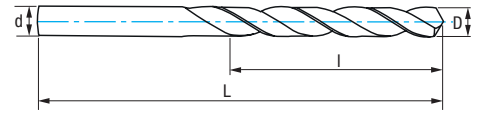


Ref. **1010**
CLASSIQUE

BROCA MANGO CILÍNDRICO USO GENERAL HSS. SERIE CORTA
HSS General Purpose Straight Shank Drill Bit. Jobber Series
Foret queue cylindrique utilisation générale HSS. Série courte

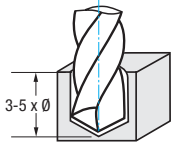


| | | | | | | |
|-----|-----------|-----------|------|-------------|------------------------------------|-----------|
| HSS | HSS + TIN | DIN 338 N | 118° | Blue Finish | Rectificado Ground Taillé meulé | Tol. D h8 |
|-----|-----------|-----------|------|-------------|------------------------------------|-----------|



HSS **TIN** **x2,5** Resistencia al desgaste
Wear Resistance
Résistant à l'usure

| Material | | Vc (m/min) | | Avances f/rev. (mm/rev) - Feed - Pas | | | | | | | | | | | |
|----------|------|------------|-------|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|--|
| Grupo | Sub. | HSS | TIN | Ø 2 | Ø 3 | Ø 4 | Ø 5 | Ø 6 | Ø 8 | Ø 10 | Ø 12 | Ø 16 | Ø 20 | | |
| P | P.1 | 25-30 | 30-35 | 0,045 | 0,055 | 0,070 | 0,080 | 0,100 | 0,120 | 0,150 | 0,160 | 0,180 | 0,250 | | |
| K | K.1 | 30-35 | 36-42 | 0,060 | 0,090 | 0,100 | 0,120 | 0,150 | 0,180 | 0,210 | 0,250 | 0,300 | 0,360 | | |
| | K.2 | 25-30 | 30-36 | 0,050 | 0,070 | 0,080 | 0,100 | 0,120 | 0,140 | 0,170 | 0,200 | 0,240 | 0,280 | | |
| N | N.3 | 60-80 | 72-96 | 0,080 | 0,110 | 0,130 | 0,150 | 0,190 | 0,220 | 0,260 | 0,320 | 0,380 | 0,450 | | |
| | N.4 | | | 0,080 | 0,110 | 0,130 | 0,150 | 0,190 | 0,220 | 0,260 | 0,320 | 0,380 | 0,450 | | |
| | N.5 | 40-50 | 48-60 | 0,060 | 0,090 | 0,100 | 0,120 | 0,150 | 0,180 | 0,210 | 0,250 | 0,300 | 0,360 | | |



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

$$Vf (mm/min.) = r.p.m. \times f$$



| D mm | L mm | I mm | Icon | Nº Art. HSS | Nº Art. TIN |
|------------------|------|------|------|-------------|-------------|
| 0,30 | 19 | 3 | 10 | 17996 | |
| 0,35 | 19 | 4 | 10 | 17999 | |
| 0,40 | 20 | 5 | 10 | 18002 | |
| 0,45 | 20 | 5 | 10 | 18005 | |
| 0,50 | 22 | 6 | 10 | 18008 | |
| 0,55 | 24 | 7 | 10 | 18011 | |
| 0,60 | 24 | 7 | 10 | 18014 | |
| 0,65 | 26 | 8 | 10 | 18017 | |
| 0,70 | 28 | 9 | 10 | 18020 | |
| 0,75 | 28 | 9 | 10 | 18023 | |
| 0,80 | 30 | 10 | 10 | 18026 | |
| 0,85 | 30 | 10 | 10 | 18029 | |
| 0,90 | 32 | 11 | 10 | 18032 | |
| 0,95 | 32 | 11 | 10 | 18035 | |
| 1,00 | 34 | 12 | 10 | 10001 | 18305 |
| New! 1,05 | 34 | 12 | 10 | 18038 | 53352 |
| 1,10 | 36 | 14 | 10 | 10004 | 15056 |
| 1,15 | 36 | 14 | 10 | 18041 | |
| 1,20 | 38 | 16 | 10 | 10007 | 18308 |
| 1,25 | 38 | 16 | 10 | 10010 | 27087 |
| 1,30 | 38 | 16 | 10 | 10013 | 18311 |
| 1,35 | 40 | 18 | 10 | 18050 | |
| 1,40 | 40 | 18 | 10 | 10016 | 27337 |
| 1,45 | 40 | 18 | 10 | 18053 | |
| 1,50 | 40 | 18 | 10 | 10019 | 18314 |
| 1,55 | 43 | 20 | 10 | 18059 | |
| 1,60 | 43 | 20 | 10 | 10022 | 18317 |
| 1,65 | 43 | 20 | 10 | 18062 | |
| 1,70 | 43 | 20 | 10 | 10025 | 18320 |
| 1,75 | 46 | 22 | 10 | 10028 | 18323 |
| 1,80 | 46 | 22 | 10 | 10031 | 18326 |
| New! 1,85 | 46 | 22 | 10 | 18068 | 77801 |
| 1,90 | 46 | 22 | 10 | 10034 | 18329 |
| 1,95 | 49 | 24 | 10 | 18071 | |
| 2,00 | 49 | 24 | 10 | 10037 | 18332 |
| 2,05 | 49 | 24 | 10 | 18074 | |
| 2,10 | 49 | 24 | 10 | 10040 | 18335 |
| 2,15 | 53 | 27 | 10 | 18077 | |

| D mm | L mm | I mm | Icon | Nº Art. HSS | Nº Art. TIN |
|------|------|------|------|-------------|-------------|
| 2,20 | 53 | 27 | 10 | 10043 | 18338 |
| 2,25 | 53 | 27 | 10 | 10046 | 18341 |
| 2,30 | 53 | 27 | 10 | 10049 | 18344 |
| 2,35 | 53 | 27 | 10 | 18080 | |
| 2,40 | 57 | 30 | 10 | 10052 | 18347 |
| 2,45 | 57 | 30 | 10 | 18083 | |
| 2,50 | 57 | 30 | 10 | 10055 | 18350 |
| 2,55 | 57 | 30 | 10 | 18086 | |
| 2,60 | 57 | 30 | 10 | 10058 | 18353 |
| 2,65 | 57 | 30 | 10 | 18089 | |
| 2,70 | 61 | 33 | 10 | 10061 | 27166 |
| 2,75 | 61 | 33 | 10 | 10064 | 18356 |
| 2,80 | 61 | 33 | 10 | 10067 | 18359 |
| 2,85 | 61 | 33 | 10 | 18092 | |
| 2,90 | 61 | 33 | 10 | 10070 | 27088 |
| 2,95 | 61 | 33 | 10 | 18095 | |
| 3,00 | 61 | 33 | 10 | 10073 | 18362 |
| 3,05 | 65 | 36 | 10 | 18098 | 17358 |
| 3,10 | 65 | 36 | 10 | 10076 | 18365 |
| 3,15 | 65 | 36 | 10 | 27343 | 29078 |
| 3,20 | 65 | 36 | 10 | 10079 | 18368 |
| 3,25 | 65 | 36 | 10 | 10082 | 18371 |
| 3,30 | 65 | 36 | 10 | 10085 | 18374 |
| 3,35 | 65 | 36 | 10 | 27345 | |
| 3,40 | 70 | 39 | 10 | 10088 | 27322 |
| 3,45 | 70 | 39 | 10 | 27346 | 21777 |
| 3,50 | 70 | 39 | 10 | 10091 | 18377 |
| 3,55 | 70 | 39 | 10 | 18101 | |
| 3,60 | 70 | 39 | 10 | 10094 | 27323 |
| 3,65 | 70 | 39 | 10 | 18104 | |
| 3,70 | 70 | 39 | 10 | 10097 | 18380 |
| 3,75 | 70 | 39 | 10 | 10100 | 18383 |
| 3,80 | 75 | 43 | 10 | 10103 | 18386 |
| 3,85 | 75 | 43 | 10 | 18107 | 79546 |
| 3,90 | 75 | 43 | 10 | 10106 | 27165 |
| 3,95 | 75 | 43 | 10 | 18110 | |
| 4,00 | 75 | 43 | 10 | 10109 | 18389 |
| 4,05 | 75 | 43 | 10 | 27349 | |

Ref. **1010**
CLASSIQUE**BROCA MANGO CILÍNDRICO USO GENERAL HSS. SERIE CORTA**

HSS General Purpose Straight Shank Drill Bit. Jobber Series

Foret queue cylindrique utilisation générale HSS. Série courte



| D mm | L mm | I mm |  | Nº Art. HSS | Nº Art. TIN | D mm | L mm | I mm |  | Nº Art. HSS | Nº Art. TIN |
|---------|---------|---------|---|----------------|----------------|---------|---------|---------|---|----------------|----------------|
| 4,10 | 75 | 43 | 10 | 10112 | 18392 | 7,10 | 109 | 69 | 10 | 10220 | 18491 |
| 4,15 | 75 | 43 | 10 | 27350 | | 7,15 | 109 | 69 | 10 | 27364 | |
| 4,20 | 75 | 43 | 10 | 10115 | 18395 | 7,20 | 109 | 69 | 10 | 10223 | 18494 |
| 4,25 | 75 | 43 | 10 | 10118 | 18398 | 7,25 | 109 | 69 | 10 | 10226 | 18497 |
| 4,30 | 80 | 47 | 10 | 10121 | 18401 | 7,30 | 109 | 69 | 10 | 10229 | 18500 |
| 4,35 | 80 | 47 | 10 | 18113 | | 7,35 | 109 | 69 | 10 | 27365 | |
| 4,40 | 80 | 47 | 10 | 10124 | 18404 | 7,40 | 109 | 69 | 10 | 10232 | 27150 |
| 4,45 | 80 | 47 | 10 | 18116 | | 7,45 | 109 | 69 | 10 | 27366 | |
| 4,50 | 80 | 47 | 10 | 10127 | 18407 | 7,50 | 109 | 69 | 10 | 10235 | 18503 |
| 4,55 | 80 | 47 | 10 | 27288 | | 7,55 | 117 | 75 | 10 | 27369 | |
| 4,60 | 80 | 47 | 10 | 10130 | 18410 | 7,60 | 117 | 75 | 10 | 10238 | 27313 |
| 4,65 | 80 | 47 | 10 | 27352 | | 7,65 | 117 | 75 | 10 | 27368 | |
| 4,70 | 80 | 47 | 10 | 10133 | 18413 | 7,70 | 117 | 75 | 10 | 10241 | 18506 |
| 4,75 | 80 | 47 | 10 | 10136 | 18416 | 7,75 | 117 | 75 | 10 | 10244 | 27272 |
| 4,80 | 86 | 52 | 10 | 10139 | 18419 | 7,80 | 117 | 75 | 10 | 10247 | 18509 |
| 4,85 | 86 | 52 | 10 | 18119 | | 7,85 | 117 | 75 | 10 | 27370 | |
| 4,90 | 86 | 52 | 10 | 10142 | 18422 | 7,90 | 117 | 75 | 10 | 10250 | 18512 |
| 4,95 | 86 | 52 | 10 | 18122 | | 7,95 | 117 | 75 | 10 | 27372 | |
| 5,00 | 86 | 52 | 10 | 10145 | 18425 | 8,00 | 117 | 75 | 10 | 10253 | 18515 |
| 5,05 | 86 | 52 | 10 | 18125 | 21749 | 8,05 | 117 | 75 | 10 | 27373 | 39695 |
| 5,10 | 86 | 52 | 10 | 10148 | 18428 | 8,10 | 117 | 75 | 10 | 10256 | 26675 |
| 5,15 | 86 | 52 | 10 | 27330 | | 8,15 | 117 | 75 | 10 | 27374 | |
| 5,20 | 86 | 52 | 10 | 10151 | 18431 | 8,20 | 117 | 75 | 10 | 10259 | 26678 |
| 5,25 | 86 | 52 | 10 | 10154 | 18434 | 8,25 | 117 | 75 | 10 | 10262 | 18518 |
| 5,30 | 86 | 52 | 10 | 10157 | 18437 | 8,30 | 117 | 75 | 10 | 10265 | 27311 |
| 5,35 | 93 | 57 | 10 | 18131 | | 8,35 | 117 | 75 | 10 | 27376 | |
| 5,40 | 93 | 57 | 10 | 10160 | 27292 | 8,40 | 117 | 75 | 10 | 10268 | 26681 |
| 5,45 | 93 | 57 | 10 | 27354 | | 8,45 | 117 | 75 | 10 | 27377 | |
| 5,50 | 93 | 57 | 10 | 10163 | 18440 | 8,50 | 117 | 75 | 10 | 10271 | 18521 |
| 5,55 | 93 | 57 | 10 | 27356 | 65683 | 8,55 | 125 | 81 | 10 | 27378 | |
| 5,60 | 93 | 57 | 10 | 10166 | 18443 | 8,60 | 125 | 81 | 10 | 10274 | 18524 |
| 5,65 | 93 | 57 | 10 | 18134 | | 8,65 | 125 | 81 | 10 | 27379 | |
| 5,70 | 93 | 57 | 10 | 10169 | 18446 | 8,70 | 125 | 81 | 10 | 10277 | 18527 |
| 5,75 | 93 | 57 | 10 | 10172 | 18449 | 8,75 | 125 | 81 | 10 | 10280 | 18530 |
| 5,80 | 93 | 57 | 10 | 10175 | 18452 | 8,80 | 125 | 81 | 10 | 10283 | 18533 |
| 5,85 | 93 | 57 | 10 | 27357 | | 8,85 | 125 | 81 | 10 | 27381 | |
| 5,90 | 93 | 57 | 10 | 10178 | 18455 | 8,90 | 125 | 81 | 10 | 10286 | 18536 |
| 5,95 | 93 | 57 | 10 | 27358 | | 8,95 | 125 | 81 | 10 | 27383 | |
| 6,00 | 93 | 57 | 10 | 10181 | 18458 | 9,00 | 125 | 81 | 10 | 10289 | 18539 |
| 6,05 | 101 | 63 | 10 | 27359 | 17594 | 9,05 | 125 | 81 | 10 | 27382 | |
| 6,10 | 101 | 63 | 10 | 10184 | 18461 | 9,10 | 125 | 81 | 10 | 10292 | 26684 |
| 6,15 | 101 | 63 | 10 | 27360 | 79817 | 9,15 | 125 | 81 | 10 | 27385 | |
| 6,20 | 101 | 63 | 10 | 10187 | 18464 | 9,20 | 125 | 81 | 10 | 10295 | 27553 |
| 6,25 | 101 | 63 | 10 | 10190 | 18467 | 9,25 | 125 | 81 | 10 | 10298 | 27273 |
| 6,30 | 101 | 63 | 10 | 10193 | 27324 | 9,30 | 125 | 81 | 10 | 10301 | 18542 |
| 6,35 | 101 | 63 | 10 | 27361 | | 9,35 | 125 | 81 | 10 | 27556 | |
| 6,40 | 101 | 63 | 10 | 10196 | 18470 | 9,40 | 125 | 81 | 10 | 10304 | 27149 |
| 6,45 | 101 | 63 | 10 | 18137 | | 9,45 | 125 | 81 | 10 | 27387 | |
| 6,50 | 101 | 63 | 10 | 10199 | 18473 | 9,50 | 125 | 81 | 10 | 10307 | 18545 |
| 6,55 | 101 | 63 | 10 | 18140 | | 9,55 | 133 | 87 | 10 | 27389 | |
| 6,60 | 101 | 63 | 10 | 10202 | 18476 | 9,60 | 133 | 87 | 10 | 10310 | 26687 |
| 6,65 | 101 | 63 | 10 | 27362 | | 9,65 | 133 | 87 | 10 | 27390 | |
| 6,70 | 101 | 63 | 10 | 10205 | 27333 | 9,70 | 133 | 87 | 10 | 10313 | 27151 |
| 6,75 | 109 | 69 | 10 | 10208 | 18479 | 9,75 | 133 | 87 | 10 | 10316 | 18548 |
| 6,80 | 109 | 69 | 10 | 10211 | 18482 | 9,80 | 133 | 87 | 10 | 10319 | 18551 |
| 6,85 | 109 | 69 | 10 | 18143 | | 9,85 | 133 | 87 | 10 | 27391 | |
| 6,90 | 109 | 69 | 10 | 10214 | 18485 | 9,90 | 133 | 87 | 10 | 10322 | 18554 |
| 6,95 | 109 | 69 | 10 | 27316 | | 9,95 | 133 | 87 | 10 | 27393 | |
| 7,00 | 109 | 69 | 10 | 10217 | 18488 | 10,00 | 133 | 87 | 10 | 10325 | 18557 |
| 7,05 | 109 | 69 | 10 | 27363 | 79818 | 10,10 | 133 | 87 | 5 | 10328 | 29149 |

New!

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CLASSIQUE**BROCA MANGO CILÍNDRICO USO GENERAL HSS. SERIE CORTA**

HSS General Purpose Straight Shank Drill Bit. Jobber Series

Foret queue cylindrique utilisation générale HSS. Série courte

| D mm | L mm | I mm |  | Nº Art. HSS | Nº Art. TIN | D mm | L mm | I mm |  | Nº Art. HSS | Nº Art. TIN |
|---------|---------|---------|---|----------------|----------------|---------------------|---------|---------|---|----------------|----------------|
| 10,20 | 133 | 87 | 5 | 10331 | 18560 | 13,80 | 160 | 108 | 1 | 18176 | 24664 |
| 10,25 | 133 | 87 | 5 | 10334 | 27274 | 13,90 | 160 | 108 | 1 | 10451 | 68188 |
| 10,30 | 133 | 87 | 5 | 10337 | 29151 | 14,00 | 160 | 108 | 1 | 10454 | 29007 |
| 10,40 | 133 | 87 | 5 | 10340 | | 14,10 | 169 | 114 | 1 | 18179 | |
| 10,50 | 133 | 87 | 5 | 10343 | 18563 | 14,20 | 169 | 114 | 1 | 18185 | |
| 10,60 | 133 | 87 | 5 | 10346 | 29154 | 14,25 | 169 | 114 | 1 | 10457 | 29194 |
| 10,70 | 142 | 94 | 5 | 10349 | | 14,30 | 169 | 114 | 1 | 18188 | |
| 10,75 | 142 | 94 | 5 | 10352 | 27277 | 14,40 | 169 | 114 | 1 | 18191 | |
| 10,80 | 142 | 94 | 5 | 10355 | 29157 | 14,50 | 169 | 114 | 1 | 10460 | 29198 |
| 10,90 | 142 | 94 | 5 | 10358 | | 14,60 | 169 | 114 | 1 | 18194 | |
| 11,00 | 142 | 94 | 5 | 10361 | 18566 | 14,70 | 169 | 114 | 1 | 18197 | |
| 11,10 | 142 | 94 | 5 | 10364 | | 14,75 | 169 | 114 | 1 | 10463 | 29202 |
| 11,20 | 142 | 94 | 5 | 10367 | | 14,80 | 169 | 114 | 1 | 18200 | |
| 11,25 | 142 | 94 | 5 | 10370 | 26801 | 14,90 | 169 | 114 | 1 | 18203 | |
| 11,30 | 142 | 94 | 5 | 10373 | | 15,00 | 169 | 114 | 1 | 10466 | 29205 |
| 11,40 | 142 | 94 | 5 | 10376 | 27450 | 15,20 | 178 | 120 | 1 | 18209 | |
| 11,50 | 142 | 94 | 5 | 10379 | 18569 | 15,25 | 178 | 120 | 1 | 10469 | 29209 |
| 11,60 | 142 | 94 | 5 | 10382 | | 15,50 | 178 | 120 | 1 | 10472 | 29213 |
| 11,70 | 142 | 94 | 5 | 10385 | | 15,60 | 178 | 120 | 1 | 18218 | |
| 11,75 | 142 | 94 | 5 | 10388 | 27275 | 15,70 | 178 | 120 | 1 | 18221 | |
| 11,80 | 142 | 94 | 5 | 10391 | 29166 | 15,75 | 178 | 120 | 1 | 10475 | |
| 11,90 | 151 | 101 | 5 | 10394 | 29167 | 15,80 | 178 | 120 | 1 | 18224 | |
| 12,00 | 151 | 101 | 5 | 10397 | 18572 | 15,90 | 178 | 120 | 1 | 18227 | |
| 12,10 | 151 | 101 | 5 | 10400 | 29169 | 16,00 | 178 | 120 | 1 | 10478 | 29220 |
| 12,20 | 151 | 101 | 5 | 10403 | | 16,20 | 184 | 125 | 1 | 27289 | |
| 12,25 | 151 | 101 | 5 | 10406 | 18578 | 16,25 | 184 | 125 | 1 | 10481 | |
| 12,30 | 151 | 101 | 5 | 10409 | | 16,50 | 184 | 125 | 1 | 10484 | 12861 |
| 12,40 | 151 | 101 | 5 | 10412 | | 16,75 | 184 | 125 | 1 | 10487 | 19368 |
| 12,50 | 151 | 101 | 5 | 10415 | 18581 | 16,80 | 184 | 125 | 1 | 27676 | 19369 |
| 12,60 | 151 | 101 | 5 | 10418 | | 17,00 | 184 | 125 | 1 | 10490 | 12866 |
| 12,70 | 151 | 101 | 5 | 10421 | | 17,25 | 191 | 130 | 1 | 10493 | |
| 12,75 | 151 | 101 | 5 | 10424 | 27276 | 17,50 | 191 | 130 | 1 | 10496 | 12862 |
| 12,80 | 151 | 101 | 5 | 10427 | | 17,75 | 191 | 130 | 1 | 10499 | |
| 12,90 | 151 | 101 | 5 | 10430 | | 18,00 | 191 | 130 | 1 | 10502 | 29236 |
| 13,00 | 151 | 101 | 5 | 10433 | 18584 | 18,25 | 198 | 135 | 1 | 10505 | |
| 13,10 | 151 | 101 | 1 | 10436 | | 18,50 | 198 | 135 | 1 | 10508 | |
| 13,20 | 151 | 101 | 1 | 18164 | | 18,75 | 198 | 135 | 1 | 10511 | |
| 13,25 | 160 | 108 | 1 | 10439 | 29180 | 19,00 | 198 | 135 | 1 | 10514 | 14065 |
| 13,30 | 160 | 108 | 1 | 18167 | | 19,25 | 205 | 140 | 1 | 10517 | |
| 13,40 | 160 | 108 | 1 | 18170 | | 19,50 | 205 | 140 | 1 | 10520 | |
| 13,50 | 160 | 108 | 1 | 10442 | 29184 | 19,75 | 205 | 140 | 1 | 10523 | |
| 13,60 | 160 | 108 | 1 | 18173 | | (New!) 20,00 | 205 | 140 | 1 | 10526 | 14076 |
| 13,70 | 160 | 108 | 1 | 10445 | | | | | | | |
| 13,75 | 160 | 108 | 1 | 10448 | 16497 | | | | | | |

Ref. **1050**

Extra-Corta / Stub / extra-Courte

Pag 97

Ref. **1030**

Larga / Long / Longue

Pag 101

Ref. **1040**

Extra Larga / Extra Long / Extra-Longue

Pag 104