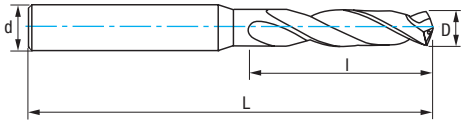
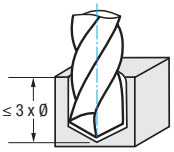
# Ref. 8410

## BROCA METAL DURO REFRIGERACIÓN INTERIOR 3XD
3XD Internal Cooling Carbide Drill Bit
Foret carbure lubrification interne 3XD




**MD**/HM Carbure Grano UF | ALTIN | DIN 6537 K | 140° | 30° | DIN 6535 HA | HRC 45-55 | Tol. m7 | **3XD**




| Material | | Vc (m/min) * | Avances** f/rev. (mm/rev) - Feed** - Pas** | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Grupo | Sub. | ALTIN | Ø 4 | Ø 6 | Ø 8 | Ø 10 | Ø 12 | Ø 14 | Ø 16 |
| P | P.1 | 100-120 | 0,180 | 0,200 | 0,280 | 0,300 | 0,350 | 0,400 | 0,450 |
| | P.2 | 90-110 | 0,160 | 0,180 | 0,200 | 0,220 | 0,280 | 0,300 | 0,350 |
| | P.3 | 75-95 | 0,080 | 0,100 | 0,110 | 0,120 | 0,140 | 0,180 | 0,220 |
| | P.4 | 35-40 | 0,050 | 0,070 | 0,090 | 0,100 | 0,110 | 0,140 | 0,160 |
| | P.5 | 50-65 | 0,090 | 0,120 | 0,150 | 0,180 | 0,200 | 0,240 | 0,260 |
| M | | 30-40 | 0,060 | 0,060 | 0,060 | 0,080 | 0,100 | 0,120 | 0,160 |
| K | K.1 | 125-150 | 0,200 | 0,220 | 0,300 | 0,350 | 0,400 | 0,450 | 0,550 |
| | K.2 | 90-110 | 0,180 | 0,200 | 0,260 | 0,280 | 0,300 | 0,350 | 0,450 |
| S | | 35-50 | 0,060 | 0,090 | 0,090 | 0,100 | 0,140 | 0,160 | 0,180 |

$$r.p.m. = \frac{Vc \times 1.000}{\pi \times ø}$$

**Vf = r.p.m. x f x K** **Vf (Avance mm/min Feed/Pas)**

**K = Coeficiente corrección segun profundidad taladrado**
**Correction coefficient depending on drilling depth**
Coéficient correction suivant la profondeur du perçage

***K para/for/pour Vc:**
< 3 x ø → K = 1
< 4 x ø → K = 0,9
< 5 x ø → K = 0,8

****K para/for/pour Vf:**
< 3 x ø → K = 1
> 3 x ø → K = 0,9

| | D mm | d mm | L mm | l mm | | N° Art. ALTIN | € |
|---|---|---|---|---|---|---|---|
| | **3,00** | 6,00 | 62 | 20 | 1 | 12950 | **55,42** |
| New! | **3,10** | 6,00 | 62 | 20 | 1 | 78712 | **55,42** |
| | **3,20** | 6,00 | 62 | 20 | 1 | 12951 | **55,42** |
| | **3,30** | 6,00 | 62 | 20 | 1 | 12952 | **55,42** |
| | **3,40** | 6,00 | 62 | 20 | 1 | 12953 | **55,42** |
| | **3,50** | 6,00 | 62 | 20 | 1 | 12954 | **55,42** |
| New! | **3,60** | 6,00 | 62 | 20 | 1 | 87675 | **55,42** |
| | **3,70** | 6,00 | 62 | 20 | 1 | 12955 | **55,42** |
| New! | **3,90** | 6,00 | 66 | 24 | 1 | 87992 | **55,42** |
| | **4,00** | 6,00 | 66 | 24 | 1 | 16315 | **55,42** |
| | **4,10** | 6,00 | 66 | 24 | 1 | 16317 | **55,42** |
| | **4,20** | 6,00 | 66 | 24 | 1 | 16319 | **55,42** |

| | D mm | d mm | L mm | l mm | | N° Art. ALTIN | € |
|---|---|---|---|---|---|---|---|
| New! | **4,25** | 6,00 | 66 | 24 | 1 | 78716 | **55,42** |
| | **4,30** | 6,00 | 66 | 24 | 1 | 16448 | **55,42** |
| | **4,50** | 6,00 | 66 | 24 | 1 | 16559 | **55,42** |
| | **4,60** | 6,00 | 66 | 24 | 1 | 16568 | **55,42** |
| | **4,70** | 6,00 | 66 | 24 | 1 | 16588 | **55,42** |
| | **4,80** | 6,00 | 66 | 28 | 1 | 16589 | **55,42** |
| New! | **4,90** | 6,00 | 66 | 28 | 1 | 78743 | **55,42** |
| | **5,00** | 6,00 | 66 | 28 | 1 | 16601 | **55,42** |
| | **5,10** | 6,00 | 66 | 28 | 1 | 16603 | **55,42** |
| | **5,20** | 6,00 | 66 | 28 | 1 | 16604 | **55,42** |
| | **5,30** | 6,00 | 66 | 28 | 1 | 16605 | **55,42** |
| New! | **5,40** | 6,00 | 66 | 28 | 1 | 87996 | **55,42** |

# Ref. 8410

## BROCA METAL DURO REFRIGERACIÓN INTERIOR 3XD
3XD Internal Cooling Carbide Drill Bit
Foret carbure lubrification interne 3XD

| | D mm | d mm | L mm | l mm | | Nº Art. ALTIN | € |
|---|---|---|---|---|---|---|---|
| | 5,50 | 6,00 | 66 | 28 | 1 | 16607 | 55,42 |
| | 5,60 | 6,00 | 66 | 28 | 1 | 16609 | 55,42 |
| | 5,70 | 6,00 | 66 | 28 | 1 | 16616 | 55,42 |
| | 5,80 | 6,00 | 66 | 28 | 1 | 16645 | 55,42 |
| | 6,00 | 6,00 | 66 | 28 | 1 | 16671 | 55,42 |
| | 6,10 | 8,00 | 79 | 34 | 1 | 16684 | 65,70 |
| | 6,20 | 8,00 | 79 | 34 | 1 | 16698 | 65,70 |
| | 6,30 | 8,00 | 79 | 34 | 1 | 16705 | 65,70 |
| | 6,50 | 8,00 | 79 | 34 | 1 | 16732 | 65,70 |
| New! | 6,60 | 8,00 | 79 | 34 | 1 | 16740 | 65,70 |
| New! | 6,70 | 8,00 | 79 | 34 | 1 | 80094 | 65,70 |
| | 6,75 | 8,00 | 79 | 34 | 1 | 68282 | 65,70 |
| | 6,80 | 8,00 | 79 | 34 | 1 | 16742 | 65,70 |
| | 6,90 | 8,00 | 79 | 34 | 1 | 16744 | 65,70 |
| | 7,00 | 8,00 | 79 | 34 | 1 | 16745 | 65,70 |
| New! | 7,10 | 8,00 | 79 | 41 | 1 | 88000 | 65,70 |
| | 7,20 | 8,00 | 79 | 41 | 1 | 16747 | 65,70 |
| New! | 7,30 | 8,00 | 79 | 41 | 1 | 88065 | 65,70 |
| | 7,40 | 8,00 | 79 | 41 | 1 | 16750 | 65,70 |
| | 7,50 | 8,00 | 79 | 41 | 1 | 16751 | 65,70 |
| New! | 7,60 | 8,00 | 79 | 41 | 1 | 87671 | 65,70 |
| New! | 7,70 | 8,00 | 79 | 41 | 1 | 88004 | 65,70 |
| | 7,80 | 8,00 | 79 | 41 | 1 | 16756 | 65,70 |
| | 7,90 | 8,00 | 79 | 41 | 1 | 16757 | 65,70 |
| | 8,00 | 8,00 | 79 | 41 | 1 | 16759 | 65,70 |
| | 8,10 | 10,00 | 89 | 47 | 1 | 16760 | 73,71 |
| | 8,20 | 10,00 | 89 | 47 | 1 | 16762 | 73,71 |
| | 8,50 | 10,00 | 89 | 47 | 1 | 16766 | 73,71 |
| | 8,60 | 10,00 | 89 | 47 | 1 | 16767 | 73,71 |
| | 8,70 | 10,00 | 89 | 47 | 1 | 16768 | 73,71 |
| | 8,80 | 10,00 | 89 | 47 | 1 | 16769 | 73,71 |
| New! | 8,90 | 10,00 | 89 | 47 | 1 | 80124 | 73,71 |
| | 9,00 | 10,00 | 89 | 47 | 1 | 16772 | 73,71 |
| | 9,30 | 10,00 | 89 | 47 | 1 | 16775 | 73,71 |
| | 9,50 | 10,00 | 89 | 47 | 1 | 16778 | 73,71 |
| | 9,80 | 10,00 | 89 | 47 | 1 | 16781 | 73,71 |
| | 10,00 | 10,00 | 89 | 47 | 1 | 16807 | 73,71 |
| | 10,10 | 12,00 | 102 | 55 | 1 | 68283 | 109,74 |
| | 10,20 | 12,00 | 102 | 55 | 1 | 16822 | 109,74 |
| | 10,30 | 12,00 | 102 | 55 | 1 | 68284 | 109,74 |
| | 10,40 | 12,00 | 102 | 55 | 1 | 13022 | 109,74 |
| | 10,50 | 12,00 | 102 | 55 | 1 | 16834 | 109,74 |
| | 10,70 | 12,00 | 102 | 55 | 1 | 68285 | 109,74 |
| | 10,80 | 12,00 | 102 | 55 | 1 | 16835 | 109,74 |
| New! | 10,90 | 12,00 | 102 | 55 | 1 | 88069 | 109,74 |
| | 11,00 | 12,00 | 102 | 55 | 1 | 16836 | 109,74 |
| | 11,10 | 12,00 | 102 | 55 | 1 | 13023 | 109,74 |
| | 11,20 | 12,00 | 102 | 55 | 1 | 13028 | 109,74 |
| New! | 11,30 | 12,00 | 102 | 55 | 1 | 80322 | 109,74 |
| New! | 11,40 | 12,00 | 102 | 55 | 1 | 88073 | 109,74 |
| | 11,50 | 12,00 | 102 | 55 | 1 | 16837 | 109,74 |
| New! | 11,60 | 12,00 | 102 | 55 | 1 | 88077 | 109,74 |

| | D mm | d mm | L mm | l mm | | Nº Art. ALTIN | € |
|---|---|---|---|---|---|---|---|
| | 11,70 | 12,00 | 102 | 55 | 1 | 68286 | 109,74 |
| | 11,80 | 12,00 | 102 | 55 | 1 | 13029 | 109,74 |
| New! | 11,90 | 12,00 | 102 | 55 | 1 | 88081 | 109,74 |
| | 12,00 | 12,00 | 102 | 55 | 1 | 16838 | 109,74 |
| | 12,10 | 14,00 | 107 | 60 | 1 | 68287 | 147,38 |
| | 12,20 | 14,00 | 107 | 60 | 1 | 68288 | 147,38 |
| New! | 12,30 | 14,00 | 107 | 60 | 1 | 26405 | 147,38 |
| New! | 12,40 | 14,00 | 107 | 60 | 1 | 80327 | 147,38 |
| | 12,50 | 14,00 | 107 | 60 | 1 | 16840 | 147,38 |
| New! | 12,60 | 14,00 | 107 | 60 | 1 | 88089 | 147,38 |
| | 12,70 | 14,00 | 107 | 60 | 1 | 13031 | 147,38 |
| New! | 12,90 | 14,00 | 107 | 60 | 1 | 88093 | 147,38 |
| | 13,00 | 14,00 | 107 | 60 | 1 | 16841 | 147,38 |
| New! | 13,10 | 14,00 | 107 | 60 | 1 | 80328 | 147,38 |
| New! | 13,30 | 14,00 | 107 | 60 | 1 | 80363 | 147,38 |
| New! | 13,40 | 14,00 | 107 | 60 | 1 | 88097 | 147,38 |
| | 13,50 | 14,00 | 107 | 60 | 1 | 16842 | 147,38 |
| New! | 13,60 | 14,00 | 107 | 60 | 1 | 88101 | 147,38 |
| | 13,70 | 14,00 | 107 | 60 | 1 | 68289 | 147,38 |
| New! | 13,80 | 14,00 | 107 | 60 | 1 | 80392 | 147,38 |
| New! | 13,90 | 14,00 | 107 | 60 | 1 | 88105 | 147,38 |
| | 14,00 | 14,00 | 107 | 60 | 1 | 16844 | 147,38 |
| New! | 14,10 | 16,00 | 115 | 65 | 1 | 88117 | 189,79 |
| | 14,20 | 16,00 | 115 | 65 | 1 | 46689 | 189,79 |
| New! | 14,30 | 16,00 | 115 | 65 | 1 | 88121 | 189,79 |
| New! | 14,40 | 16,00 | 115 | 65 | 1 | 88126 | 189,79 |
| | 14,50 | 16,00 | 115 | 65 | 1 | 16848 | 189,79 |
| New! | 14,60 | 16,00 | 115 | 65 | 1 | 88145 | 189,79 |
| | 14,70 | 16,00 | 115 | 65 | 1 | 68290 | 189,79 |
| New! | 14,80 | 16,00 | 115 | 65 | 1 | 88149 | 189,79 |
| New! | 14,90 | 16,00 | 115 | 65 | 1 | 88153 | 189,79 |
| | 15,00 | 16,00 | 115 | 65 | 1 | 16849 | 189,79 |
| New! | 15,10 | 16,00 | 115 | 65 | 1 | 88170 | 189,79 |
| New! | 15,20 | 16,00 | 115 | 65 | 1 | 88181 | 189,79 |
| New! | 15,30 | 16,00 | 115 | 65 | 1 | 88187 | 189,79 |
| New! | 15,40 | 16,00 | 115 | 65 | 1 | 88188 | 189,79 |
| | 15,50 | 16,00 | 115 | 65 | 1 | 16855 | 189,79 |
| New! | 15,60 | 16,00 | 115 | 65 | 1 | 88193 | 189,79 |
| | 15,70 | 16,00 | 115 | 65 | 1 | 68291 | 189,79 |
| New! | 15,80 | 16,00 | 115 | 65 | 1 | 88199 | 189,79 |
| New! | 15,90 | 16,00 | 115 | 65 | 1 | 88200 | 189,79 |
| | 16,00 | 16,00 | 115 | 65 | 1 | 16867 | 189,79 |
| | 16,50 | 18,00 | 123 | 73 | 1 | 12960 | 303,95 |
| | 17,00 | 18,00 | 123 | 73 | 1 | 12962 | 303,95 |
| | 17,50 | 18,00 | 123 | 73 | 1 | 12963 | 303,95 |
| | 18,00 | 18,00 | 123 | 73 | 1 | 12965 | 303,95 |
| | 18,50 | 20,00 | 131 | 79 | 1 | 12968 | 331,44 |
| | 19,00 | 20,00 | 131 | 79 | 1 | 12969 | 331,44 |
| | 19,50 | 20,00 | 131 | 79 | 1 | 12970 | 331,44 |
| | 20,00 | 20,00 | 131 | 79 | 1 | 12972 | 331,44 |

DIN 6535 HE

**Disponible en stock hasta fin de existencias**
**Available in stock while stock lasts**
Disponible en stock jusqu'á la fin de stock

Ref. 8412