11.5 | 32 | 100 | 12 |
| 4STM 115 400 S12 M16 | M16 | 2 | 4 | 3 | 11.5 | 40 | 100 | 12 |
| 4STM 119 490 S12 M16 | M16 | 2 | 4 | 3 | 11.9 | 49 | 95 | 12 |

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | Z | Zt | D | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4STM 140 360 S16 M18 | M18 | 2.5 | 4 | 3 | 14 | 36 | 135 | 16 |
| 4STM 140 450 S16 M18 | M18 | 2.5 | 4 | 3 | 14 | 45 | 135 | 16 |
| 4STM 150 400 S16 M20 | M20 | 2.5 | 4 | 3 | 15 | 40 | 135 | 16 |
| 4STM 150 500 S16 M20 | M20 | 2.5 | 4 | 3 | 15 | 50 | 135 | 16 |
| 4STM 159 613 S16 M20 | M20 | 2.5 | 4 | 3 | 15.9 | 61.3 | 115 | 16 |
| | | | | | | | | Con refrigerante |
| 4STM 031 080 S06 M4C | M4 | 0.7 | 4 | 3 | 3.1 | 8 | 50 | 6 |
| 4STM 031 100 S06 M4C | M4 | 0.7 | 4 | 3 | 3.1 | 10 | 50 | 6 |
| 4STM 038 100 S06 M5C | M5 | 0.8 | 4 | 3 | 3.8 | 10 | 50 | 6 |
| 4STM 038 125 S06 M5C | M5 | 0.8 | 4 | 3 | 3.8 | 12.5 | 50 | 6 |
| 4STM 046 120 S06 M6C | M6 | 1 | 4 | 3 | 4.6 | 12 | 50 | 6 |
| 4STM 046 150 S06 M6C | M6 | 1 | 4 | 3 | 4.6 | 15 | 50 | 6 |
| 4STM 048 185 S06 M6C | M6 | 1 | 4 | 3 | 4.8 | 18.5 | 60 | 6 |
| 4STM 062 160 S10 M8C | M8 | 1.25 | 4 | 3 | 6.2 | 16 | 70 | 10 |
| 4STM 062 200 S10 M8C | M8 | 1.25 | 4 | 3 | 6.2 | 20 | 70 | 10 |
| 4STM 065 246 S08 M8C | M8 | 1.25 | 4 | 3 | 6.5 | 24.6 | 65 | 8 |
| 4STM 075 200 S10 M10C | M10 | 1.5 | 4 | 3 | 7.5 | 20 | 70 | 10 |
| 4STM 075 250 S10 M10C | M10 | 1.5 | 4 | 3 | 7.5 | 25 | 70 | 10 |
| 4STM 082 308 S10 M10C | M10 | 1.5 | 4 | 3 | 8.2 | 30.8 | 80 | 10 |
| 4STM 090 240 S10 M12C | M12 | 1.75 | 4 | 3 | 9 | 24 | 80 | 10 |
| 4STM 090 300 S10 M12C | M12 | 1.75 | 4 | 3 | 9 | 30 | 80 | 10 |
| 4STM 099 370 S10 M12C | M12 | 1.75 | 4 | 3 | 9.9 | 37 | 85 | 10 |
| 4STM 115 320 S12 M16C | M16 | 2 | 4 | 3 | 11.5 | 32 | 100 | 12 |
| 4STM 115 400 S12 M16C | M16 | 2 | 4 | 3 | 11.5 | 40 | 100 | 12 |
| 4STM 119 490 S12 M16C | M16 | 2 | 4 | 3 | 11.9 | 49 | 95 | 12 |
| 4STM 140 360 S16 M18C | M18 | 2.5 | 4 | 3 | 14 | 36 | 135 | 16 |
| 4STM 140 450 S16 M18C | M18 | 2.5 | 4 | 3 | 14 | 45 | 135 | 16 |
| 4STM 150 400 S16 M20C | M20 | 2.5 | 4 | 3 | 15 | 40 | 135 | 16 |
| 4STM 150 500 S16 M20C | M20 | 2.5 | 4 | 3 | 15 | 50 | 135 | 16 |
| 4STM 159 613 S16 M20C | M20 | 2.5 | 4 | 3 | 15.9 | 61.3 | 115 | 16 |

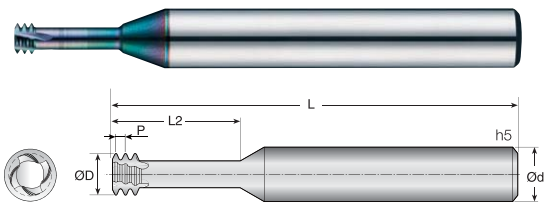
# 4STMA

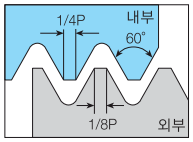
*Fraise à fileter 4 coupes à usage général*

## *Fresa 4 Tagli a Filettare per Alluminio*

New

**Su richiesta**/ *Sur demand*




- **Fresa a filettare per lavorazioni su alluminio, leghe di alluminio, materiali non ferrosi e non metallici.**
- Geometria del tagliente tenace e resistente.
- Ottima asportazione ed evacuazione del truciolo riducendo il rischio di rotture all'interno del foro.
- Elevata rigidità e ridotta resistenza al taglio.
- Riduzione drastica di rotture.
- **Non è consigliabile l'utilizo con pinze ER.**
- ***Fraise à fileter pour l'usinage d'aluminium, alliages materiaux non ferreux et non métalliques***
- *Géométrie des extrémités renforcée.*
- *Excellente élimination et évacuation des copeauxmréduisant le risque de casse à l'intérieur du trou.*
- *Rigidité élevée et faible résistance au cisaillement.*
- *Réduction drastique des casses.*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

List. p.220

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | Z | Zt | D | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4STMA 0072 020 S04 M1 | M1 | 0.25 | 4 | 3 | 0.72 | 2 | 45 | 4 |
| 4STMA 0072 025 S04 M1 | M1 | 0.25 | 4 | 3 | 0.72 | 2.5 | 45 | 4 |
| 4STMA 009 024 S04 M012 | M1.2 | 0.25 | 4 | 3 | 0.9 | 2.4 | 45 | 4 |
| 4STMA 009 030 S04 M012 | M1.2 | 0.25 | 4 | 3 | 0.9 | 3 | 45 | 4 |
| 4STMA 0095 028 S06 M014 | M1.4 | 0.3 | 4 | 3 | 0.95 | 2.8 | 50 | 6 |
| 4STMA 0095 035 S06 M014 | M1.4 | 0.3 | 4 | 3 | 0.95 | 3.5 | 50 | 6 |
| 4STMA 011 032 S06 M016 | M1.6 | 0.35 | 4 | 3 | 1.1 | 3.2 | 50 | 6 |
| 4STMA 011 040 S06 M016 | M1.6 | 0.35 | 4 | 3 | 1.1 | 4 | 50 | 6 |
| 4STMA 012 050 S03 M016 | M1.6 | 0.35 | 4 | 3 | 1.2 | 5 | 40 | 3 |
| 4STMA 014 040 S06 M2 | M2 | 0.4 | 4 | 3 | 1.4 | 4 | 50 | 6 |
| 4STMA 014 050 S06 M2 | M2 | 0.4 | 4 | 3 | 1.4 | 5 | 50 | 6 |
| 4STMA 0155 062 S03 M2 | M2 | 0.4 | 4 | 3 | 1.55 | 6.2 | 40 | 3 |
| 4STMA 0155 062 S06 M2 | M2 | 0.4 | 4 | 3 | 1.55 | 6.2 | 60 | 6 |
| 4STMA 016 044 S06 M022 | M2.2 | 0.45 | 4 | 3 | 1.6 | 4.4 | 50 | 6 |
| 4STMA 016 055 S06 M022 | M2.2 | 0.45 | 4 | 3 | 1.6 | 5.5 | 50 | 6 |
| 4STMA 018 050 S06 M025 | M2.5 | 0.45 | 4 | 3 | 1.8 | 5 | 50 | 6 |
| 4STMA 018 0625 S06 M025 | M2.5 | 0.45 | 4 | 3 | 1.8 | 6.25 | 50 | 6 |
| 4STMA 0195 077 S03 M025 | M2.5 | 0.45 | 4 | 3 | 1.95 | 7.7 | 40 | 3 |
| 4STMA 0195 077 S06 M025 | M2.5 | 0.45 | 4 | 3 | 1.95 | 7.7 | 60 | 6 |
| 4STMA 024 060 S06 M3 | M3 | 0.5 | 4 | 3 | 2.4 | 6 | 50 | 6 |
| 4STMA 024 075 S06 M3 | M3 | 0.5 | 4 | 3 | 2.4 | 7.5 | 50 | 6 |
| 4STMA 024 092 S03 M3 | M3 | 0.5 | 4 | 3 | 2.4 | 9.2 | 40 | 3 |
| 4STMA 024 092 S06 M3 | M3 | 0.5 | 4 | 3 | 2.4 | 9.2 | 60 | 6 |
| 4STMA 0275 108 S06 M035 | M3.5 | 0.6 | 4 | 3 | 2.75 | 10.8 | 60 | 6 |
| 4STMA 031 080 S06 M4 | M4 | 0.7 | 4 | 3 | 3.1 | 8 | 50 | 6 |
| 4STMA 031 100 S06 M4 | M4 | 0.7 | 4 | 3 | 3.1 | 10 | 50 | 6 |
| 4STMA 0315 123 S06 M4 | M4 | 0.7 | 4 | 3 | 3.15 | 12.3 | 60 | 6 |
| 4STMA 038 100 S06 M5 | M5 | 0.8 | 4 | 3 | 3.8 | 10 | 50 | 6 |
| 4STMA 038 125 S06 M5 | M5 | 0.8 | 4 | 3 | 3.8 | 12.5 | 50 | 6 |
| 4STMA 0405 154 S06 M5 | M5 | 0.8 | 4 | 3 | 4.05 | 15.4 | 60 | 6 |
| 4STMA 046 120 S06 M6 | M6 | 1 | 4 | 3 | 4.6 | 12 | 50 | 6 |
| 4STMA 046 150 S06 M6 | M6 | 1 | 4 | 3 | 4.6 | 15 | 50 | 6 |
| 4STMA 048 185 S06 M6 | M6 | 1 | 4 | 3 | 4.8 | 18.5 | 60 | 6 |
| 4STMA 062 160 S10 M8 | M8 | 1.25 | 4 | 3 | 6.2 | 16 | 70 | 10 |
| 4STMA 062 200 S10 M8 | M8 | 1.25 | 4 | 3 | 6.2 | 20 | 70 | 10 |
| 4STMA 065 246 S08 M8 | M8 | 1.25 | 4 | 3 | 6.5 | 24.6 | 65 | 8 |
| 4STMA 075 200 S10 M10 | M10 | 1.5 | 4 | 3 | 7.5 | 20 | 70 | 10 |
| 4STMA 075 250 S10 M10 | M10 | 1.5 | 4 | 3 | 7.5 | 25 | 70 | 10 |
| 4STMA 082 308 S10 M10 | M10 | 1.5 | 4 | 3 | 8.2 | 30.8 | 80 | 10 |
| 4STMA 090 240 S10 M12 | M12 | 1.75 | 4 | 3 | 9 | 24 | 80 | 10 |
| 4STMA 090 300 S10 M12 | M12 | 1.75 | 4 | 3 | 9 | 30 | 80 | 10 |
| 4STMA 099 370 S10 M12 | M12 | 1.75 | 4 | 3 | 9.9 | 37 | 85 | 10 |
| 4STMA 115 320 S12 M16 | M16 | 2 | 4 | 3 | 11.5 | 32 | 100 | 12 |
| 4STMA 115 400 S12 M16 | M16 | 2 | 4 | 3 | 11.5 | 40 | 100 | 12 |
| 4STMA 119 490 S12 M16 | M16 | 2 | 4 | 3 | 11.9 | 49 | 95 | 12 |

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | Z | Zt | D | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4STMA 140 360 S16 M18 | M18 | 2.5 | 4 | 3 | 14 | 36 | 135 | 16 |
| 4STMA 140 450 S16 M18 | M18 | 2.5 | 4 | 3 | 14 | 45 | 135 | 16 |
| 4STMA 150 400 S16 M20 | M20 | 2.5 | 4 | 3 | 15 | 40 | 135 | 16 |
| 4STMA 150 500 S16 M20 | M20 | 2.5 | 4 | 3 | 15 | 50 | 135 | 16 |
| 4STMA 159 613 S16 M20 | M20 | 2.5 | 4 | 3 | 15.9 | 61.3 | 115 | 16 |
| | | | | | | | | Con refrigerante |
| 4STMA 031 080 S06 M4C | M4 | 0.7 | 4 | 3 | 3.1 | 8 | 50 | 6 |
| 4STMA 031 100 S06 M4C | M4 | 0.7 | 4 | 3 | 3.1 | 10 | 50 | 6 |
| 4STMA 038 100 S06 M5C | M5 | 0.8 | 4 | 3 | 3.8 | 10 | 50 | 6 |
| 4STMA 038 125 S06 M5C | M5 | 0.8 | 4 | 3 | 3.8 | 12.5 | 50 | 6 |
| 4STMA 046 120 S06 M6C | M6 | 1 | 4 | 3 | 4.6 | 12 | 50 | 6 |
| 4STMA 046 150 S06 M6C | M6 | 1 | 4 | 3 | 4.6 | 15 | 50 | 6 |
| 4STMA 048 185 S06 M6C | M6 | 1 | 4 | 3 | 4.8 | 18.5 | 60 | 6 |
| 4STMA 062 160 S10 M8C | M8 | 1.25 | 4 | 3 | 6.2 | 16 | 70 | 10 |
| 4STMA 062 200 S10 M8C | M8 | 1.25 | 4 | 3 | 6.2 | 20 | 70 | 10 |
| 4STMA 065 246 S08 M8C | M8 | 1.25 | 4 | 3 | 6.5 | 24.6 | 65 | 8 |
| 4STMA 075 200 S10 M10C | M10 | 1.5 | 4 | 3 | 7.5 | 20 | 70 | 10 |
| 4STMA 075 250 S10 M10C | M10 | 1.5 | 4 | 3 | 7.5 | 25 | 70 | 10 |
| 4STMA 082 308 S10 M10C | M10 | 1.5 | 4 | 3 | 8.2 | 30.8 | 80 | 10 |
| 4STMA 090 240 S10 M12C | M12 | 1.75 | 4 | 3 | 9 | 24 | 80 | 10 |
| 4STMA 090 300 S10 M12C | M12 | 1.75 | 4 | 3 | 9 | 30 | 80 | 10 |
| 4STMA 099 370 S10 M12C | M12 | 1.75 | 4 | 3 | 9.9 | 37 | 85 | 10 |
| 4STMA 115 320 S12 M16C | M16 | 2 | 4 | 3 | 11.5 | 32 | 100 | 12 |
| 4STMA 115 400 S12 M16C | M16 | 2 | 4 | 3 | 11.5 | 40 | 100 | 12 |
| 4STMA 119 490 S12 M16C | M16 | 2 | 4 | 3 | 11.9 | 49 | 95 | 12 |
| 4STMA 140 360 S16 M18C | M18 | 2.5 | 4 | 3 | 14 | 36 | 135 | 16 |
| 4STMA 140 450 S16 M18C | M18 | 2.5 | 4 | 3 | 14 | 45 | 135 | 16 |
| 4STMA 150 400 S16 M20C | M20 | 2.5 | 4 | 3 | 15 | 40 | 135 | 16 |
| 4STMA 150 500 S16 M20C | M20 | 2.5 | 4 | 3 | 15 | 50 | 135 | 16 |
| 4STMA 159 613 S16 M20C | M20 | 2.5 | 4 | 3 | 15.9 | 61.3 | 115 | 16 |

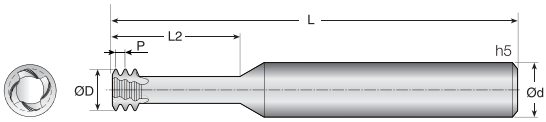
# 4STMS

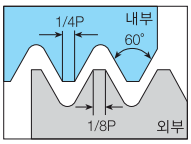
*Fraise à fileter à 4 coupes pour acier Inox*

## *Fresa 4 Tagli a Filettare per acciai Inox*

New

**Su richiesta**/ *Sur demand*




- **Fresa a filettare per lavorazioni su acciai inossidabili e leghe di titanio**
- Geometria del tagliente tenace e resistente.
- Ottima asportazione ed evacuazione del truciolo riducendo il rischio di rotture all'interno del foro.
- Elevata rigidità e ridotta resistenza al taglio.
- Riduzione drastica di rotture.
- **Non è consigliabile l'utilizzo con pinze ER.**

- ***Fraise à fileter pour l'usinage de l'acier en général, aciers trempés et revenus (~HRc52) et fontes.***
- *Géométrie des extrémités renforcée.*
- *Excellente élimination et évacuation des copeaux réduisant le risque de casse à l'intérieur du trou.*
- *Rigidité élevée et faible résistance au cisaillement.*
- *Réduction drastique des casses.*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

List. p.221

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | Z | Zt | D | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4STMS 0072 020 S04 M1 | M1 | 0.25 | 4 | 3 | 0.72 | 2 | 45 | 4 |
| 4STMS 0072 025 S04 M1 | M1 | 0.25 | 4 | 3 | 0.72 | 2.5 | 45 | 4 |
| 4STMS 009 024 S04 M012 | M1.2 | 0.25 | 4 | 3 | 0.9 | 2.4 | 45 | 4 |
| 4STMS 009 030 S04 M012 | M1.2 | 0.25 | 4 | 3 | 0.9 | 3 | 45 | 4 |
| 4STMS 0095 028 S06 M014 | M1.4 | 0.3 | 4 | 3 | 0.95 | 2.8 | 50 | 6 |
| 4STMS 0095 035 S06 M014 | M1.4 | 0.3 | 4 | 3 | 0.95 | 3.5 | 50 | 6 |
| 4STMS 011 032 S06 M016 | M1.6 | 0.35 | 4 | 3 | 1.1 | 3.2 | 50 | 6 |
| 4STMS 011 040 S06 M016 | M1.6 | 0.35 | 4 | 3 | 1.1 | 4 | 50 | 6 |
| 4STMS 012 050 S03 M016 | M1.6 | 0.35 | 4 | 3 | 1.2 | 5 | 40 | 3 |
| 4STMS 014 040 S06 M2 | M2 | 0.4 | 4 | 3 | 1.4 | 4 | 50 | 6 |
| 4STMS 14 050 S06 M2 | M2 | 0.4 | 4 | 3 | 1.4 | 5 | 50 | 6 |
| 4STMS 0155 062 S03 M2 | M2 | 0.4 | 4 | 3 | 1.55 | 6.2 | 40 | 3 |
| 4STMS 0155 062 S06 M2 | M2 | 0.4 | 4 | 3 | 1.55 | 6.2 | 60 | 6 |
| 4STMS 016 044 S06 M022 | M2.2 | 0.45 | 4 | 3 | 1.6 | 4.4 | 50 | 6 |
| 4STMS 016 055 S06 M022 | M2.2 | 0.45 | 4 | 3 | 1.6 | 5.5 | 50 | 6 |
| 4STMS 018 050 S06 M025 | M2.5 | 0.45 | 4 | 3 | 1.8 | 5 | 50 | 6 |
| 4STMS 018 0625 S06 M025 | M2.5 | 0.45 | 4 | 3 | 1.8 | 6.25 | 50 | 6 |
| 4STMS 0195 077 S03 M025 | M2.5 | 0.45 | 4 | 3 | 1.95 | 7.7 | 40 | 3 |
| 4STMS 0195 077 S06 M025 | M2.5 | 0.45 | 4 | 3 | 1.95 | 7.7 | 60 | 6 |
| 4STMS 024 060 S06 M3 | M3 | 0.5 | 4 | 3 | 2.4 | 6 | 50 | 6 |
| 4STMS 024 075 S06 M3 | M3 | 0.5 | 4 | 3 | 2.4 | 7.5 | 50 | 6 |
| 4STMS 024 092 S03 M3 | M3 | 0.5 | 4 | 3 | 2.4 | 9.2 | 40 | 3 |
| 4STMS 024 092 S06 M3 | M3 | 0.5 | 4 | 3 | 2.4 | 9.2 | 60 | 6 |
| 4STMS 0275 108 S06 M3.5 | M3.5 | 0.6 | 4 | 3 | 2.75 | 10.8 | 60 | 6 |
| 4STMS 031 080 S06 M4 | M4 | 0.7 | 4 | 3 | 3.1 | 8 | 50 | 6 |
| 4STMS 031 100 S06 M4 | M4 | 0.7 | 4 | 3 | 3.1 | 10 | 50 | 6 |
| 4STMS 0315 123 S06 M4 | M4 | 0.7 | 4 | 3 | 3.15 | 12.3 | 60 | 6 |
| 4STMS 038 100 S06 M5 | M5 | 0.8 | 4 | 3 | 3.8 | 10 | 50 | 6 |
| 4STMS 038 125 S06 M5 | M5 | 0.8 | 4 | 3 | 3.8 | 12.5 | 50 | 6 |
| 4STMS 0405 154 S06 M5 | M5 | 0.8 | 4 | 3 | 4.05 | 15.4 | 60 | 6 |
| 4STMS 046 120 S06 M6 | M6 | 1 | 4 | 3 | 4.6 | 12 | 50 | 6 |
| 4STMS 046 150 S06 M6 | M6 | 1 | 4 | 3 | 4.6 | 15 | 50 | 6 |
| 4STMS 048 185 S06 M6 | M6 | 1 | 4 | 3 | 4.8 | 18.5 | 60 | 6 |
| 4STMS 062 160 S10 M8 | M8 | 1.25 | 4 | 3 | 6.2 | 16 | 70 | 10 |
| 4STMS 062 200 S10 M8 | M8 | 1.25 | 4 | 3 | 6.2 | 20 | 70 | 10 |
| 4STMS 065 246 S08 M8 | M8 | 1.25 | 4 | 3 | 6.5 | 24.6 | 65 | 8 |
| 4STMS 075 200 S10 M10 | M10 | 1.5 | 4 | 3 | 7.5 | 20 | 70 | 10 |
| 4STMS 075 250 S10 M10 | M10 | 1.5 | 4 | 3 | 7.5 | 25 | 70 | 10 |
| 4STMS 082 308 S10 M10 | M10 | 1.5 | 4 | 3 | 8.2 | 30.8 | 80 | 10 |
| 4STMS 090 240 S10 M12 | M12 | 1.75 | 4 | 3 | 9 | 24 | 80 | 10 |
| 4STMS 090 300 S10 M12 | M12 | 1.75 | 4 | 3 | 9 | 30 | 80 | 10 |
| 4STMS 099 370 S10 M12 | M12 | 1.75 | 4 | 3 | 9.9 | 37 | 85 | 10 |
| 4STMS 115 320 S12 M16 | M16 | 2 | 4 | 3 | 11.5 | 32 | 100 | 12 |
| 4STMS 115 400 S12 M16 | M16 | 2 | 4 | 3 | 11.5 | 40 | 100 | 12 |
| 4STMS 119 490 S12 M16 | M16 | 2 | 4 | 3 | 11.9 | 49 | 95 | 12 |

**ISO**

Unità: mm

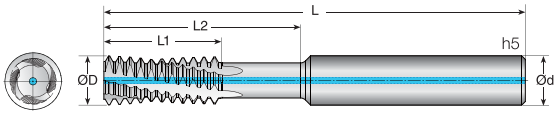
| Numero d'Ordine *Reference* | Filetto | Passo | Z | Zt | D | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4STMS 140 360 S16 M18 | M18 | 2.5 | 4 | 3 | 14 | 36 | 135 | 16 |
| 4STMS 140 450 S16 M18 | M18 | 2.5 | 4 | 3 | 14 | 45 | 135 | 16 |
| 4STMS 150 400 S16 M20 | M20 | 2.5 | 4 | 3 | 15 | 40 | 135 | 16 |
| 4STMS 150 500 S16 M20 | M20 | 2.5 | 4 | 3 | 15 | 50 | 135 | 16 |
| 4STMS 159 613 S16 M20 | M20 | 2.5 | 4 | 3 | 15.9 | 61.3 | 115 | 16 |
| | | | | | | | | Con refrigerante |
| 4STMS 031 080 S06 M4C | M4 | 0.7 | 4 | 3 | 3.1 | 8 | 50 | 6 |
| 4STMS 031 100 S06 M4C | M4 | 0.7 | 4 | 3 | 3.1 | 10 | 50 | 6 |
| 4STMS 038 100 S06 M5C | M5 | 0.8 | 4 | 3 | 3.8 | 10 | 50 | 6 |
| 4STMS 038 125 S06 M5C | M5 | 0.8 | 4 | 3 | 3.8 | 12.5 | 50 | 6 |
| 4STMS 046 120 S06 M6C | M6 | 1 | 4 | 3 | 4.6 | 12 | 50 | 6 |
| 4STMS 046 150 S06 M6C | M6 | 1 | 4 | 3 | 4.6 | 15 | 50 | 6 |
| 4STMS 048 185 S06 M6C | M6 | 1 | 4 | 3 | 4.8 | 18.5 | 60 | 6 |
| 4STMS 062 160 S10 M8C | M8 | 1.25 | 4 | 3 | 6.2 | 16 | 70 | 10 |
| 4STMS 062 200 S10 M8C | M8 | 1.25 | 4 | 3 | 6.2 | 20 | 70 | 10 |
| 4STMS 065 246 S08 M8C | M8 | 1.25 | 4 | 3 | 6.5 | 24.6 | 65 | 8 |
| 4STMS 075 200 S10 M10C | M10 | 1.5 | 4 | 3 | 7.5 | 20 | 70 | 10 |
| 4STMS 075 250 S10 M10C | M10 | 1.5 | 4 | 3 | 7.5 | 25 | 70 | 10 |
| 4STMS 082 308 S10 M10C | M10 | 1.5 | 4 | 3 | 8.2 | 30.8 | 80 | 10 |
| 4STMS 090 240 S10 M12C | M12 | 1.75 | 4 | 3 | 9 | 24 | 80 | 10 |
| 4STMS 090 300 S10 M12C | M12 | 1.75 | 4 | 3 | 9 | 30 | 80 | 10 |
| 4STMS 099 370 S10 M12C | M12 | 1.75 | 4 | 3 | 9.9 | 37 | 85 | 10 |
| 4STMS 115 320 S12 M16C | M16 | 2 | 4 | 3 | 11.5 | 32 | 100 | 12 |
| 4STMS 115 400 S12 M16C | M16 | 2 | 4 | 3 | 11.5 | 40 | 100 | 12 |
| 4STMS 119 490 S12 M16C | M16 | 2 | 4 | 3 | 11.9 | 49 | 95 | 12 |
| 4STMS 140 360 S16 M18C | M18 | 2.5 | 4 | 3 | 14 | 36 | 135 | 16 |
| 4STMS 140 450 S16 M18C | M18 | 2.5 | 4 | 3 | 14 | 45 | 135 | 16 |
| 4STMS 150 400 S16 M20C | M20 | 2.5 | 4 | 3 | 15 | 40 | 135 | 16 |
| 4STMS 150 500 S16 M20C | M20 | 2.5 | 4 | 3 | 15 | 50 | 135 | 16 |
| 4STMS 159 613 S16 M20C | M20 | 2.5 | 4 | 3 | 15.9 | 61.3 | 115 | 16 |

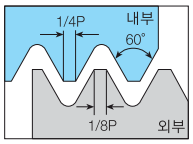
# 4HTM

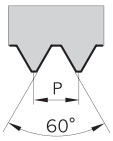
*Fraise à fileter à 4 coupes à usàge general*

## *Fresa 4 Tagli a Filettare General Purpose*

New




- **Fresa a filettare per lavorazioni su acciai bonificati, acciai temprati (~HRc52), acciai legati, acciai al carbonio e ghise.**
- Geometria dell'elica a 15°e adduzione interna del refrigerante per filettature profonde.
- Massima profondità di filettatura: 3 x D (diametro filetto).
- Geometria multi-dente COOL RUN per filettature più profonde.
- Riduzione drastica dei tempi di lavoro.
- **Non è consigliabile l'utilizzo con pinze ER.**
- ***Fraise à fileter pour l'usinage des aciers trempés, aciers traité (~HRc52), aciers au carbone et fonte.***
- *Géométrie de l'hèlice à 15° arrosage par le centre.*
- *Plus profond: 3 x D (diamétre du filetage).*
- *Géométrie multi-dents COOL RUN pour filetages.*
- *Réduction drastique des temps de travail.*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

4 | UWC 초미립자 | TISIN-S Coating | 15° Helix Angle | R Rotation | €

List. p.222

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | mm | D | L1 | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4HTM 024 090 S04 M3 | M3 | 0.5 | 2.5 | 2.4 | 4.7 | 9 | 45 | 4 |
| 4HTM 0315 120 S04 M4 | M4 | 0.7 | 3.3 | 3.15 | 6.6 | 12 | 45 | 4 |
| 4HTM 039 150 S04 M5 | M5 | 0.8 | 4.2 | 3.9 | 7.6 | 15 | 50 | 4 |
| 4HTM 048 180 S06 M6 | M6 | 1 | 5 | 4.8 | 9.5 | 18 | 60 | 6 |
| 4HTM 065 240 S08 M8 | M8 | 1.25 | 6.8 | 6.5 | 13.1 | 24 | 65 | 8 |
| 4HTM 082 300 S10 M10 | M10 | 1.5 | 8.5 | 8.2 | 15.7 | 30 | 75 | 10 |
| 4HTM 099 360 S10 M12 | M12 | 1.75 | 10.2 | 9.9 | 18.4 | 36 | 85 | 10 |
| 4HTM 116 420 S12 M14 | M14 | 2 | 12 | 11.6 | 21 | 42 | 90 | 12 |
| 4HTM 136 480 S14 M16 | M16 | 2 | 14 | 13.6 | 25 | 48 | 100 | 14 |
| | | | | | | | | Con refrigerante |
| 4HTM 0315 120 S04 M4C | M4 | 0.7 | 3.3 | 3.15 | 6.6 | 12 | 45 | 4 |
| 4HTM 039 150 S04 M5C | M5 | 0.8 | 4.2 | 3.9 | 7.6 | 15 | 50 | 4 |
| 4HTM 048 180 S06 M6C | M6 | 1 | 5 | 4.8 | 9.5 | 18 | 60 | 6 |
| 4HTM 065 240 S08 M8C | M8 | 1.25 | 6.8 | 6.5 | 13.1 | 24 | 65 | 8 |
| 4HTM 082 300 S10 M10C | M10 | 1.5 | 8.5 | 8.2 | 15.7 | 30 | 75 | 10 |
| 4HTM 099 360 S10 M12C | M12 | 1.75 | 10.2 | 9.9 | 18.4 | 36 | 85 | 10 |
| 4HTM 116 420 S12 M14C | M14 | 2 | 12 | 11.6 | 21 | 42 | 90 | 12 |
| 4HTM 136 480 S14 M16C | M16 | 2 | 14 | 13.6 | 25 | 48 | 100 | 14 |

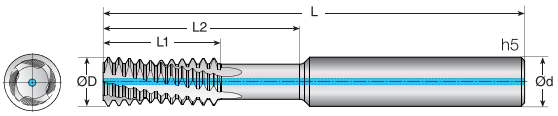
# 4HTMA

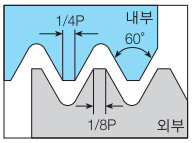
*Fraise à fileter à 4 coupes pour Aluminium*

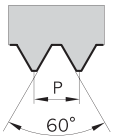
## *Fresa 4 Tagli a Filettare per Alluminio*

New

**Su richiesta**/ *Sur demand*




- **Fresa a filettare per lavorazioni su alluminio, leghe di alluminio, materiali non ferri e non metallici.**
- Geometria dell'elica a 15°e adduzione interna del refrigerante per filettature profonde.
- Massima profondità di filettatura: 3 x D (diametro filetto).
- Geometria multi-dente COOL RUN per filettature più profonde.
- Riduzione drastica dei tempi di lavoro.
- **Non è consigliabile l'utilizzo con pinze ER.**
- ***Fraise à fileter pour l'usinage del'aluminium, alliages, matériaux non ferreux, non métalliques.***
- *Géométrie de l'hèlice à 15° arrosage par le centre.*
- *Plus profond: 3 x D (diamétre du filetage).*
- *Géométrie multi-dents COOL RUN pour filetages.*
- *Réduction drastique des temps de travail.*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

List. p.222

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | mm | D | L1 | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4HTMA 024 090 S04 M3 | M3 | 0.5 | 2.5 | 2.4 | 4.7 | 9 | 45 | 4 |
| 4HTMA 0315 120 S04 M4 | M4 | 0.7 | 3.3 | 3.15 | 6.6 | 12 | 45 | 4 |
| 4HTMA 039 150 S04 M5 | M5 | 0.8 | 4.2 | 3.9 | 7.6 | 15 | 50 | 4 |
| 4HTMA 048 180 S06 M6 | M6 | 1 | 5 | 4.8 | 9.5 | 18 | 60 | 6 |
| 4HTMA 065 240 S08 M8 | M8 | 1.25 | 6.8 | 6.5 | 13.1 | 24 | 65 | 8 |
| 4HTMA 082 300 S10 M10 | M10 | 1.5 | 8.5 | 8.2 | 15.7 | 30 | 75 | 10 |
| 4HTMA 099 360 S10 M12 | M12 | 1.75 | 10.2 | 9.9 | 18.4 | 36 | 85 | 10 |
| 4HTMA 116 420 S12 M14 | M14 | 2 | 12 | 11.6 | 21 | 42 | 90 | 12 |
| 4HTMA 136 480 S14 M16 | M16 | 2 | 14 | 13.6 | 25 | 48 | 100 | 14 |
| | | | | | | | | Con refrigerante |
| 4HTMA 024 090 S04 M3C | M3 | 0.5 | 2.5 | 2.4 | 4.7 | 9 | 45 | 4 |
| 4HTMA 0315 120 S04 M4C | M4 | 0.7 | 3.3 | 3.15 | 6.6 | 12 | 45 | 4 |
| 4HTMA 039 150 S04 M5C | M5 | 0.8 | 4.2 | 3.9 | 7.6 | 15 | 50 | 4 |
| 4HTMA 048 180 S06 M6C | M6 | 1 | 5 | 4.8 | 9.5 | 18 | 60 | 6 |
| 4HTMA 065 240 S08 M8C | M8 | 1.25 | 6.8 | 6.5 | 13.1 | 24 | 65 | 8 |
| 4HTMA 082 300 S10 M10C | M10 | 1.5 | 8.5 | 8.2 | 15.7 | 30 | 75 | 10 |
| 4HTMA 099 360 S10 M12C | M12 | 1.75 | 10.2 | 9.9 | 18.4 | 36 | 85 | 10 |
| 4HTMA 116 420 S12 M14C | M14 | 2 | 12 | 11.6 | 21 | 42 | 90 | 12 |
| 4HTMA 136 480 S14 M16C | M16 | 2 | 14 | 13.6 | 25 | 48 | 100 | 14 |

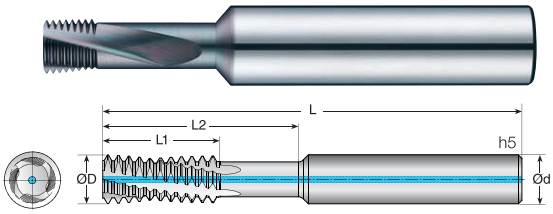
# 4HTMS

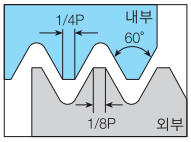
*Fraise à fileter à 4 coupes pour Aciers Inox*

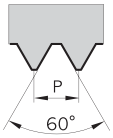
## *Fresa 4 Tagli a Filettare per Acciai Inox*

New

**Su richiesta**/ *Sur demand*




- **Fresa a filettare per lavorazioni su acciai inossidabili e leghe di titanio.**
- Geometria dell'elica a 15°e adduzione interna del refrigerante per filettature profonde.
- Massima profondità di filettatura: 3 x D (diametro filetto).
- Geometria multi-dente COOL RUN per filettature più profonde.
- Riduzione drastica dei tempi di lavoro.
- **Non è consigliabile l'utilizzo con pinze ER.**
- ***Fraise à fileter pour l'usinage Inox, alliage de titane.***
- *Géométrie de l'hèlice à 15° arrosage par le centre.*
- *Plus profond: 3 x D (diamétre du filetage).*
- *Géométrie multi-dents COOL RUN pour filetages.*
- *Réduction drastique des temps de travail.*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

List. p.223

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | mm | D | L1 | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4HTMS 024 090 S04 M3 | M3 | 0.5 | 2.5 | 2.4 | 4.7 | 9 | 45 | 4 |
| 4HTMS 0315 120 S04 M4 | M4 | 0.7 | 3.3 | 3.15 | 6.6 | 12 | 45 | 4 |
| 4HTMS 039 150 S04 M5 | M5 | 0.8 | 4.2 | 3.9 | 7.6 | 15 | 50 | 4 |
| 4HTMS 048 180 S06 M6 | M6 | 1 | 5 | 4.8 | 9.5 | 18 | 60 | 6 |
| 4HTMS 065 240 S08 M8 | M8 | 1.25 | 6.8 | 6.5 | 13.1 | 24 | 65 | 8 |
| 4HTMS 082 300 S10 M10 | M10 | 1.5 | 8.5 | 8.2 | 15.7 | 30 | 75 | 10 |
| 4HTMS 099 360 S10 M12 | M12 | 1.75 | 10.2 | 9.9 | 18.4 | 36 | 85 | 10 |
| 4HTMS 116 420 S12 M14 | M14 | 2 | 12 | 11.6 | 21 | 42 | 90 | 12 |
| 4HTMS 136 480 S14 M16 | M16 | 2 | 14 | 13.6 | 25 | 48 | 100 | 14 |
| | | | | | | | | Con refrigerante |
| 4HTMS 024 090 S04 M3C | M3 | 0.5 | 2.5 | 2.4 | 4.7 | 9 | 45 | 4 |
| 4HTMS 0315 120 S04 M4C | M4 | 0.7 | 3.3 | 3.15 | 6.6 | 12 | 45 | 4 |
| 4HTMS 039 150 S04 M5C | M5 | 0.8 | 4.2 | 3.9 | 7.6 | 15 | 50 | 4 |
| 4HTMS 048 180 S06 M6C | M6 | 1 | 5 | 4.8 | 9.5 | 18 | 60 | 6 |
| 4HTMS 065 240 S08 M8C | M8 | 1.25 | 6.8 | 6.5 | 13.1 | 24 | 65 | 8 |
| 4HTMS 082 300 S10 M10C | M10 | 1.5 | 8.5 | 8.2 | 15.7 | 30 | 75 | 10 |
| 4HTMS 099 360 S10 M12C | M12 | 1.75 | 10.2 | 9.9 | 18.4 | 36 | 85 | 10 |
| 4HTMS 116 420 S12 M14C | M14 | 2 | 12 | 11.6 | 21 | 42 | 90 | 12 |
| 4HTMS 136 480 S14 M16C | M16 | 2 | 14 | 13.6 | 25 | 48 | 100 | 14 |

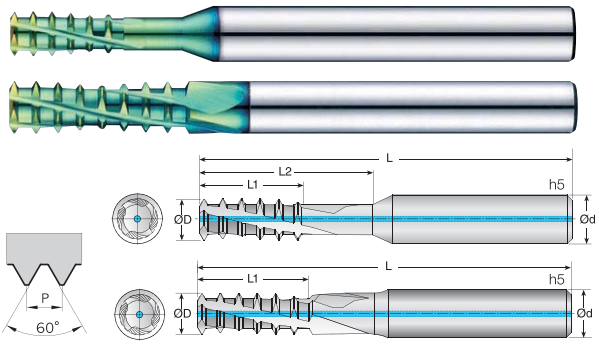
# 4NKTM

*Fraise à fileter à 4 coupes dents alterné es usage general*

## *Fresa 4 Tagli a Filettare a Denti Alterni*
## *General Purpose*

New

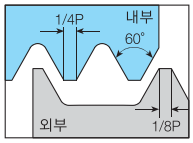
**Su richiesta**/ *Sur demand*




- **Fresa a filettare per lavorazioni su acciai bonificati, acciai temprati (~HRc52), acciai legati, acciai al carbonio e ghise.**
- Filettature in alta velocità e avanzamenti.
- Massima profondità di filettatura: 2 x D, 2,5 x D, 3 x D (diametro filetto).
- Geometria a denti alternati.
- Gambo posteriore scaricato per filettature profonde.
- **Non è consigliabile l'utilizzo con pinze ER.**
- ***Fraise à fileter pour l'usinage des aciers trempés, aciers traité (~HRc52), aciers au carbone et fonte.***
- *Filetages et avances à grande vitesse*
- 2 x D, 2,5 x D, 3 x D
- *Géométrie des dents alternées.*
- *Queue arrière déchargée pour les filetages profonds.*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

4 | UWC 초미립자 | TISIN-S Coating | 15° Helix Angle | R Rotation | €

List. p.223




**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | mm | D | L1 | L2 | L | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4NKTM 022 060 S06 M3 | M3 | 0.5 | 4 | 2.2 | 6 | - | 60 | 6 |
| 4NKTM 022 080 S06 M3 | M3 | 0.5 | 4 | 2.2 | 8 | - | 60 | 6 |
| 4NKTM 024 090 S04 M3 | M3 | 0.5 | 4 | 2.4 | 5.47 | 9 | 45 | 4 |
| 4NKTM 029 084 S06 M4 | M4 | 0.7 | 4 | 2.9 | 8.4 | - | 60 | 6 |
| 4NKTM 029 112 S06 M4 | M4 | 0.7 | 4 | 2.9 | 11.2 | - | 60 | 6 |
| 4NKTM 0315 120 S04 M4 | M4 | 0.7 | 4 | 3.15 | 7.64 | 12 | 45 | 4 |
| 4NKTM 038 112 S06 M5 | M5 | 0.8 | 4 | 3.8 | 11.2 | - | 60 | 6 |
| 4NKTM 038 128 S06 M5 | M5 | 0.8 | 4 | 3.8 | 12.8 | - | 60 | 6 |
| 4NKTM 039 150 S04 M5 | M5 | 0.8 | 4 | 3.9 | 8.73 | 15 | 50 | 4 |
| 4NKTM 045 120 S06 M6 | M6 | 1 | 4 | 4.5 | 12 | - | 60 | 6 |
| 4NKTM 045 160 S06 M6 | M6 | 1 | 4 | 4.5 | 16 | - | 60 | 6 |
| 4NKTM 048 180 S06 M6 | M6 | 1 | 4 | 4.8 | 10.9 | 18 | 60 | 6 |
| 4NKTM 060 175 S06 M8 | M8 | 1.25 | 4 | 6 | 17.5 | - | 65 | 6 |
| 4NKTM 060 200 S06 M8 | M8 | 1.25 | 4 | 6 | 20 | - | 65 | 6 |
| 4NKTM 065 240 S08 M8 | M8 | 1.25 | 4 | 6.5 | 13.62 | 24 | 65 | 8 |
| 4NKTM 075 210 S08 M10 | M10 | 1.5 | 4 | 7.5 | 21 | - | 75 | 8 |
| 4NKTM 075 270 S08 M10 | M10 | 1.5 | 4 | 7.5 | 27 | - | 75 | 8 |
| 4NKTM 082 300 S10 M10 | M10 | 1.5 | 4 | 8.2 | 16.34 | 30 | 75 | 10 |
| 4NKTM 095 245 S10 M12 | M12 | 1.75 | 4 | 9.5 | 24.5 | - | 80 | 10 |
| 4NKTM 095 315 S10 M12 | M12 | 1.75 | 4 | 9.5 | 31.5 | - | 80 | 10 |
| 4NKTM 099 360 S10 M12 | M12 | 1.75 | 4 | 9.9 | 19.06 | 36 | 85 | 10 |
| 4NKTM 100 280 S10 M14 | M14 | 2 | 4 | 10 | 28 | - | 85 | 10 |
| 4NKTM 100 360 S10 M14 | M14 | 2 | 4 | 10 | 36 | - | 90 | 10 |
| 4NKTM 116 420 S12 M14 | M14 | 2 | 4 | 11.6 | 21.75 | 42 | 90 | 12 |
| 4NKTM 120 320 S12 M16 | M16 | 2 | 4 | 12 | 32 | - | 95 | 12 |
| 4NKTM 120 400 S12 M16 | M16 | 2 | 4 | 12 | 40 | - | 100 | 12 |
| 4NKTM 136 480 S14 M16 | M16 | 2 | 4 | 13.6 | 25.75 | 48 | 100 | 14 |
| 4NKTM 140 400 S14 M18 | M18 | 2.5 | 5 | 14 | 40 | - | 95 | 14 |
| 4NKTM 140 450 S14 M18 | M18 | 2.5 | 5 | 14 | 45 | - | 105 | 14 |
| 4NKTM 160 400 S16 M20 | M20 | 2.5 | 5 | 16 | 40 | - | 105 | 16 |
| 4NKTM 160 500 S16 M20 | M20 | 2.5 | 5 | 16 | 50 | - | 115 | 16 |

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | mm | D | L1 | L2 | L | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4NKTM 045 120 S06 M6C | M6 | 1 | 4 | 4.5 | 12 | - | 60 | 6 |
| 4NKTM 045 160 S06 M6C | M6 | 1 | 4 | 4.5 | 16 | - | 60 | 6 |
| 4NKTM 048 180 S06 M6C | M6 | 1 | 4 | 4.8 | 10.9 | 18 | 60 | 6 |
| 4NKTM 060 175 S06 M8C | M8 | 1.25 | 4 | 6 | 17.5 | - | 65 | 6 |
| 4NKTM 060 200 S06 M8C | M8 | 1.25 | 4 | 6 | 20 | - | 65 | 6 |
| 4NKTM 065 240 S08 M8C | M8 | 1.25 | 4 | 6.5 | 13.62 | 24 | 65 | 8 |
| 4NKTM 075 210 S08 M10C | M10 | 1.5 | 4 | 7.5 | 21 | - | 75 | 8 |
| 4NKTM 075 270 S08 M10C | M10 | 1.5 | 4 | 7.5 | 27 | - | 75 | 8 |
| 4NKTM 082 300 S10 M10C | M10 | 1.5 | 4 | 8.2 | 16.34 | 30 | 75 | 10 |
| 4NKTM 095 245 S10 M12C | M12 | 1.75 | 4 | 9.5 | 24.5 | - | 80 | 10 |
| 4NKTM 095 315 S10 M12C | M12 | 1.75 | 4 | 9.5 | 31.5 | - | 80 | 10 |
| 4NKTM 099 360 S10 M12C | M12 | 1.75 | 4 | 9.9 | 19.06 | 36 | 85 | 10 |
| 4NKTM 100 280 S10 M14C | M14 | 2 | 4 | 10 | 28 | - | 85 | 10 |
| 4NKTM 100 360 S10 M14C | M14 | 2 | 4 | 10 | 36 | - | 90 | 10 |
| 4NKTM 116 420 S12 M14C | M14 | 2 | 4 | 11.6 | 21.75 | 42 | 90 | 12 |
| 4NKTM 120 320 S12 M16C | M16 | 2 | 4 | 12 | 32 | - | 95 | 12 |
| 4NKTM 120 400 S12 M16C | M16 | 2 | 4 | 12 | 40 | - | 100 | 12 |
| 4NKTM 136 480 S14 M16C | M16 | 2 | 4 | 13.6 | 25.75 | 48 | 100 | 14 |
| 4NKTM 140 400 S14 M18C | M18 | 2.5 | 5 | 14 | 40 | - | 95 | 14 |
| 4NKTM 140 450 S14 M18C | M18 | 2.5 | 5 | 14 | 45 | - | 105 | 14 |
| 4NKTM 160 400 S16 M20C | M20 | 2.5 | 5 | 16 | 40 | - | 105 | 16 |
| 4NKTM 160 500 S16 M20C | M20 | 2.5 | 5 | 16 | 50 | - | 115 | 16 |

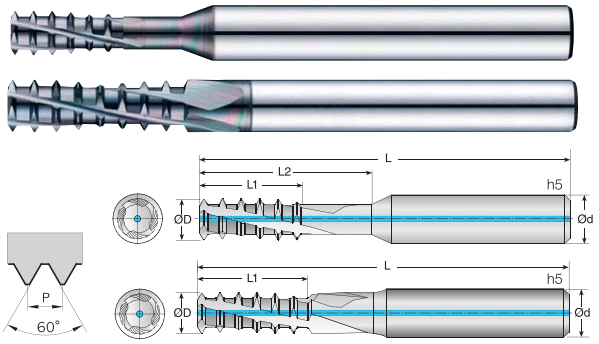
# 4NKTMA

*Fraise à fileter à 4 coupes dents alterné es pour Aluminium*

## *Fresa 4 Tagli a Filettare a Denti Alterni per Alluminio*

New

**Su richiesta**/ *Sur demand*

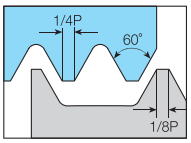



- **Fresa a filettare per lavorazioni su acciai inossidabili e leghe di titanio.**
- Filettature in alta velocità e avanzamenti.
- Massima profondità di filettatura: 2 x D, 2,5 x D, 3 x D (diametro filetto).
- Geometria a denti alternati.
- Gambo posteriore scaricato per filettature profonde.
- **Non è consigliabile l'utilizzo con pinze ER.**

- ***Fraise à fileter pour l'usinage de l'aluminium, alliages, matériaux non ferreux, non meétalliques.***
- *Filetages et avances à grande vitesse*
- 2 x D, 2,5 x D, 3 x D
- *Géométrie des dents alternées.*
- *Queue arriére déchargée pour les filetages profonds.*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

4 | UWC 초미립자 | GTAC Coating | 15° Helix Angle | R Rotation | €

List. p.224




**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | Z | D | L1 | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4NKTMA 022 060 S06 M3 | M3 | 0.5 | 4 | 2.2 | 6 | - | 60 | 6 |
| 4NKTMA 022 080 S06 M3 | M3 | 0.5 | 4 | 2.2 | 8 | - | 60 | 6 |
| 4NKTMA 024 090 S04 M3 | M3 | 0.5 | 4 | 2.4 | 5.47 | 9 | 45 | 4 |
| 4NKTMA 029 084 S06 M4 | M4 | 0.7 | 4 | 2.9 | 8.4 | - | 60 | 6 |
| 4NKTMA 029 112 S06 M4 | M4 | 0.7 | 4 | 2.9 | 11.2 | - | 60 | 6 |
| 4NKTMA 0315 120 S04 M4 | M4 | 0.7 | 4 | 3.15 | 7.64 | 12 | 45 | 4 |
| 4NKTMA 038 112 S06 M5 | M5 | 0.8 | 4 | 3.8 | 11.2 | - | 60 | 6 |
| 4NKTMA 038 128 S06 M5 | M5 | 0.8 | 4 | 3.8 | 12.8 | - | 60 | 6 |
| 4NKTMA 039 150 S04 M5 | M5 | 0.8 | 4 | 3.9 | 8.73 | 15 | 50 | 4 |
| 4NKTMA 045 120 S06 M6 | M6 | 1 | 4 | 4.5 | 12 | - | 60 | 6 |
| 4NKTMA 045 160 S06 M6 | M6 | 1 | 4 | 4.5 | 16 | - | 60 | 6 |
| 4NKTMA 048 180 S06 M6 | M6 | 1 | 4 | 4.8 | 10.9 | 18 | 60 | 6 |
| 4NKTMA 060 175 S06 M8 | M8 | 1.25 | 4 | 6 | 17.5 | - | 65 | 6 |
| 4NKTMA 060 200 S06 M8 | M8 | 1.25 | 4 | 6 | 20 | - | 65 | 6 |
| 4NKTMA 065 240 S08 M8 | M8 | 1.25 | 4 | 6.5 | 13.62 | 24 | 65 | 8 |
| 4NKTMA 075 210 S08 M10 | M10 | 1.5 | 4 | 7.5 | 21 | - | 75 | 8 |
| 4NKTMA 075 270 S08 M10 | M10 | 1.5 | 4 | 7.5 | 27 | - | 75 | 8 |
| 4NKTMA 082 300 S10 M10 | M10 | 1.5 | 4 | 8.2 | 16.34 | 30 | 75 | 10 |
| 4NKTMA 095 245 S10 M12 | M12 | 1.75 | 4 | 9.5 | 24.5 | - | 80 | 10 |
| 4NKTMA 095 315 S10 M12 | M12 | 1.75 | 4 | 9.5 | 31.5 | - | 80 | 10 |
| 4NKTMA 099 360 S10 M12 | M12 | 1.75 | 4 | 9.9 | 19.06 | 36 | 85 | 10 |
| 4NKTMA 100 280 S10 M14 | M14 | 2 | 4 | 10 | 28 | - | 85 | 10 |
| 4NKTMA 100 360 S10 M14 | M14 | 2 | 4 | 10 | 36 | - | 90 | 10 |
| 4NKTMA 116 420 S12 M14 | M14 | 2 | 4 | 11.6 | 21.75 | 42 | 90 | 12 |
| 4NKTMA 120 320 S12 M16 | M16 | 2 | 4 | 12 | 32 | - | 95 | 12 |
| 4NKTMA 120 400 S12 M16 | M16 | 2 | 4 | 12 | 40 | - | 100 | 12 |
| 4NKTMA 136 480 S14 M16 | M16 | 2 | 4 | 13.6 | 25.75 | 48 | 100 | 14 |
| 4NKTMA 140 400 S14 M18 | M18 | 2.5 | 5 | 14 | 40 | - | 95 | 14 |
| 4NKTMA 140 450 S14 M18 | M18 | 2.5 | 5 | 14 | 45 | - | 105 | 14 |
| 4NKTMA 160 400 S16 M20 | M20 | 2.5 | 5 | 16 | 40 | - | 105 | 16 |
| 4NKTMA 160 500 S16 M20 | M20 | 2.5 | 5 | 16 | 50 | - | 115 | 16 |

# 4NKTMA

*Fraise à fileter à 4 coupes dents alterné es pour Aluminium*

***Fresa 4 Tagli a Filettare a Denti Alterni per Alluminio***

New

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | Z | D | L1 | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4NKTMA 045 120 S06 M6C | M6 | 1 | 4 | 4.5 | 12 | - | 60 | 6 |
| 4NKTMA 045 160 S06 M6C | M6 | 1 | 4 | 4.5 | 16 | - | 60 | 6 |
| 4NKTMA 048 180 S06 M6C | M6 | 1 | 4 | 4.8 | 10.9 | 18 | 60 | 6 |
| 4NKTMA 060 175 S06 M8C | M8 | 1.25 | 4 | 6 | 17.5 | - | 65 | 6 |
| 4NKTMA 060 200 S06 M8C | M8 | 1.25 | 4 | 6 | 20 | - | 65 | 6 |
| 4NKTMA 065 240 S08 M8C | M8 | 1.25 | 4 | 6.5 | 13.62 | 24 | 65 | 8 |
| 4NKTMA 075 210 S08 M10C | M10 | 1.5 | 4 | 7.5 | 21 | - | 75 | 8 |
| 4NKTMA 075 270 S08 M10C | M10 | 1.5 | 4 | 7.5 | 27 | - | 75 | 8 |
| 4NKTMA 082 300 S10 M10C | M10 | 1.5 | 4 | 8.2 | 16.34 | 30 | 75 | 10 |
| 4NKTMA 095 245 S10 M12C | M12 | 1.75 | 4 | 9.5 | 24.5 | - | 80 | 10 |
| 4NKTMA 095 315 S10 M12C | M12 | 1.75 | 4 | 9.5 | 31.5 | - | 80 | 10 |
| 4NKTMA 099 360 S10 M12C | M12 | 1.75 | 4 | 9.9 | 19.06 | 36 | 85 | 10 |
| 4NKTMA 100 280 S10 M14C | M14 | 2 | 4 | 10 | 28 | - | 85 | 10 |
| 4NKTMA 100 360 S10 M14C | M14 | 2 | 4 | 10 | 36 | - | 90 | 10 |
| 4NKTMA 116 420 S12 M14C | M14 | 2 | 4 | 11.6 | 21.75 | 42 | 90 | 12 |
| 4NKTMA 120 320 S12 M16C | M16 | 2 | 4 | 12 | 32 | - | 95 | 12 |
| 4NKTMA 120 400 S12 M16C | M16 | 2 | 4 | 12 | 40 | - | 100 | 12 |
| 4NKTMA 136 480 S14 M16C | M16 | 2 | 4 | 13.6 | 25.75 | 48 | 100 | 14 |
| 4NKTMA 140 400 S14 M18C | M18 | 2.5 | 5 | 14 | 40 | - | 95 | 14 |
| 4NKTMA 140 450 S14 M18C | M18 | 2.5 | 5 | 14 | 45 | - | 105 | 14 |
| 4NKTMA 160 400 S16 M20C | M20 | 2.5 | 5 | 16 | 40 | - | 105 | 16 |
| 4NKTMA 160 500 S16 M20C | M20 | 2.5 | 5 | 16 | 50 | - | 115 | 16 |

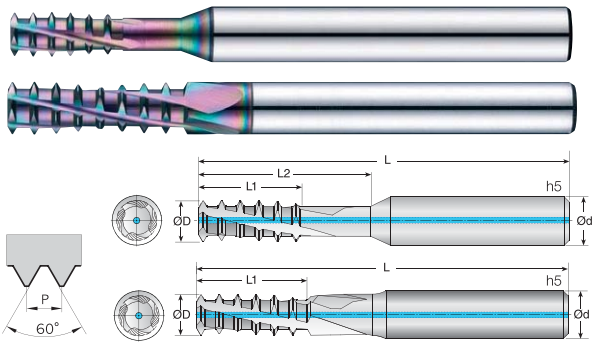
# 4NKTMS

Su richiesta/ *Sur demand*

*Fraise à fileter à 4 coupes dents alterné es pour Inox*

## *Fresa 4 Tagli a Filettare a Denti Alterni per Acciaio Inox*

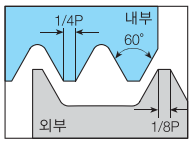
New




- **Fresa a filettare per lavorazioni su acciai inossidabili e leghe di titanio.**
- Filettature in alta velocità e avanzamenti.
- Massima profondità di filettatura: 2 x D, 2,5 x D, 3 x D (diametro filetto).
- Geometria a denti alternati.
- Gambo posteriore scaricato per filettature profonde.
- **Non è consigliabile l'utilizzo con pinze ER.**

- ***Fraise à fileter pour l'usinage de l'aluminium, alliages, matériaux non ferreux, non meétalliques.***
- *Filetages et avances à grande vitesse*
- 2 x D, 2,5 x D, 3 x D
- *Géométrie des dents alternées.*
- *Queue arriére déchargée pour les filetages profonds.*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

List. p.225




**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | Z | D | L1 | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4NKTMS 022 060 S06 M3 | M3 | 0.5 | 4 | 2.2 | 6 | - | 60 | 6 |
| 4NKTMS 022 080 S06 M3 | M3 | 0.5 | 4 | 2.2 | 8 | - | 60 | 6 |
| 4NKTMS 024 090 S04 M3 | M3 | 0.5 | 4 | 2.4 | 5.47 | 9 | 45 | 4 |
| 4NKTMS 029 084 S06 M4 | M4 | 0.7 | 4 | 2.9 | 8.4 | - | 60 | 6 |
| 4NKTMS 029 112 S06 M4 | M4 | 0.7 | 4 | 2.9 | 11.2 | - | 60 | 6 |
| 4NKTMS 0315 120 S04 M4 | M4 | 0.7 | 4 | 3.15 | 7.64 | 12 | 45 | 4 |
| 4NKTMS 038 112 S06 M5 | M5 | 0.8 | 4 | 3.8 | 11.2 | - | 60 | 6 |
| 4NKTMS 038 128 S06 M5 | M5 | 0.8 | 4 | 3.8 | 12.8 | - | 60 | 6 |
| 4NKTMS 039 150 S04 M5 | M5 | 0.8 | 4 | 3.9 | 8.73 | 15 | 50 | 4 |
| 4NKTMS 045 120 S06 M6 | M6 | 1 | 4 | 4.5 | 12 | - | 60 | 6 |
| 4NKTMS 045 160 S06 M6 | M6 | 1 | 4 | 4.5 | 16 | - | 60 | 6 |
| 4NKTMS 048 180 S06 M6 | M6 | 1 | 4 | 4.8 | 10.9 | 18 | 60 | 6 |
| 4NKTMS 060 175 S06 M8 | M8 | 1.25 | 4 | 6 | 17.5 | - | 65 | 6 |
| 4NKTMS 060 200 S06 M8 | M8 | 1.25 | 4 | 6 | 20 | - | 65 | 6 |
| 4NKTMS 065 240 S08 M8 | M8 | 1.25 | 4 | 6.5 | 13.62 | 24 | 65 | 8 |
| 4NKTMS 075 210 S08 M10 | M10 | 1.5 | 4 | 7.5 | 21 | - | 75 | 8 |
| 4NKTMS 075 270 S08 M10 | M10 | 1.5 | 4 | 7.5 | 27 | - | 75 | 8 |
| 4NKTMS 082 300 S10 M10 | M10 | 1.5 | 4 | 8.2 | 16.34 | 30 | 75 | 10 |
| 4NKTMS 095 245 S10 M12 | M12 | 1.75 | 4 | 9.5 | 24.5 | - | 80 | 10 |
| 4NKTMS 095 315 S10 M12 | M12 | 1.75 | 4 | 9.5 | 31.5 | - | 80 | 10 |
| 4NKTMS 099 360 S10 M12 | M12 | 1.75 | 4 | 9.9 | 19.06 | 36 | 85 | 10 |
| 4NKTMS 100 280 S10 M14 | M14 | 2 | 4 | 10 | 28 | - | 85 | 10 |
| 4NKTMS 100 360 S10 M14 | M14 | 2 | 4 | 10 | 36 | - | 90 | 10 |
| 4NKTMS 116 420 S12 M14 | M14 | 2 | 4 | 11.6 | 21.75 | 42 | 90 | 12 |
| 4NKTMS 120 320 S12 M16 | M16 | 2 | 4 | 12 | 32 | - | 95 | 12 |
| 4NKTMS 120 400 S12 M16 | M16 | 2 | 4 | 12 | 40 | - | 100 | 12 |
| 4NKTMS 136 480 S14 M16 | M16 | 2 | 4 | 13.6 | 25.75 | 48 | 100 | 14 |
| 4NKTMS 140 400 S14 M18 | M18 | 2.5 | 5 | 14 | 40 | - | 95 | 14 |
| 4NKTMS 140 450 S14 M18 | M18 | 2.5 | 5 | 14 | 45 | - | 105 | 14 |
| 4NKTMS 160 400 S16 M20 | M20 | 2.5 | 5 | 16 | 40 | - | 105 | 16 |
| 4NKTMS 160 500 S16 M20 | M20 | 2.5 | 5 | 16 | 50 | - | 115 | 16 |

# 4NKTMS

*Fraise à fileter à 4 coupes dents alterné es pour Inox*

## *Fresa 4 Tagli a Filettare a Denti Alterni per Acciaio Inox*

New

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | Z | D | L1 | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Senza refrigerante |
| 4NKTMS 045 120 S06 M6C | M6 | 1 | 4 | 4.5 | 12 | - | 60 | 6 |
| 4NKTMS 045 160 S06 M6C | M6 | 1 | 4 | 4.5 | 16 | - | 60 | 6 |
| 4NKTMS 048 180 S06 M6C | M6 | 1 | 4 | 4.8 | 10.9 | 18 | 60 | 6 |
| 4NKTMS 060 175 S06 M8C | M8 | 1.25 | 4 | 6 | 17.5 | - | 65 | 6 |
| 4NKTMS 060 200 S06 M8C | M8 | 1.25 | 4 | 6 | 20 | - | 65 | 6 |
| 4NKTMS 065 240 S08 M8C | M8 | 1.25 | 4 | 6.5 | 13.62 | 24 | 65 | 8 |
| 4NKTMS 075 210 S08 M10C | M10 | 1.5 | 4 | 7.5 | 21 | - | 75 | 8 |
| 4NKTMS 075 270 S08 M10C | M10 | 1.5 | 4 | 7.5 | 27 | - | 75 | 8 |
| 4NKTMS 082 300 S10 M10C | M10 | 1.5 | 4 | 8.2 | 16.34 | 30 | 75 | 10 |
| 4NKTMS 095 245 S10 M12C | M12 | 1.75 | 4 | 9.5 | 24.5 | - | 80 | 10 |
| 4NKTMS 095 315 S10 M12C | M12 | 1.75 | 4 | 9.5 | 31.5 | - | 80 | 10 |
| 4NKTMS 099 360 S10 M12C | M12 | 1.75 | 4 | 9.9 | 19.06 | 36 | 85 | 10 |
| 4NKTMS 100 280 S10 M14C | M14 | 2 | 4 | 10 | 28 | - | 85 | 10 |
| 4NKTMS 100 360 S10 M14C | M14 | 2 | 4 | 10 | 36 | - | 90 | 10 |
| 4NKTMS 116 420 S12 M14C | M14 | 2 | 4 | 11.6 | 21.75 | 42 | 90 | 12 |
| 4NKTMS 120 320 S12 M16C | M16 | 2 | 4 | 12 | 32 | - | 95 | 12 |
| 4NKTMS 120 400 S12 M16C | M16 | 2 | 4 | 12 | 40 | - | 100 | 12 |
| 4NKTMS 136 480 S14 M16C | M16 | 2 | 4 | 13.6 | 25.75 | 48 | 100 | 14 |
| 4NKTMS 140 400 S14 M18C | M18 | 2.5 | 5 | 14 | 40 | - | 95 | 14 |
| 4NKTMS 140 450 S14 M18C | M18 | 2.5 | 5 | 14 | 45 | - | 105 | 14 |
| 4NKTMS 160 400 S16 M20C | M20 | 2.5 | 5 | 16 | 40 | - | 105 | 16 |
| 4NKTMS 160 500 S16 M20C | M20 | 2.5 | 5 | 16 | 50 | - | 115 | 16 |

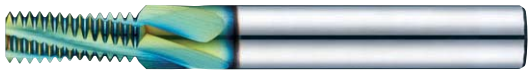
# 4NPTM

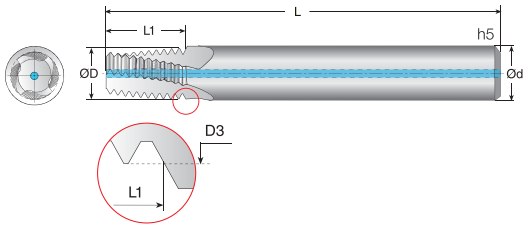
*Fraise à fileter à 4 coupes usage général Arrosage Central*

## Fresa 4 Tagli a Filettare con Adduzione Interna General Purpose

New

**Su richiesta**/ *Sur demand*



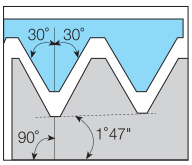



- **Fresa a filettare per lavorazioni su acciai bonificati, acciai temprati (~HRc52), acciai legati, acciai al carbonio e ghise.**
- Efficace alimentazione del refrigerante attraverso il foro interno.
- Grazie alla lubrificazione interna direttamente nella zona di taglio, risulta più agevole la rimozione dei trucioli.
- **Non è consigliabile l'utilizzo con pinze ER.**

- ***Fraise à fileter pour l'usinage des aciers traités (~HRc52), aciers alliés, aciers au carbone et fontes.***
- *Excellente évacuation des copeaux.*
- *Grâce à la lubrification directement sur la zone de coupe.*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

4 | UWC 초미립자 | TISIN-S Coating | 15° Helix Angle | R Rotation | €

List. p.226




USAS B2. 1:1968
NPT

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | C | Filetto | Passo | mm | Z | Zt | D | L1 | L | d |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Con refrigerante |
| 4NPTM 059 098 S06 | | 1/16-27C NPT | 27 | 6.3 | 4 | 10 | 5.9 | 9.8 | 60 | 6 |
| 4NPTM 0765 098 S08 | | 1/8-27C NPT | 27 | 8.5 | 4 | 10 | 7.65 | 9.8 | 60 | 8 |
| 4NPTM 099 147 S10 | | 1/4-18C NPT | 18 | 11.1 | 4 | 10 | 9.9 | 14.7 | 70 | 10 |
| 4NPTM 1115 147 S12 | | 3/8-18C NPT | 18 | 14.5 | 4 | 10 | 11.15 | 14.7 | 70 | 12 |
| 4NPTM 1425 189 S16 | | 1/2(3/4)-14C NPT | 14 | 17.7(23) | 4 | 10 | 14.25 | 18.9 | 90 | 16 |

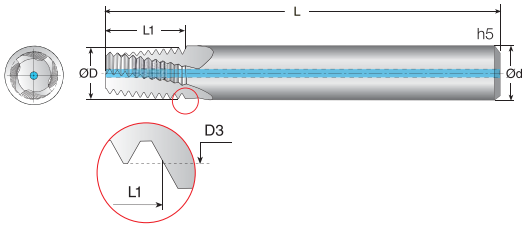
# 4NPTMA

*Fraise à fileter à 4 coupes pour Aluminium Arrosage Central*

## Fresa 4 Tagli a Filettare con Adduzione Interna per Alluminio

New

**Su richiesta**/ *Sur demand*

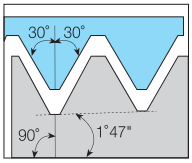



- **Fresa a filettare per lavorazioni su alluminio, leghe di alluminio, materiali non ferrosi e non metallici.**
- Efficace alimentazione del refrigerante attraverso il foro interno.
- Grazie alla lubrificazione interna direttamente nella zona di taglio, risulta più agevole la rimozione dei trucioli.
- **Non è consigliabile l'utilizzo con pinze ER.**

- ***Fraise à fileter pour l'usinage des aciers traités (~HRc52), aciers alliés, aciers au carbone et fontes.***
- *Excellente évacuation des copeaux.*
- *Grâce à la lubrification directement sur la zone de coupe.*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

4 | UWC 초미립자 | GTAC Coating | 15° Helix Angle | R Rotation | €

List. p.226




USAS B2. 1:1968
NPT

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | C | Filetto | Passo | mm | Z | Zt | D | L1 | L | d |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Con refrigerante |
| 4NPTMA 059 098 S06 | | 1/16-27C NPT | 27 | 6.3 | 4 | 10 | 5.9 | 9.8 | 60 | 6 |
| 4NPTMA 0765 098 S08 | | 1/8-27C NPT | 27 | 8.5 | 4 | 10 | 7.65 | 9.8 | 60 | 8 |
| 4NPTMA 099 147 S10 | | 1/4-18C NPT | 18 | 11.1 | 4 | 10 | 9.9 | 14.7 | 70 | 10 |
| 4NPTMA 1115 147 S12 | | 3/8-18C NPT | 18 | 14.5 | 4 | 10 | 11.15 | 14.7 | 70 | 12 |
| 4NPTMA 1425 189 S16 | | 1/2(3/4)-14C NPT | 14 | 17.7(23) | 4 | 10 | 14.25 | 18.9 | 90 | 16 |

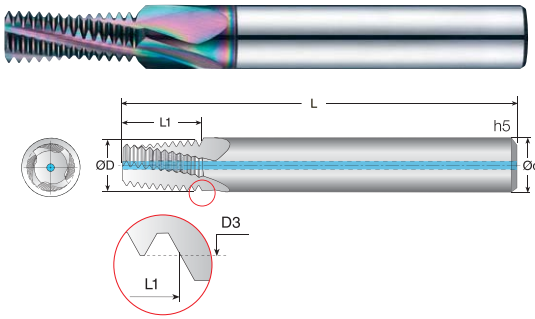
# 4NPTMS

*Fraise à fileter à 4 coupes pour Inox Arrosage Central*

## Fresa 4 Tagli a Filettare con Adduzione Interna per Acciai Inox

New

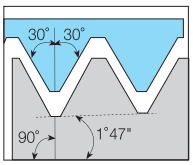
**Su richiesta**/ *Sur demand*




- **Fresa a filettare per lavorazioni su acciai inossidabili e leghe di titanio.**
- Efficace alimentazione del refrigerante attraverso il foro interno.
- Grazie alla lubrificazione interna direttamente nella zona di taglio, risulta più agevole la rimozione dei trucioli.
- **Non è consigliabile l'utilizzo con pinze ER.**
- ***Fraise à fileter pour l'usinage Inox alliage de titane***
- *Excellente évacuation des copeaux.*
- *Grâce à la lubrification directement sur la zone de coupe.*
- ***Il n'est pas raccommandé de l'utiliser avec les pinces ER.***

4 | UWC 초미립자 | R TISIN R | 15° Helix Angle | R Lotation | €

List. p.226




USAS B2. 1:1968
NPT

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | C | Filetto | Passo | mm | Z | Zt | D | L1 | L | d |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Con refrigerante |
| 4NPTMS 059 098 S06 | | 1/16-27C NPT | 27 | 6.3 | 4 | 10 | 5.9 | 9.8 | 60 | 6 |
| 4NPTMS 0765 098 S08 | | 1/8-27C NPT | 27 | 8.5 | 4 | 10 | 7.65 | 9.8 | 60 | 8 |
| 4NPTMS 099 147 S10 | | 1/4-18C NPT | 18 | 11.1 | 4 | 10 | 9.9 | 14.7 | 70 | 10 |
| 4NPTMS 1115 147 S12 | | 3/8-18C NPT | 18 | 14.5 | 4 | 10 | 11.15 | 14.7 | 70 | 12 |
| 4NPTMS 1425 189 S16 | | 1/2(3/4)-14C NPT | 14 | 17.7(23) | 4 | 10 | 14.25 | 18.9 | 90 | 16 |

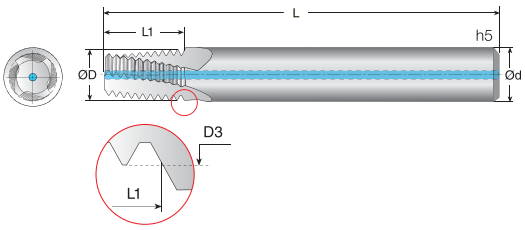
# 4BSTM

*Fraise à fileter à 4 coupes usage général Arrosage Central*

## Fresa 4 Tagli a Filettare con Adduzione Interna General Purpose

New

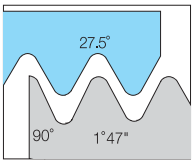
**Su richiesta**/ *Sur demand*




- **Fresa a filettare per lavorazioni su acciai bonificati, acciai temprati (~HRc52), acciai legati, acciai al carbonio e ghise.**
- Efficace alimentazione del refrigerante attraverso il foro interno.
- Grazie alla lubrificazione interna direttamente nella zona di taglio, risulta più agevole la rimozione dei trucioli.
- **Non è consigliabile l'utilizzo con pinze ER.**
- ***Fraise à fileter pour l'usinage des aciers traités (~HRc52), aciers alliés, aciers au carbone et fontes.***
- *Excellente évacuation des copeaux.*
- *Grâce à la lubrification directement sur la zone de coupe.*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

4 | UWC 초미립자 | TISIN-S Coating | 15° Helix Angle | R Rotation | €

List. p.226




B.S. 21:1985
BSPT

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | C | Filetto | Passo | mm | Z | Zt | D | L1 | L | d |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Con refrigerante |
| 4BSTM 059 103 S06 | | 1/16-28C BSPT | 28 | 6.7 | 4 | 10 | 5.9 | 10.3 | 60 | 6 |
| 4BSTM 0765 103 S08 | | 1/8-28C BSPT | 28 | 8.7 | 4 | 10 | 7.65 | 10.3 | 60 | 8 |
| 4BSTM 099 152 S10 | | 1/4-19C BSPT | 19 | 11.8 | 4 | 10 | 9.9 | 15.2 | 70 | 10 |
| 4BSTM 1115 152 S12 | | 3/8-19C BSPT | 19 | 15.2 | 4 | 10 | 11.15 | 15.2 | 70 | 12 |
| 4BSTM 1425 224 S16 | | 1/2(3/4)-14C BSPT | 14 | 19 | 4 | 10 | 14.25 | 22.4 | 90 | 16 |

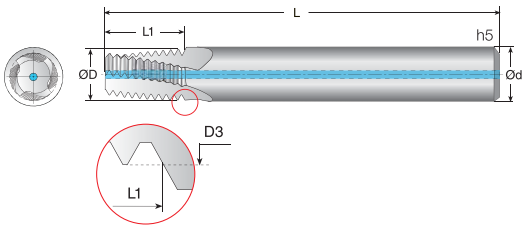
# 4BSTMA

*Fraise à fileter à 4 coupes pour Aluminium Arrosage Central*

## Fresa 4 Tagli a Filettare con Adduzione Interna per Alluminio

New

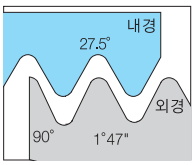
**Su richiesta**/ *Sur demand*




- **Fresa a filettare per lavorazioni su alluminio, leghe di alluminio, materiali non ferrosi e non metallici.**
- Efficace alimentazione del refrigerante attraverso il foro interno.
- Grazie alla lubrificazione interna direttamente nella zona di taglio, risulta più agevole la rimozione dei trucioli.
- **Non è consigliabile l'utilizzo con pinze ER.**
- ***Fraise à fileter pour l'usinage des aciers traités (~HRc52), aciers alliés, aciers au carbone et fontes.***
- *Excellente évacuation des copeaux.*
- Grâce à la lubrification directement sur la zone de coupe.
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

4 | UWC 초미립자 | GTAC Coating | 15° Helix Angle | R Rotation | €

List. p.226




B.S. 21:1985
BSPT

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | C | Filetto | Passo | mm | Z | Zt | D | L1 | L | d |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Con refrigerante |
| 4BSTMA 059 103 S06 | | 1/16-28C BSPT | 28 | 6.7 | 4 | 10 | 5.9 | 10.3 | 60 | 6 |
| 4BSTMA 0765 103 S08 | | 1/8-28C BSPT | 28 | 8.7 | 4 | 10 | 7.65 | 10.3 | 60 | 8 |
| 4BSTMA 099 152 S10 | | 1/4-19C BSPT | 19 | 11.8 | 4 | 10 | 9.9 | 15.2 | 70 | 10 |
| 4BSTMA 1115 152 S12 | | 3/8-19C BSPT | 19 | 15.2 | 4 | 10 | 11.15 | 15.2 | 70 | 12 |
| 4BSTMA 1425 224 S16 | | 1/2(3/4)-14C BSPT | 14 | 19 | 4 | 10 | 14.25 | 22.4 | 90 | 16 |

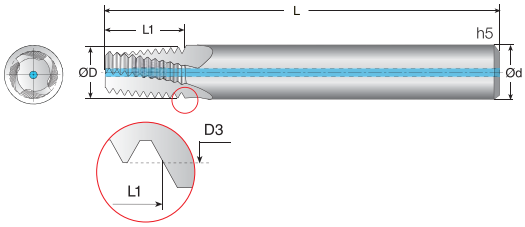
# 4BSTMS

*Fraise à fileter à 4 coupes pour Inox Arrosage Central*

## Fresa 4 Tagli a Filettare con Adduzione Interna per Acciai Inox

New

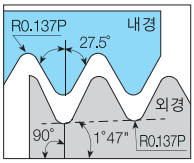
**Su richiesta**/ *Sur demand*




- **Fresa a filettare per lavorazioni su acciai inossidabili e leghe di titanio.**
- Efficace alimentazione del refrigerante attraverso il foro interno.
- Grazie alla lubrificazione interna direttamente nella zona di taglio, risulta più agevole la rimozione dei trucioli.
- **Non è consigliabile l'utilizzo con pinze ER.**
- ***Fraise à fileter pour l'usinage Inox alliage de titane***
- *Excellente évacuation des copeaux.*
- Grâce à la lubrification directement sur la zone de coupe.
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

4 | UWC 초미립자 | R TISIN-R | 15° Helix Angle | R Rotation | €

List. p.226




B.S. 21:1985
BSPT

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | C | Filetto | Passo | mm | Z | Zt | D | L1 | L | d |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Con refrigerante |
| 4BSTMS 059 103 S06 | | 1/16-28C BSPT | 28 | 6.7 | 4 | 10 | 5.9 | 10.3 | 60 | 6 |
| 4BSTMS 0765 103 S08 | | 1/8-28C BSPT | 28 | 8.7 | 4 | 10 | 7.65 | 10.3 | 60 | 8 |
| 4BSTMS 099 152 S10 | | 1/4-19C BSPT | 19 | 11.8 | 4 | 10 | 9.9 | 15.2 | 70 | 10 |
| 4BSTMS 1115 152 S12 | | 3/8-19C BSPT | 19 | 15.2 | 4 | 10 | 11.15 | 15.2 | 70 | 12 |
| 4BSTMS 1425 224 S16 | | 1/2(3/4)-14C BSPT | 14 | 19 | 4 | 10 | 14.25 | 22.4 | 90 | 16 |

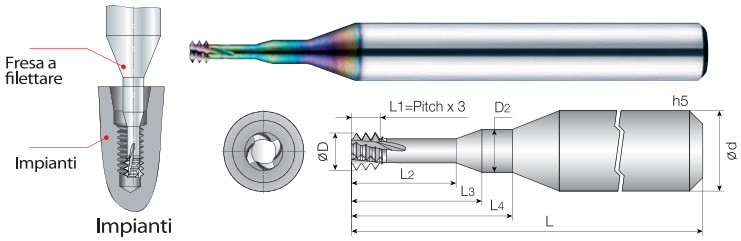
# 4IMTM

*Fraise à fileter à 4 coupes pour Implants Dentaires (3 dents)*

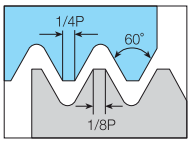
## *Fresa 4 Tagli a Filettare per Impianti Dentali (3 denti)*

New

**Su richiesta**/ *Sur demand*




- **Fresa a filettare per lavorazioni su titanio e leghe di titanio.**
- Geometria robusta e resistente per filettature su materiali temprati.
- Forze di taglio ridotte e ottima evacuazione del truciolo per ridurre il rischio di rotture all'interno del foro.
- La speciale geometria riduce la resistenza al taglio ed elimina eventuali flessioni dell'utensile.
- Riduzione drastica di rotture.
- **Non è consigliabile l'utilizzo con pinze ER.**
- ***Fraise à fileter pour l'usinage du titane et alliages de titane.***
- *Géométrie robuste et durable pour les filetages sue des matériaux durcis.*
- *Faibles efforts de coupe et excellente évacuation des copeaux pour réduire le risque de casse à l'intérieur du trou.*
- *La géométrie spéciale réduit la résistance aux coupures et élimine toute flexion de l'outil.*
- *Réduction drastique des casses.*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***




4 | UWC 초미립자 | R TISIN-R | 15° Helix Angle | R Rotation | €

List. p.227

**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | Z | Zt | D | D2 | L2 | L3 | L4 | L | d |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Con refrigerante |
| 4IMTM 009 025 S03 M012 | M1.2 | 0.25 | 4 | 3 | 0.9 | 0.95 | 2.5 | 3.3 | 4.3 | 40 | 3 |
| 4IMTM 0105 028 S03 M014 | M1.4 | 0.3 | 4 | 3 | 1.05 | 1.1 | 2.8 | 3.5 | 5 | 40 | 3 |
| 4IMTM 012 033 S03 M016 | M1.6 | 0.35 | 4 | 3 | 1.2 | 1.25 | 3.3 | 4.2 | 5.9 | 40 | 3 |
| 4IMTM 014 038 S03 M018 | M1.8 | 0.35 | 4 | 3 | 1.4 | 1.45 | 3.8 | 4.7 | 6.6 | 40 | 3 |
| 4IMTM 0154 039 S03 M2 | M2 | 0.4 | 4 | 3 | 1.54 | 1.7 | 3.9 | 4.9 | 6.7 | 40 | 3 |
| 4IMTM 0196 048 S03 M025 | M2.5 | 0.45 | 4 | 3 | 1.96 | 2 | 4.8 | 5.8 | 8.2 | 40 | 3 |

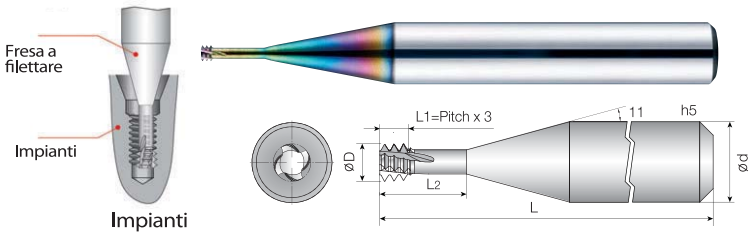
# 4IMTM

*Fraise à fileter à 4 coupes pour Implants Dentaires (3 dents)*

## *Fresa 4 Tagli a Filettare per Impianti Dentali (3 denti)*

New

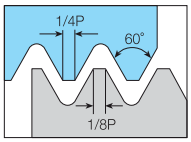
**Su richiesta**/ *Sur demand*




- **Fresa a filettare per lavorazioni su titanio e leghe di titanio.**
- Geometria robusta e resistente per filettature su materiali temprati.
- Forze di taglio ridotte e ottima evacuazione del truciolo per ridurre il rischio di rotture all'interno del foro.
- La speciale geometria riduce la resistenza al taglio ed elimina eventuali flessioni dell'utensile.
- Riduzione drastica di rotture.
- **Non è consigliabile l'utilizzo con pinze ER.**
- ***Fraise à fileter pour l'usinage du titane et alliages de titane.***
- *Géométrie robuste et durable pour les filetages sue des matériaux durcis.*
- *Faibles efforts de coupe et excellente évacuation des copeaux pour réduire le risque de casse à l'intérieur du trou.*
- *La géométrie spéciale réduit la résistance aux coupures et élimine toute flexion de l'outil.*
- *Réduction drastique des casses.*
- ***Il n'est pas recommandé de l'utiliser avec les pinces ER.***

4 | UWC 초미립자 | R TISIN-R | € | 15° Helix Angle | R Rotation

List. p.227




**ISO**

Unità: mm

| Numero d'Ordine *Reference* | Filetto | Passo | Z | Zt | D | L2 | L | d |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Con refrigerante |
| 3IMTM 0057 023 S06 M008 | M0.8 | 0.2 | 3 | 3 | 0.57 | 2.3 | 50 | 6 |
| 3IMTM 0064 026 S06 M009 | M0.9 | 0.225 | 3 | 3 | 0.64 | 2.6 | 50 | 6 |
| 4IMTM 0071 029 S06 M1 | M1 | 0.25 | 4 | 3 | 0.71 | 2.9 | 50 | 6 |
| 4IMTM 0091 034 S06 M012 | M1.2 | 0.25 | 4 | 3 | 0.91 | 3.4 | 50 | 6 |
| 4IMTM 0105 039 S06 M014 | M1.4 | 0.3 | 4 | 3 | 1.05 | 3.9 | 50 | 6 |
| 4IMTM 012 045 S06 M016 | M1.6 | 0.35 | 4 | 3 | 1.2 | 4.5 | 50 | 6 |
| 4IMTM 014 050 S06 M018 | M1.8 | 0.35 | 4 | 3 | 1.4 | 5 | 50 | 6 |
| 4IMTM 0154 056 S06 M2 | M2 | 0.4 | 4 | 3 | 1.54 | 5.6 | 50 | 6 |
| 4IMTM 0184 063 S06 M023 | M2.3 | 0.4 | 4 | 3 | 1.84 | 6.3 | 50 | 6 |
| 4IMTM 0198 069 S06 M025 | M2.5 | 0.45 | 4 | 3 | 1.98 | 6.9 | 50 | 6 |
| 4IMTM 0208 071 S06 M026 | M2.6 | 0.45 | 4 | 3 | 2.08 | 7.1 | 50 | 6 |

# Note

233
famiglie/familles
15320
utensili/outils

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