

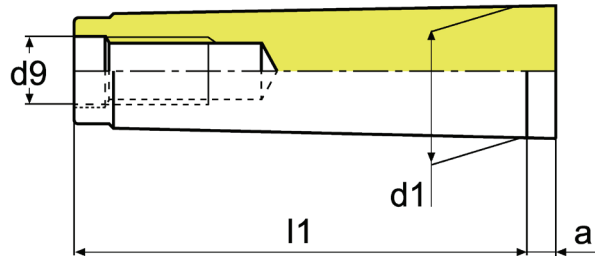


# **CONO MORSE DIN/228-A/B**

**PROGRAMA**

3

|  |   |   |   |   |   |  |
|--|---|---|---|---|---|--|
|   |    |    |    |    |   |   |
| <b>PAG. 4</b>  | <b>PAG. 5</b>   | <b>PAG. 5</b>   | <b>PAG. 6</b>   | <b>PAG. 6</b>   | <b>PAG. 7</b>   | <b>PAG. 7</b>  |
|   |    |    |    |    |   |   |
| <b>PAG. 8</b>  | <b>PAG. 8</b>   | <b>PAG. 9</b>   | <b>PAG. 9</b>   | <b>PAG. 10-11</b>   | <b>PAG. 12</b>  | <b>PAG. 12</b>   |
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| <b>PAG. 13-14</b>  | <b>PAG. 14</b>  | <b>PAG. 15-16</b>   | <b>PAG. 17</b>  | <b>PAG. 17</b>  | <b>PAG. 18-20</b>   | <b>PAG. 21</b>   |
|  |  |  |  |  |  |  |
| <b>PAG. 21</b>   | <b>PAG. 22</b>  | <b>PAG. 22</b>  | <b>PAG. 23</b>  | <b>PAG. 23</b>  | <b>PAG. 24</b>  | <b>PAG. 24</b>   |
|  |   |   |   |   |   |  |
|  |   |   |   |   |   |  |
|  |   |   |   |   |   |  |



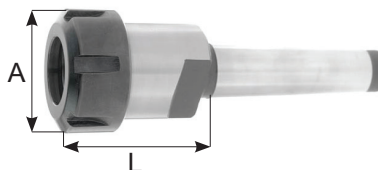
| Morse      | $d_1$  | $a$ | $d_9$ (1) | $l_1$ |
|------------|--------|-----|-----------|-------|
| <b>CM1</b> | 12.065 | 3.5 | M 6       | 53.5  |
| <b>CM2</b> | 17.780 | 5   | M10       | 64    |
| <b>CM3</b> | 23.825 | 5   | M12       | 81    |
| <b>CM4</b> | 31.267 | 6.5 | M16       | 102.5 |
| <b>CM5</b> | 44.399 | 6.5 | M20       | 129.5 |



**DIN/228-A**

Porta pinzas cono morse STANDARD  
Collet chucks cono morse STANDARD

**TUERCA STANDARD**



\*Compatible con tuerca hexagonal

| REFERENCIA   | CAP    | L  | A  |
|--------------|--------|----|----|
| CM1L25ER11 * | 1 ÷ 7  | 25 | 19 |
| CM1L40ER16 * | 1 ÷ 10 | 40 | 28 |
| CM2L42ER16 * |        | 42 |    |
| CM2L50ER20 * | 1 ÷ 14 | 50 | 34 |
| CM2L54ER25   | 1 ÷ 20 | 54 | 42 |
| CM3L53ER25   |        | 53 |    |
| CM4L56ER25   |        | 56 |    |
| CM2L59ER32   | 2 ÷ 22 | 59 | 50 |
| CM3L70ER32   |        | 70 |    |
| CM4L60ER32   |        | 60 |    |
| CM5L50ER32   |        | 50 |    |
| CM3L80ER40   | 3 ÷ 30 | 80 | 63 |
| CM4L81ER40   |        | 81 |    |
| CM5L82ER40   |        | 82 |    |
| CM4L96ER50   | 6 ÷ 34 | 96 | 78 |
| CM5L91ER50   |        | 91 |    |



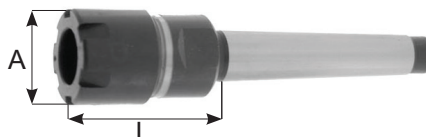
Estuche porta pinzas cono morse  
Straight shank collet chuck kit

| REFERENCIA  | PINZAS                          | LLAVE | PORTA PINZAS |
|-------------|---------------------------------|-------|--------------|
| BCM2L54ER25 | Ø2 a Ø16 x 1mm<br>(15 unidades) | CH25S | CM2L54ER25   |
| BCM3L53ER25 |                                 |       | CM3L53ER25   |
| BCM2L59ER32 | Ø3 ÷ Ø20 x 1mm<br>(18 unidades) | CH32S | CM2L59ER32   |
| BCM3L70ER32 |                                 |       | CM3L70ER32   |
| BCM4L60ER32 |                                 |       | CM4L60ER32   |
| BCM3L80ER40 | Ø4 ÷ Ø26 x 1mm<br>(23 unidades) | CH40S | CM3L80ER40   |
| BCM4L81ER40 |                                 |       | CM4L81ER40   |

**DIN/228-A**

Porta pinzas con morse tuerca MINI  
Collet chucks con morse MINI

**TUERCA MINI**



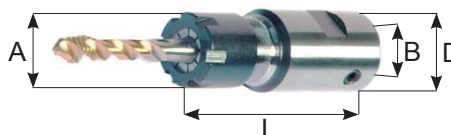
Compatible con tuerca mini hexagonal

| REFERENCIA  | CAP    | L  | A  |
|-------------|--------|----|----|
| CM1L25ER11M | 1 ÷ 7  | 25 | 16 |
| CM1L40ER16M | 1 ÷ 10 | 40 | 22 |
| CM2L42ER16M |        | 42 |    |
| CM3L43ER16M |        | 43 |    |
| CM2L50ER20M | 1 ÷ 14 | 50 | 28 |
| CM3L47ER20M |        | 47 |    |
| CM2L54ER25M | 1 ÷ 20 | 54 | 35 |
| CM3L58ER25M |        | 58 |    |

**DIN/238**

Porta pinzas DIN238 tuerca MINI  
Collet chucks DIN238 with MINI nut

**TUERCA MINI**



| REFERENCIA  | L  | A  | D  | B     |
|-------------|----|----|----|-------|
| B12L63ER11M | 63 | 16 | 25 | 12.06 |
| B12L55ER16M | 55 | 22 | 25 | 12.06 |
| B16L85ER16M | 85 | 22 | 25 | 15.73 |
| B12L67ER20M | 67 | 28 | 25 | 12.06 |
| B16L80ER20M | 80 | 28 | 25 | 15.73 |
| B18L74ER20M | 74 | 28 | 28 | 17.78 |

**DIN/228A**

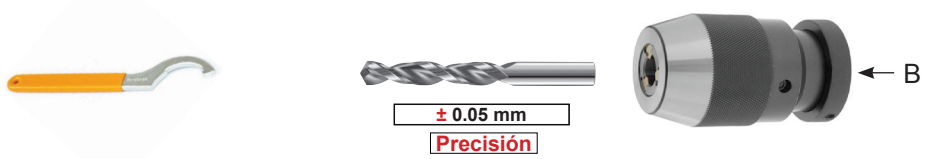
Porta fresas combinado con morse  
Combi shell end mill holders



| REFERENCIA | L  | A  |
|------------|----|----|
| CM3L48D16C | 48 | 16 |
| CM3L48D22C | 48 | 22 |
| CM3L48D27C | 48 | 27 |
| CM3L63D32C | 63 | 32 |
| CM4L55D16C | 55 | 16 |
| CM4L55D22C | 55 | 22 |
| CM4L55D27C | 55 | 27 |
| CM4L55D32C | 55 | 32 |
| CM5L75D22C | 75 | 22 |
| CM5L75D27C | 75 | 27 |
| CM5L75D32C | 75 | 32 |
| CM5L75D40C | 75 | 40 |

**DIN/238**

Porta brocas gran apriete de Alta Precisión DIN/238  
High precision keyless drill chucks DIN/238

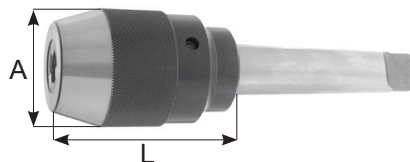


**± 0.05 mm**  
**Precisión**

| REFERENCIA | CAP    | B  |    |
|------------|--------|----|----|
| DCK8B10SP  | 1 ÷ 8  | 10 |    |
| DCK10B10SP | 1 ÷ 10 |    |    |
| DCK8B12SP  | 1 ÷ 8  |    |    |
| DCK10B12SP | 1 ÷ 10 | 12 |    |
| DCK13B12SP | 1 ÷ 13 |    |    |
| DCK10B16SP | 1 ÷ 10 | 16 |    |
| DCK13B16SP | 1 ÷ 13 |    |    |
| DCK16B16SP | 3 ÷ 16 |    |    |
| DCK16B18SP | 3 ÷ 16 |    | 18 |
| DCK16B18SP | 3 ÷ 16 |    |    |

**DIN/228-B**

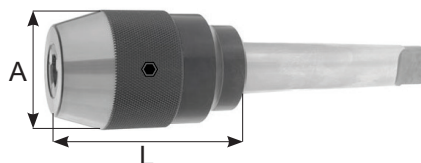
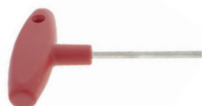
**Porta brocas integral llave gancho - Rotacion Derecha**  
*Integrated drill chucks - Right Spin*



| REFERENCIA  | CAP    | L  | A  |
|-------------|--------|----|----|
| CM2L86DCK13 | 1 ÷ 13 | 86 | 50 |
| CM3L86DCK13 |        | 86 |    |
| CM4L87DCK13 |        | 87 |    |
| CM3L90DCK16 | 3 ÷ 16 | 90 | 57 |
| CM4L91DCK16 |        | 91 |    |

**DIN/228-B**

**Porta brocas gran apriete integral llave hexagonal**  
**Rotacion Derecha e Izquierda**  
*Integrated drill chucks - Right and Left Spin key Exagonal*



| REFERENCIA  | CAP    | L  | A  |
|-------------|--------|----|----|
| CM2L87DCU13 | 1 ÷ 13 | 87 | 50 |
| CM3L87DCU13 |        | 87 |    |
| CM4L88DCU13 |        | 88 |    |
| CM3L92DCU16 | 3 ÷ 16 | 92 | 56 |
| CM4L94DCU16 |        | 94 |    |

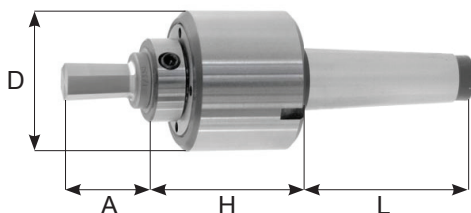
**Tetón para cono morse**  
*Removable tangs for morse taper*



| REFERENCIA | MORSE | METRICA (M) |
|------------|-------|-------------|
| TAG1M6     | 1     | M6          |
| TAG2M10    | 2     | M10         |
| TAG3M12    | 3     | M12         |
| TAG4M16    | 4     | M16         |
| TAG5M20    | 5     | M20         |

**DIN/228-B**

Porta brochas cono morse  
Rotating broach toolholder



**BCH**

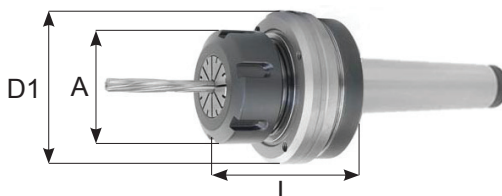


| REFERENCIA   | D  | H  | L   | A  | *BCH |
|--------------|----|----|-----|----|------|
| CM2L69BCH8   | 32 | 38 | 69  | 18 | 8    |
| CM2L69BCH12  | 44 | 46 | 69  | 25 | 12   |
| CM3L85BCH16  | 58 | 76 | 85  | 40 | 16   |
| CM4L109BCH16 | 58 | 76 | 109 | 40 | 16   |

**DIN/228-A**

Porta escariador flotante cono morse ER - DIN 6499  
Floating reamer holders with ER - DIN 6499

± 1 mm  
± 1.5 mm  
Flotación



Coolant

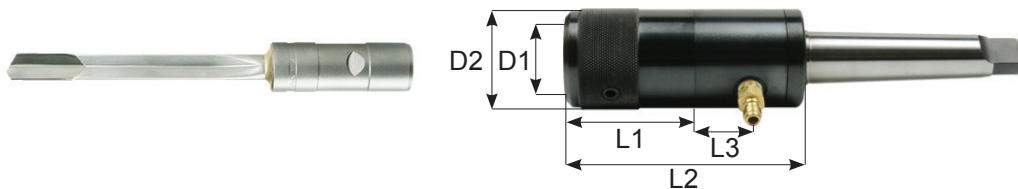
| REFERENCIA  | CM | PINZA | CAP    | FLOT     | A  | L  | D1 |
|-------------|----|-------|--------|----------|----|----|----|
| CM2L40RM11R | 2  | ER11  | 1 ÷ 7  | ± 1 mm   | 22 | 40 | 42 |
| CM3L40RM11R | 3  |       |        |          |    |    |    |
| CM2L44RM16R | 2  | ER16  | 1 ÷ 10 | ± 1 mm   | 28 | 44 | 42 |
| CM3L44RM16R | 3  |       |        |          |    |    |    |
| CM2L50RM20R | 2  | ER20  | 1 ÷ 14 | ± 1 mm   | 34 | 50 | 50 |
| CM3L50RM20R | 3  |       |        |          |    |    |    |
| CM2L53RM25R | 2  | ER25  | 1 ÷ 20 | ± 1 mm   | 42 | 53 | 57 |
| CM3L53RM25R | 3  |       |        |          |    |    |    |
| CM3L58RM32R | 3  | ER32  | 2 ÷ 22 | ± 1.5 mm | 50 | 58 | 69 |
| CM4L58RM32R | 4  |       |        |          |    |    |    |
| CM3L64RM40R | 3  | ER40  | 3 ÷ 30 | ± 1.5 mm | 63 | 64 | 79 |
| CM4L64RM40R | 4  |       |        |          |    |    |    |



**DIN/228-B**

Dispositivo rotativo con morse de lubricación central  
Rotating oil-feed holders

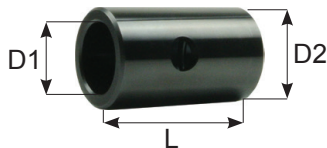
**Distribuidor Rotativo con morse**



| REFERENCIA | CM | D1 | L1 | L2  | D2 | L3 |
|------------|----|----|----|-----|----|----|
| EVT516/1   | 1  | 16 | 40 | 89  | 32 | 24 |
| EVT525/2   | 2  | 25 | 50 | 113 | 46 | 31 |
| EVT525/3   | 3  | 25 | 50 | 113 | 46 | 31 |
| EVT535/4   | 4  | 35 | 60 | 123 | 58 | 28 |

Casquillo reductor  
Reduction sleeves

Condiciones de trabajo  
Using coolant

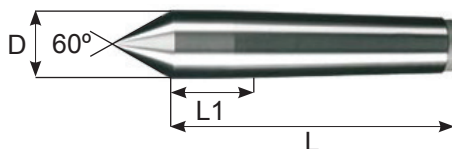


| REFERENCIA | FAM | D1 | D2 | L  |
|------------|-----|----|----|----|
| EVT25/16   | 15  | 16 | 25 | 50 |
| EVT25/20   |     | 20 | 25 | 50 |
| EVT35/25   |     | 25 | 35 | 60 |

| Ø  | PRESION     | RPM  |
|----|-------------|------|
| 16 | Hasta 4 BAR | 6740 |
|    | Max 17 BAR  | 2000 |
| 25 | Hasta 5 BAR | 4600 |
|    | Max 17 BAR  | 1350 |
| 35 | Hasta 5 BAR | 2700 |
|    | Max 17 BAR  | 850  |

Punto con morse de acero  
Steel type morse taper shank tailstocks

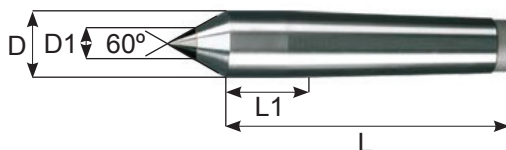
**60°**



| REFERENCIA  | D  | L1 | L   |
|-------------|----|----|-----|
| CM1L80D12A  | 12 | 26 | 80  |
| CM2L100D18A | 18 | 36 | 100 |
| CM3L125D24A | 24 | 44 | 125 |
| CM4L160D32A | 32 | 57 | 160 |
| CM5L200D45A | 45 | 70 | 200 |

Punto cono morse punta de metal duro  
Morse taper shank tailstock with solid carbide

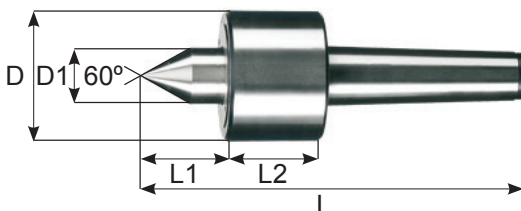
60°



| REFERENCIA  | D1 | D  | L1 | L   |
|-------------|----|----|----|-----|
| CM1L80D12W  | 7  | 12 | 26 | 80  |
| CM2L100D18W | 7  | 18 | 36 | 100 |
| CM3L125D24W | 11 | 24 | 44 | 125 |
| CM4L160D32W | 14 | 32 | 57 | 160 |
| CM5L200D45W | 18 | 45 | 70 | 200 |

Punto rotativo cono morse - Tipo Standard  
Morse taper shank rotary tailstocks - Type Standard

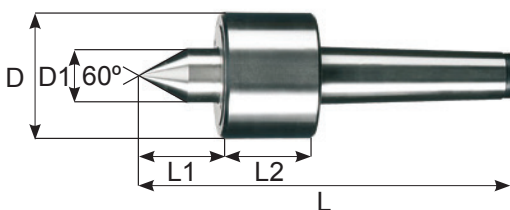
60°



| REFERENCIA   | D  | D1 | L1 | L2 | L   | Rpm max | Kg. Max |
|--------------|----|----|----|----|-----|---------|---------|
| CM1L114D10RS | 36 | 15 | 17 | 43 | 114 | 7000    | 100     |
| CM2L129D18RS | 45 | 20 | 24 | 41 | 129 | 7000    | 200     |
| CM3L160D23RS | 60 | 25 | 31 | 48 | 160 | 5000    | 500     |
| CM4L205D25RS | 70 | 32 | 41 | 61 | 205 | 3800    | 800     |
| CM5L258D38RS | 90 | 40 | 50 | 78 | 258 | 3000    | 2000    |

Punto rotativo cono morse - Tipo A - Doble Esfera  
Morse taper shank rotary tailstocks - Type A - Double spheres

60°

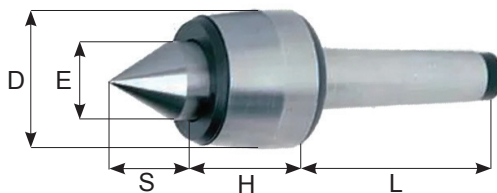


| REFERENCIA   | D  | D1 | L1 | L2 | L   | Rpm max | Kg. Max |
|--------------|----|----|----|----|-----|---------|---------|
| CM2L126D18RD | 32 | 15 | 20 | 42 | 144 | 6000    | 200     |
| CM3L144D23RD | 34 | 15 | 20 | 43 | 175 | 6000    | 400     |
| CM4L178D25RD | 43 | 20 | 26 | 50 | 205 | 6000    | 800     |
| CM5L234D38RD | 58 | 30 | 39 | 66 | 267 | 4000    | 1200    |

**DIN/228-B**

Punto rotativo cono morse  
Revolving Tailstock Cono morse

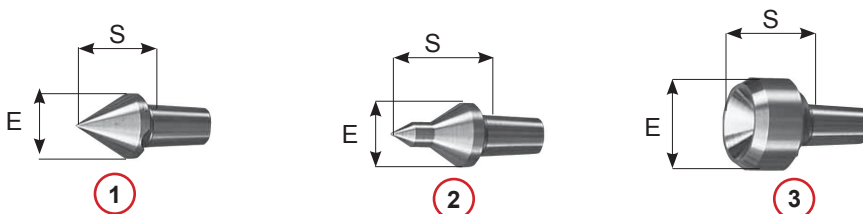
**60°**



Nota: El punto Rotativo cono morse incluye la (Figura.1 E14S16.60°)  
Note: The rotary cono morse point includes the (Figure.1 E14S16.60°)

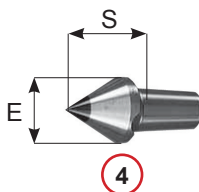
| REFERENCIA | D  | E  | H  | L  | S  |
|------------|----|----|----|----|----|
| CM2L69D14F | 32 | 14 | 44 | 69 | 16 |

Recambios para punto rotativo cono morse  
Interchangeable insert cono morse



| REFERENCIA | E  | S  | G  | F  | S   | FIG |
|------------|----|----|----|----|-----|-----|
| E14S16.60° | 14 | 16 | -  | -  | 60° | 1   |
| E14S22.90° | 14 | 22 | -  | -  | 90° | 1   |
| E14S22.60° | 14 | 22 | 7  | -  | 60° | 2   |
| E14S26.60° | 14 | 26 | 8  | -  | 60° | 2   |
| E20S12.60° | 20 | 12 | 12 | 10 | 60° | 3   |

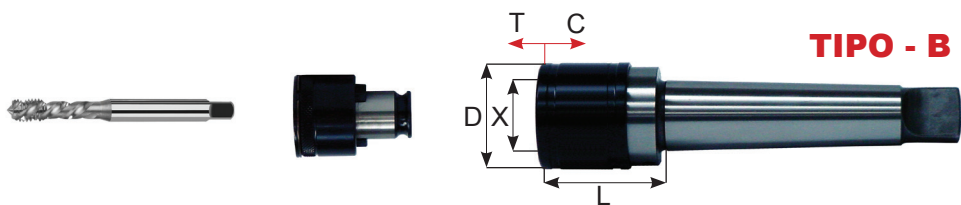
Recambios para punto rotativo cono morse con punta de metal duro  
Interchangeable cono morse insert with hard metal



| REFERENCIA   | E  | S  | G | F | S   | FIG |
|--------------|----|----|---|---|-----|-----|
| E14S16.60°HM | 14 | 16 | 6 | - | 60° | 4   |

**DIN/228-B**

Roscador Cono Morse con compresión y tracción  
Quick change tapping chucks *Traccion / Compression*



| REFERENCIA                         | CAP       | CM         | X  | D  | L        | C    | T    |
|------------------------------------|-----------|------------|----|----|----------|------|------|
| CM2B-THTC1-L47<br>CM3B-THTC1-L47   | M 3 ÷ M12 | CM2<br>CM3 | 19 | 36 | 47       | 7.5  | 7.5  |
| CM3B-THTC2-L71<br>CM4B-THTC2-L72   | M 8 ÷ M20 | CM3<br>CM4 | 31 | 53 | 71<br>72 | 12.5 | 12.5 |
| CM4B-THTC3-L105<br>CM5B-THTC3-L105 | M14 ÷ M33 | CM4<br>CM5 | 48 | 78 | 105      | 20   | 20   |
| CM5B-THTC4-L117                    | M22 ÷ M48 | CM5        | 60 | 96 | 117      | 22.5 | 22.5 |

**DIN/228-A** (On request)

**LINEA  
TRANSFER**

Roscador rígido Cono Morse  
Quick change tapping chucks *Rigid*

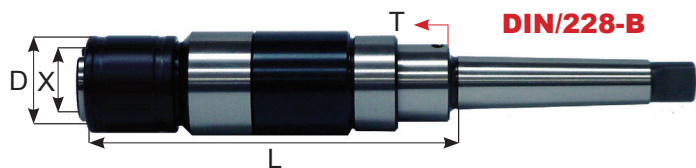
**DIN/228-B**



| REFERENCIA                                      | CAP       | CM                | X  | D  | L              |
|---|-----------|-------------------|----|----|----------------|
| CM1B-TLR0-L39<br>CM2B-TLR0-L40                  | M 1 ÷ M10 | CM1<br>CM2        | 13 | 23 | 39<br>40       |
| CM1B-TLR1-L43<br>CM2B-TLR1-L44<br>CM3B-TLR1-L44 | M 3 ÷ M12 | CM1<br>CM2<br>CM3 | 19 | 32 | 43<br>44<br>44 |
| CM2B-TLR2-L61<br>CM3B-TLR2-L61<br>CM4B-TLR2-L62 | M 8 ÷ M20 | CM2<br>CM3<br>CM4 | 31 | 50 | 61<br>61<br>62 |
| CM3B-TLR3-L90<br>CM4B-TLR3-L91                  | M14 ÷ M33 | CM3<br>CM4        | 48 | 72 | 90<br>91       |
| CM4B-TLR4-L110<br>CM5B-TLR4-L109                | M22 ÷ M48 | CM4<br>CM5        | 60 | 95 | 110<br>109     |

**Roscador rígido con morse con compensación axial en tracción**  
*Quick change tapping chucks with length compensation Axial in Tracción*

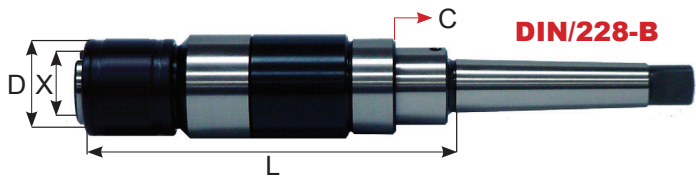
**LINEA TRANSFER**



| REFERENCIA   | CAP       | CM  | X  | D  | L   | T  |
|--------------|-----------|-----|----|----|-----|----|
| CM1B-TLT0-30 | M 1 ÷ M10 | CM1 | 13 | 23 | 91  | 30 |
| CM2B-TLT0-30 |           | CM2 |    |    | 92  | 30 |
| CM1B-TLT1-40 | M 3 ÷ M12 | CM1 | 19 | 35 | 113 | 40 |
| CM2B-TLT1-40 |           | CM2 |    |    | 114 | 40 |
| CM3B-TLT1-40 |           | CM3 |    |    | 114 | 40 |
| CM2B-TLT2-40 | M 8 ÷ M20 | CM2 | 31 | 50 | 138 | 40 |
| CM3B-TLT2-40 |           | CM3 |    |    | 138 | 40 |
| CM4B-TLT2-40 |           | CM4 |    |    | 139 | 40 |
| CM3B-TLT3-30 |           | CM3 |    |    | 184 | 40 |
| CM4B-TLT3-40 | M14 ÷ M33 | CM4 | 48 | 72 | 185 | 40 |
| CM4B-TLT4-60 |           | CM4 |    |    | 229 | 60 |
| CM5B-TLT4-60 | M22 ÷ M48 | CM5 | 60 | 95 | 230 | 60 |

**Roscador rígido con morse con compensación axial en compresión**  
*Quick change tapping chucks with length compensation Axial in Compression*

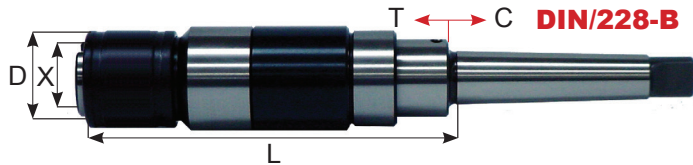
**LINEA TRANSFER**



| REFERENCIA   | CAP       | CM  | X  | D  | L   | C  |
|--------------|-----------|-----|----|----|-----|----|
| CM1B-TLC0-20 | M 1 ÷ M10 | CM1 | 13 | 23 | 101 | 20 |
| CM1B-TLC0-30 |           | CM1 |    |    | 121 | 30 |
| CM2B-TLC0-20 | M 3 ÷ M12 | CM2 | 19 | 35 | 102 | 20 |
| CM2B-TLC0-30 |           | CM2 |    |    | 122 | 30 |
| CM1B-TLC1-30 |           | CM1 |    |    | 133 | 30 |
| CM1B-TLC1-40 | M 8 ÷ M20 | CM1 | 31 | 50 | 153 | 40 |
| CM2B-TLC1-30 |           | CM2 |    |    | 134 | 30 |
| CM2B-TLC1-40 |           | CM2 |    |    | 154 | 40 |
| CM3B-TLC1-30 |           | CM3 |    |    | 134 | 30 |
| CM3B-TLC1-40 | M14 ÷ M33 | CM3 | 48 | 72 | 154 | 40 |
| CM2B-TLC2-30 |           | CM2 |    |    | 151 | 30 |
| CM2B-TLC2-40 |           | CM2 |    |    | 171 | 40 |
| CM3B-TLC2-30 |           | CM3 |    |    | 151 | 30 |
| CM3B-TLC2-40 |           | CM3 |    |    | 171 | 40 |
| CM4B-TLC2-30 |           | CM4 |    |    | 166 | 30 |
| CM4B-TLC2-40 | M22 ÷ M48 | CM4 | 60 | 95 | 186 | 40 |
| CM3B-TLC3-30 |           | CM3 |    |    | 197 | 30 |
| CM3B-TLC3-40 |           | CM3 |    |    | 217 | 40 |
| CM4B-TLC3-30 |           | CM4 |    |    | 197 | 30 |
| CM4B-TLC3-40 | CM4       | CM4 | 60 | 95 | 217 | 40 |
| CM4B-TLC4-60 |           | CM4 |    |    | 289 | 60 |
| CM5B-TLC4-60 |           | CM5 |    |    | 290 | 60 |

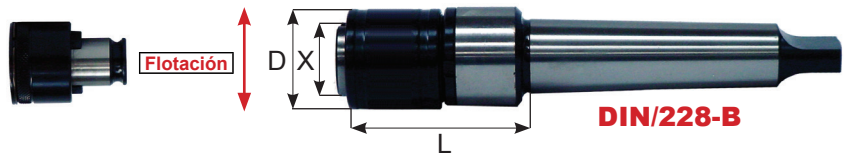
**Rosgador rígido con morse con compensación axial / compresión y tracción**  
*Quick change tapping chucks with compesation Axial Tracción/Compression*

3



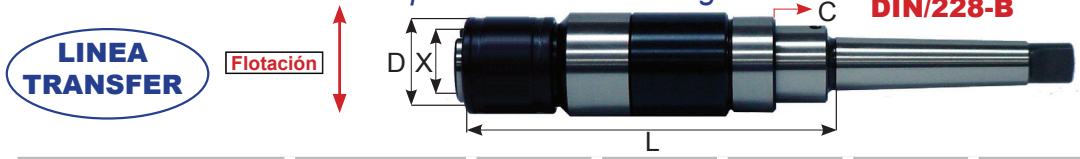
| REFERENCIA       | CAP        | CM  | X  | D  | L   | C  | T  |
|------------------|------------|-----|----|----|-----|----|----|
| CM1B-TLTC0-20/10 | M 1 ÷ M10  | CM1 | 13 | 23 | 111 | 20 | 10 |
| CM1B-TLTC0-15/15 |            | CM1 |    |    | 106 | 15 | 15 |
| CM2B-TLTC0-20/10 | M 3 ÷ M12  | CM2 | 19 | 35 | 112 | 20 | 10 |
| CM2B-TLTC0-15/15 |            | CM2 |    |    | 107 | 15 | 15 |
| CM1B-TLTC1-30/10 | M 8 ÷ M20  | CM1 | 31 | 50 | 143 | 30 | 10 |
| CM1B-TLTC1-20/20 |            | CM1 |    |    | 133 | 20 | 20 |
| CM2B-TLTC1-30/10 |            | CM2 |    |    | 144 | 30 | 30 |
| CM2B-TLTC1-20/20 |            | CM2 |    |    | 134 | 20 | 20 |
| CM3B-TLTC1-30/10 | M 14 ÷ M33 | CM3 | 48 | 72 | 144 | 30 | 10 |
| CM3B-TLTC1-20/20 |            | CM3 |    |    | 134 | 20 | 20 |
| CM2B-TLTC2-30/10 |            | CM4 |    |    | 168 | 30 | 10 |
| CM2B-TLTC2-20/20 |            | CM2 |    |    | 158 | 20 | 20 |
| CM3B-TLTC2-30/10 | M 25 ÷ M48 | CM3 | 60 | 95 | 168 | 30 | 10 |
| CM3B-TLTC2-20/20 |            | CM3 |    |    | 158 | 20 | 20 |
| CM4B-TLTC2-30/10 |            | CM4 |    |    | 169 | 30 | 10 |
| CM4B-TLTC2-20/20 |            | CM4 |    |    | 159 | 20 | 20 |
| CM3B-TLTC3-30/10 | M 25 ÷ M48 | CM3 | 60 | 95 | 214 | 30 | 10 |
| CM3B-TLTC3-20/20 |            | CM3 |    |    | 204 | 20 | 20 |
| CM4B-TLTC3-30/10 |            | CM4 |    |    | 215 | 30 | 10 |
| CM4B-TLTC3-20/20 |            | CM4 |    |    | 205 | 20 | 20 |
| CM4B-TLTC4-40/20 | M 25 ÷ M48 | CM4 | 60 | 95 | 269 | 40 | 20 |
| CM4B-TLTC4-30/30 |            | CM4 |    |    | 259 | 30 | 30 |
| CM5B-TLTC4-40/20 |            | CM5 |    |    | 270 | 40 | 20 |
| CM5B-TLTC4-30/30 |            | CM5 |    |    | 260 | 30 | 30 |

**Rosgador rígido con morse y flotación radial**  
*Quick change tapping chucks / Radial floating - Rigid*



| REFERENCIA      | CAP        | CM  | X  | D  | FLOT | L   |
|-----------------|------------|-----|----|----|------|-----|
| CM1B-TLRP0-L59  | M 1 ÷ M10  | CM1 | 13 | 23 | 0.75 | 59  |
| CM2B-TLRP0-L60  |            | CM2 |    |    | 0.25 | 60  |
| CM1B-TLRP1-L64  | M 3 ÷ M12  | CM1 | 19 | 32 | 0.5  | 64  |
| CM2B-TLRP1-L65  |            | CM2 |    |    |      | 65  |
| CM3B-TLRP1-L65  | M 8 ÷ M20  | CM3 | 31 | 50 | 1.0  | 65  |
| CM2B-TLRP2-L91  |            | CM2 |    |    |      | 91  |
| CM3B-TLRP2-L91  |            | CM3 |    |    |      | 91  |
| CM4B-TLRP2-L92  |            | CM4 |    |    |      | 92  |
| CM3B-TLRP3-L131 | M 14 ÷ M33 | CM3 | 48 | 72 | 1.5  | 131 |
| CM4B-TLRP3-L132 |            | CM4 |    |    |      | 132 |
| CM5B-TLRP3-L133 |            | CM5 |    |    |      | 133 |
| CM4B-TLRP4-L161 | M 22 ÷ M48 | CM4 | 60 | 95 | 2.0  | 161 |
| CM5B-TLRP4-L162 |            | CM5 |    |    |      | 162 |

Roscador rígido con morse con compensación axial en compresión y flotación radial  
 Quick change tapping chucks with length compensation in Compression and Floating Radial



| REFERENCIA    | CAP        | CM  | X  | D  | FLOT | C  |
|---------------|------------|-----|----|----|------|----|
| CM1B-TLCP0-20 | M 1 ÷ M10  | CM1 | 13 | 23 | 0.25 | 20 |
| CM1B-TLCP0-30 |            | CM1 |    |    |      | 30 |
| CM2B-TLCP0-20 |            | CM2 |    |    |      | 20 |
| CM2B-TLCP0-30 |            | CM2 |    |    |      | 30 |
| CM1B-TLCP1-30 | M 3 ÷ M12  | CM1 | 19 | 35 | 0.50 | 30 |
| CM1B-TLCP1-40 |            | CM1 |    |    |      | 40 |
| CM2B-TLCP1-30 |            | CM2 |    |    |      | 30 |
| CM2B-TLCP1-40 |            | CM2 |    |    |      | 40 |
| CM3B-TLCP1-30 | M 8 ÷ M20  | CM3 | 31 | 50 | 1.00 | 30 |
| CM3B-TLCP1-40 |            | CM3 |    |    |      | 40 |
| CM2B-TLCP2-30 |            | CM2 |    |    |      | 30 |
| CM2B-TLCP2-40 |            | CM2 |    |    |      | 40 |
| CM3B-TLCP2-30 | M 14 ÷ M33 | CM3 | 48 | 72 | 1.50 | 30 |
| CM3B-TLCP2-40 |            | CM3 |    |    |      | 40 |
| CM4B-TLCP2-30 |            | CM4 |    |    |      | 30 |
| CM4B-TLCP2-40 |            | CM4 |    |    |      | 40 |
| CM3B-TLCP3-30 | M22 ÷ M48  | CM3 | 60 | 95 | 2.00 | 30 |
| CM3B-TLCP3-40 |            | CM3 |    |    |      | 40 |
| CM4B-TLCP3-30 |            | CM4 |    |    |      | 30 |
| CM4B-TLCP3-40 |            | CM4 |    |    |      | 40 |
| CM4B-TLCP4-60 | M22 ÷ M48  | CM4 | 60 | 95 | 2.00 | 60 |
| CM5B-TLCP4-60 |            | CM5 |    |    |      | 60 |

Roscador rígido con morse con compensación axial en tracción y flotación radial

Quick change tapping chucks with length compensation in traction and Floating Radial

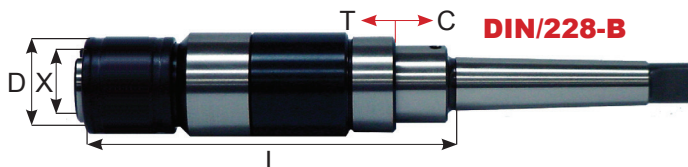


| REFERENCIA    | CAP       | CM  | X  | D  | FLOT | T  |
|---------------|-----------|-----|----|----|------|----|
| CM1B-TLTP0-30 | M 1 ÷ M10 | CM1 | 13 | 23 | 0.25 | 30 |
| CM2B-TLTP0-30 |           | CM2 |    |    |      | 30 |
| CM1B-TLTP1-40 | M 3 ÷ M12 | CM1 | 19 | 35 | 0.50 | 40 |
| CM2B-TLTP1-40 |           | CM2 |    |    |      | 40 |
| CM3B-TLTP1-40 | M 8 ÷ M20 | CM3 | 31 | 50 | 1.00 | 40 |
| CM2B-TLTP2-40 |           | CM2 |    |    |      | 40 |
| CM3B-TLTP2-40 |           | CM3 |    |    |      | 40 |
| CM4B-TLTP2-40 |           | CM4 |    |    |      | 40 |
| CM3B-TLTP3-30 | M14 ÷ M33 | CM3 | 48 | 72 | 1.50 | 40 |
| CM4B-TLTP3-40 |           | CM4 |    |    |      | 40 |
| CM4B-TLTP4-60 | M22 ÷ M48 | CM4 | 60 | 95 | 2.00 | 60 |
| CM5B-TLTP4-60 |           | CM5 |    |    |      | 60 |



Rosgador rígido con morse con compensación axial en compresión y tracción y flotación radial  
 Quick change tapping chucks with length compensation in Traccion / Compression and Floating Radial

3



| REFERENCIA        | CAP       | CM  | X  | D  | L   | FLOT | C  | T  |    |
|-------------------|-----------|-----|----|----|-----|------|----|----|----|
| CM1B-TLTCP0-20/10 | M 1 ÷ M10 | CM1 | 13 | 23 | 111 | 0.25 | 20 | 10 |    |
| CM1B-TLTCP0-15/15 |           | CM1 |    |    | 106 |      |    |    | 15 |
| CM2B-TLTCP0-20/10 |           | CM2 |    |    | 112 |      |    |    | 20 |
| CM2B-TLTCP0-15/15 |           | CM2 |    |    | 107 |      |    |    | 15 |
| CM1B-TLTCP1-30/10 | M 3 ÷ M12 | CM1 | 19 | 35 | 143 | 0.50 | 30 | 10 |    |
| CM1B-TLTCP1-20/20 |           | CM1 |    |    | 133 |      |    |    | 20 |
| CM2B-TLTCP1-30/10 |           | CM2 |    |    | 144 |      |    |    | 30 |
| CM2B-TLTCP1-20/20 |           | CM2 |    |    | 134 |      |    |    | 20 |
| CM3B-TLTCP1-30/10 | M 8 ÷ M20 | CM3 | 31 | 50 | 144 | 1.00 | 30 | 10 |    |
| CM3B-TLTCP1-20/20 |           | CM3 |    |    | 134 |      |    |    | 20 |
| CM2B-TLTCP2-30/10 |           | CM2 |    |    | 168 |      |    |    | 30 |
| CM2B-TLTCP2-20/20 |           | CM2 |    |    | 158 |      |    |    | 20 |
| CM3B-TLTCP2-30/10 | M14 ÷ M33 | CM3 | 48 | 72 | 168 | 1.25 | 30 | 10 |    |
| CM3B-TLTCP2-20/20 |           | CM3 |    |    | 158 |      |    |    | 20 |
| CM4B-TLTCP2-30/10 |           | CM4 |    |    | 169 |      |    |    | 30 |
| CM4B-TLTCP2-20/20 |           | CM4 |    |    | 159 |      |    |    | 20 |
| CM3B-TLTCP3-30/10 | M25 ÷ M48 | CM3 | 60 | 95 | 214 | 2.00 | 40 | 20 |    |
| CM3B-TLTCP3-20/20 |           | CM3 |    |    | 204 |      |    |    | 30 |
| CM4B-TLTCP3-30/10 |           | CM4 |    |    | 215 |      |    |    | 30 |
| CM4B-TLTCP3-20/20 |           | CM4 |    |    | 205 |      |    |    | 20 |
| CM4B-TLTCP4-40/20 |           | CM4 |    |    | 269 |      | 40 | 20 |    |
| CM4B-TLTCP4-30/30 |           | CM4 |    |    | 259 |      |    |    | 30 |
| CM5B-TLTCP4-40/20 |           | CM5 |    |    | 270 |      |    |    | 40 |
| CM5B-TLTCP4-30/30 |           | CM5 |    |    | 260 |      | 30 | 30 |    |

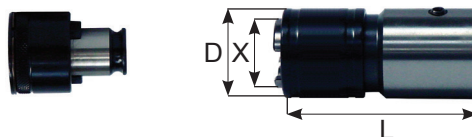




**Roscador rígido cono DIN/238**  
Quick change tapping chucks / Rigid

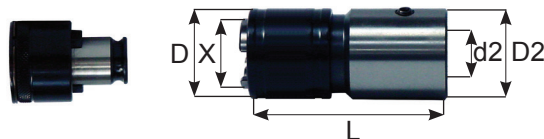


**DIN/238**



| REFERENCIA    | CAP       | B   | X  | D  | L   |
|---------------|-----------|-----|----|----|-----|
| B10-TLR0-L51  | M 1 ÷ M10 | B10 | 13 | 23 | 51  |
| B12-TLR0-L55  |           | B12 |    |    | 55  |
| B12-TLR1-L59  | M 3 ÷ M12 | B12 | 19 | 32 | 59  |
| B16-TLR2-L84  | M 8 ÷ M20 | B16 | 31 | 50 | 84  |
| B18-TLR2-L92  |           | B18 |    |    | 92  |
| B22-TLR3-L126 | M14 ÷ M33 | B22 | 48 | 72 | 126 |
| B24-TLR3-L136 |           | B24 |    |    | 136 |

**Roscador rígido**  
Quick change tapping chucks / Rigid

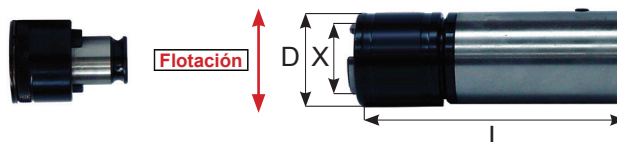


| REFERENCIA      | CAP       | X  | d2 | D2   | D  | L     |
|-----------------|-----------|----|----|------|----|-------|
| D16-TLR2-L86.5  | M 8 ÷ M20 | 31 | 16 | 44.8 | 50 | 86.5  |
| D25-TLR2-L103   |           |    | 25 | 44.8 | 50 | 103   |
| D25-TLR3-L124.5 | M14 ÷ M33 | 48 | 25 | 67.4 | 72 | 124.5 |
| D35-TLR4-L139   | M22 ÷ M48 | 60 | 35 | 84   | 92 | 139   |

**Roscador rígido cono DIN/238 con flotación radial**  
Quick change tapping chucks / Radial floating - Rigid



**DIN/238**

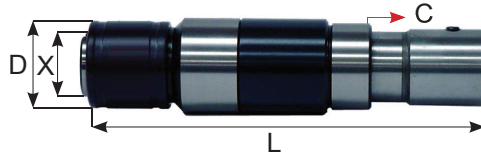


| REFERENCIA     | CAP       | B   | X  | D  | L   | FLOT |
|----------------|-----------|-----|----|----|-----|------|
| B10-TLRP0-L72  | M 1 ÷ M10 | B10 | 13 | 23 | 72  | 0.25 |
| B12-TLRP0-L76  |           | B12 |    |    | 76  |      |
| B12-TLRP1-L79  | M 3 ÷ M12 | B12 | 19 | 32 | 79  |      |
| B16-TLRP1-L85  |           | B16 |    |    | 85  |      |
| B18-TLRP1-L95  | M 8 ÷ M20 | B18 | 31 | 50 | 95  | 1    |
| B16-TLRP2-L112 |           | B16 |    |    | 112 |      |
| B18-TLRP2-L119 | M 8 ÷ M20 | B18 | 31 | 50 | 119 |      |
| B22-TLRP2-L129 |           | B22 |    |    | 129 |      |
| B22-TLRP3-L165 | M14 ÷ M33 | B22 | 48 | 72 | 165 | 1.5  |
| B24-TLRP3-L175 |           | B24 |    |    | 175 |      |

**Rosgador rígido DIN/238 con compensación axial en compresión**  
*Quick change tapping DIN/238 chucks with length compensation Axial in Compression*

3

**LINEA TRANSFER**  
**DIN/238**

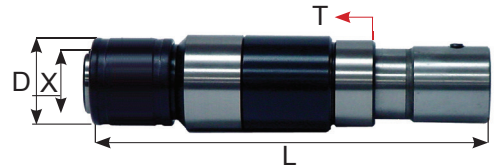


**B**  
 Cónica

| REFERENCIA  | CAP        | B   | X  | D  | L   | C  |
|-------------|------------|-----|----|----|-----|----|
| B10-TLC0-20 | M 1 ÷ M10  | B10 | 13 | 23 | 117 | 20 |
| B10-TLC0-30 |            | B10 |    |    | 137 | 30 |
| B12-TLC0-20 |            | B12 |    |    | 121 | 20 |
| B12-TLC0-30 |            | B12 |    |    | 141 | 30 |
| B12-TLC1-30 | M 3 ÷ M12  | B12 | 19 | 35 | 127 | 30 |
| B12-TLC1-40 |            | B12 |    |    | 147 | 40 |
| B16-TLC1-30 |            | B16 |    |    | 127 | 30 |
| B16-TLC1-40 |            | B16 |    |    | 147 | 40 |
| B18-TLC1-30 | M 8 ÷ M20  | B18 | 31 | 50 | 142 | 30 |
| B18-TLC1-40 |            | B18 |    |    | 162 | 40 |
| B16-TLC2-30 |            | B16 |    |    | 151 | 30 |
| B16-TLC2-40 |            | B16 |    |    | 171 | 40 |
| B18-TLC2-30 | M 14 ÷ M33 | B18 | 48 | 72 | 151 | 30 |
| B18-TLC2-40 |            | B18 |    |    | 171 | 40 |
| B22-TLC2-30 |            | B22 |    |    | 166 | 30 |
| B22-TLC2-40 |            | B22 |    |    | 186 | 40 |
| B22-TLC3-30 | M14 ÷ M33  | B22 | 48 | 72 | 197 | 30 |
| B22-TLC3-40 |            | B22 |    |    | 217 | 40 |
| B24-TLC3-30 |            | B24 |    |    | 197 | 30 |
| B24-TLC3-40 |            | B24 |    |    | 217 | 40 |

**Rosgador rígido DIN/238 con compensación axial en tracción**  
*Quick change tapping DIN/238 chucks with length compensation Axial in traction*

**LINEA TRANSFER**  
**DIN/238**



**B**  
 Cónica

| REFERENCIA  | CAP       | B   | X  | D  | L   | T  |
|-------------|-----------|-----|----|----|-----|----|
| B10-TLT0-30 | M 1 ÷ M10 | B10 | 13 | 23 | 107 | 30 |
| B12-TLT0-30 |           | B12 |    |    | 111 | 30 |
| B16-TLT1-40 | M 3 ÷ M12 | B16 | 19 | 35 | 135 | 40 |
| B18-TLT1-40 |           | B18 |    |    | 148 | 40 |
| B18-TLT2-40 | M 8 ÷ M20 | B18 | 31 | 50 | 168 | 40 |
| B22-TLT2-40 |           | B22 |    |    | 177 | 40 |
| B22-TLT3-40 | M14 ÷ M33 | B22 | 48 | 72 | 221 | 40 |
| B24-TLT3-40 |           | B24 |    |    | 231 | 40 |

**Roscador rígido DIN/238 con compensación axial en tracción y compresión**  
*Quick change tapping DIN/238 chucks with length compensation Axial in traction*

**LINEA TRANSFER**  
**DIN/238**

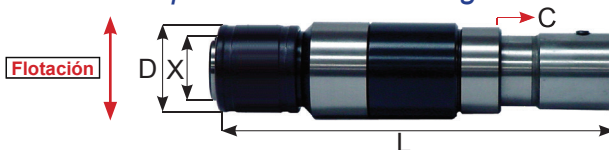


**B**  
 Cónica

| REFERENCIA      | CAP       | B   | X  | D  | L   | C  | T  |
|-----------------|-----------|-----|----|----|-----|----|----|
| B10-TLTC0-20/10 | M 1 ÷ M10 | B10 | 13 | 23 | 127 | 20 | 10 |
| B10-TLTC0-15/15 |           | B10 |    |    | 122 | 15 | 15 |
| B12-TLTC0-20/10 |           | B12 |    |    | 131 | 20 | 10 |
| B12-TLTC0-15/15 |           | B12 |    |    | 126 | 15 | 15 |
| B16-TLTC1-30/10 | M 3 ÷ M12 | B16 | 19 | 35 | 165 | 30 | 10 |
| B16-TLTC1-20/20 |           | B16 |    |    | 155 | 20 | 20 |
| B18-TLTC1-30/10 |           | B18 |    |    | 178 | 30 | 10 |
| B18-TLTC1-20/20 |           | B18 |    |    | 168 | 20 | 20 |
| B18-TLTC2-30/10 | M 8 ÷ M20 | B18 | 31 | 50 | 198 | 30 | 10 |
| B18-TLTC2-20/20 |           | B18 |    |    | 188 | 20 | 20 |
| B22-TLTC2-30/10 |           | B22 |    |    | 207 | 30 | 10 |
| B22-TLTC2-20/20 |           | B22 |    |    | 197 | 20 | 20 |
| B22-TLTC3-30/10 | M14 ÷ M33 | B22 | 48 | 72 | 251 | 30 | 10 |
| B22-TLTC3-20/20 |           | B22 |    |    | 241 | 20 | 20 |
| B24-TLTC3-30/10 |           | B24 |    |    | 161 | 30 | 10 |
| B24-TLTC3-20/20 |           | B24 |    |    | 251 | 20 | 20 |

**Roscador rígido con compensación axial en compresión y flotación radial**  
*Quick change tapping chucks with length compensation in Compression and Floating Radial*

**LINEA TRANSFER**  
**DIN/238**

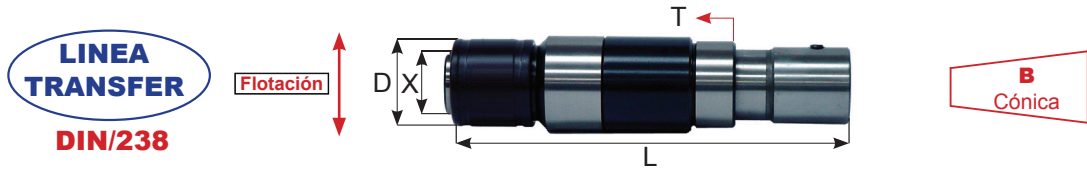


**B**  
 Cónica

| REFERENCIA   | CAP        | B   | X  | D  | L   | FLOT | C  |
|--------------|------------|-----|----|----|-----|------|----|
| B10-TLCP0-20 | M 1 ÷ M10  | B10 | 13 | 23 | 139 | 0.25 | 20 |
| B10-TLCP0-20 |            | B10 |    |    | 159 |      | 30 |
| B12-TLCP0-30 |            | B12 |    |    | 143 |      | 20 |
| B12-TLCP0-30 |            | B12 |    |    | 163 |      | 30 |
| B12-TLCP1-30 | M 3 ÷ M12  | B12 | 19 | 35 | 142 | 0.50 | 30 |
| B12-TLCP1-40 |            | B12 |    |    | 162 |      | 40 |
| B16-TLCP1-30 |            | B16 |    |    | 142 |      | 30 |
| B16-TLCP1-40 |            | B16 |    |    | 162 |      | 40 |
| B18-TLCP1-30 | M 8 ÷ M20  | B16 | 31 | 50 | 157 | 1.00 | 30 |
| B18-TLCP1-40 |            | B18 |    |    | 162 |      | 40 |
| B16-TLCP2-30 |            | B16 |    |    | 176 |      | 30 |
| B16-TLCP2-40 |            | B16 |    |    | 196 |      | 40 |
| B18-TLCP2-30 | M 14 ÷ M33 | B18 | 48 | 72 | 176 | 1.50 | 30 |
| B18-TLCP2-40 |            | B18 |    |    | 196 |      | 40 |
| B22-TLCP2-30 |            | B22 |    |    | 212 |      | 30 |
| B22-TLCP2-40 |            | B22 |    |    | 232 |      | 40 |
| B22-TLCP3-30 | M14 ÷ M33  | B22 | 48 | 72 | 252 | 1.50 | 30 |
| B22-TLCP3-40 |            | B22 |    |    | 252 |      | 40 |
| B24-TLCP3-30 |            | B24 |    |    | 232 |      | 30 |
| B24-TLCP3-40 |            | B24 |    |    | 252 |      | 40 |

**Roscador rígido DIN/238 con compensación axial en tracción y flotación radial**

*Quick change tapping chucks with length compensation in Traccion and Floating Radial*



| REFERENCIA   | CAP       | B   | X  | D  | L   | FLOT | T  |
|--------------|-----------|-----|----|----|-----|------|----|
| B10-TLTP0-30 | M 1 ÷ M10 | B10 | 13 | 23 | 129 | 0.25 | 30 |
| B12-TLTP0-30 |           | B12 |    |    | 133 |      |    |
| B16-TLTP1-40 | M 3 ÷ M12 | B16 | 19 | 35 | 150 | 0.50 | 40 |
| B18-TLTP1-40 |           | B18 |    |    | 163 |      |    |
| B18-TLTP2-40 | M 8 ÷ M20 | B18 | 31 | 50 | 194 | 1.00 | 40 |
| B22-TLTP2-40 |           | B22 |    |    | 203 |      |    |
| B22-TLTP3-40 | M14 ÷ M33 | B22 | 48 | 72 | 256 | 1.50 | 40 |
| B24-TLTP3-40 |           | B24 |    |    | 266 |      |    |

**Roscador rígido DIN/238 con compensación axial en compresión / tracción y flotación radial**

*Quick change tapping chucks with length compensation in Compression / Traccion and Floating Radial*



| REFERENCIA       | CAP       | B   | X  | D  | L   | FLOT | C  | T  |
|------------------|-----------|-----|----|----|-----|------|----|----|
| B10-TLTCP0-20/10 | M 1 ÷ M10 | B10 | 13 | 23 | 149 | 0.25 | 20 | 10 |
| B10-TLTCP0-15/15 |           | B10 |    |    | 144 |      | 15 | 15 |
| B12-TLTCP0-20/10 |           | B12 |    |    | 153 |      | 20 | 10 |
| B12-TLTCP0-15/15 |           | B12 |    |    | 148 |      | 15 | 15 |
| B16-TLTCP1-30/10 | M 3 ÷ M12 | B16 | 19 | 35 | 180 | 0.50 | 30 | 10 |
| B16-TLTCP1-20/20 |           | B16 |    |    | 170 |      | 20 | 20 |
| B18-TLTCP1-30/10 |           | B18 |    |    | 193 |      | 30 | 10 |
| B18-TLTCP1-20/20 | M 8 ÷ M20 | B18 | 31 | 50 | 183 | 1.00 | 20 | 20 |
| B18-TLTCP2-30/10 |           | B18 |    |    | 224 |      | 30 | 10 |
| B18-TLTCP2-20/20 |           | B18 |    |    | 214 |      | 20 | 20 |
| B22-TLTCP2-30/10 |           | B22 |    |    | 233 |      | 30 | 10 |
| B22-TLTCP2-20/20 | M14 ÷ M33 | B22 | 48 | 72 | 223 | 1.50 | 20 | 20 |
| B22-TLTCP3-30/10 |           | B22 |    |    | 286 |      | 30 | 10 |
| B22-TLTCP3-20/20 |           | B22 |    |    | 276 |      | 20 | 20 |
| B24-TLTCP3-30/10 |           | B24 |    |    | 296 |      | 30 | 10 |
| B24-TLTCP3-20/20 | B24       | 286 | 20 | 20 |     |      |    |    |

**Roscador automático con inversión de giro**  
*Tapping attachments with automatic reversal*



| <b>REFERENCIA</b> | <b>M</b>  | <b>X</b> | <b>CM</b> |
|-------------------|-----------|----------|-----------|
| HRF-2             | M3 - M12  | 19       | CM3       |
| HRF-4             | M14 - M30 | 48       | CM4       |

**Kit roscador automático con inversión de giro**  
*Kit Tapping attachments with automatic reversal*



**REFERENCIA**

**KIT HRF2 (M3-M12)**  
 7 - SES-1 + REDUCTOR

**Roscador automático con inversión de giro SERIE ECONOMICA**  
*Tapping attachments with automatic reversal ECONOMIC SERIES*



| <b>REFERENCIA</b> | <b>M</b> | <b>X</b> | <b>CM</b> |
|-------------------|----------|----------|-----------|
| TCNF-1            | M3 - M12 | 19       | CM2       |

**DIN/6329**

Cono pinza para broca  
Mt collets for twist drills



| REFERENCIA | DESCRIPCIÓN | CAP         | D    | L     |
|------------|-------------|-------------|------|-------|
| CM0BROCA   | CM0 - BROCA | 1.5 ÷ 5.5   | 9.0  | 59.5  |
| CM1BROCA   | CM1 - BROCA | 1.5 ÷ 10.0  | 12.2 | 65.5  |
| CM2BROCA   | CM2 - BROCA | 3.0 ÷ 15.0  | 18.0 | 80.0  |
| CM3BROCA   | CM3 - BROCA | 8.0 ÷ 20.0  | 24.0 | 99.0  |
| CM4BROCA   | CM4 - BROCA | 12.0 ÷ 25.0 | 31.5 | 124.0 |
| CM5BROCA   | CM5 - BROCA | 20.0 ÷ 36.0 | 44.5 | 156.2 |

**DIN/6328**

Cono pinza para macho  
Mt collets for milling cutters



| REFERENCIA | DESCRIPCIÓN | CAP         | D    | L     |
|------------|-------------|-------------|------|-------|
| CM0MACHO   | CM0 - MACHO | 2.5 ÷ 4.5   | 9.0  | 59.5  |
| CM1MACHO   | CM1 - MACHO | 2.5 ÷ 10.0  | 12.2 | 65.5  |
| CM2MACHO   | CM2 - MACHO | 4.5 ÷ 14.0  | 18.0 | 80.0  |
| CM3MACHO   | CM3 - MACHO | 8.0 ÷ 18.0  | 24.0 | 99.0  |
| CM4MACHO   | CM4 - MACHO | 12.0 ÷ 25.0 | 31.5 | 124.0 |
| CM5MACHO   | CM5 - MACHO | 18.0 ÷ 36.0 | 44.5 | 156.2 |

**DIN/317**

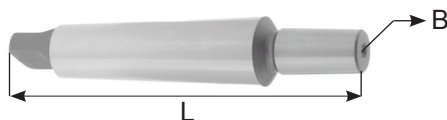
Cuña  
Cone ejectors



| REFERENCIA | L   | S  |
|------------|-----|----|
| CUÑACM0    | 90  | 2  |
| CUÑACM1    | 140 | 5  |
| CUÑACM2    | 140 | 5  |
| CUÑACM3    | 190 | 7  |
| CUÑACM4    | 225 | 10 |
| CUÑACM5    | 265 | 15 |

**DIN/238**

**Reductor cono morse DIN/238**  
Morse taper adapters to DIN/238



| REFERENCIA | CM | B  | L   |
|------------|----|----|-----|
| CM1B10     | 1  | 10 | 83  |
| CM1B12     |    | 12 | 89  |
| CM1B16     |    | 16 | 99  |
| CM1B18     |    | 18 | 99  |
| CM2B10     | 2  | 10 | 105 |
| CM2B12     |    | 12 | 106 |
| CM2B16     |    | 16 | 112 |
| CM2B18     |    | 18 | 119 |
| CM2B22     | 3  | 22 | 130 |
| CM3B12     |    | 12 | 125 |
| CM3B16     |    | 16 | 134 |
| CM3B18     |    | 18 | 140 |
| CM3B22     | 4  | 22 | 147 |
| CM4B12     |    | 12 | 152 |
| CM4B16     |    | 16 | 156 |
| CM4B18     |    | 18 | 164 |
| CM4B22     | 5  | 22 | 176 |
| CM4B24     |    | 24 | 186 |
| CM5B16     |    | 16 | 190 |
| CM5B18     |    | 18 | 204 |
| CM5D22     | 5  | 22 | 213 |
| CM5B24     |    | 24 | 221 |

**DIN/2185**

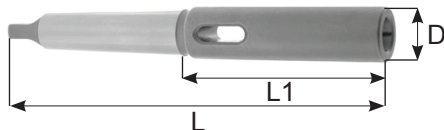
**Reductor a cono morse - morse**  
Morse taper adapters



| REFERENCIA | CM Exterior | CM Interior | L   |
|------------|-------------|-------------|-----|
| BR1-0      | 1           | 0           | 80  |
| BR2-1      | 2           | 1           | 92  |
| BR3-1      | 3           | 1           | 99  |
| BR3-2      |             | 2           | 112 |
| BR4-1      | 4           | 1           | 124 |
| BR4-2      |             | 2           | 124 |
| BR4-3      |             | 3           | 140 |
| BR5-1      | 5           | 1           | 156 |
| BR5-2      |             | 2           | 156 |
| BR5-3      |             | 3           | 156 |
| BR5-4      |             | 4           | 171 |
| BR6-2      | 6           | 2           | 218 |
| BR6-3      |             | 3           | 218 |
| BR6-4      |             | 4           | 218 |
| BR6-5      |             | 5           | 218 |

DIN/2187

Reductor largo cono morse  
Extended morse taper adapters



| REFERENCIA | CM Exterior | CM Interior | L     | Lt  | D  |
|------------|-------------|-------------|-------|-----|----|
| BRL1-1     | 1           | 1           | 83    | 145 | 20 |
| BRL1-2     |             | 2           | 98    | 160 | 30 |
| BRL2-1     | 2           | 1           | 85    | 160 | 20 |
| BRL2-2     |             | 2           | 100   | 175 | 30 |
| BRL2-3     |             | 3           | 121   | 196 | 36 |
| BRL3-1     | 3           | 1           | 81    | 175 | 20 |
| BRL3-2     |             | 2           | 100   | 194 | 30 |
| BRL3-3     |             | 3           | 121   | 215 | 36 |
| BRL3-4     |             | 4           | 146   | 240 | 48 |
| BRL4-1     | 4           | 1           | 82.5  | 200 | 20 |
| BRL4-2     |             | 2           | 97.5  | 215 | 30 |
| BRL4-3     |             | 3           | 122.5 | 240 | 36 |
| BRL4-4     |             | 4           | 147.5 | 265 | 48 |
| BRL4-5     |             | 5           | 182.5 | 300 | 63 |
| BRL5-1     | 5           | 1           | 82.5  | 232 | 20 |
| BRL5-2     |             | 2           | 97.5  | 247 | 30 |
| BRL5-3     |             | 3           | 118.5 | 268 | 36 |
| BRL5-4     |             | 4           | 150.5 | 300 | 48 |
| BRL5-5     |             | 5           | 185.5 | 335 | 63 |
| BRL6-3     | 6           | 3           | 120   | 330 | 36 |
| BRL6-4     |             | 4           | 145   | 335 | 48 |
| BRL6-5     |             | 5           | 180   | 390 | 63 |

Cono limpiador interno  
Spindle taper wipers



| REFERENCIA | MODELO |
|------------|--------|
| TCL1MT     | CM1    |
| TCL2MT     | CM2    |
| TCL3MT     | CM3    |
| TCL4MT     | CM4    |
| TCL5MT     | CM5    |