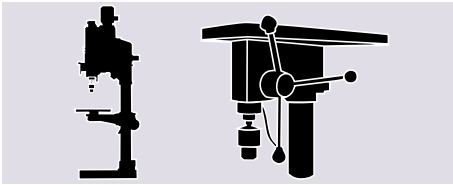


# PORTABROCCAS



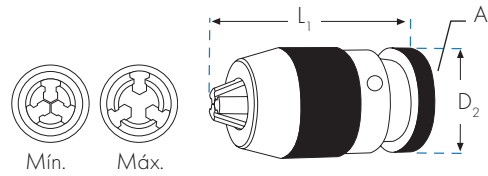
**BLUE-MASTER<sup>®</sup>**  
by *celesa*

CUTTING TECHNOLOGIES

**PORTABROCAS INDUSTRIALES PARA TALADROS DE COLUMNA O CNC**

**PREC.  
<0,05**

Ref. DC1

ALTA PRECISI3N

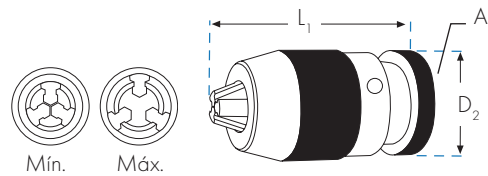


| DC1        |                 |                 |     |          |          |        |
|------------|-----------------|-----------------|-----|----------|----------|--------|
|            | PRECISI3N<br>mm | M3n.-M3x.<br>mm | A   | D2<br>mm | L1<br>mm | €      |
| DC1-16-B16 | <0,05           | 1-16            | B16 | 53       | 119      | 173,92 |
| DC1-20-B22 | <0,05           | 5-20            | B22 | 58       | 130      | 200,12 |

**PREC.  
<0,12**

Ref. DC2

INDUSTRIAL

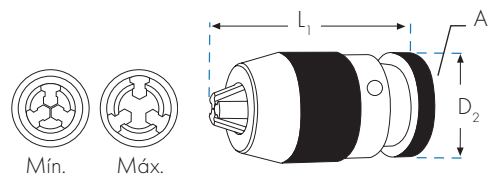


| DC2        |                 |                 |     |          |          |        |
|------------|-----------------|-----------------|-----|----------|----------|--------|
|            | PRECISI3N<br>mm | M3n.-M3x.<br>mm | A   | D2<br>mm | L1<br>mm | €      |
| DC2-16-B18 | <0,12           | 1-16            | B18 | 53       | 119      | 147,56 |

**PREC.  
<0,20**

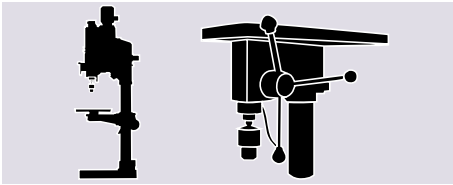
Ref. DC3

INDUSTRIAL LIGERO

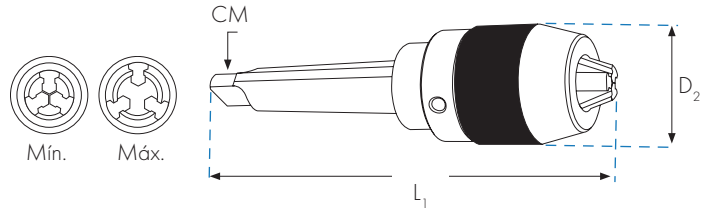


| DC3        |                 |                 |            |          |          |        |
|------------|-----------------|-----------------|------------|----------|----------|--------|
|            | PRECISI3N<br>mm | M3n.-M3x.<br>mm | A          | D2<br>mm | L1<br>mm | €      |
| DC3-13-B16 | <0,20           | 1-13            | B16        | 43       | 94       | 79,51  |
| DC3-13-3/8 | <0,20           | 1-13            | 3/8-24 UNF | 43       | 94       | 79,51  |
| DC3-13-1/2 | <0,20           | 1-13            | 1/2-20 UNF | 43       | 94       | 79,51  |
| DC3-16-B16 | <0,20           | 1-16            | B16        | 48       | 119      | 123,41 |
| DC3-16-B18 | <0,20           | 1-16            | B18        | 48       | 119      | 123,41 |

**PORTABROCAS INDUSTRIALES CON MANGO CÓNICO PARA TALADROS DE COLUMNA O CNC**

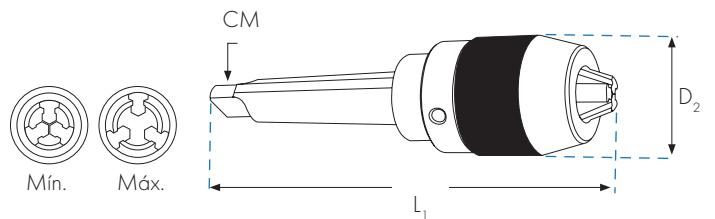


**PREC. <0,05** Ref. DC10 **ALTA PRECISIÓN**



| DC10        |                 |                 |     |          |          |        |
|-------------|-----------------|-----------------|-----|----------|----------|--------|
|             | PRECISIÓN<br>mm | Mín.-Máx.<br>mm | CM  | D2<br>mm | L1<br>mm | €      |
| DC10-13-CM3 | <0,05           | 1-13            | CM3 | 51       | 192      | 256,53 |
| DC10-13-CM4 | <0,05           | 1-13            | CM4 | 51       | 218      | 259,02 |
| DC10-16-CM3 | <0,05           | 1-16            | CM3 | 56       | 207      | 262,29 |
| DC10-16-CM4 | <0,05           | 1-16            | CM4 | 56       | 232      | 267,04 |

**PREC. <0,12** Ref. DC11 **INDUSTRIAL**



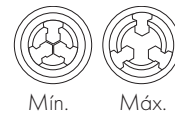
| DC11        |                 |                 |     |          |          |        |
|-------------|-----------------|-----------------|-----|----------|----------|--------|
|             | PRECISIÓN<br>mm | Mín.-Máx.<br>mm | CM  | D2<br>mm | L1<br>mm | €      |
| DC11-13-CM2 | <0,12           | 1-13            | CM2 | 51       | 174      | 154,90 |
| DC11-13-CM3 | <0,12           | 1-13            | CM3 | 51       | 192      | 154,90 |
| DC11-13-CM4 | <0,12           | 1-13            | CM4 | 51       | 218      | 154,90 |
| DC11-16-CM3 | <0,12           | 1-16            | CM3 | 56       | 207      | 181,62 |

**PORTABROCAS AUTOMÁTICOS PROFESIONALES**
**<950W**

Ref. DC4

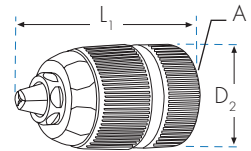


- Bloqueo automático.
- Cuerpo de plástico.
- Taladro tanto en modo rotación como en percusión.



Mín.

Máx.



DC4

|                | W    | Mín.-Máx.<br>mm | A          | D2<br>mm | L1<br>mm | €     |
|----------------|------|-----------------|------------|----------|----------|-------|
| DC4-13-1/2     | <950 | 1,5-13          | 1/2-20 UNF | 43       | 75       | 36,87 |
| DC4-13-1/2-SDS | <950 | 1,5-13          | 1/2-20 UNF | 43       | 75       | 42,53 |

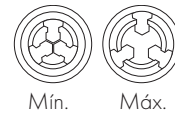
Ref. DC4-13-1/2-SDS

**<1050W**

Ref. DC5

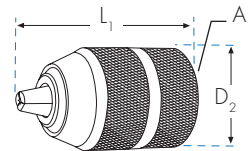


- Bloqueo automático.
- Cuerpo de metal.
- Alta potencia.
- Garras especiales para alto rendimiento.
- Taladro tanto en modo rotación como en percusión.



Mín.

Máx.



DC5

|            | W     | Mín.-Máx.<br>mm | A          | D2<br>mm | L1<br>mm | €     |
|------------|-------|-----------------|------------|----------|----------|-------|
| DC5-13-1/2 | <1050 | 1,5-13          | 1/2-20 UNF | 43       | 75       | 48,63 |
| DC5-13-SDS | <1050 | 1,5-13          | 1/2-20 UNF | 43       | 75       | 56,17 |

Ref. DC5-13-SDS

**<950W**

Ref. DC13



- Se bloquea girando el taladro y presionando el portabrocas ligeramente con la mano.
- Pensado para taladros ligeros de batería.
- Cuerpo de plástico.

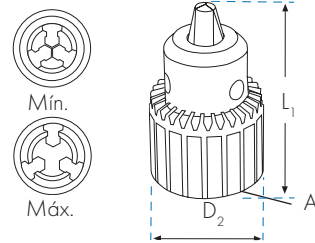


DC13

|             | W     | Mín.-Máx.<br>mm | A          | D2<br>mm | L1<br>mm | €     |
|-------------|-------|-----------------|------------|----------|----------|-------|
| DC13-10-1/2 | <950W | 0,8-10          | 1/2-20 UNF | 40       | 65       | 12,38 |

Ref. DC13-10-1/2

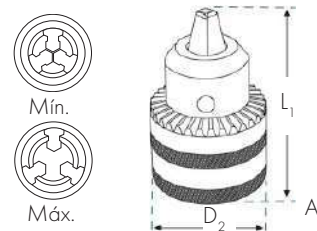
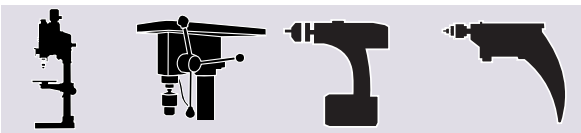
**PORTABROCAS DE LLAVE PROFESIONALES**



- Ref. DC6
- Admite percusión, se recomienda uso en modo rotación.
  - Incluye llave



|            | Mín.-Máx. mm | A          | D <sub>2</sub> mm | L <sub>1</sub> mm | DC6 € |
|------------|--------------|------------|-------------------|-------------------|-------|
| DC6-06-B10 | 0,5-6,5      | B10        | 31                | 50                | 36,98 |
| DC6-06-3/8 | 0,5-6,5      | 3/8-24 UNF | 31                | 50                | 36,98 |
| DC6-10-1/2 | 1-10         | 1/2-20 UNF | 37                | 60                | 28,96 |
| DC6-13-B12 | 1-13         | B12        | 46                | 78                | 37,87 |
| DC6-13-3/8 | 1-13         | 3/8-24 UNF | 46                | 78                | 37,87 |
| DC6-16-B16 | 1-16         | B16        | 57                | 95                | 42,33 |
| DC6-16-B18 | 1-16         | B18        | 57                | 95                | 42,33 |
| DC6-16-1/2 | 1-16         | 1/2-20 UNF | 57                | 95                | 42,33 |
| DC6-19-B22 | 5-20         | B22        | 68                | 115               | 57,92 |



- Ref. DC7
- LIGERO**
- Taladro tanto en modo percusión como en rotación.
  - Incluye llave



Ref. DC7-13-SDS

|            | Mín.-Máx. mm | A          | D <sub>2</sub> mm | L <sub>1</sub> mm | DC7 € |
|------------|--------------|------------|-------------------|-------------------|-------|
| DC7-06-B10 | 0,6-6,5      | B10        | 30                | 50                | 15,88 |
| DC7-06-3/8 | 0,6-6,5      | 3/8-24 UNF | 30                | 50                | 15,88 |
| DC7-10-1/2 | 1,5-10       | 1/2-20 UNF | 33                | 59                | 14,56 |
| DC7-13-B12 | 1,5-13       | B12        | 42                | 70                | 18,45 |
| DC7-13-B16 | 1,5-13       | B16        | 42                | 70                | 18,45 |
| DC7-13-3/8 | 1,5-13       | 3/8-24 UNF | 42                | 70                | 18,45 |
| DC7-13-1/2 | 1,5-13       | 1/2-20 UNF | 42                | 70                | 18,45 |
| DC7-13-SDS | 1,5-13       | 1/2-20 UNF | 42                | 70                | 19,41 |
| DC7-16-1/2 | 3-16         | 1/2-20 UNF | 51                | 87                | 23,30 |
| DC7-16-5/8 | 3-16         | 5/8-16 UN  | 51                | 87                | 23,30 |

**PORTABROCAS CON ALARGADOR FLEXIBLE**

Ref. DC15-001

- Alargador flexible de 1050 mm.
- Portabrocas automático de Ø1 a 6 mm de capacidad.
- Velocidad máxima de trabajo 6000 rpm.



|          | Mín.-Máx.<br>mm | D2<br>mm | L1<br>mm | €     |
|----------|-----------------|----------|----------|-------|
| DC15-001 | 1-6             | 30       | 1050     | 34,13 |

**PORTABROCAS EN ÁNGULO**

Ref. DC15-002

- Indicado para trabajar en lugares de difícil acceso.
- Uso exclusivo en modo rotación.
- Portabrocas automático de Ø 1 a 10 mm de capacidad.
- Diseño ligero. Incluye asa para uso por zurdos y diestros.



|          | Mín.-Máx.<br>mm | D2<br>mm | α   | €     |
|----------|-----------------|----------|-----|-------|
| DC15-002 | 1-10            | 41       | 90° | 19,98 |

## SOPORTE DE COLUMNA PROFESIONAL PARA TALADRO

- Manilla con muelle de retracción (recupera la posición de forma rápida, sencilla y sin ningún esfuerzo).
- Regla de control de taladrado, 60 mm de profundidad.
- Soporte de columna profesional para taladro con Ø43/38 mm.
- Base de hierro fundido con guías para mordaza de sujeción y orificios para su anclaje a la mesa de trabajo.
- Taladrado preciso de superficie, piezas de trabajo redondas o listones.

Ref. STE99

**43/38  
mm**

**60  
mm**

**510  
mm**

|       |                |                             |              | STE99 |
|-------|----------------|-----------------------------|--------------|-------|
|       | Ø Amarre<br>mm | Profundidad<br>Taladrado mm | Altura<br>mm | €     |
| STE99 | 43/38          | 60                          | 510          | 64,80 |



**MINI-PORTABROCAS**
**MINI-PORTABROCAS DE MÁQUINA**


P28

Incluye 3 Pinzas:

- De 0 a 1,0 mm

- De 0,5 a 1,5 mm

- De 1,0 a 2,0 mm

15,81 €

**MINI-PORTABROCAS MANGO HEX.**


P29

- Mango 1/4 Hex.

- De 0,6 a 6,0 mm

17,94 €

**ACCESORIOS PARA PORTABROCAS**
**LLAVES PARA PORTABROCAS**


|       | Mín.-Máx.<br>mm | Ø<br>mm | DC<br>€ |
|-------|-----------------|---------|---------|
| DC-10 | 1 - 10          | 6       | 4,30    |
| DC-13 | 1 - 13          | 6       | 5,25    |
| DC-16 | 1 - 16          | 8       | 6,53    |
| DC-20 | 5 - 20          | 9       | 11,59   |

**ADAPTADORES SDS PLUS**


|        | Rosca (A)    | DC<br>€ |
|--------|--------------|---------|
| DC-3/8 | 3/8 - 24 UNF | 14,57   |
| DC-1/2 | 1/2 - 20 UNF | 14,57   |

**ADAPTADOR 1/4" HEX.**


|       | Mango     | Rosca        | DC-01<br>€ |
|-------|-----------|--------------|------------|
| DC-01 | 1/4" Hex. | 3/8 - 24 UNF | 8,43       |



**ACCESORIOS PARA BROCAS Y PORTABROCAS**

**CONOS REDUCTORES**

**CONOS AUMENTADORES**

**DIN 2185**



**DIN 2187**



| CONO MORSE |      | L <sub>1</sub><br>mm | CR    |  |
|------------|------|----------------------|-------|--|
| EXT.       | INT. |                      | €     |  |
| 1          | 0    | 80                   | 23,43 |  |
| 2          | 1    | 92                   | 23,11 |  |
| 3          | 1    | 99                   | 31,56 |  |
| 3          | 2    | 112                  | 32,16 |  |
| 4          | 1    | 124                  | 48,59 |  |
| 4          | 2    | 124                  | 45,66 |  |
| 4          | 3    | 140                  | 45,66 |  |

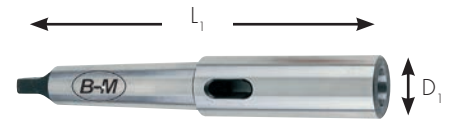
| CONO MORSE |      | L <sub>1</sub><br>mm | CR     |  |
|------------|------|----------------------|--------|--|
| EXT.       | INT. |                      | €      |  |
| 5          | 1    | 156                  | 83,64  |  |
| 5          | 2    | 156                  | 76,34  |  |
| 5          | 3    | 156                  | 76,34  |  |
| 5          | 4    | 171                  | 77,94  |  |
| 6          | 3    | 218                  | 146,22 |  |
| 6          | 4    | 218                  | 165,91 |  |
| 6          | 5    | 218                  | 165,91 |  |

| CONO MORSE |      | L <sub>1</sub><br>mm | D <sub>1</sub><br>mm | CA     |  |
|------------|------|----------------------|----------------------|--------|--|
| EXT.       | INT. |                      |                      | €      |  |
| 1          | 2    | 160                  | 30                   | 48,53  |  |
| 2          | 3    | 196                  | 36                   | 65,98  |  |
| 3          | 4    | 240                  | 48                   | 111,27 |  |
| 4          | 5    | 300                  | 63                   | 186,77 |  |
| 5          | 6    | 415                  | 80                   | 524,89 |  |

**CONOS REDUCTORES ALARGADORES**

**CONOS ALARGADORES**

**DIN 2187**



| CONO MORSE |      | L <sub>1</sub><br>mm | CA     |  |
|------------|------|----------------------|--------|--|
| EXT.       | INT. |                      | €      |  |
| 2          | 1    | 160                  | 32,65  |  |
| 3          | 1    | 175                  | 45,42  |  |
| 3          | 2    | 194                  | 49,02  |  |
| 4          | 1    | 200                  | 68,76  |  |
| 4          | 2    | 215                  | 67,21  |  |
| 4          | 3    | 240                  | 70,32  |  |
| 5          | 1    | 232                  | 167,04 |  |

| CONO MORSE |      | L <sub>1</sub><br>mm | CA     |  |
|------------|------|----------------------|--------|--|
| EXT.       | INT. |                      | €      |  |
| 5          | 2    | 247                  | 151,86 |  |
| 5          | 3    | 268                  | 133,83 |  |
| 5          | 4    | 300                  | 151,26 |  |
| 6          | 3    | 330                  | 345,09 |  |
| 6          | 4    | 355                  | 345,09 |  |
| 6          | 5    | 390                  | 347,65 |  |

| CONO MORSE |      | L <sub>1</sub><br>mm | D <sub>1</sub><br>mm | CA     |  |
|------------|------|----------------------|----------------------|--------|--|
| EXT.       | INT. |                      |                      | €      |  |
| 1          | 1    | 145                  | 20                   | 31,76  |  |
| 2          | 2    | 175                  | 30                   | 46,20  |  |
| 3          | 3    | 215                  | 36                   | 69,98  |  |
| 4          | 4    | 265                  | 48                   | 127,47 |  |
| 5          | 5    | 335                  | 63                   | 240,12 |  |
| 6          | 6    | 470                  | 85                   | 551,13 |  |

**ESPIGAS DE SUJECIÓN CON MANGO CÓNICO PARA PORTABROCAS**

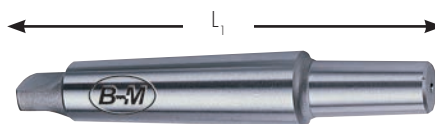
**EXTRACTOR PARA ESPIGAS DE SUJECIÓN DE PORTABROCAS CON CONO NORMALIZADO B16 Y B18**

**DIN 228**

CONO MORSE

**DIN 238**

PORTA BROCAS



| CM | PORTA BROCAS | L <sub>1</sub><br>mm | CM    |  |
|----|--------------|----------------------|-------|--|
|    |              |                      | €     |  |
| 1  | B10          | 86                   | 13,91 |  |
| 1  | B12          | 89                   | 10,45 |  |
| 1  | B16          | 99                   | 10,45 |  |
| 1  | B18          | 107                  | 11,98 |  |
| 2  | B10          | 105                  | 16,63 |  |
| 2  | B12          | 106                  | 12,70 |  |
| 2  | B16          | 112                  | 12,70 |  |
| 2  | B18          | 119                  | 12,70 |  |
| 2  | B22          | 130                  | 25,03 |  |
| 3  | B12          | 127                  | 19,12 |  |
| 3  | B16          | 134                  | 15,47 |  |
| 3  | B18          | 140                  | 15,47 |  |

| CM | PORTA BROCAS | L <sub>1</sub><br>mm | CM     |  |
|----|--------------|----------------------|--------|--|
|    |              |                      | €      |  |
| 3  | B22          | 147                  | 26,04  |  |
| 3  | B24          | 157                  | 38,41  |  |
| 4  | B16          | 158                  | 23,26  |  |
| 4  | B18          | 166                  | 23,88  |  |
| 4  | B22          | 176                  | 42,95  |  |
| 4  | B24          | 186                  | 43,44  |  |
| 5  | B16          | 193                  | 84,24  |  |
| 5  | B18          | 200                  | 84,24  |  |
| 5  | B22          | 208                  | 87,87  |  |
| 5  | B24          | 221                  | 95,46  |  |
| 6  | B22          | 240                  | 179,50 |  |



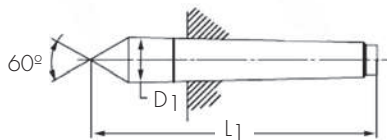
CMEXT  
46,76 €

**ACCESORIOS PARA BROCAS Y PORTABROCAS**
**CUÑA EXPULSORA**
**DIN  
317**

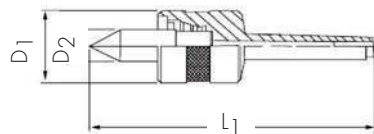

| Nº | VÁLIDOS<br>CM | L <sub>1</sub><br>mm | CE    |  |
|----|---------------|----------------------|-------|--|
|    |               |                      | €     |  |
| 0  | 0             | 90                   | 13,90 |  |
| 1  | 1 / 2         | 140                  | 16,43 |  |
| 3  | 3             | 190                  | 21,69 |  |
| 4  | 4             | 225                  | 29,51 |  |
| 5  | 5 / 6         | 265                  | 47,92 |  |

**ESPIGA DE SUJECIÓN MANGO CÓNICO PARA PORTABROCAS ROSCADOS**
**DIN  
228**


|          | CM | A       | CMR   |  |          | CM | A       | CMR   |  |
|----------|----|---------|-------|--|----------|----|---------|-------|--|
|          |    |         | €     |  |          |    |         | €     |  |
| CMR1-3/8 | 1  | 3/8-24h | 20,52 |  | CMR2-5/8 | 2  | 5/8-16h | 20,52 |  |
| CMR1-1/2 | 1  | 1/2-20h | 20,52 |  | CMR3-3/8 | 3  | 3/8-24h | 27,77 |  |
| CMR2-3/8 | 2  | 3/8-24h | 20,52 |  | CMR3-1/2 | 3  | 1/2-20h | 27,77 |  |
| CMR2-1/2 | 2  | 1/2-20h | 20,52 |  | CMR3-5/8 | 3  | 5/8-16h | 27,77 |  |

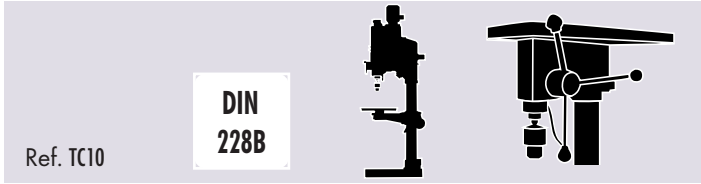
**ACCESORIOS PARA BROCAS**
**CONTRAPUNTOS FIJOS PARA TORNOS**


|       | D <sub>1</sub><br>mm | L <sub>1</sub><br>mm | CM<br>INT. | CPC    |  | CPC..MD  |        |
|-------|----------------------|----------------------|------------|--------|--|----------|--------|
|       |                      |                      |            | €      |  | MD       | €      |
| CPCM1 | 12                   | 80                   | 1          | 15,07  |  |          |        |
| CPCM2 | 18                   | 100                  | 2          | 20,03  |  | CPCM2-MD | 57,58  |
| CPCM3 | 24                   | 125                  | 3          | 31,13  |  | CPCM3-MD | 78,58  |
| CPCM4 | 31                   | 160                  | 4          | 48,62  |  | CPCM4-MD | 95,84  |
| CPCM5 | 44                   | 200                  | 5          | 68,70  |  | CPCM5-MD | 162,93 |
| CPCM6 | 63                   | 270                  | 6          | 264,88 |  |          |        |

**PUNTO GIRATORIO**


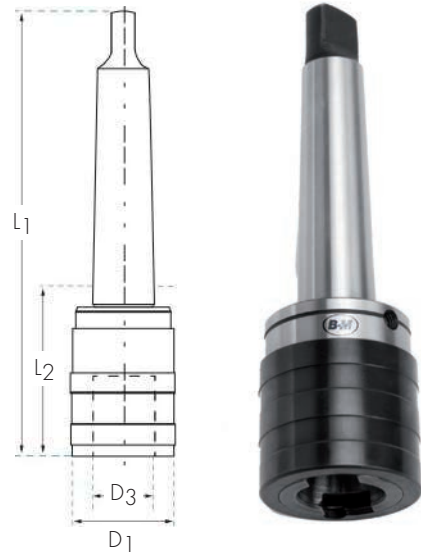
|       | D <sub>1</sub><br>mm | D <sub>2</sub><br>mm | L <sub>1</sub><br>mm | CM | PGC    |  |
|-------|----------------------|----------------------|----------------------|----|--------|--|
|       |                      |                      |                      |    | €      |  |
| PGCM1 | 34                   | 18                   | 120                  | 1  | 144,23 |  |
| PGCM2 | 50                   | 21                   | 148                  | 2  | 160,86 |  |
| PGCM3 | 60                   | 24                   | 185                  | 3  | 216,26 |  |
| PGCM4 | 63                   | 30                   | 220                  | 4  | 256,31 |  |
| PGCM5 | 75                   | 44                   | 260                  | 5  | 370,45 |  |

**PORTAMACHOS Y CABECILLAS**

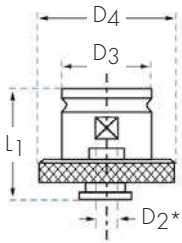


- Con compensación Longitudinal en compresión y tracción.
- Mango Cono Morse

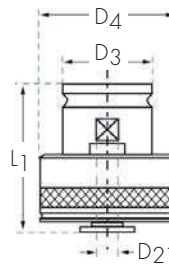
|             |       |       |       |       |    | TC10   |
|-------------|-------|-------|-------|-------|----|--------|
|             | D1 mm | D3 mm | L1 mm | L2 mm | CM | €      |
| TC10-19-CM2 | 36    | 19    | 122   | 47    | 2  | 307,14 |
| TC10-19-CM3 | 36    | 19    | 141   | 47    | 3  | 392,42 |
| TC10-31-CM3 | 53    | 31    | 165   | 71    | 3  | 504,96 |
| TC10-31-CM4 | 53    | 31    | 189   | 72    | 4  | 562,67 |
| TC10-48-CM4 | 78    | 48    | 222   | 105   | 4  | 851,21 |
| TC10-48-CM5 | 78    | 48    | 255   | 106   | 5  | 908,92 |



**PORTAMACHOS SIN EMBRAGUE**



**PORTAMACHOS CON EMBRAGUE**



|             |       |       |       |       | TC15   |
|-------------|-------|-------|-------|-------|--------|
|             | D2 mm | D3 mm | L1 mm | D4 mm | €      |
| TC15-19-035 | 3,5   | 19    | 28    | 30    | 41,13  |
| TC15-19-040 | 4,0   | 19    | 28    | 30    | 41,13  |
| TC15-19-045 | 4,5   | 19    | 28    | 30    | 41,13  |
| TC15-19-060 | 6,0   | 19    | 28    | 30    | 41,13  |
| TC15-19-070 | 7,0   | 19    | 28    | 30    | 41,13  |
| TC15-19-080 | 8,0   | 19    | 28    | 30    | 41,13  |
| TC15-19-090 | 9,0   | 19    | 28    | 30    | 41,13  |
| TC15-19-100 | 10,0  | 19    | 28    | 30    | 41,13  |
| TC15-31-070 | 7,0   | 31    | 46    | 48    | 57,74  |
| TC15-31-080 | 8,0   | 31    | 46    | 48    | 57,74  |
| TC15-31-090 | 9,0   | 31    | 46    | 48    | 57,74  |
| TC15-31-100 | 10,0  | 31    | 46    | 48    | 57,74  |
| TC15-31-110 | 11,0  | 31    | 46    | 48    | 57,74  |
| TC15-31-120 | 12,0  | 31    | 46    | 48    | 57,74  |
| TC15-31-140 | 14,0  | 31    | 46    | 48    | 57,74  |
| TC15-31-160 | 16,0  | 31    | 46    | 48    | 57,74  |
| TC15-48-110 | 11,0  | 48    | 69    | 70    | 152,98 |
| TC15-48-120 | 12,0  | 48    | 69    | 70    | 152,98 |
| TC15-48-140 | 14,0  | 48    | 69    | 70    | 152,98 |
| TC15-48-160 | 16,0  | 48    | 69    | 70    | 152,98 |
| TC15-48-180 | 18,0  | 48    | 69    | 70    | 152,98 |
| TC15-48-200 | 20,0  | 48    | 69    | 70    | 152,98 |
| TC15-48-220 | 22,0  | 48    | 69    | 70    | 152,98 |
| TC15-48-250 | 25,0  | 48    | 69    | 70    | 152,98 |
| TC15-48-280 | 28,0  | 48    | 69    | 70    | 152,98 |

|             |       |       |       |       | TC16   |
|-------------|-------|-------|-------|-------|--------|
|             | D2 mm | D3 mm | L1 mm | D4 mm | €      |
| TC16-19-035 | 3,5   | 19    | 46    | 32    | 98,71  |
| TC16-19-040 | 4,0   | 19    | 46    | 32    | 98,71  |
| TC16-19-045 | 4,5   | 19    | 46    | 32    | 98,71  |
| TC16-19-060 | 6,0   | 19    | 46    | 32    | 98,71  |
| TC16-19-070 | 7,0   | 19    | 46    | 32    | 98,71  |
| TC16-19-080 | 8,0   | 19    | 46    | 32    | 98,71  |
| TC16-19-090 | 9,0   | 19    | 46    | 32    | 98,71  |
| TC16-19-100 | 10,0  | 19    | 46    | 32    | 98,71  |
| TC16-31-070 | 7,0   | 31    | 69    | 50    | 125,02 |
| TC16-31-080 | 8,0   | 31    | 69    | 50    | 125,02 |
| TC16-31-090 | 9,0   | 31    | 69    | 50    | 125,02 |
| TC16-31-100 | 10,0  | 31    | 69    | 50    | 125,02 |
| TC16-31-110 | 11,0  | 31    | 69    | 50    | 125,02 |
| TC16-31-120 | 12,0  | 31    | 69    | 50    | 125,02 |
| TC16-31-140 | 14,0  | 31    | 69    | 50    | 125,02 |
| TC16-31-160 | 16,0  | 31    | 69    | 50    | 125,02 |
| TC16-48-110 | 11,0  | 48    | 100   | 70    | 276,79 |
| TC16-48-120 | 12,0  | 48    | 100   | 70    | 276,79 |
| TC16-48-140 | 14,0  | 48    | 100   | 70    | 276,79 |
| TC16-48-160 | 16,0  | 48    | 100   | 70    | 276,79 |
| TC16-48-180 | 18,0  | 48    | 100   | 70    | 276,79 |
| TC16-48-200 | 20,0  | 48    | 100   | 70    | 276,79 |
| TC16-48-220 | 22,0  | 48    | 100   | 70    | 276,79 |
| TC16-48-250 | 25,0  | 48    | 100   | 70    | 276,79 |
| TC16-48-280 | 28,0  | 48    | 100   | 70    | 276,79 |

\* D2: Ø Mango del macho

\* Para informarse sobre el Ø Mango del macho (D2) consultar página 130.

**MACHOS M/MF COMPATIBLES PARA PORTAMACHOS CON / SIN EMBRAGUE**

Portabrocas y accesorios

Rosa

D2 mm.

| 3,5      | 4          | 4,5      | 6          | 7         | 8         | 9         | 10        | 11        |
|----------|------------|----------|------------|-----------|-----------|-----------|-----------|-----------|
| M3x0,50R | M3,5x0,60R | M4x0,50R | M4,5x0,50R | M9x1,00D  | M8x1,25R  | M9x1,25R  | M10x1,50R | M13x0,75D |
| M3x0,60R | M3,5x0,75R | M4x0,70R | M4,5x0,75R | M9x1,25D  | M11x0,75D | M12x0,75D |           | M13x1,00D |
| M5x0,50D |            | M4x0,75R | M5x0,50R   | M10x0,50D | M11x1,00D | M12x1,00D |           | M13x1,25D |
| M5x0,75D |            | M4x0,80R | M5x0,75R   | M10x0,75D | M11x1,25D | M12x1,25D |           | M13x1,50D |
| M5x0,80D |            | M6x0,50D | M5x0,80R   | M10x1,00D | M11x1,50D | M12x1,50D |           | M13x1,75D |
| M5x0,90D |            | M6x0,75D | M5x0,90R   | M10x1,25D |           | M12x1,75D |           | M14x0,75D |
|          |            | M6x1,00D | M5x1,00R   | M10x1,50D |           |           |           | M14x1,00D |
|          |            |          | M5,5x0,90R |           |           |           |           | M14x1,25D |
|          |            |          | M6x0,50R   |           |           |           |           | M14x1,50D |
|          |            |          | M6x0,75R   |           |           |           |           | M14x2,00D |
|          |            |          | M6x1,00R   |           |           |           |           |           |
|          |            |          | M6x1,25R   |           |           |           |           |           |
|          |            |          | M8x0,50D   |           |           |           |           |           |
|          |            |          | M8x0,75D   |           |           |           |           |           |
|          |            |          | M8x1,00D   |           |           |           |           |           |
|          |            |          | M8x1,25D   |           |           |           |           |           |
|          |            |          | M8x1,50D   |           |           |           |           |           |

D2 mm.

| 12        | 14        | 16        | 18        | 20        | 22        | 25        | 28        |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| M15x1,00D | M18x1,00D | M20x1,00D | M22x1,00D | M27x1,00D | M30x1,00D | M33x1,00D | M34x1,50D |
| M15x1,25D | M18x1,25D | M20x1,25D | M22x1,25D | M27x1,50D | M30x1,50D | M33x1,50D | M34x2,00D |
| M15x1,50D | M18x1,50D | M20x1,50D | M22x1,50D | M27x2,00D | M30x2,00D | M33x2,00D | M35x1,50D |
| M15x2,00D | M18x2,00D | M20x2,00D | M22x2,00D | M27x3,00D | M30x3,00D | M33x3,50D | M35x2,00D |
| M16x1,00D | M18x2,50D | M20x2,50D | M22x2,50D | M28x1,00D | M30x3,50D |           | M36x1,50D |
| M16x1,25D | M19x1,00D | M21x1,00D | M23x1,00D | M28x1,50D | M32x1,00D |           | M36x2,00D |
| M16x1,50D | M19x1,25D | M21x1,25D | M23x1,50D | M28x2,00D | M32x1,50D |           | M36x3,00D |
| M16x2,00D | M19x1,50D | M21x1,50D | M24x1,00D |           | M32x2,00D |           | M36x4,00D |
| M17x1,00D | M19x2,00D |           | M24x1,25D |           |           |           | M38x1,50D |
| M17x1,25D |           |           | M24x1,50D |           |           |           | M38x2,00D |
| M17x1,50D |           |           | M24x2,00D |           |           |           |           |
|           |           |           | M24x3,00D |           |           |           |           |
|           |           |           | M25x1,00D |           |           |           |           |
|           |           |           | M25x1,25D |           |           |           |           |
|           |           |           | M25x1,50D |           |           |           |           |
|           |           |           | M25x2,00D |           |           |           |           |
|           |           |           | M26x1,00D |           |           |           |           |
|           |           |           | M26x1,50D |           |           |           |           |
|           |           |           | M26x2,00D |           |           |           |           |

\* D2: Mango del macho

\* La tabla se refiere a mangos según norma DIN:

\* R = Reforzado = DIN371

\* D = Delgado = DIN374 / DIN376

**PINZAS DE PRECISIÓN**

Ref. ER8

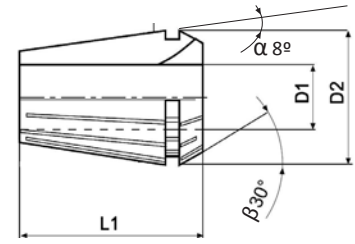
**TIPO  
ER**

**DIN  
6499-B**

• Pinzas aptas para herramientas con mangos cilíndricos lisos.

D2: 8,5  
L1: 13,5

$\alpha$ : 8°  
 $\beta$ : 30°



ER8

|         | EXC 0,01 INDUSTRIAL |       | EXC 0,005 ALTA PRECISIÓN |         |   |
|---------|---------------------|-------|--------------------------|---------|---|
|         | Capacidad D1        | €     | Capacidad D1             | €       |   |
| ER8-1   | 0,5-1,0             | 50,47 | ER8-1MICRO               | 0,5-1,0 | - |
| ER8-1,5 | 1,0-1,5             | 50,47 | ER8-1,5MICRO             | 1,0-1,5 | - |
| ER8-2   | 1,5-2,0             | 43,25 | ER8-2MICRO               | 1,5-2,0 | - |
| ER8-2,5 | 2,0-2,5             | 43,25 | ER8-2,5MICRO             | 2,0-2,5 | - |
| ER8-3   | 2,5-3,0             | 37,97 | ER8-3MICRO               | 2,5-3,0 | - |
| ER8-3,5 | 3,0-3,5             | 37,97 | ER8-3,5MICRO             | 3,0-3,5 | - |
| ER8-4   | 3,5-4,0             | 37,97 | ER8-4MICRO               | 3,5-4,0 | - |
| ER8-4,5 | 4,0-4,5             | 37,97 | ER8-4,5MICRO             | 4,0-4,5 | - |
| ER8-5   | 4,5-5,0             | 37,97 | ER8-5MICRO               | 4,5-5,0 | - |

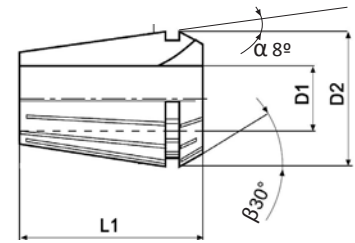
Ref. ER11

**TIPO  
ER**

**DIN  
6499-B**

D2: 11,5  
L1: 18

$\alpha$ : 8°  
 $\beta$ : 30°

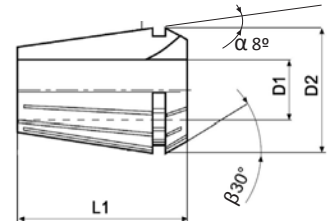
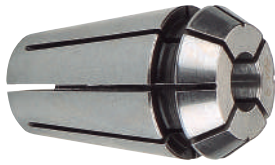


ER11

|          | EXC 0,01 INDUSTRIAL |       | EXC 0,005 ALTA PRECISIÓN |         |       |
|----------|---------------------|-------|--------------------------|---------|-------|
|          | Capacidad D1        | €     | Capacidad D1             | €       |       |
| ER11-1   | 0,5-1,0             | 48,06 | ER11-1MICRO              | 0,5-1,0 | -     |
| ER11-1,5 | 1,0-1,5             | 48,06 | ER11-1,5MICRO            | 1,0-1,5 | -     |
| ER11-2   | 1,5-2,0             | 41,20 | ER11-2MICRO              | 1,5-2,0 | -     |
| ER11-2,5 | 2,0-2,5             | 41,20 | ER11-2,5MICRO            | 2,0-2,5 | -     |
| ER11-3   | 2,5-3,0             | 36,17 | ER11-3MICRO              | 2,5-3,0 | -     |
| ER11-3,5 | 3,0-3,5             | 36,17 | ER11-3,5MICRO            | 3,0-3,5 | 51,78 |
| ER11-4   | 3,5-4,0             | 36,17 | ER11-4MICRO              | 3,5-4,0 | 51,78 |
| ER11-4,5 | 4,0-4,5             | 36,17 | ER11-4,5MICRO            | 4,0-4,5 | 51,78 |
| ER11-5   | 4,5-5,0             | 36,17 | ER11-5MICRO              | 4,5-5,0 | 51,78 |
| ER11-5,5 | 5,0-5,5             | 36,17 | ER11-5,5MICRO            | 5,0-5,5 | 51,78 |
| ER11-6   | 5,5-6,0             | 36,17 | ER11-6MICRO              | 5,5-6,0 | 51,78 |
| ER11-6,5 | 6,0-6,6             | 36,17 | ER11-6,5MICRO            | 6,0-6,6 | 51,78 |
| ER11-7   | 6,5-7,0             | 36,17 | ER11-7MICRO              | 6,5-7,0 | 51,78 |

## PINZAS DE PRECISIÓN

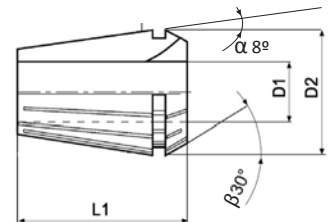
Ref. ER16

TIPO  
ERDIN  
6499-BD2: 17     $\alpha$ : 8°  
L1: 27,5     $\beta$ : 30°

ER16

|         | EXC<br>0,01 INDUSTRIAL |       | EXC<br>0,005 ALTA PRECISIÓN |          |       |
|---------|------------------------|-------|-----------------------------|----------|-------|
|         | Capacidad<br>D1        | €     | Capacidad<br>D1             | €        |       |
| ER16-1  | 0,5-1,0                | 43,06 | ER16-1 MICRO                | 0,5-1,0  | -     |
| ER16-2  | 1,0-2,0                | 38,77 | ER16-2 MICRO                | 1,0-2,0  | -     |
| ER16-3  | 2,0-3,0                | 34,88 | ER16-3 MICRO                | 2,0-3,0  | -     |
| ER16-4  | 3,0-4,0                | 34,88 | ER16-4 MICRO                | 3,0-4,0  | 46,11 |
| ER16-5  | 4,0-5,0                | 34,88 | ER16-5 MICRO                | 4,0-5,0  | 46,11 |
| ER16-6  | 5,0-6,0                | 34,88 | ER16-6 MICRO                | 5,0-6,0  | 46,11 |
| ER16-7  | 6,0-7,0                | 34,88 | ER16-7 MICRO                | 6,0-7,0  | 46,11 |
| ER16-8  | 7,0-8,0                | 34,88 | ER16-8 MICRO                | 7,0-8,0  | 46,11 |
| ER16-9  | 8,0-9,0                | 34,88 | ER16-9 MICRO                | 8,0-9,0  | 46,11 |
| ER16-10 | 9,0-10,0               | 34,88 | ER16-10 MICRO               | 9,0-10,0 | 46,11 |

Ref. ER25

TIPO  
ERDIN  
6499-BD2: 26     $\alpha$ : 8°  
L1: 34     $\beta$ : 30°

ER25

|         | EXC<br>0,01 INDUSTRIAL |       | EXC<br>0,005 ALTA PRECISIÓN |           |       |
|---------|------------------------|-------|-----------------------------|-----------|-------|
|         | Capacidad<br>D1        | €     | Capacidad<br>D1             | €         |       |
| ER25-2  | 1,0-2,0                | 39,94 | ER25-2 MICRO                | 1,0-2,0   | -     |
| ER25-3  | 2,0-3,0                | 39,94 | ER25-3 MICRO                | 2,0-3,0   | -     |
| ER25-4  | 3,0-4,0                | 39,94 | ER25-4 MICRO                | 3,0-4,0   | 49,66 |
| ER25-5  | 4,0-5,0                | 39,94 | ER25-5 MICRO                | 4,0-5,0   | 49,66 |
| ER25-6  | 5,0-6,0                | 39,94 | ER25-6 MICRO                | 5,0-6,0   | 49,66 |
| ER25-7  | 6,0-7,0                | 39,94 | ER25-7 MICRO                | 6,0-7,0   | 49,66 |
| ER25-8  | 7,0-8,0                | 39,94 | ER25-8 MICRO                | 7,0-8,0   | 49,66 |
| ER25-9  | 8,0-9,0                | 39,94 | ER25-9 MICRO                | 8,0-9,0   | 49,66 |
| ER25-10 | 9,0-10,0               | 39,94 | ER25-10 MICRO               | 9,0-10,0  | 49,66 |
| ER25-11 | 10,0-11,0              | 39,94 | ER25-11 MICRO               | 10,0-11,0 | 49,66 |
| ER25-12 | 11,0-12,0              | 39,94 | ER25-12 MICRO               | 11,0-12,0 | 49,66 |
| ER25-13 | 12,0-13,0              | 39,94 | ER25-13 MICRO               | 12,0-13,0 | 49,66 |
| ER25-14 | 13,0-14,0              | 39,94 | ER25-14 MICRO               | 13,0-14,0 | 49,66 |
| ER25-15 | 14,0-15,0              | 39,94 | ER25-15 MICRO               | 14,0-15,0 | 49,66 |
| ER25-16 | 15,0-16,0              | 39,94 | ER25-16 MICRO               | 15,0-16,0 | 49,66 |

**PINZAS DE PRECISIÓN**

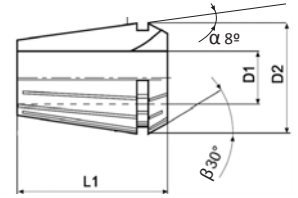
Ref. ER32

**TIPO**  
ER

**DIN**  
6499-B

D2: 33  
L1: 40

$\alpha$ : 8°  
 $\beta$ : 30°



ER32

|         | EXC 0,01 INDUSTRIAL |       | EXC 0,005 ALTA PRECISIÓN |           |       |
|---------|---------------------|-------|--------------------------|-----------|-------|
|         | Capacidad D1        | €     | Capacidad D1             | €         |       |
| ER32-3  | 2,0-3,0             | 37,96 | ER32-3MICRO              | 2,0-3,0   | -     |
| ER32-4  | 3,0-4,0             | 37,96 | ER32-4MICRO              | 3,0-4,0   | 51,85 |
| ER32-5  | 4,0-5,0             | 37,96 | ER32-5MICRO              | 4,0-5,0   | 51,85 |
| ER32-6  | 5,0-6,0             | 37,96 | ER32-6MICRO              | 5,0-6,0   | 51,85 |
| ER32-7  | 6,0-7,0             | 37,96 | ER32-7MICRO              | 6,0-7,0   | 51,85 |
| ER32-8  | 7,0-8,0             | 37,96 | ER32-8MICRO              | 7,0-8,0   | 51,85 |
| ER32-9  | 8,0-9,0             | 37,96 | ER32-9MICRO              | 8,0-9,0   | 51,85 |
| ER32-10 | 9,0-10,0            | 37,96 | ER32-10MICRO             | 9,0-10,0  | 51,85 |
| ER32-11 | 10,0-11,0           | 37,96 | ER32-11MICRO             | 10,0-11,0 | 51,85 |
| ER32-12 | 11,0-12,0           | 37,96 | ER32-12MICRO             | 11,0-12,0 | 51,85 |
| ER32-13 | 12,0-13,0           | 37,96 | ER32-13MICRO             | 12,0-13,0 | 51,85 |
| ER32-14 | 13,0-14,0           | 37,96 | ER32-14MICRO             | 13,0-14,0 | 51,85 |
| ER32-15 | 14,0-15,0           | 37,96 | ER32-15MICRO             | 14,0-15,0 | 51,85 |
| ER32-16 | 15,0-16,0           | 37,96 | ER32-16MICRO             | 15,0-16,0 | 51,85 |
| ER32-17 | 16,0-17,0           | 37,96 | ER32-17MICRO             | 16,0-17,0 | 51,85 |
| ER32-18 | 17,0-18,0           | 37,96 | ER32-18MICRO             | 17,0-18,0 | 51,85 |
| ER32-19 | 18,0-19,0           | 37,96 | ER32-19MICRO             | 18,0-19,0 | 51,85 |
| ER32-20 | 19,0-20,0           | 37,96 | ER32-20MICRO             | 19,0-20,0 | 51,85 |

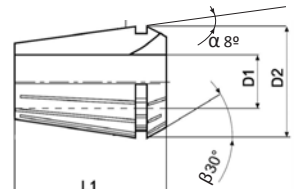
Ref. ER40

**TIPO**  
ER

**DIN**  
6499-B

D2: 41  
L1: 46

$\alpha$ : 8°  
 $\beta$ : 30°



ER40

|         | EXC 0,01 INDUSTRIAL |       | EXC 0,005 ALTA PRECISIÓN |           |       |
|---------|---------------------|-------|--------------------------|-----------|-------|
|         | Capacidad D1        | €     | Capacidad D1             | €         |       |
| ER40-3  | 2,0-3,0             | 48,24 | ER40-3MICRO              | 2,0-3,0   | -     |
| ER40-4  | 3,0-4,0             | 48,24 | ER40-4MICRO              | 3,0-4,0   | 61,70 |
| ER40-5  | 4,0-5,0             | 48,24 | ER40-5MICRO              | 4,0-5,0   | 61,70 |
| ER40-6  | 5,0-6,0             | 48,24 | ER40-6MICRO              | 5,0-6,0   | 61,70 |
| ER40-7  | 6,0-7,0             | 48,24 | ER40-7MICRO              | 6,0-7,0   | 61,70 |
| ER40-8  | 7,0-8,0             | 48,24 | ER40-8MICRO              | 7,0-8,0   | 61,70 |
| ER40-9  | 8,0-9,0             | 48,24 | ER40-9MICRO              | 8,0-9,0   | 61,70 |
| ER40-10 | 9,0-10,0            | 48,24 | ER40-10MICRO             | 9,0-10,0  | 61,70 |
| ER40-11 | 10,0-11,0           | 48,24 | ER40-11MICRO             | 10,0-11,0 | 61,70 |
| ER40-12 | 11,0-12,0           | 48,24 | ER40-12MICRO             | 11,0-12,0 | 61,70 |
| ER40-13 | 12,0-13,0           | 48,24 | ER40-13MICRO             | 12,0-13,0 | 61,70 |
| ER40-14 | 13,0-14,0           | 48,24 | ER40-14MICRO             | 13,0-14,0 | 61,70 |
| ER40-15 | 14,0-15,0           | 48,24 | ER40-15MICRO             | 14,0-15,0 | 61,70 |
| ER40-16 | 15,0-16,0           | 48,24 | ER40-16MICRO             | 15,0-16,0 | 61,70 |
| ER40-17 | 16,0-17,0           | 48,24 | ER40-17MICRO             | 16,0-17,0 | 61,70 |
| ER40-18 | 17,0-18,0           | 48,24 | ER40-18MICRO             | 17,0-18,0 | 61,70 |
| ER40-19 | 18,0-19,0           | 48,24 | ER40-19MICRO             | 18,0-19,0 | 61,70 |
| ER40-20 | 19,0-20,0           | 48,24 | ER40-20MICRO             | 19,0-20,0 | 61,70 |
| ER40-21 | 20,0-21,0           | 48,24 | ER40-21MICRO             | 20,0-21,0 | 61,70 |
| ER40-22 | 21,0-22,0           | 48,24 | ER40-22MICRO             | 21,0-22,0 | 61,70 |
| ER40-23 | 22,0-23,0           | 48,24 | ER40-23MICRO             | 22,0-23,0 | 61,70 |
| ER40-24 | 23,0-24,0           | 48,24 | ER40-24MICRO             | 23,0-24,0 | 61,70 |
| ER40-25 | 24,0-25,0           | 48,24 | ER40-25MICRO             | 24,0-25,0 | 61,70 |
| ER40-26 | 25,0-26,0           | 48,24 | ER40-26MICRO             | 25,0-26,0 | 61,70 |

**AFILADORA PROFESIONAL PATENTADA BLUE-MASTER**


\*Incluye malefín y muela de repuesto



Ref. AFB10



|                    |     | AFB10 |    |            |     |  |
|--------------------|-----|-------|----|------------|-----|--|
| CAPACIDAD AFILADO: | Ø   | 3-13  |    |            |     |  |
| ÁNGULOS DE PUNTA:  |     | 118°  |    |            |     |  |
| TIPOS DE AFILADOS: |     |       |    |            |     |  |
| REAFILA BROCAS:    | HSS | HSSCo | MD | <b>TiN</b> | PMD |  |
| <b>274,80 €</b>    |     |       |    |            |     |  |


 "Olvide los problemas eléctricos de otras afiladoras"  
 Incluye dispositivo anti-cortocircuitos

**AFILE BROCAS EN 4 SENCILLOS PASOS:**


1 Posicione y ajuste la broca en el portabrocas



2 Afile la broca



3 Compruebe el afilado convencional



4 Afilado secundario en cruz (Split Point)

**PORTABROCAS DE REPUESTO**

 PAFB10  
 32,28 €

**MUELA DE DIAMANTE GRANO ESTANDAR**

 MAFB10  
 33,80 €



**AFILADORAS PARA BROCAS DRILL DOCTOR**

**750X**  
Alta precisión



|                    |          |       |    |                |
|--------------------|----------|-------|----|----------------|
| AFB1               |          |       |    |                |
| CAPACIDAD AFILADO: | Ø 2,5-19 |       |    |                |
| ÁNGULOS DE PUNTA:  | 118°     | 135°  |    |                |
| TIPOS DE AFILADOS: |          |       |    |                |
| REAFILA BROCAS:    | HSS      | HSSCo | MD | <b>TiN</b> PMD |
|                    |          |       |    | 505,04 €       |

\*Incluye maletín

**500X**  
Afilado profesional



|                    |          |       |    |                |
|--------------------|----------|-------|----|----------------|
| AFB2               |          |       |    |                |
| CAPACIDAD AFILADO: | Ø 2,5-13 |       |    |                |
| ÁNGULOS DE PUNTA:  | 118°     | 135°  |    |                |
| TIPOS DE AFILADOS: |          |       |    |                |
| REAFILA BROCAS:    | HSS      | HSSCo | MD | <b>TiN</b> PMD |
|                    |          |       |    | 424,22 €       |

**XP**  
Práctico y económico



|                    |          |       |    |                |
|--------------------|----------|-------|----|----------------|
| AFB3               |          |       |    |                |
| CAPACIDAD AFILADO: | Ø 2,5-13 |       |    |                |
| ÁNGULOS DE PUNTA:  | 118°     |       |    |                |
| TIPOS DE AFILADOS: |          |       |    |                |
| REAFILA BROCAS:    | HSS      | HSSCo | MD | <b>TiN</b> PMD |
|                    |          |       |    | 204,44 €       |

**ACCESORIOS PARA AFILADORAS**
**PORTABROCAS PARA AFILADORAS**


Para 750X

 AFB1PB  
 76,43 €

 Para Brocas a  
 izquierdas

 AFB2PBI  
 76,45 €

**MUELA DE GRANO BASTO PARA AFILADORAS 750X, 500X**

 AFBT  
 71,01 €

**MUELA GRANO STANDARD PARA AFILADORAS 750X, 500X**

 AFBR  
 71,01 €

**TORNILLOS PARA AFILADORAS 750X Y 500X**

 AFBTLL  
 8,38 €

**SOPORTE PARA AFB10**

 SOPAFB10  
 30,25 €