



**2021**

**TARIFA DE  
PRECIOS**

*Price list*



**mordazas**

**Mordazas y cabezales para hacer chaveteros**

**Machine vices and milling heads**

**[www.forza.es](http://www.forza.es)**

|                                                                                     |                                                                                          |         |       |                                                                            |                                                                                                          |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|---------|-------|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
|                                                                                     | Iconografía<br><i>Iconographie</i>                                                       | 2       | 30-31 | Mordazas de boca recta 29<br><i>29 Straight jaws vices</i>                 |                       |
|    | Torres de mordazas integradas<br><i>Integrated clamping vice tower</i>                   | 3-6     | 32-33 | Otras Mordazas<br><i>Other vice</i>                                        |                       |
|    | Mordazas de presión descendente 30-30G<br><i>30-30G Descending machine vices</i>         | 8-11    | 34-35 | Mordazas 31<br><i>31 Vices</i>                                             |  <b>CLÁSICA</b>       |
|    | Mordazas de presión descendente PRD<br><i>PRD Descending machine vices</i>               | 12-13   | 36-37 | Mordazas de rectificadora<br><i>Grinding machine vices</i>                 |                       |
|    | Prolongadores para mordazas y calzos<br><i>Vice bodies extensions and lifting blocks</i> | 14      | 40-46 | Aprietes y accesorios<br><i>Clamping and accessories</i>                   |                       |
|  | Mordazas para cubos 60<br><i>60 Vices for cubes</i>                                      | 15      | 48-54 | Cabezal fresador de interiores<br><i>Internal milling head</i>             |                     |
|  | Mordazas partidas 30 P<br><i>30 P Split vices</i>                                        | 16 y 28 | 52    | Llaves almenadas para tuercas KM<br><i>KM nut spanner</i>                  |                     |
|   | Mordazas autocentrantes<br><i>Self centering vices</i>                                   | 17      | 56-59 | Mordazas de taladro<br><i>Drilling vices</i>                               |  <b>PROFESIONAL</b> |
|   | Mordazas de 5 ejes y mordazas altas<br><i>5 axis and High jaws vices</i>                 | 18-22   | 59-61 | Bridas y elementos de sujeción<br><i>Clamp and vices</i>                   |                     |
|  | Mordazas gemelas<br><i>Twin self centering vices</i>                                     | 23-24   | 62    | Pasadores roscados<br><i>Split pins threaded pullers</i>                   |                     |
|  | Mordazas dobles<br><i>Double position vices</i>                                          | 25-27   | 63-65 | Portaherramientas y moleteadores<br><i>Tools holders and knurling fool</i> |                     |
|  | Mordazas para escuadrar 30V<br><i>30V Vices to make square</i>                           | 29      | 66-67 | Escuadras y grapas<br><i>Magnetics holders and Quicks</i>                  |                     |

nodular casting material  
fonte nodulaire  
spharoguss  
ghisa a noduli



Fundición  
nodular

Bocas con efecto  
descendente



jaws with descending effect  
effect plaqueur sur mors  
niederzug wirkung  
ganasce discendenti

hardened steel  
acier cimenté  
gehärtet geschmiedet  
acciaio di cementazione



Acero  
de cementación

Bocas  
blandas



soft jaws  
mors doux  
weich backen  
ganasce morbide

quick course selection  
rapide sélection de course  
shnell positioner  
selezione rapida del carrello



Selección  
curso rápida

Certificado de  
control



control certificate  
certificat de contrôle  
prüfprotoko  
certificato di controllo

finishing tolerance  
tolérance de finissage  
toleranzen  
tolleranza finita



Tolerancia  
de acabado

Versión  
mecánica



Mechanica lock  
version manuelle  
mecanische möglichkeite  
chisura meccanica

interchangeable locks  
vis interchangeables  
austauschbar backen  
chiusure intercambiabili



Aprietes  
intercambiables

Admite  
base giratoria



swivel base admitted  
base tournante optionelle  
drehplate möglichkeite  
acetta base giratoria

parallelism <0,02 mm.  
parallélisme <0,02 mm.  
toleranzen parallel <0,02 mm.  
parallelismo <0,02 mm.



Paralelismo  
< 0,02 mm

NO  
admite base



DOESN'T admit swivel base  
N'ACCEPTE pas base tournante  
OHNE drehplate möglichkeite  
NON accetta base giratoria

oscillating movable jaws suport  
mors mobile effet plaqueur  
pendel wirkung beweglich backen  
ganasce mobili oscillanti



Portabocas móvil  
oscilante

Con chaveteros de  
alineación



with alineation keyways  
avec des ranures d'alignement  
richtnuten  
con chivette di posizionamento

guide movable jaws support  
mors mobile guidé  
beweglich backen ohne pendel  
wirkung  
ganasce guidate



Portabocas  
móvil guiado

Brida



clamps  
brides  
spannpratzen  
staffe



# Torres de mordazas integradas

Integrated clamping vice tower  
*Tour d'étaux de serrage intégrée*



Vea algunos ejemplos de algunas torres que ya hemos fabricado.

- Un útil específico y barato que le permite dejarlo parado cuando no esté fabricando piezas y montarlo en minutos cuando sea necesario.
- Fabricamos torres a la medida que usted necesite.
- Buscamos un utillaje específico (más barato), huimos del utillaje universal (mucho más caro).
- Tenemos plazos y precios increíblemente reducidos para fabricar los utillajes a medida. Le realizamos el estudio del utillaje completamente gratis. Incluimos el envío de los diseños en ficheros 3D.



Check out a few examples of towers that we have already manufactured.

- A custom made clamping solution meant to be installed and removed in minutes when required.
- We make custom made towers to meet your specific needs.
- We seek inexpensive special solution and go away from the universal very expensive type solution.
- We quote incredibly attractive prices for custom made solutions. We make free solution design. All 3D are included in our offer.

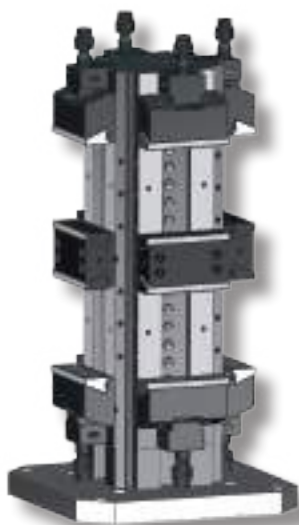


Voyez quelques tours que nous avons déjà fabriqué.

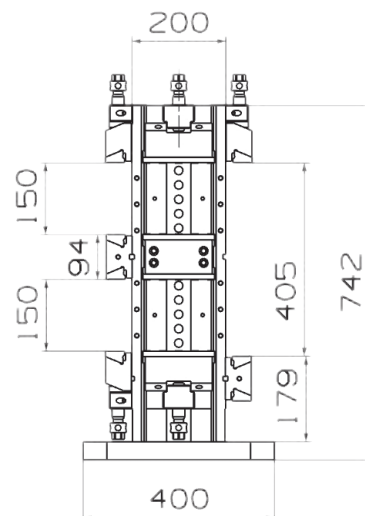
- Une solution de serrage spéciale à monter et désinstaller en quelques minutes au grès des besoins.
- Nous fabriquons des tours spéciales selon vos besoins.
- Nous privilégions une solution spéciale et bon marché plutôt qu'une solution universelle plus chère.
- Nous offrons des tarifs incroyablement attractifs pour des solutions spéciales. Nous offrons une conception gratuite. Tous les fichiers 3D sont inclus dans notre offre.

# Torre de mordazas con boca de 150 mm.

Clamping tower with 150mm jaws  
Tour d'étaux de serrage avec mors de 150mm



- Con este montaje se pueden amarrar 8 piezas de 150 mm de longitud o 4 piezas de 405 mm de longitud.
- This set up allows for the clamping of 8 pieces each 150mm long or 4 pieces each 405mm long.
- Ce montage permet un serrage de 8 pièces de longueur 150mm chacune ou 4 pièces de longueur 405mm chacune.



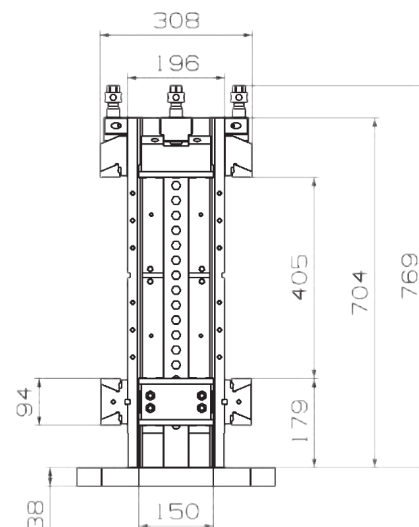
- Montada en posición doble, para amarrar 8 piezas.
- Set up in double station allowing the clamping of 8 workpieces
- Ce montage en double pour serrage de 8 pièces



- Ejemplos con 8 piezas
- Example with 8 workpieces
- Exemple avec 8 pièces



- Montada en posición simple, para amarrar 4 piezas más largas.
- One station set up in order to clamp 4 longer workpieces.
- Montage en position simple pour serrer 4 pièces plus longues.



## Torre de mordazas con boca de 150 mm.

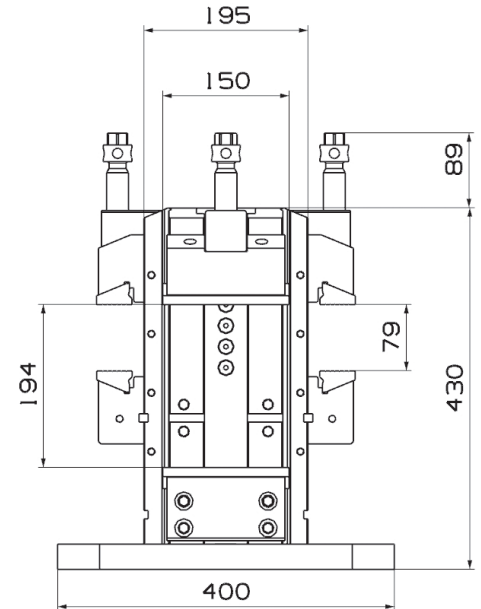
## Torre de mordazas con boca de 125 mm.

Clamping tower with 150mm jaws

Tour d'étaux de serrage avec mors de 150mm

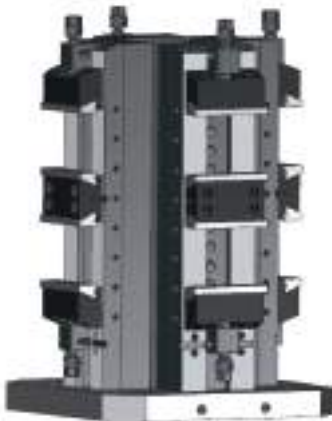


- Torre simple para amarrar 4 piezas a distintas alturas.
- Simple tower allowing the clamping of 4 different height workpieces.
- Tour simple permettant le serrage de 4 pièces de hauteur différentes.

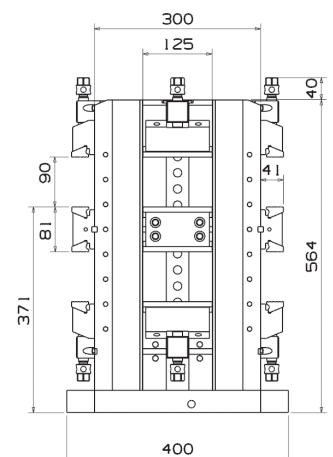
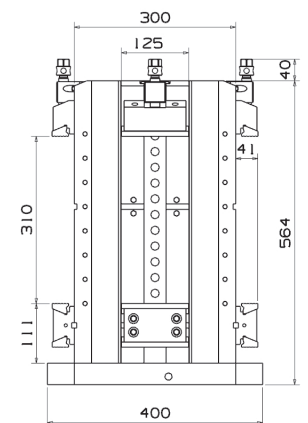


Clamping vice tower with jaws 125mm

Tour d'étaux de serrage avec mors de 125mm



- Con cuerpo más ancho 300 mm para eliminar el vuelo de las herramientas.
- Se pueden amarrar 8 piezas de 90 mm ó 4 de 310 mm.
- A wider cube makes for smaller stiffer tools.
- The clamping of 8 pieces each 90mm or 4 pieces 310mm each is possible.
- Une tour plus large autorise des outils plus courts et rigides.
- Le serrage de 8 pièces de 90mm chacune ou 8 pièce de 310mm est possible.





# Torres de mordazas

Clamping vice towers  
*Tours d'étaux de serrage*

**Otros montajes especiales.**

*Other special set ups  
Autres assemblages especiaux*







## Serie 30 PERFECT

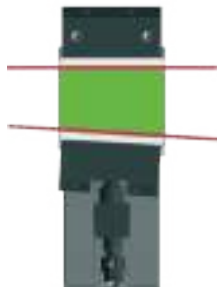
[ No Guiadas ]

**Mordazas de alta precisión.**  
Para todos los trabajos: fresado, taladrado e incluso rectificado.

*High precision vices*  
Vices designed for all machining jobs including grinding.



**Mordazas no guiadas con efecto oscilante**  
*Not guided machine vice*



- ✓ Bocas con efecto descendente.  
*Jaws with descending effect.*
- ✓ Acero de cementación (F 155)  
*Hardened steel HRC 60.*
- ✓ Aprietes intercambiables.  
*Interchangeable locks.*
- ✓ La boca se adapta a la pieza.  
*Jaw adapt to the workpiece.*

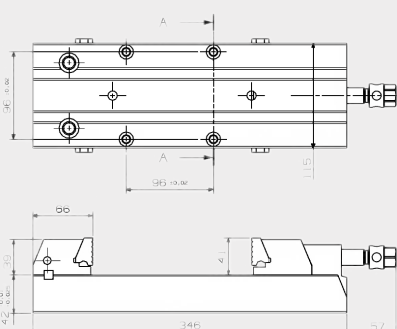


*Husillo hexagonal y agujero para varilla.*  
*Hexagonal spindle and hole for handle.*

## Mordazas para punto cero

*Vices for zero point*

**Sistema de paletización:** Adaptamos las mordazas de nuestro programa a los diferentes sistemas de amarre PUNTO CERO.



Ejemplo de mordazas de boca 125 adaptadas al sistema de amarre LANG

| Ref.      | €/u.     |
|-----------|----------|
| 30/125A1  | 1.059,00 |
| 30/125LA1 | 1.130,00 |

Otros modelos bajo presupuesto.  
*Other models under budget.*

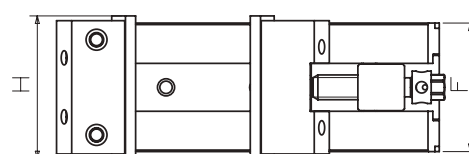
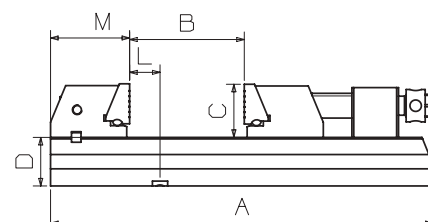
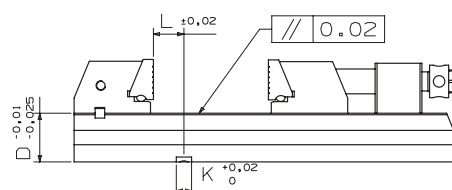
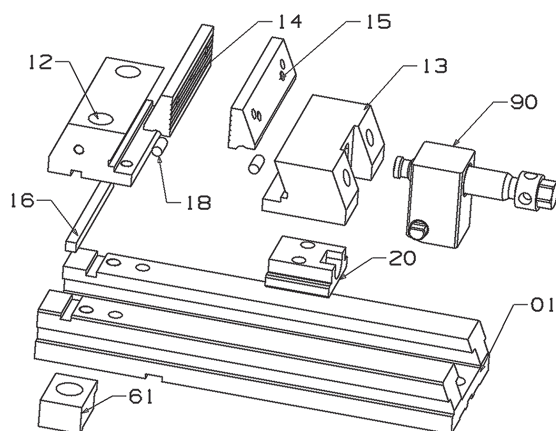


| Ref.     | €/u.     | A   | B   | C    | D  | F   | H   | L    | M     | mm. |  |         | BASE       |
|----------|----------|-----|-----|------|----|-----|-----|------|-------|-----|--|---------|------------|
| 30/100   | 854,00   | 250 | 109 | 33,5 | 37 | 90  | 100 | 18,6 | 51,5  | 12  |  | 12561   | 7,5 B/100  |
| 30/100L  | 920,00   | 296 | 150 | 33,5 | 37 | 90  | 100 | 18,6 | 51,5  | 12  |  | 12561   | 8 B/100    |
| 30/125   | 1.005,00 | 300 | 130 | 41   | 42 | 110 | 125 | 22,0 | 66    | 12  |  | 12561   | 13 B/125   |
| 30/125L  | 1.068,00 | 346 | 175 | 41   | 42 | 110 | 125 | 22,0 | 66    | 12  |  | 12561   | 14 B/125   |
| 30/125S  | 1.130,00 | 371 | 200 | 41   | 42 | 110 | 125 | 22,0 | 66    | 12  |  | 12561   | 14,5 B/125 |
| 30/125R  | 1.295,00 | 345 | 140 | 53   | 49 | 115 | 125 | 3,0  | 82,5  | 16  |  | 15061   | 17,9       |
| 30/125RL | 1.370,00 | 395 | 189 | 53   | 49 | 115 | 125 | 3,0  | 82,5  | 16  |  | 15061   | 19,5       |
| 30/150   | 1.496,00 | 402 | 200 | 56   | 51 | 135 | 150 | 32,2 | 83    | 16  |  | 15061   | 26 B/150   |
| 30/150L  | 1.582,00 | 452 | 250 | 56   | 51 | 135 | 150 | 32,2 | 83    | 16  |  | 15061   | 28 B/150   |
| 30/150S  | 1.770,00 | 502 | 300 | 56   | 51 | 135 | 150 | 32,2 | 83    | 16  |  | 15061   | 30 B/150   |
| 30/150X  | 1.919,00 | 527 | 325 | 56   | 51 | 135 | 150 | 32,2 | 83    | 16  |  | 15061   | 31,5 B/150 |
| 30/175   | 1.653,00 | 432 | 225 | 58   | 56 | 135 | 175 | 35,0 | 85    | 16  |  | 15061   | 34 B/150   |
| 30/175L  | 1.747,00 | 482 | 275 | 58   | 56 | 135 | 175 | 35,0 | 85    | 16  |  | 15061   | 36,5 B/150 |
| 30/175S  | 1.864,00 | 556 | 350 | 58   | 56 | 135 | 175 | 35,0 | 85    | 16  |  | 15061   | 40 B/150   |
| 30/175X  | 1.967,00 | 610 | 400 | 58   | 56 | 135 | 175 | 35,0 | 85    | 16  |  | 15061   | 42,5 B/150 |
| 30/200   | 1.988,00 | 470 | 250 | 66   | 61 | 160 | 200 | 52,2 | 93    | 16  |  | 20061   | 44 B/200   |
| 30/200L  | 2.087,00 | 520 | 300 | 66   | 61 | 160 | 200 | 52,2 | 93    | 16  |  | 20061   | 46,5 B/200 |
| 30/200S  | 2.451,00 | 570 | 350 | 66   | 61 | 160 | 200 | 52,2 | 92,5  | 16  |  | 20061   | 49 B/200   |
| 30/200X  | 2.515,00 | 595 | 375 | 66   | 61 | 160 | 200 | 52,2 | 92,5  | 16  |  | 20061   | 50,5 B/200 |
| 30/200XL | 2.630,00 | 675 | 455 | 66   | 61 | 160 | 200 | 52,2 | 92,5  | 16  |  | 20061   | 53 B/200   |
| 30/250   | 2.840,00 | 530 | 300 | 76   | 66 | 200 | 250 | 47,5 | 97,5  | 20  |  | 20061   | 70         |
| 30/250L  | 3.070,00 | 580 | 350 | 76   | 66 | 200 | 250 | 47,5 | 97,5  | 20  |  | 20061   | 75         |
| 30/250S  | 3.225,00 | 680 | 450 | 76   | 66 | 200 | 250 | 47,5 | 97,5  | 20  |  | 20061   | 85         |
| 30/250X  | 3.403,00 | 755 | 525 | 76   | 66 | 200 | 250 | 47,5 | 97,5  | 20  |  | 20061   | 92         |
| 30/300   | 4.370,00 | 670 | 390 | 83   | 78 | 245 | 300 | 38,5 | 121,5 | 20  |  | 3030061 | 130        |
| 30/300L  | 4.520,00 | 770 | 490 | 83   | 78 | 245 | 300 | 38,5 | 121,5 | 20  |  | 3030061 | 145        |
| 30/300S  | 4.999,00 | 870 | 590 | 83   | 78 | 245 | 300 | 38,5 | 121,5 | 20  |  | 3030061 | 160        |

Se incluyen 2 juegos de bridas

Precio de la mordaza sin base giratoria. / Price without swivel base.

La mordaza de 300 mm de boca, sólo tiene chaveteros transversales. / The vice with a 300 mm. jaw it has only cross keyways.



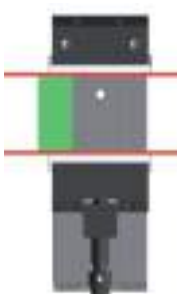
Cada mordaza incluye un certificado, con la medición real de las cotas principales en una máquina tridimensional Zeiss.  
Each vice includes a measure certificate.

**Mordazas de alta precisión.  
Para todos los trabajos:  
fresado, taladrado e incluso  
rectificado.**

*High precision vices  
Vices designed for all  
machining works including  
grinding.*



**Mordazas guiadas  
sin efecto oscilante**  
*Guided machine vice*



- ✓ Incluye "T" para obtener también el efecto oscilante  
*"T" is enclosed for oscillating effect*
- ✓ Bocas con efecto descendente.  
*Jaws with descending effect.*
- ✓ Acero de cementación (F 155).  
*Hardened steel HRc 60.*
- ✓ Aprietes intercambiables.  
*Interchangeables locks.*
- ✓ Las bocas se desplazan en paralelo.  
*Jaw always move parallel.*



Calidad Garantizada

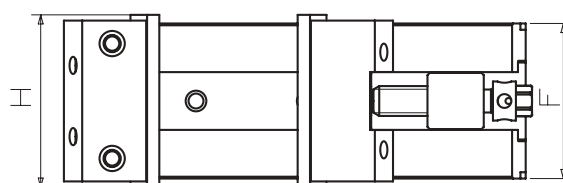
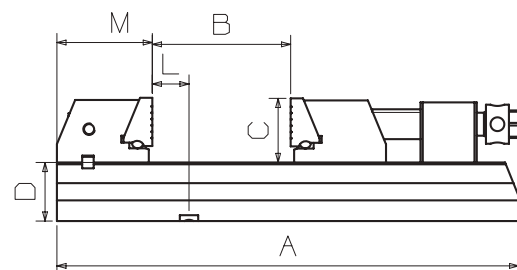
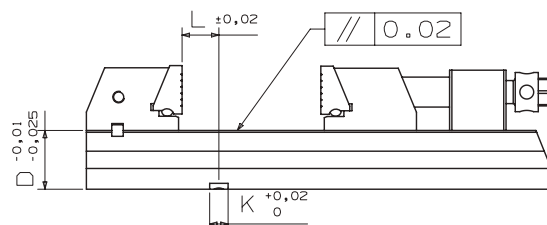
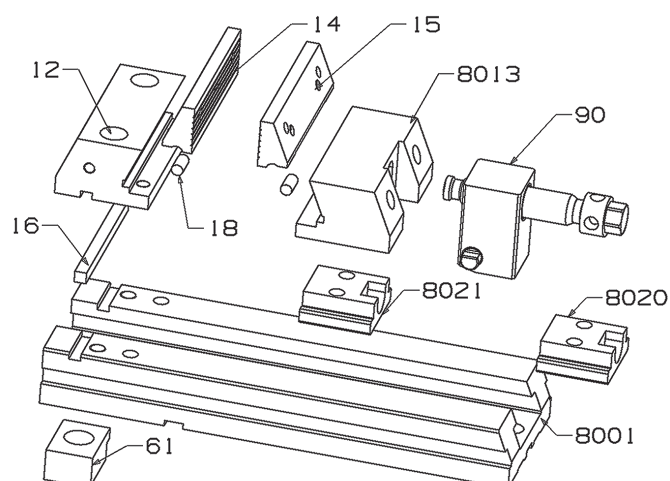




| Ref.     | €/u.     | A   | B   | C    | D  | F   | H   | L    | M    | mm.<br> |       |      | BASE<br> |
|----------|----------|-----|-----|------|----|-----|-----|------|------|---------|-------|------|----------|
| 30/100G  | 972,00   | 250 | 109 | 33,5 | 37 | 90  | 100 | 18,6 | 51,5 | 12      | 12561 | 7,5  | B/100    |
| 30/100GL | 1.059,00 | 296 | 150 | 33,5 | 37 | 90  | 100 | 18,6 | 51,5 | 12      | 12561 | 8    | B/100    |
| 30/125G  | 1.115,00 | 300 | 130 | 41   | 42 | 110 | 125 | 22,0 | 66   | 12      | 12561 | 13   | B/125    |
| 30/125GL | 1.195,00 | 346 | 175 | 41   | 42 | 110 | 125 | 22,0 | 66   | 12      | 12561 | 14   | B/125    |
| 30/150G  | 1.692,00 | 402 | 200 | 56   | 51 | 135 | 150 | 32,2 | 83   | 16      | 15061 | 26   | B/150    |
| 30/150GL | 1.766,00 | 452 | 250 | 56   | 51 | 135 | 150 | 32,2 | 83   | 16      | 15061 | 28   | B/150    |
| 30/150GS | 1.927,00 | 502 | 300 | 56   | 51 | 135 | 150 | 32,2 | 83   | 16      | 15061 | 31   | B/150    |
| 30/150GX | 2.028,00 | 527 | 325 | 56   | 51 | 135 | 150 | 32,2 | 83   | 16      | 15061 | 31,5 | B/150    |
| 30/175G  | 1.852,00 | 432 | 225 | 58   | 56 | 135 | 175 | 35,0 | 85   | 16      | 15061 | 34   | B/150    |
| 30/175GL | 1.994,00 | 482 | 275 | 58   | 56 | 135 | 175 | 35,0 | 85   | 16      | 15061 | 36,5 | B/150    |
| 30/175GS | 2.057,00 | 556 | 350 | 58   | 56 | 135 | 175 | 35,0 | 85   | 16      | 15061 | 40   | B/150    |
| 30/175GX | 2.175,00 | 610 | 400 | 58   | 56 | 135 | 175 | 35,0 | 85   | 16      | 15061 | 42,5 | B/150    |
| 30/200G  | 2.177,00 | 470 | 250 | 66   | 61 | 160 | 200 | 52,2 | 92,5 | 16      | 20061 | 44   | B/200    |
| 30/200GL | 2.336,00 | 520 | 300 | 66   | 61 | 160 | 200 | 52,2 | 92,5 | 16      | 20061 | 46,5 | B/200    |
| 30/200GS | 2.637,00 | 570 | 350 | 66   | 61 | 160 | 200 | 52,2 | 92,5 | 16      | 20061 | 49   | B/200    |
| 30/200GX | 2.705,00 | 595 | 375 | 66   | 61 | 160 | 200 | 52,2 | 92,5 | 16      | 20061 | 50,5 | B/200    |
| 30/250G  | 3.007,00 | 530 | 300 | 76   | 66 | 200 | 250 | 52,2 | 97,5 | 20      | 20061 | 70   |          |
| 30/250GL | 3.298,00 | 580 | 350 | 76   | 66 | 200 | 250 | 47,5 | 97,5 | 20      | 20061 | 75   |          |
| 30/250GS | 3.494,00 | 680 | 450 | 76   | 66 | 200 | 250 | 47,5 | 97,5 | 20      | 20061 | 85   |          |
| 30/250GX | 3.740,00 | 755 | 525 | 76   | 66 | 200 | 250 | 47,5 | 97,5 | 20      | 20061 | 93   |          |

Se incluyen 2 juegos de bridas

Precio de la mordaza sin base giratoria. / Price without swivel base.



Cada mordaza incluye un certificado, con la medición real de las cotas principales en una máquina tridimensional Zeiss.  
Each vice includes a measure certificate.

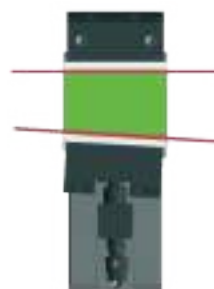
# Serie PRD PRODUCTION

[ No Guiadas ]

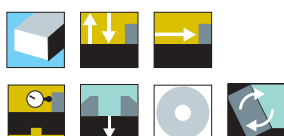
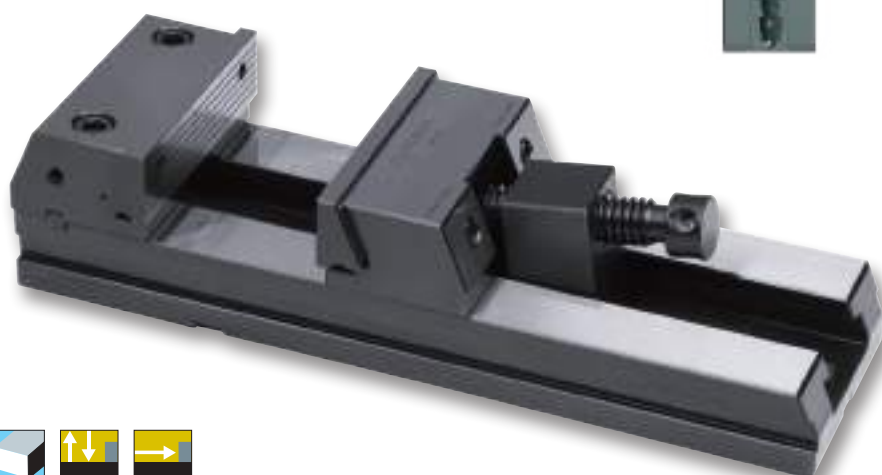
**Mordaza indicada para trabajos de fresadora.**

*Vice suitable for milling works.*

**Mordazas no guiadas con efecto oscilante**  
*Not guided machine vice*

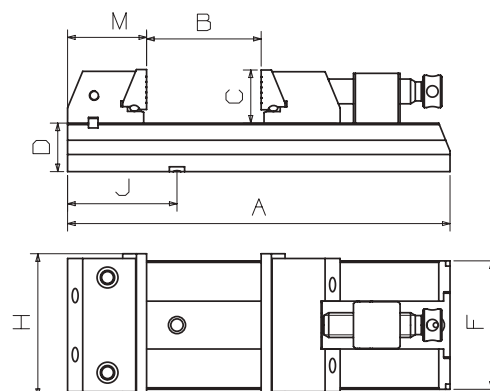
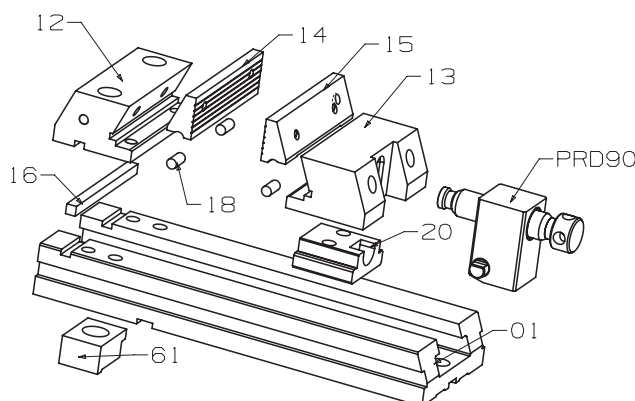


- ✓ Bocas con efecto descendente.  
*Jaws with descending effect.*
- ✓ Acero de cementación (F 155).  
*Hardened steel HRC 60.*
- ✓ Aprietes intercambiables.  
*Interchangeable locks.*
- ✓ La boca se adapta a la pieza  
*Jaw adapts to the workpiece.*



| Ref.      | €/u.     | A   | B   | C  | D  | F   | H   | J   | M    | mm. |       |      | BASE  |
|-----------|----------|-----|-----|----|----|-----|-----|-----|------|-----|-------|------|-------|
| PRD/125   | 845,50   | 300 | 130 | 41 | 42 | 110 | 125 | 88  | 66   | 12  | 12561 | 13   | B/125 |
| PRD/125L  | 902,70   | 346 | 175 | 41 | 42 | 100 | 125 | 88  | 66   | 12  | 12561 | 15   | B/125 |
| PRD/150   | 1.258,00 | 402 | 200 | 56 | 51 | 135 | 150 | 115 | 83   | 16  | 15061 | 26   | B/150 |
| PRD/150L  | 1.330,00 | 452 | 250 | 56 | 51 | 135 | 150 | 115 | 83   | 16  | 15061 | 28   | B/150 |
| PRD/150S  | 1.483,00 | 502 | 300 | 56 | 51 | 135 | 150 | 115 | 83   | 16  | 15061 | 31   | B/150 |
| PRD/150X  | 1.625,00 | 527 | 325 | 56 | 51 | 135 | 150 | 115 | 83   | 16  | 15061 | 31,5 | B/150 |
| PRD/200   | 1.692,00 | 470 | 250 | 66 | 61 | 160 | 200 | 145 | 92,5 | 16  | 20061 | 44   | B/200 |
| PRD/200L  | 1.789,00 | 520 | 300 | 66 | 61 | 160 | 200 | 145 | 92,5 | 16  | 20061 | 46,5 | B/200 |
| PRD/200S  | 1.980,00 | 570 | 350 | 66 | 61 | 160 | 200 | 145 | 92,5 | 16  | 20061 | 49   | B/200 |
| PRD/200X  | 2.158,00 | 595 | 375 | 66 | 61 | 160 | 200 | 145 | 92,5 | 16  | 20061 | 50,5 | B/200 |
| PRD/200XL | 2.292,00 | 675 | 455 | 66 | 61 | 160 | 200 | 145 | 92,5 | 16  | 20061 | 53   | B/200 |

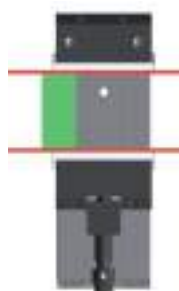
Precio de la mordaza sin base giratoria. / Price without swivel base.



**V: El paralelismo de la mordaza varía de 0,03 a 0,06 mm, dependiendo de la longitud del cuerpo**  
*The vice parallelism vary from 0.03 to 0.06 mm, depending on the body length.*



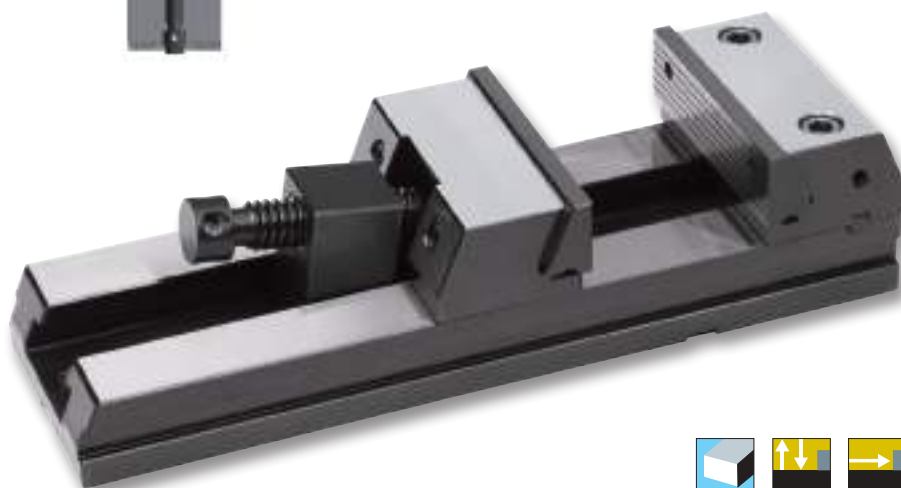
- ✓ Bocas con efecto descendente.  
Jaws with descending effect.
- ✓ Acero de cementación (F 155).  
Hardened smteel HRC 60.
- ✓ Aprietes intercambiables.  
Interchangeable locks.
- ✓ La boca se desplazan en paralelo  
Jaw always move parallel.



**Mordazas guiadas  
sin efecto oscilante**  
Guided machine vice

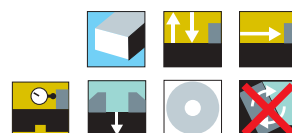
**Mordaza indicada para  
trabajos de fresadora.**

Vice suitable for  
milling works.



A diferencia de la serie 30 esta  
mordaza no incluye "T" oscilante.

Oscillating "T" is not included.



| Ref.      | €/u.     | A   | B   | C  | D  | F   | H   | J   | M    | mm.<br> |       |      | BASE<br> |
|-----------|----------|-----|-----|----|----|-----|-----|-----|------|---------|-------|------|----------|
| PRD/125G  | 931,00   | 300 | 130 | 41 | 42 | 110 | 125 | 88  | 66   | 12      | 12561 | 13   | B/125    |
| PRD/125GL | 999,50   | 346 | 175 | 41 | 42 | 110 | 125 | 88  | 66   | 12      | 12561 | 14   | B/125    |
| PRD/150G  | 1.370,00 | 402 | 200 | 56 | 51 | 135 | 150 | 115 | 83   | 16      | 15061 | 26   | B/150    |
| PRD/150GL | 1.449,00 | 452 | 250 | 56 | 51 | 135 | 150 | 115 | 83   | 16      | 15061 | 28   | B/150    |
| PRD/150GS | 1.560,00 | 502 | 300 | 56 | 51 | 135 | 150 | 115 | 83   | 16      | 15061 | 31   | B/150    |
| PRD/200G  | 1.815,00 | 470 | 250 | 66 | 61 | 160 | 200 | 145 | 92,5 | 16      | 20061 | 44   | B/200    |
| PRD/200GL | 1.950,00 | 520 | 300 | 66 | 61 | 160 | 200 | 145 | 92,5 | 16      | 20061 | 46,5 | B/200    |
| PRD/200GS | 2.070,00 | 570 | 350 | 66 | 61 | 160 | 200 | 145 | 92,5 | 16      | 20061 | 49   | B/200    |
| PRD/200GX | 2.275,00 | 595 | 375 | 66 | 61 | 160 | 200 | 145 | 92,5 | 16      | 20061 | 50,5 | B/200    |

Precio de la mordaza sin base giratoria. / Price without swivel base.



## Cuerpos prolongadores para mordazas / Vice bodies extensions

Estos prolongadores no son guiados. No sirven para las mordazas guiadas. Solo pueden trabajar con la T oscilante.

*This extensions are not guided. They can't be used for guided vices. It can works with oscilating T.*



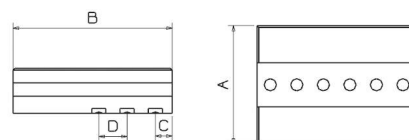
✓ Con más agujeros en bola para la posición del taco.  
With more semispherical hole to place the spindle blocks.

✓ Con tres chaveteros para disponer de más posiciones.  
With 3 keyways enabling more positions.

✓ Reversible, se puede montar por los dos lados.  
Reversible hense can operate both ways.



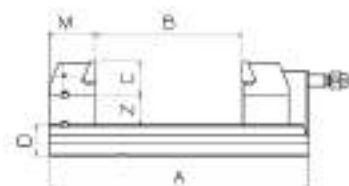
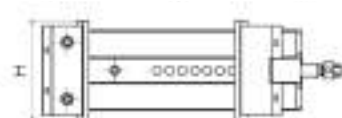
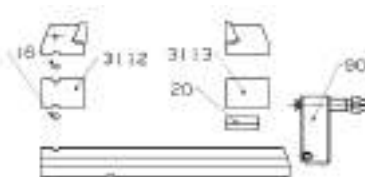
| Ref.    | €/u.   | A   | B   | C  | D  |         |      |
|---------|--------|-----|-----|----|----|---------|------|
| 1252211 | 285,00 | 110 | 150 | 15 | 21 | 1251261 | 3,6  |
| 1502211 | 379,00 | 135 | 180 | 19 | 32 | 15061   | 6,5  |
| 1752211 | 423,00 | 135 | 180 | 19 | 32 | 15061   | 7,5  |
| 2002211 | 495,00 | 160 | 200 | 24 | 32 | 2001261 | 11,7 |
| 2502211 | 639,00 | 200 | 242 | 31 | 36 | 20061   | 19,5 |



## Calzos para aumentar la altura de las mordazas / Lifting block to increase the height of the vice

Estos calzos no son guiados. No sirven para las mordazas guiadas. Si tiene una mordaza G, tiene que adquirir una T 20 y por tanto, deja de ser guiada. Ver pag.43

*The parts meant are not guided. They can't be used for guided vices. In case you all ready had a G vice, you have to get a T nº 20 and therefore it is not guide any more. See pag. 43.*



| Ref.     | €/u.     | Z  | H   |      |
|----------|----------|----|-----|------|
| 15031    | 620,00   | 60 | 150 | 12,9 |
| 20031    | 701,00   | 60 | 200 | 18,5 |
| 25031    | 1,031,00 | 60 | 250 | 21,5 |
| 30030031 | 1.550,00 | 60 | 300 | 34,5 |

| TACOS ALTOS |        |           |
|-------------|--------|-----------|
| Ref.        | €/u.   | Mordaza   |
| 30020090    | 232,00 | 150 - 200 |
| 30025090    | 374,00 | 250       |
| 30030090    | 537,00 | 300       |

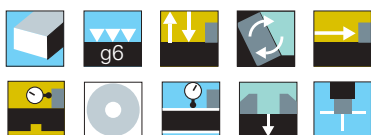


15031 Juego de 2 calzos, taco husillo, chaveta y tornillos.  
Set of 2 lifting blocks, spindle blocks keynut and screws.



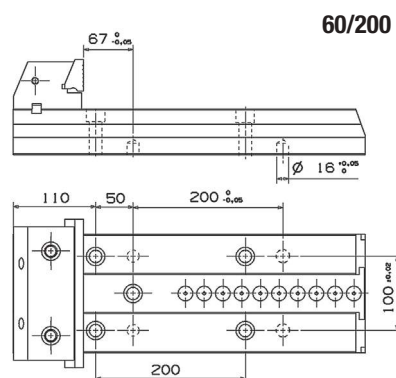
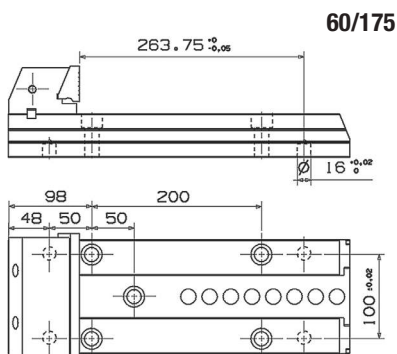
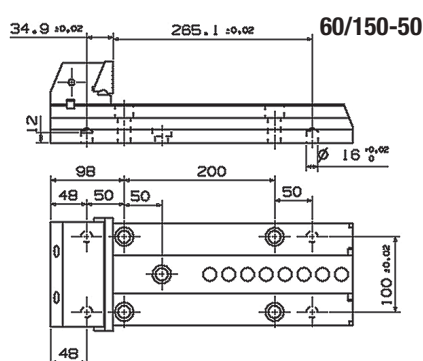
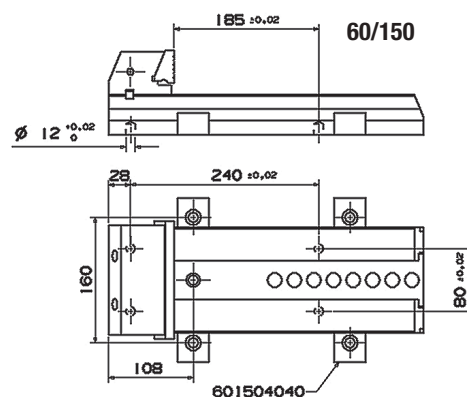
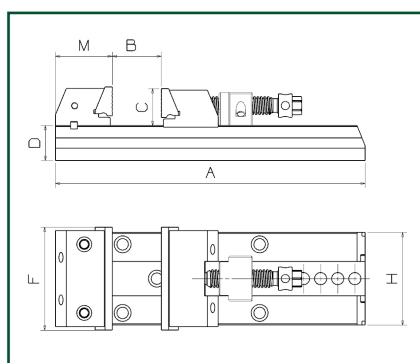
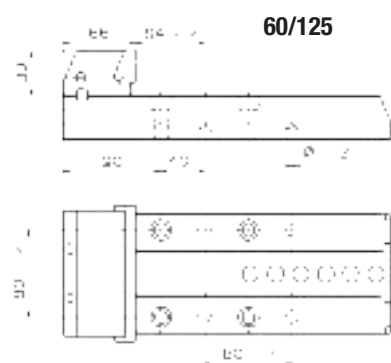


- ✓ Bocas con efecto descendente.  
Jaws with descending effect.
- ✓ Acero de cementación (F 155).  
Hardened steel HRc 60.
- ✓ Aprietes intercambiables.  
Interchangeable locks.
- ✓ Tolerancia de acabado: g6 en la cota D.  
Finishing tolerance: g6 in date D.
- ✓ Portabocas móvil con efecto oscilante.  
Oscilating movable jaws support.



| Ref.       | €/u.     | A   | B   | C  | D  | F   | H   | P  | ⚖    |
|------------|----------|-----|-----|----|----|-----|-----|----|------|
| 60/125     | 1.005,00 | 328 | 130 | 41 | 42 | 110 | 125 | 40 | 7,5  |
| 60/125L    | 1.068,00 | 346 | 175 | 41 | 42 | 110 | 125 | 40 | 8    |
| 60/150     | 1.496,00 | 402 | 200 | 56 | 51 | 135 | 150 | 40 | 13   |
| 60/150-50  | 1.496,00 | 402 | 200 | 56 | 51 | 135 | 150 | 50 | 14   |
| 60/150L    | 1.582,00 | 452 | 250 | 56 | 51 | 135 | 150 | 40 | 28   |
| 60/150L-50 | 1.582,00 | 452 | 250 | 56 | 51 | 135 | 150 | 50 | 34   |
| 60/175     | 1.653,00 | 432 | 225 | 58 | 56 | 135 | 175 | 50 | 36,5 |
| 60/175L    | 1.747,00 | 482 | 275 | 58 | 56 | 135 | 175 | 50 | 44   |
| 60/200     | 1.988,00 | 470 | 250 | 66 | 61 | 160 | 200 | 50 | 46,5 |
| 60/200L    | 2.087,00 | 520 | 300 | 66 | 61 | 160 | 200 | 50 | 49   |
| 60/200XL   | 2.630,00 | 830 | 600 | 66 | 61 | 160 | 200 | 50 | 69   |

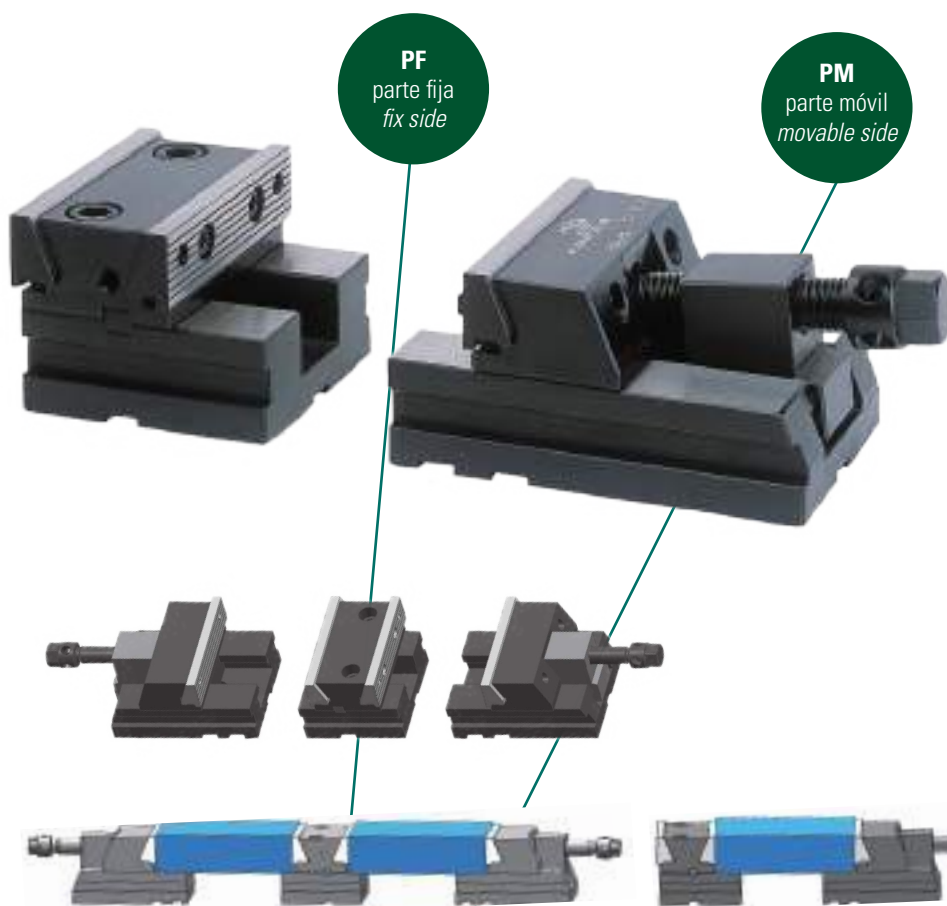
Precio de la mordaza sin base giratoria. / Price without swivel base.



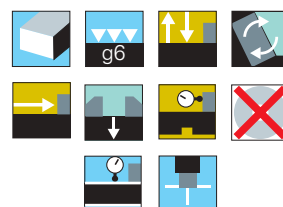
# Serie 30P Mordaza grandes piezas / Vice for large pieces

Mordaza indicada para grandes piezas

Machines vice indicated for large pieces

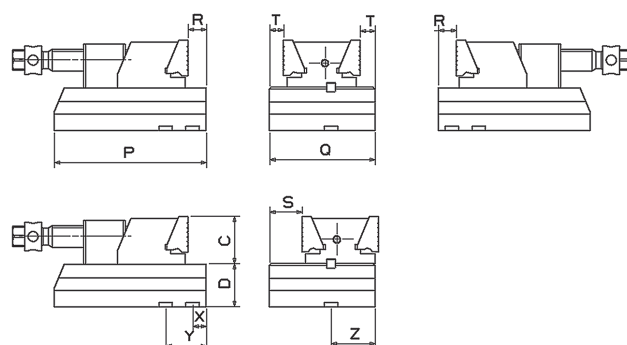
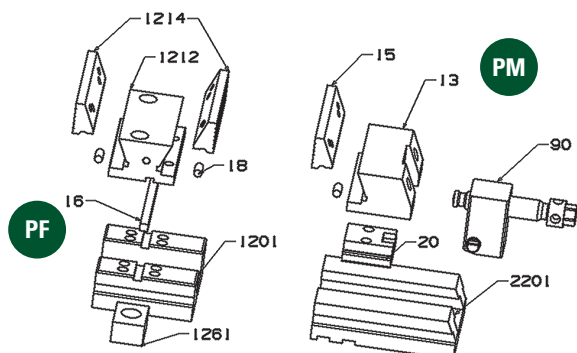


- ✓ Bocas con efecto descendente.  
Jaws with descending effect.
- ✓ Acero de cementación (F 155).  
Hardened steel HRc 60.
- ✓ Aprietes intercambiables.  
Interchangeable locks.
- ✓ Tolerancia de acabado: g6  
Finishing tolerance: g6.
- ✓ Portabocas móvil con efecto oscilante.  
Oscillating movable jaws support.



| Ref.    | €/u.<br>TOTAL<br>(PF+PM) | €/u.<br>TOTAL<br>(PF) | €/u.<br>TOTAL<br>(PM) | C    | D  | P   | Q   | R  | S  | T  | X  | Y  | Z    | mm. |         |      |
|---------|--------------------------|-----------------------|-----------------------|------|----|-----|-----|----|----|----|----|----|------|-----|---------|------|
| 30/100P | 1.004,00                 | 478,20                | 525,80                | 33,5 | 37 | 140 | 90  | 50 | 30 | 13 | 17 | 42 | 37   | 12  | 1251261 | 9,5  |
| 30/125P | 1.171,00                 | 599,00                | 573,00                | 41   | 42 | 150 | 103 | 55 | 35 | 16 | 22 | 50 | 43,5 | 12  | 1251261 | 16,5 |
| 30/150P | 1.690,00                 | 840,50                | 849,50                | 56   | 51 | 180 | 125 | 58 | 40 | 20 | 26 | 58 | 52   | 16  | 1501261 | 24,5 |
| 30/200P | 2.230,00                 | 1.080,00              | 1.150,00              | 66   | 51 | 190 | 140 | 63 | 44 | 22 | 26 | 58 | 59   | 16  | 2001261 | 41   |

Estas mordazas se suministran con 2 juegos de bridas. / 2 sets of clamps enclosed.





✓ Cada husillo tiene un mecanismo multiplicador de par.  
*Each spindle features a torque multiplier.*

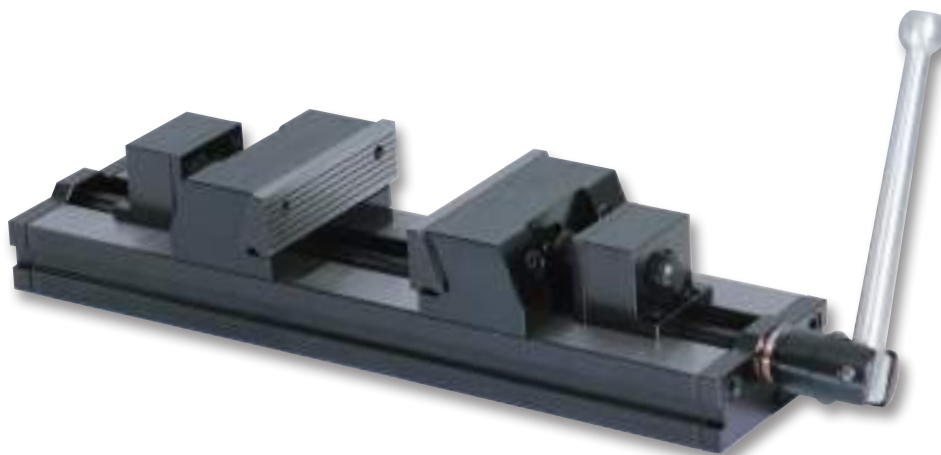
✓ Cada taco tiene 3 posiciones de bloqueo, para cambiar de posición basta con aflojar los dos prisioneros.  
*Each spindle allows 3 positions. Loosen up screws in order to change positions.*

✓ Bocas con efecto descendente.  
*Jaws with descending effect.*

✓ Acero de cementación (F 155).  
*Hardened steel HRC 60.*

✓ Tolerancia de acabado: g6  
*Finishing tolerance: g6.*

✓ Portabocas móvil con efecto oscilante.  
*Oscilating movable jaws support.*

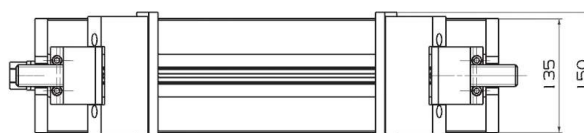
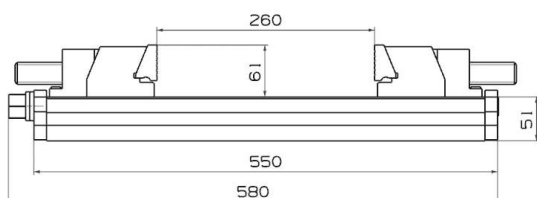


| Ref.   | €/u.     | ⚖️   |
|--------|----------|------|
| 26/150 | 2.730,00 | 36,5 |

**Bridas**  
**Clamps**

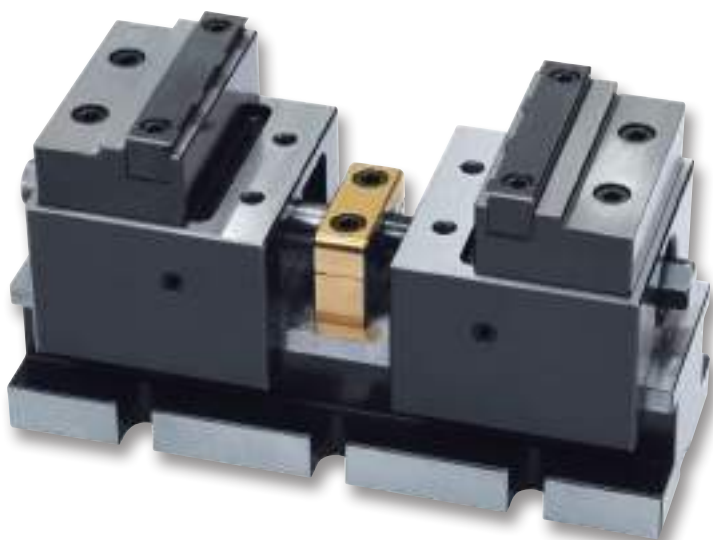
| Bridas/<br>Clamps | €/juego. |
|-------------------|----------|
| 15061             | 31,00    |

Necesita 2 juegos. / It need 2 sets.



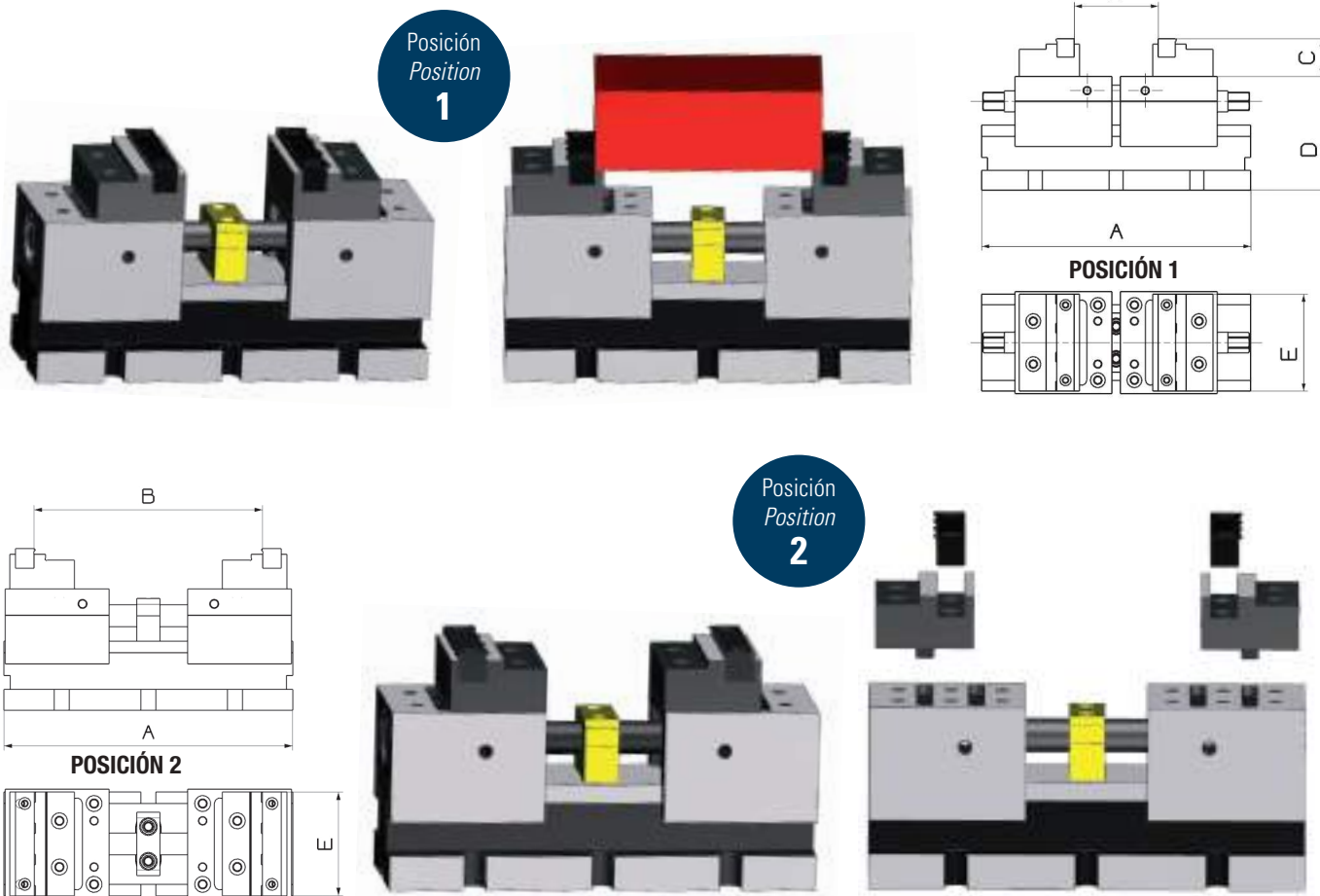
## Mordazas para cualquier trabajo

## Serie 24 Mordaza autocentrante / Self centering vice

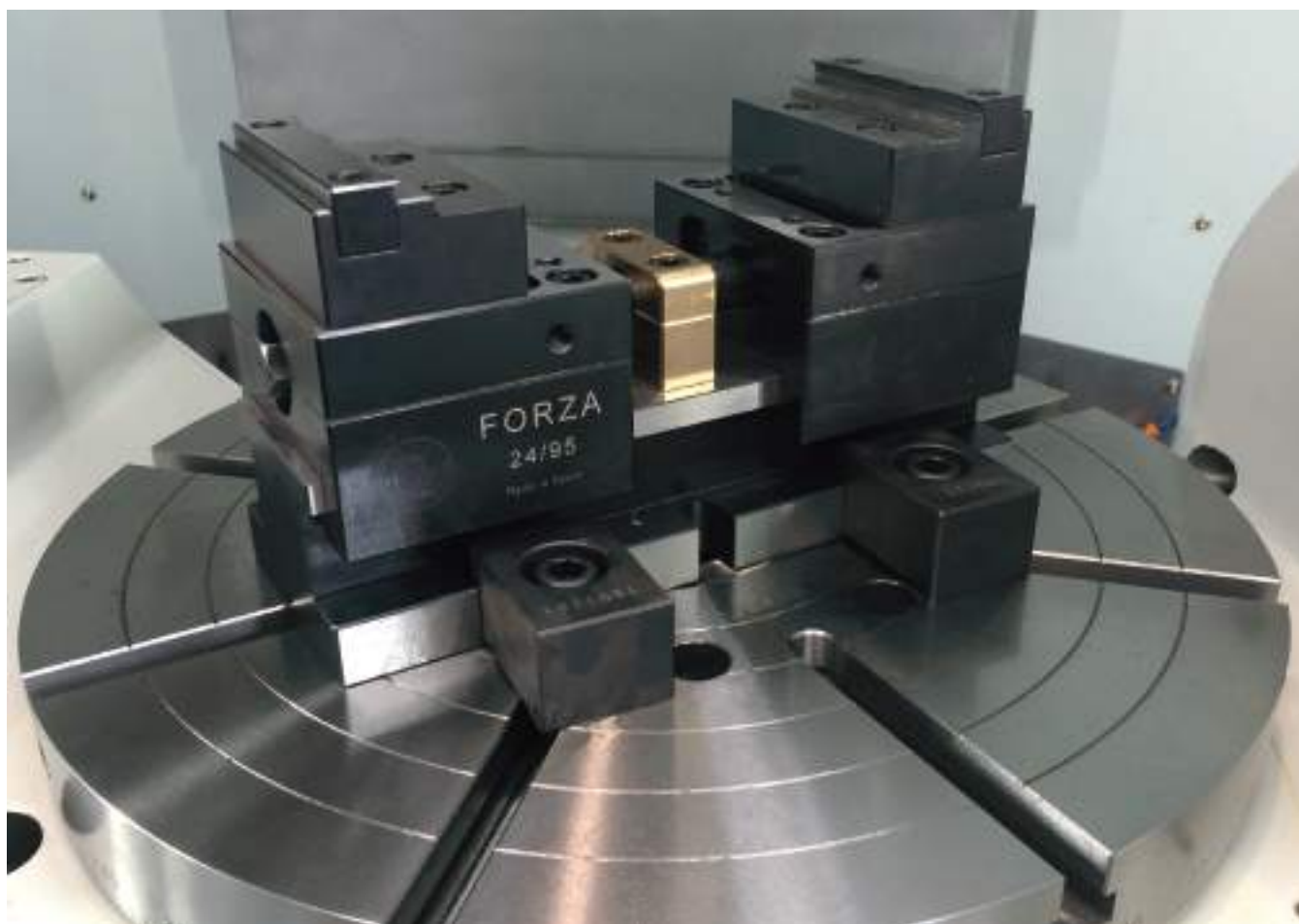


- ✓ Carro con dos posiciones de anclaje al portabocas.  
*Clamping block with double jaw holder positioning.*
- ✓ Portabocas reversible.  
*Reversible jaw holder.*
- ✓ Husillo con rosca trapecial.  
*Spindle with trapezoid thread.*
- ✓ Bocas reversibles. Planas por un lado y con mordientes por el otro.  
*Reversible jaws. Flat on one side and indented on the other.*
- ✓ Acero de cementación (F 155).  
*Hardened steel HRc 60.*

| Ref.   | €/u.     | A   | Posición 1 |        | Posición 2 |        | C  | D   | E   |  |
|--------|----------|-----|------------|--------|------------|--------|----|-----|-----|-------------------------------------------------------------------------------------|
|        |          |     | B min      | B max. | B min      | B max. |    |     |     |                                                                                     |
| 24/75  | 1.125,00 | 192 | 12         | 110    | 60         | 155    | 28 | 90  | 70  | 9,3                                                                                 |
| 24/95  | 1.299,00 | 250 | 20         | 140    | 80         | 200    | 35 | 105 | 90  | 17,0                                                                                |
| 24/100 | 1.693,00 | 394 | 45         | 285    | 105        | 345    | 38 | 105 | 100 | 23,5                                                                                |







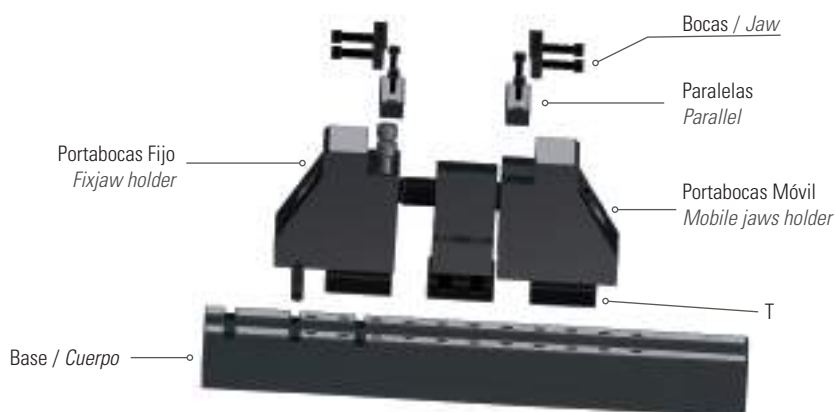
Sistema autocentrante para una mayor precisión



## Serie 25 Mordaza de 5 ejes / Vice for 5 axes machine

### Mordaza autocentrante

*Self centering vice*



- ✓ Husillo completamente escondido.  
*Fully embedded spindle.*
- ✓ 3 posiciones del portabocas fijo ayudan a posicionar la pieza de la forma más eficaz.  
*3 adjustments of jaw holder aiming at a better workpiece positioning.*
- ✓ Portabocas móvil con rodamiento integrado para facilitarte el apriete.  
*Mobil jaw holder with built in bearing enabling an easier clamping.*
- ✓ Paralelas mecanizables para regular la altura del escalón.  
*Soft parallel aimed at a better step height adjustment.*
- ✓ Bocas reversibles. Planas por un lado y con mordientes por el otro.  
*Reversible jaws. Flat on one side and indented on the other.*



### Cambiar la posición del portabocas

*Changing of the jaw holder position*



1. Quitar los tornillos y la paralela del portabocas.  
*Take out screws and parallel of jaw holder.*
2. Sacar los tornillos de refuerzo M-12.  
*Pull out the M-12 reinforce screw.*



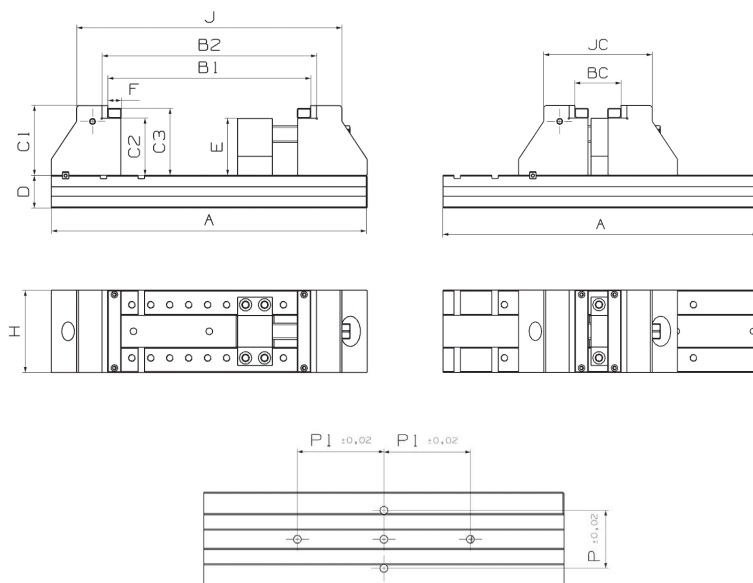
3. Extraer la chaveta.  
*Take out key nut.*



4. Desplazar el portabocas.  
*Move back the jaw holders.*
5. Meter la chaveta.  
*Place the key nuts.*



6. Montar los tornillos M-12 (Solo para grandes esfuerzos de fresado).  
*Place the M12 reinforced screws (suitable for hight clamping force requirement).*
7. Montar la paralela.  
*Mount the parallel.*



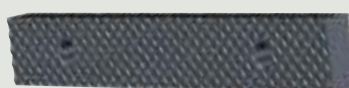
| Ref.    | €/u.     | A   | BC | B1  | B2  | C1  | C2  | C3  | D  | E   | F  | H   | JC  | J   | P   | P1  | ⚖    |
|---------|----------|-----|----|-----|-----|-----|-----|-----|----|-----|----|-----|-----|-----|-----|-----|------|
| 25/130  | 2.020,00 | 500 | 74 | 320 | 340 | 110 | 90  | 105 | 51 | 90  | 21 | 130 | 171 | 420 | 80  | 120 | 39   |
| 25/130L | 2.259,00 | 600 | 74 | 420 | 440 | 110 | 90  | 105 | 51 | 90  | 21 | 130 | 171 | 520 | 80  | 120 | 42,3 |
| 25/175  | 2.995,00 | 590 | 74 | 370 | 400 | 150 | 125 | 140 | 76 | 122 | 25 | 175 | 182 | 480 | 100 | 100 | 87,5 |
| 25/175L | 3.195,00 | 710 | 74 | 490 | 520 | 150 | 125 | 140 | 76 | 122 | 25 | 175 | 182 | 600 | 100 | 100 | 95,8 |

|        |          |     |  |     |     |     |     |     |    |     |    |     |  |     |  |  |      |
|--------|----------|-----|--|-----|-----|-----|-----|-----|----|-----|----|-----|--|-----|--|--|------|
| 25/160 | 2.845,00 | 470 |  | 220 | 270 | 190 | 150 | 160 | 61 | 150 | 30 | 160 |  | 360 |  |  | 74,0 |
|--------|----------|-----|--|-----|-----|-----|-----|-----|----|-----|----|-----|--|-----|--|--|------|

La mordaza 25/160 se amarra con la brida referencia 20061 y tiene chaveteros de alineación de 16 mm

| Bocas/jaws | €/u.  | Mordaza |
|------------|-------|---------|
| 2513024    | 59,00 | 25/130  |
| 2517524    | 75,00 | 25/175  |

No incluidas en la mordaza / Not included



Bocas fresadas con dientes

Grip jaw-plates

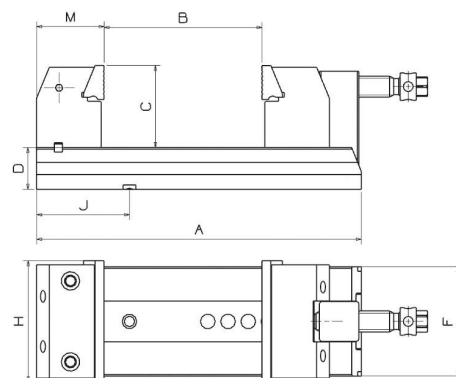


# Serie 300 Mordaza de bocas altas / Series 300 High jaws vices



✓ Bocas con efecto descendente.  
Jaws with descending effect.

✓ Acero de cementación (F 155).  
Hardened steel HRC 60.

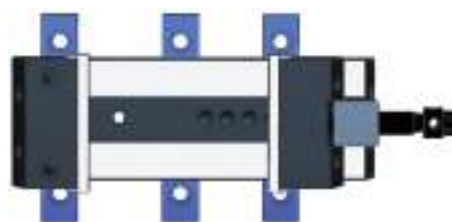


| Ref.     | €/u.     | A   | B   | C   | D  | F   | H   | J   | M  | mm. |       |    |
|----------|----------|-----|-----|-----|----|-----|-----|-----|----|-----|-------|----|
| 300/150  | 1.710,00 | 402 | 200 | 101 | 51 | 135 | 150 | 115 | 83 | 16  | 15061 | 34 |
| 300/150L | 1.820,00 | 452 | 250 | 101 | 51 | 135 | 150 | 115 | 83 | 16  | 15061 | 36 |
| 300/200  | 2.186,00 | 470 | 250 | 130 | 61 | 160 | 200 | 145 | 93 | 16  | 20061 | 48 |
| 300/200L | 2.285,00 | 520 | 300 | 130 | 61 | 160 | 200 | 145 | 93 | 16  | 20061 | 51 |
| 300/200S | 2.597,00 | 570 | 350 | 130 | 61 | 160 | 200 | 145 | 93 | 16  | 20061 | 42 |
| 300/200X | 2.713,00 | 595 | 375 | 130 | 61 | 160 | 200 | 145 | 93 | 16  | 20061 | 55 |



Montar siempre con 3 juegos de bridas

Always clamping with 3 set of strap



SEGUIMOS MEJORANDO  
EN NUESTROS SISTEMAS DE PRODUCCIÓN Y CALIDAD  
WE CONTINUE IMPROVING  
IMPROVING MANUFACTURE AND QUALITY





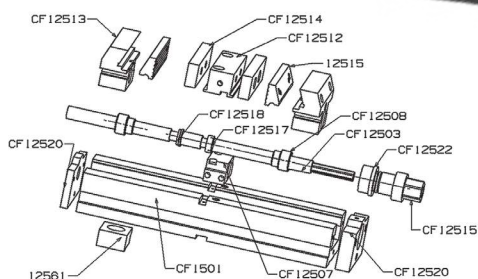
✓ Bocas con efecto descendente.  
Jaws with descending effect.

✓ Paralelismo <0,015 mm.  
Parallelism < 0,015 mm.

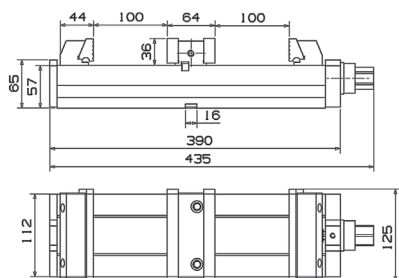
✓ Husillo en posición fija. No aumenta la longitud al abrir la mordaza.  
Spindle in fix position. Does not increase the length when the vice is opened.

Cuerpo de acero cementado (HRc 60)  
Hardened steel body (HRc 60)

CF



| Ref.   | €/u.     | mm. |    |
|--------|----------|-----|----|
| CF/125 | 2.530,00 | 12  | 13 |



| Ref.  | €/Juego. |
|-------|----------|
| 12561 | 29,00    |

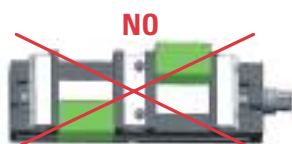
Bridas  
Clamps



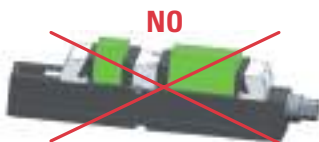
Necesita 2 juegos / It needs 2 sets.



Ejemplos de uso /  
Use example



No apretar piezas cruzadas, disminuye la fuerza de apriete y puede soltarse la pieza y estropear la mordaza.  
Do not tighten pieces crosswise risk of unintended loosening of jaws and vise damaging.



La pieza de mayor tamaño, se debe colocar en la boca opuesta a la llave.  
The biggest work piece must be clamped on the opposite to the spindle lever.

Estas mordazas pueden  
convertirse en autocentrantes  
Convertible in self centering





## Serie 30CF Mordaza gemela con portabocas de aluminio

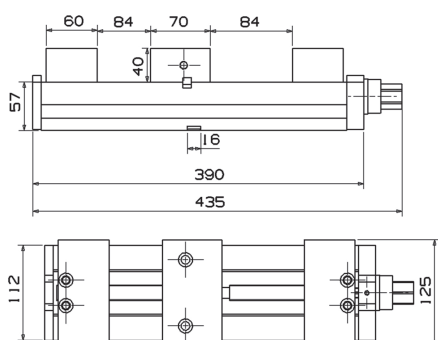
### Aluminium jaws holder vice


**CFA**

- ✓ Portabocas de aluminio mecanizables.  
*Aluminium machinable jaws.*
- ✓ Simplifica la fabricación de útiles.  
*Simplifies the tools manufacturing.*
- ✓ Cuerpo de acero cementado (60Hrc).  
*Hardened cemented steel vice body (60Hrc).*



| Ref.   | €/u.     | mm. |    |
|--------|----------|-----|----|
| CFA125 | 1.799,00 | 16  | 20 |


**Aplicación CFA/125**

### Portabocas /Jaws Holder

| Ref.     | €/u.   | Descripción      |
|----------|--------|------------------|
| CFA12512 | 180,00 | Portabocas fijo  |
| CFA12513 | 201,00 | Portabocas móvil |

**Accesorios**  
**Accessories**

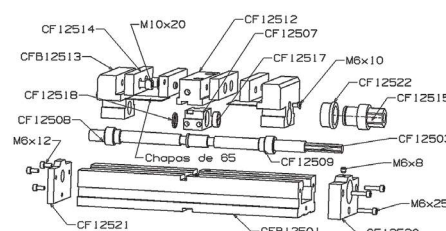
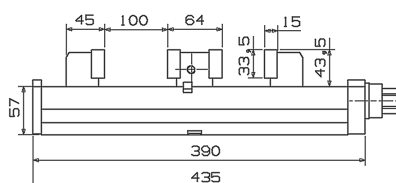

## Serie 30CFB Mordaza gemela autocentrante con portabocas de aluminio

### Twin self centering vice with aluminium jaws holder


**CFB**

- ✓ Portabocas de aluminio equipadas con bocas rectas templadas.  
*Aluminium jaws holder with hardened straight jaws.*
- ✓ Cuerpo de acero cementado (60Hrc).  
*Hardened cemented steel vice body (60Hrc).*

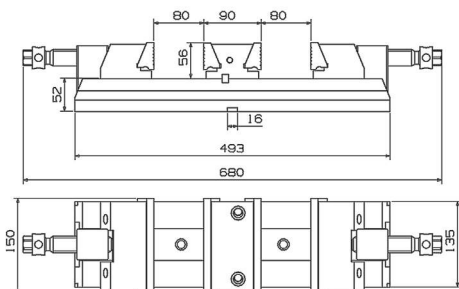
| Ref.   | €/u.     | mm. |    |
|--------|----------|-----|----|
| CFB125 | 2.039,00 | 16  | 20 |



## Serie 30D Mordaza doble / Double position vice

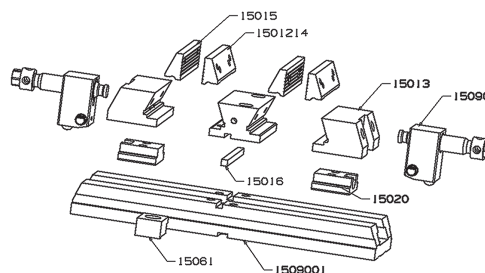
✓ Muy adecuada para trabajar con 2 cilindros OLN. ref 15080

*Apropiated for working with 2 OLN clinders. ref. 15080.*



| Ref.    | €/u.     | BASE  |    |
|---------|----------|-------|----|
| 30/150D | 2.320,00 | B/150 | 40 |

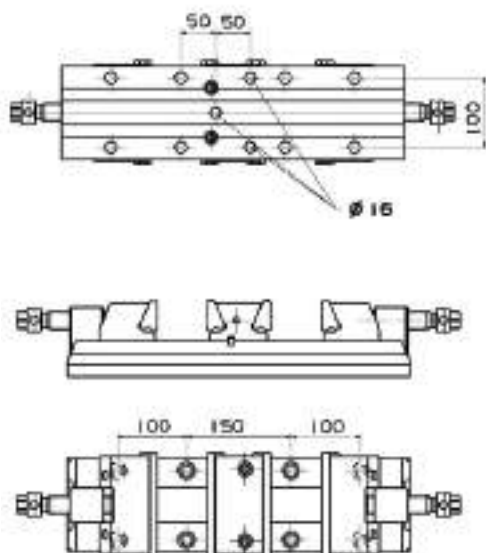
Juego = 2 unidades. / Set = 2 units.



**Bridas**  
**Clamps**

| Ref.  | €/juego. |
|-------|----------|
| 15061 | 31,00    |

## Serie 60D Mordaza doble para cubos paso 50 / Double position for cubes step 50



| Ref.    | €/u.     | Paso |    |
|---------|----------|------|----|
| 60/150D | 2.258,00 | 50   | 40 |

Mordazas dobles de presión descendente

Descending double machine vices

**El portabocas central se puede amarrar...**  
*One can fix the central jaw holder either...*

**...en la parte central y nos permite agarrar dos piezas de forma independiente.**

*In the vice center and allows to clamping two different work piece.*

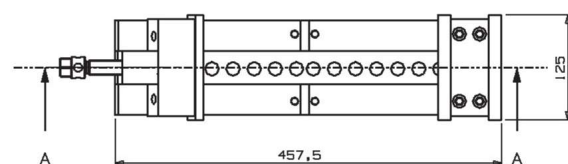
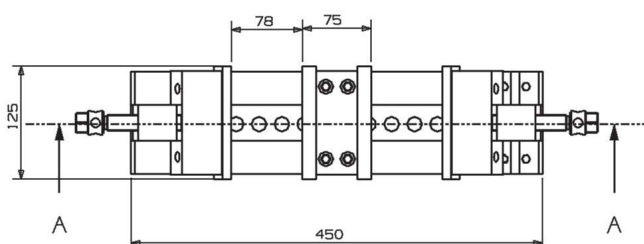
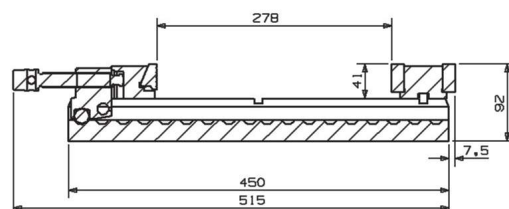
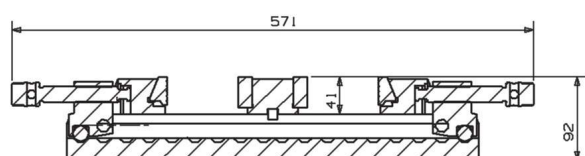
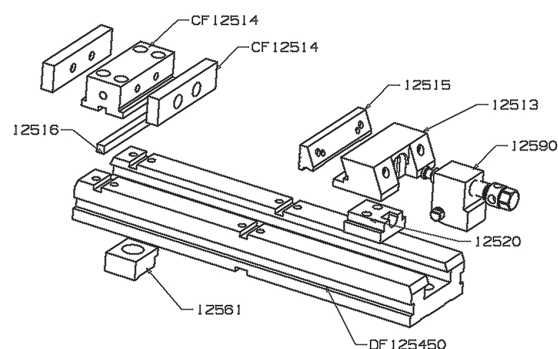
**...en el extremo del cuerpo y transforma la mordaza en una mordaza convencional de gran abertura.**

*In the far side of the vice giving a wide clamping capacity.*

## **Serie DF Mordaza doble (recta/descendente)** *Double position vice (straight/pull down jaws)*



| Ref.      | €/u.     |  |
|-----------|----------|-------------------------------------------------------------------------------------|
| DF125/450 | 1.830,00 | 24                                                                                  |



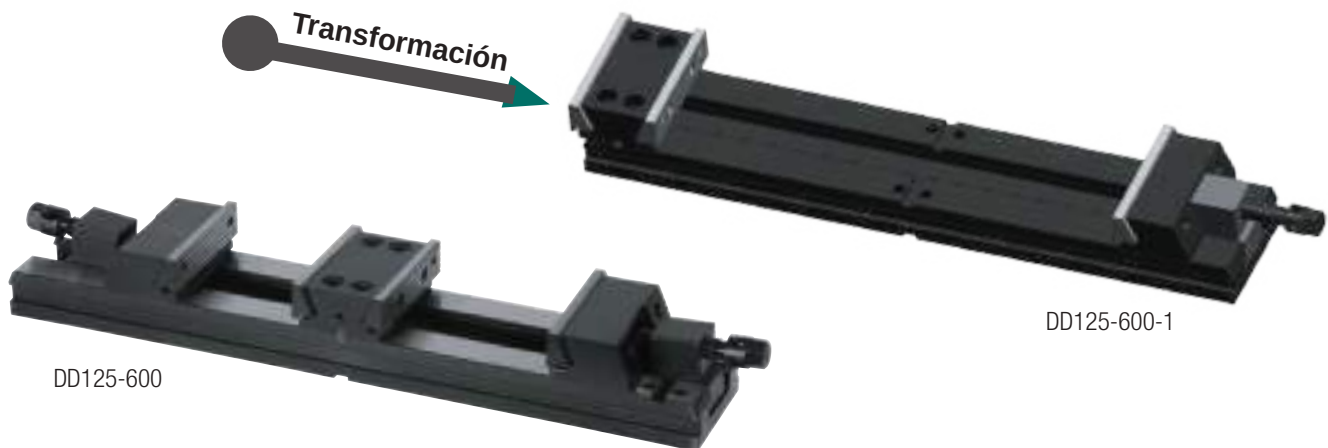


## Serie DdMordaza doble (descendente) Double position vice (pull down jaws)



Mordazas dobles extra largas

Double position vice-extra long



DD125-600

DD125-600-1

### Mordazas dobles / Double position vices

| Ref.      | €/u.     | A   | B   | ⚖️   |
|-----------|----------|-----|-----|------|
| DD125/500 | 2.096,00 | 504 | 102 | 24,5 |
| DD125/600 | 2.356,00 | 604 | 152 | 25,5 |



### Mordazas simples / Simple vices

| Ref.        | €/u.     | C   | D   | ⚖️   |
|-------------|----------|-----|-----|------|
| DD125/500-1 | 1.756,50 | 178 | 320 | 20,0 |
| DD125/600-1 | 2.017,50 | 228 | 425 | 21,0 |

### Mordazas dobles guiadas / Double position guided

| Ref.        | €/u.     | A   | B   | ⚖️   |
|-------------|----------|-----|-----|------|
| DD125/500G* | 2.322,00 | 504 | 102 | 24,7 |
| DD125/600G* | 2.549,00 | 604 | 152 | 25,7 |

### Mordazas simples guiadas / Simple vices guided

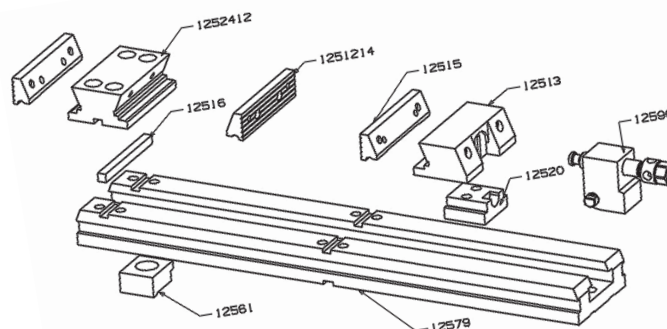
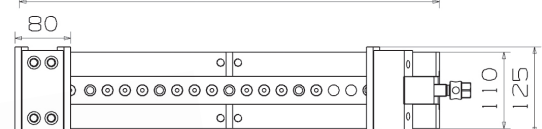
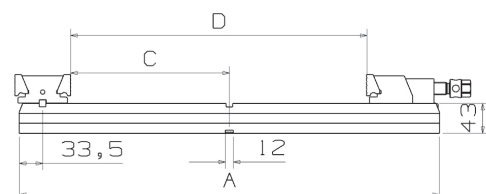
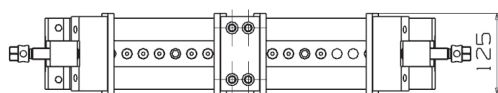
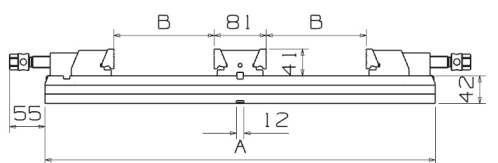
| Ref.          | €/u.     | C   | D   | ⚖️   |
|---------------|----------|-----|-----|------|
| DD125/500G-1* | 1.924,00 | 178 | 320 | 20,1 |
| DD125/600G-1* | 2.124,00 | 228 | 425 | 21,1 |



\*Incluyen 2 T oscilantes  
\*Two T oscillating included



\*Incluyen 1 T oscilante  
\*One T oscillating included



# Serie 30V Mordaza partida alta / High split vice

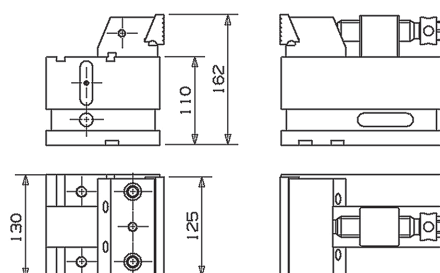
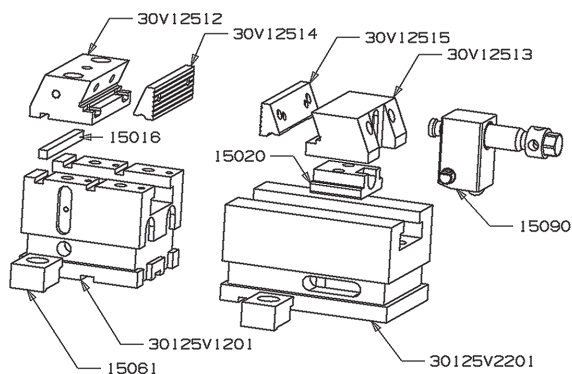
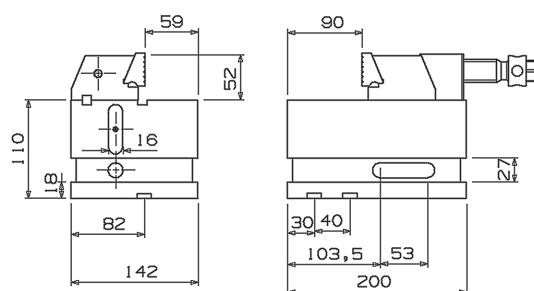
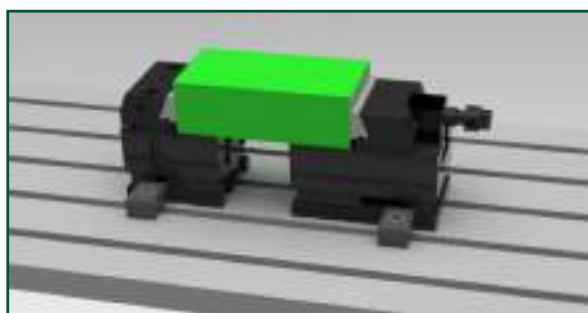
## Mordaza partida alta

High split vice



- ✓ La pieza se apoya sobre el cuerpo de la mordaza.  
Altura del cuerpo 110 mm.  
*The work piece pushed down against the vice base.  
Base height 110 mm.*
- ✓ La pieza se apoya sobre la mesa de la máquina.  
Amarre a 150 mm. de altura.  
*The work piece is pushed down against the machine table.  
Clamping 150 mm.high.*

| Ref.    | €/u.     | Observaciones                                                                         |      |
|---------|----------|---------------------------------------------------------------------------------------|------|
| 30V125P | 3.180,00 | Se incluyen 2 juegos de bridas de la ref. 15061<br>It contains 2 sets of clamps 15061 | 35,8 |





- ✓ Las bocas tienen efecto descendente; por su geometría, al apretar la pieza hacen que esta descienda.

*Jaws with descending effect. Due to its geometry, when the part is tighten it goes down.*

- ✓ Perpendicularidad negativa de las bocas de 0,025 a 0,04 mm. Las bocas se fabrican con un ángulo negativo para compensar las deformaciones durante el apriete.

*Negative perpendicular alignment of the jaws from 0.025 to 0.04 mm. Jaws are made in negative angle in order to countertrack the deformation during the tightening.*

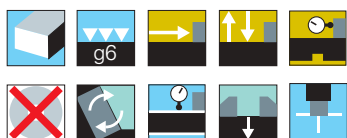
- ✓ Aprietes intercambiables: mecánico, hidráulico con multiplicador o apriete oleoneumático.

*Interchangeable spindle: mechanical, hydraulic or with mechanical multiplier.*

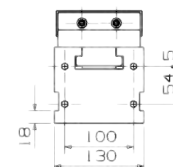
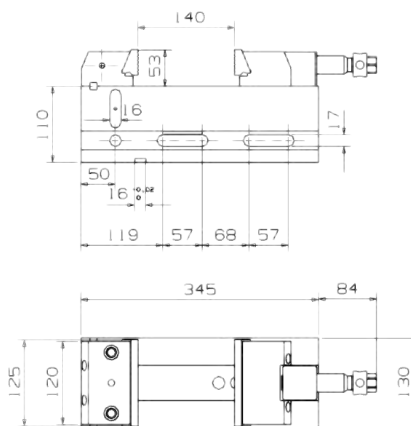
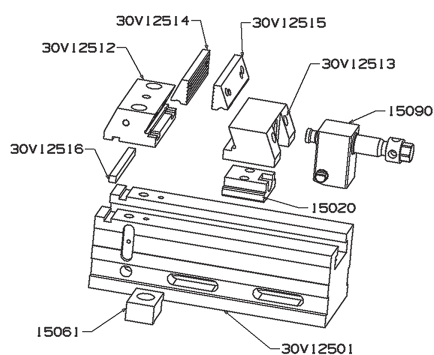
**Completamente  
rectificada  
Full grinding**

**Mordaza para escuadrar**

*Vice to make square*

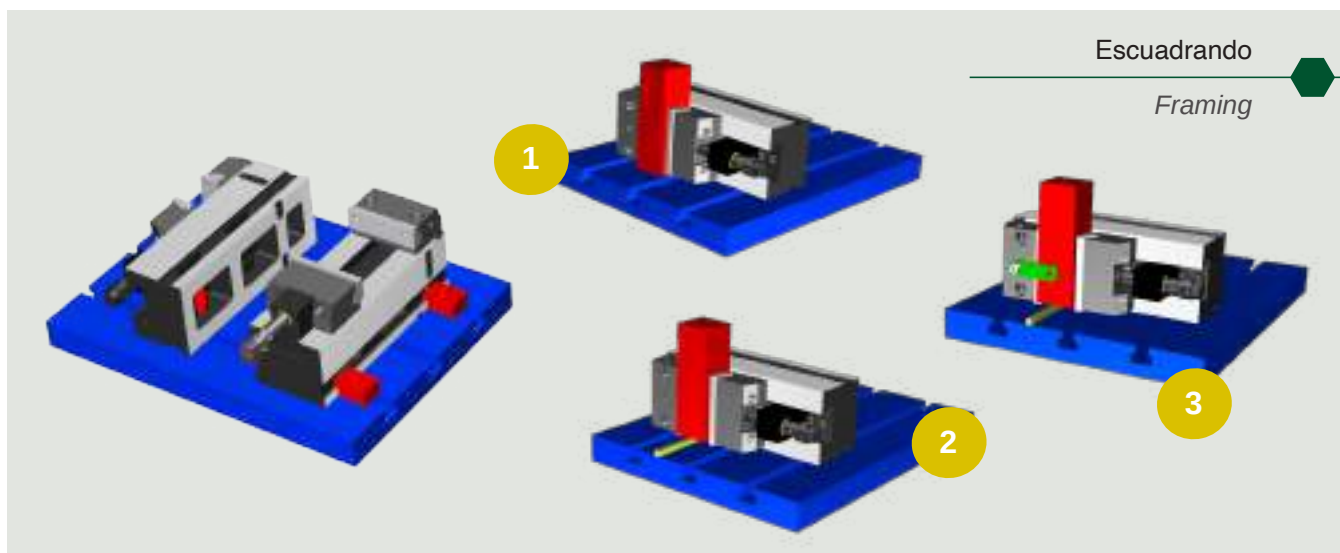


| Ref.   | €/u.     | kg   |
|--------|----------|------|
| 30V125 | 2.110,00 | 35,5 |



**Escuadrando**

*Framing*

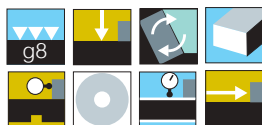


# Serie 29 STANDARD

[ No Guiadas ]

## Mordazas mecánicas boca recta

Straight jaws mechanical vices.



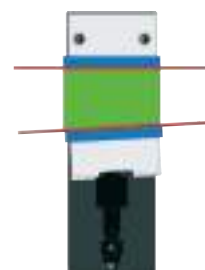
✓ Por el ataque del husillo:  
NO LEVANTA LAS PIEZAS.  
DOESN'T LIFT THE WORK PIECES

✓ 60Hrc tolerancia de acabado g8.  
60Hrc Finishing tolerance g8.

✓ Aprietes intercambiables.  
Interchangeable locks.

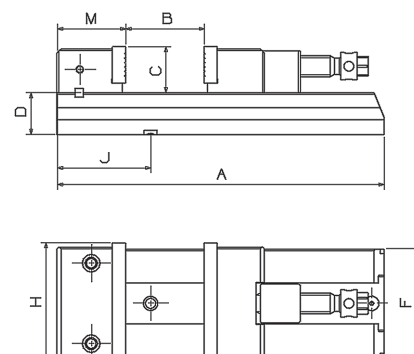
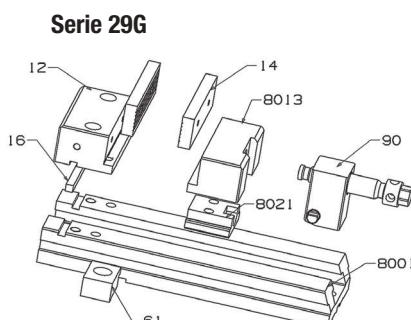
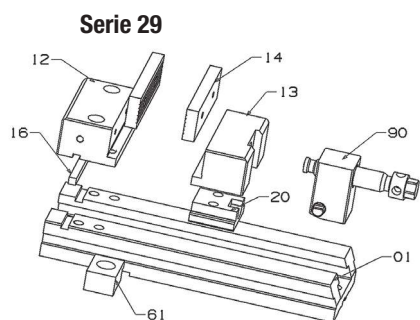
✓ La boca de adapta a la pieza.  
Jaw adapt to the workpiece.

Mordazas no guiadas  
Not guided machine vice



| Ref.     | €/u.     | A   | B   | C    | D  | F   | H   | J   | M    | mm. |       |      | BASE  |
|----------|----------|-----|-----|------|----|-----|-----|-----|------|-----|-------|------|-------|
| 29/100   | 758,00   | 250 | 109 | 34   | 37 | 90  | 100 | 70  | 50   | 12  | 12561 | 7,5  | B/100 |
| 29/100L  | 826,00   | 296 | 150 | 34   | 37 | 90  | 100 | 70  | 50   | 12  | 12651 | 8    | B/100 |
| 29/125   | 874,00   | 300 | 130 | 39,5 | 42 | 110 | 125 | 88  | 64   | 12  | 12561 | 13   | B/125 |
| 29/125L  | 941,00   | 346 | 175 | 39,5 | 42 | 110 | 125 | 88  | 64   | 12  | 12561 | 14   | B/125 |
| 29/125S  | 1.009,50 | 371 | 200 | 39,5 | 42 | 110 | 125 | 88  | 64   | 12  | 12561 | 14,5 | B/125 |
| 29/150   | 1.278,00 | 402 | 200 | 57   | 51 | 135 | 150 | 115 | 84   | 16  | 15061 | 26   | B/150 |
| 29/150L  | 1.369,00 | 452 | 250 | 57   | 51 | 135 | 150 | 115 | 84   | 16  | 15061 | 28   | B/150 |
| 29/150S  | 1.567,00 | 502 | 300 | 57   | 51 | 135 | 150 | 115 | 84   | 16  | 15061 | 30   | B/150 |
| 29/150X  | 1.723,00 | 527 | 335 | 57   | 51 | 135 | 150 | 115 | 84   | 16  | 15061 | 31,5 | B/150 |
| 29/175   | 1.435,00 | 432 | 225 | 58,5 | 56 | 135 | 175 | 120 | 86   | 16  | 15061 | 34   | B/150 |
| 29/175L  | 1.533,00 | 482 | 275 | 58,5 | 56 | 135 | 175 | 120 | 86   | 16  | 15061 | 36,5 | B/150 |
| 29/175S  | 1.656,00 | 556 | 350 | 58,5 | 56 | 135 | 175 | 120 | 86   | 16  | 15061 | 40,0 | B/150 |
| 29/175X  | 1.743,00 | 610 | 400 | 58,5 | 56 | 135 | 175 | 120 | 86   | 16  | 15061 | 42,5 | B/150 |
| 29/200   | 1.728,00 | 470 | 250 | 65,5 | 61 | 160 | 200 | 145 | 92,5 | 16  | 20061 | 44   | B/200 |
| 29/200L  | 1.833,00 | 520 | 300 | 65,5 | 61 | 160 | 200 | 145 | 92,5 | 16  | 20061 | 46,5 | B/200 |
| 29/200S  | 2.064,00 | 570 | 350 | 65,5 | 61 | 160 | 200 | 145 | 92,5 | 16  | 20061 | 49   | B/200 |
| 29/200X  | 2.311,00 | 595 | 375 | 65,5 | 61 | 160 | 200 | 145 | 92,5 | 16  | 20061 | 50,5 | B/200 |
| 29/200XL | 2.422,00 | 675 | 455 | 65,5 | 61 | 160 | 200 | 145 | 92,5 | 16  | 20061 | 53   | B/200 |

Precio de la mordaza sin base giratoria. / Price without swivel base.







✓ Por el ataque del husillo:  
NO LEVANTA LAS PIEZAS.  
DOESN'T LIFT THE WORK PIECES

✓ 60HRc tolerancia de acabado g8.  
60HRc Finishing tolerance g8.

✓ Aprietes intercambiables.  
Interchangeable locks.

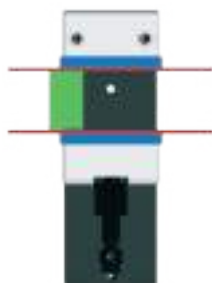
✓ Las bocas se desplazan en paralelo.  
Jaw always move parallel.

Mordazas guiadas  
boca recta

Straight guided  
jaws vices



Mordazas guiadas  
Guided machine vice



| Ref.     | €/u.     | A   | B   | C    | D  | F   | H   | J   | M    | mm. |       |      | BASE  |
|----------|----------|-----|-----|------|----|-----|-----|-----|------|-----|-------|------|-------|
| 29/100G  | 835,00   | 250 | 109 | 34   | 37 | 90  | 100 | 70  | 50   | 12  | 12561 | 7,5  | B/100 |
| 29/100GL | 924,00   | 296 | 150 | 34   | 37 | 90  | 100 | 70  | 50   | 12  | 12651 | 8    | B/100 |
| 29/125G  | 953,00   | 300 | 130 | 39,5 | 42 | 110 | 125 | 88  | 64   | 12  | 12561 | 13   | B/125 |
| 29/125GL | 1.034,00 | 346 | 175 | 39,5 | 42 | 110 | 125 | 88  | 64   | 12  | 12561 | 14   | B/125 |
| 29/150G  | 1.442,00 | 402 | 200 | 57   | 51 | 135 | 150 | 115 | 84   | 16  | 15061 | 26   | B/150 |
| 29/150GL | 1.519,00 | 452 | 250 | 57   | 51 | 135 | 150 | 115 | 84   | 16  | 15061 | 28   | B/150 |
| 29/150GS | 1.622,00 | 502 | 300 | 57   | 51 | 135 | 150 | 115 | 84   | 16  | 15061 | 28   | B/150 |
| 29/175G  | 1.597,00 | 432 | 225 | 58,5 | 56 | 135 | 175 | 120 | 86   | 16  | 15061 | 34   | B/150 |
| 29/175GL | 1.747,00 | 482 | 275 | 58,5 | 56 | 135 | 175 | 120 | 86   | 16  | 15061 | 36,5 | B/150 |
| 29/175GS | 1.813,00 | 556 | 275 | 58,5 | 56 | 135 | 175 | 120 | 86   | 16  | 15061 | 40   | B/150 |
| 29/200G  | 1.920,50 | 470 | 250 | 65,5 | 61 | 160 | 200 | 145 | 92,5 | 16  | 20061 | 44   | B/200 |
| 29/200GL | 2.079,50 | 520 | 300 | 65,5 | 61 | 160 | 200 | 145 | 92,5 | 16  | 20061 | 46,5 | B/200 |
| 29/200GS | 2.233,00 | 570 | 350 | 65,5 | 61 | 160 | 200 | 145 | 92,5 | 16  | 20061 | 49   | B/200 |

Precio de la mordaza sin base giratoria. / Price without swivel base.

| Ref.    | €/u   |     |
|---------|-------|-----|
| 2910014 | 37,00 | 100 |
| 2912514 | 40,40 | 125 |
| 2915014 | 54,00 | 150 |
| 2917514 | 62,00 | 175 |
| 2920014 | 81,00 | 200 |



Bocas estándar Serie 29

Standard jaws serie 29



## Mordaza serie 27 / 27 serie vice

### Mordazas corta con husillo protegido

Vice with protected spindle.



✓ Acero de cementación (F 155).  
Hardened steel HRC 60.

✓ Por su concepción, no levanta las piezas al amarrar.  
Due to its special desing, it doesn't lift workpieces while clamping.

✓ Husillo protegido.  
Protected spindle.

✓ Selección de curso con bulón lateral.  
Opening selection with bolt.

✓ Husillo mecánico.  
Mechanical spindle.

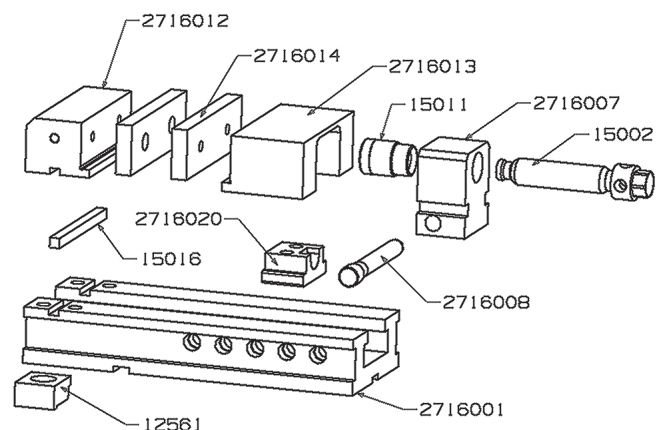
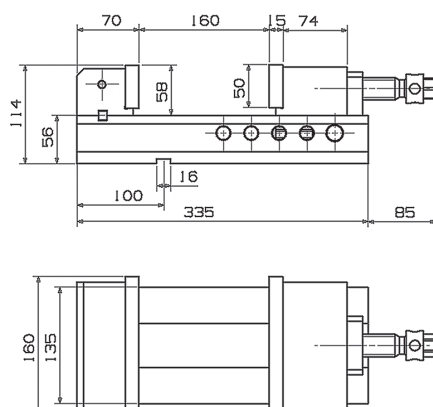
| Ref.   | €/u.     | Abertura<br>Opening | Anchura<br>Width | ⚖️   |
|--------|----------|---------------------|------------------|------|
| 27/160 | 1.129,00 | 160                 | 160              | 26,5 |

| BASE<br> | €/u.   | ⚖️   |
|---------------------------------------------------------------------------------------------|--------|------|
| B27160                                                                                      | 260,00 | 11,0 |

| Bridas<br>Clamps | €/ juego/set |
|------------------|--------------|
| 12561            | 29,00        |

Juego = 2 unidades. / Set = 2 units.

Accesorios para base giratoria  
Swivel base accessories





- ✓ La manilla giratoria evita chocar con cualquier obstáculo: Mesa fresadora, etc...

The rotatory handle avoids any peripheral impact:  
Milling machine table, etc...

## Mordazas para taladros y roscadoras

Drilling and tapping machine vice



Llave hex. 24 mm.  
Hexagonal wrench 24 mm

| Ref.   | €/u.     | Abertura<br>Opening | Anchura<br>Width |      |
|--------|----------|---------------------|------------------|------|
| 28A150 | 1.235,00 | 150                 | 150              | 28,0 |

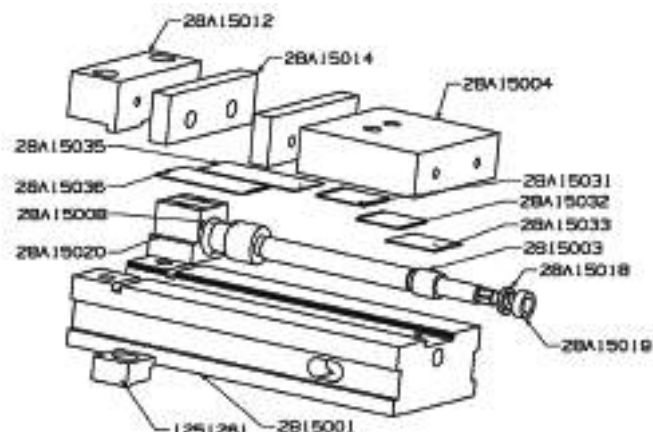
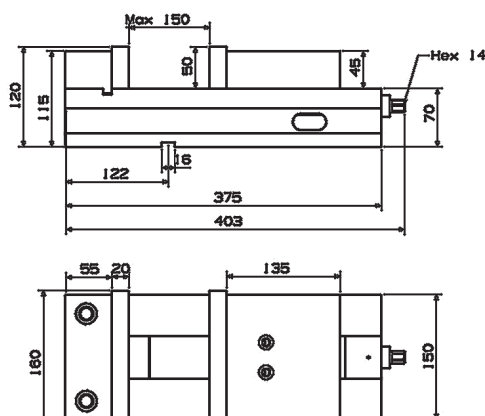
## Accesorios para base giratoria

Swivel base accessories

| BASE   | €/u.   |      |
|--------|--------|------|
| B28150 | 295,00 | 11,0 |

| Bridas<br>Clamps | €/juego/set |
|------------------|-------------|
| 1251261          | 39,00       |

Juego = 2 unidades. / Set = 2 units.



# Mordaza mecánica serie 31/ Mechanical machine vices 31 series

**CLÁSICA**

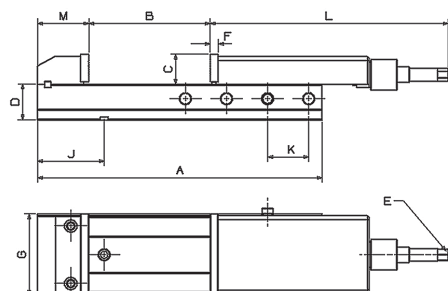
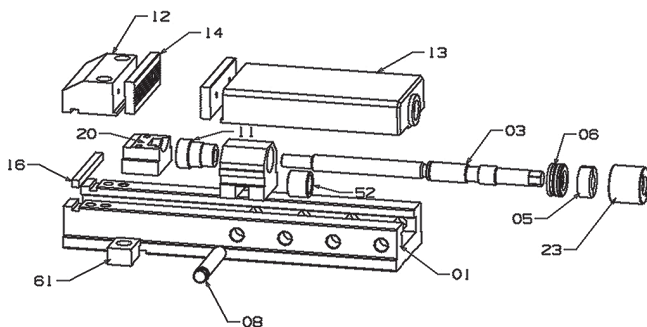


✓ Versión mecánica: equipadas con rodamiento axial para reducir el esfuerzo de trabajo.

Mechanical version: fitted with axial bearing to decrease working strength.



| Ref.    | €/u.     | A   | B   | C  | D  | E  | F  | G   | J   | K  | L   | M   | mm. |         |      | BASE   |
|---------|----------|-----|-----|----|----|----|----|-----|-----|----|-----|-----|-----|---------|------|--------|
| 31/125  | 1.490,00 | 430 | 210 | 48 | 66 | 14 | 12 | 125 | 115 | 60 | 355 | 85  | 16  | 15061   | 29   | GN/125 |
| 31/125L | 1.575,00 | 490 | 270 | 48 | 66 | 14 | 12 | 125 | 115 | 60 | 355 | 85  | 16  | 15061   | 31,5 | GN/125 |
| 31/160  | 1.835,00 | 554 | 325 | 59 | 70 | 22 | 16 | 160 | 130 | 80 | 465 | 107 | 16  | 1501261 | 48   | GN/160 |
| 31/160L | 1.970,00 | 634 | 400 | 59 | 70 | 22 | 16 | 160 | 130 | 80 | 465 | 107 | 16  | 1501261 | 53   | GN/160 |



Cambio de la posición de apertura cambiando el bulón. / Change of the opening position by changing the bolt.



1. Sacar el bulón de la mordaza  
Remove the bolt from the vice



2. Colocar el carro en la posición deseada.  
Place the movable part in the most suitable position.

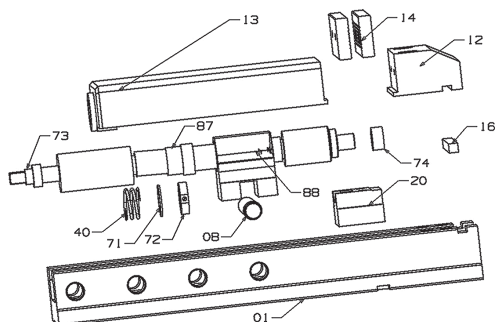


3. Introducir el bulón.  
insert again the bolt.



4. Asegurese de que el bulón queda en el canal de la tuerca..  
PMake sure that the bolt is perfectly place in the groove of the nut.




**CLÁSICA**


| Ref.     | €/u.     | A   | B   | C  | D  | E  | F  | G   | J   | K  | L   | M   | mm. |         |      | BASE   |
|----------|----------|-----|-----|----|----|----|----|-----|-----|----|-----|-----|-----|---------|------|--------|
| 31/125H  | 1.807,00 | 430 | 210 | 48 | 66 | 14 | 12 | 125 | 115 | 60 | 375 | 85  | 16  | 15061   | 29   | GN/125 |
| 31/125HL | 1.820,00 | 490 | 270 | 48 | 66 | 14 | 12 | 125 | 115 | 60 | 375 | 85  | 16  | 15061   | 31,5 | GN/125 |
| 31/160H  | 2.350,00 | 554 | 295 | 59 | 70 | 16 | 16 | 160 | 130 | 80 | 482 | 107 | 16  | 1501261 | 48   | GN/160 |
| 31/160HL | 2.490,00 | 634 | 375 | 59 | 70 | 16 | 16 | 160 | 130 | 80 | 482 | 107 | 16  | 1501261 | 53   | GN/160 |

### Base giratoria y sus bridas

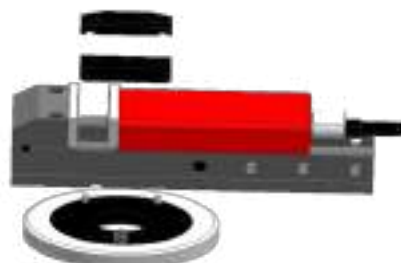
### Swivel base and its clamps

| BASE   | €/u.   |     | mm. |       |    |
|--------|--------|-----|-----|-------|----|
| GN/125 | 345,00 | 125 | 16  | 15060 | 14 |
| GN/160 | 434,00 | 160 | 16  | 15060 | 20 |

| Bridas<br>Clamps | €/juego/set |
|------------------|-------------|
| 15060            | 43,30       |

Juego = 2 unidades. / Set = 2 units.

### MONTAJE / ASSEMBLE

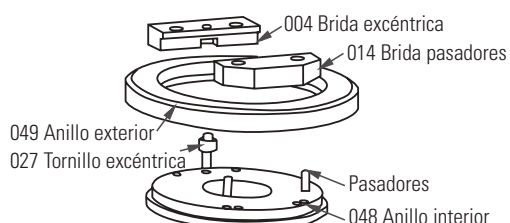
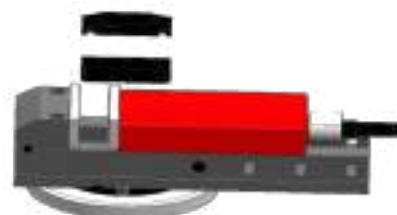


1. Soltar las bridas de la base giratoria.

*Loose the straps of the swivel base.*

2. Montar la mordaza y poner las bridas.

*Assemble the vice and the traps.*



## Mordaza serie 32N / 32N series machine vice

### Mordazas alta precisión

High precision vice.



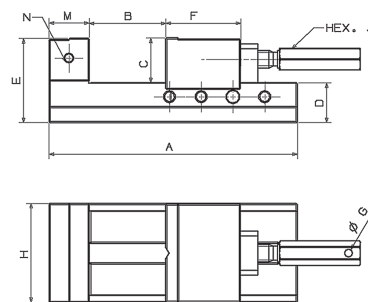
| Ref.     | €/u.     | A   | B   | C  | D  | E  | F  | ØG | H   | J  | M  | ⚖   |
|----------|----------|-----|-----|----|----|----|----|----|-----|----|----|-----|
| 32/50 N  | 765,00   | 148 | 70  | 25 | 25 | 50 | 45 | 6  | 50  | 14 | 25 | 2,0 |
| 32/75 N  | 929,00   | 194 | 91  | 34 | 34 | 68 | 57 | 8  | 75  | 19 | 35 | 4,5 |
| 32/100 N | 1.053,00 | 250 | 123 | 45 | 40 | 85 | 75 | 8  | 100 | 22 | 40 | 9,5 |

✓ Acero de cementación (F 155).  
Hardened steel HRc 60.

✓ Trabaja en cualquier posición.  
It work in any position.

✓ Tolerancia en paralelismo y perpendicularidad: ± 0,01 mm.  
Tolerance in parallelism and perpendicularity ± 0,01 mm.

✓ Dureza 60 HRc.  
Hardened steel HRc 60.



## Mordaza de senos serie 32S / Sinus machine vice 32S



| Ref.     | €/u.   | A   | B   | C  | D  | E   | F   | G  | H   | J   | M  | TR     | MAX. A |
|----------|--------|-----|-----|----|----|-----|-----|----|-----|-----|----|--------|--------|
| 32/50 S  | 246,00 | 140 | 60  | 25 | 32 | 87  | 87  | 16 | 50  | 100 | 25 | 16 x 4 | 255    |
| 32/80 S  | 397,00 | 200 | 95  | 40 | 44 | 121 | 122 | 20 | 80  | 100 | 34 | 20 x 4 | 350    |
| 32/100 S | 619,00 | 245 | 125 | 45 | 50 | 139 | 145 | 26 | 100 | 100 | 38 | 24 x 5 | 433    |

Inclinación de 0° a 45°. Distancia de apoyo 100 mm. / Till angle 0° to 45°. Lifting height 100 mm.



### Trabajo con mordaza de senos

#### Working with angulation vice

Para calcular la cala que hay que poner para conseguir un ángulo.

To calculate the gage block.

X= altura de la cala / X= gage block height

100= distancia entre bulones / 100= distance between bolts

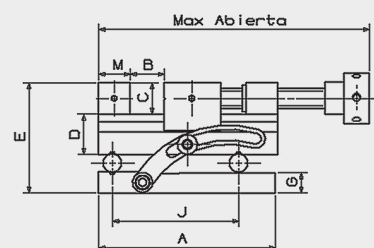
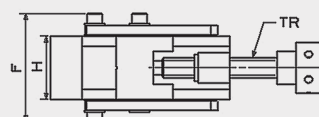
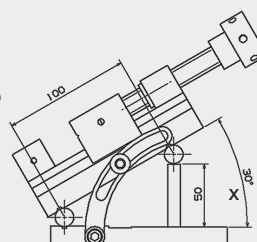
X= 100 x seno del ángulo deseado / X= 100 x sin of the desire angle

Ejemplo 30° / Example 30°

X= 100 x sen 30 = 100 x 0,5 = 50 mm

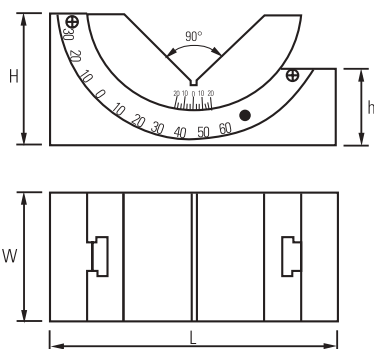
Otro ejemplo 16° / Other example 16°

X= 100 x sen 16 = 100 x 0,2756 = 27,56 mm





- ✓ Elemento ideal para posicionamiento de piezas.  
*Ideal for positioning of pieces.*
- ✓ Dispone de graduación angular.  
*It has angular adjustment.*

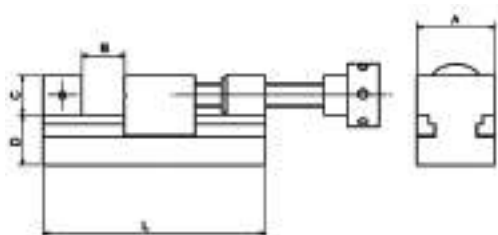


| Ref.    | €/u.   | H  | W  | L   | h  | ⚖️  |
|---------|--------|----|----|-----|----|-----|
| 32/25 M | 137,00 | 32 | 25 | 75  | 22 | 0,5 |
| 32/30 M | 175,00 | 46 | 30 | 102 | 28 | 1,0 |
| 32/46 M | 189,00 | 47 | 46 | 102 | 28 | 1,5 |

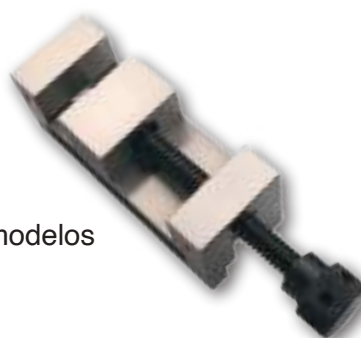


- ✓ Dureza 58HRc.  
*Hardened steel HRc 58.*

Con husillo / With spindle



Otros modelos



| Ref.    | €/u.   | A   | B   | L   | D  | ⚖️   |
|---------|--------|-----|-----|-----|----|------|
| 32/60D  | 168,00 | 60  | 55  | 110 | 25 | 2,4  |
| 32/80D  | 239,00 | 80  | 100 | 220 | 40 | 6,5  |
| 32/100D | 395,00 | 100 | 125 | 260 | 45 | 13,0 |
| 32/125D | 564,00 | 125 | 160 | 300 | 50 | 19,5 |

|         |        |     |     |     |    |      |
|---------|--------|-----|-----|-----|----|------|
| 32/150D | 629,00 | 150 | 175 | 315 | 50 | 23,8 |
|---------|--------|-----|-----|-----|----|------|



# Mordazas a medida

Custom made machine vices

Étaux sur mesure

## Mordazas especiales.

Special vice / Étaux spéciaux

Se realizan todo tipo de proyectos para la construcción de mordazas personalizadas para trabajos especiales.

Bajo presupuesto

*Any project can be offered to produce personalized vices for special works.*

*With budget*

*Nous réalisons tous projects d'étaux pour applications spéciales.*

*Sur budget*



Mordaza especial.

Apertura /Opening: 1.100 mm.

Ancho de boca / Jaws width: 150 mm.

## Sistemas de paletización

Paletization systems / Système de palettes

Se pueden adaptar las mordazas a los diferentes sistemas de paletización.

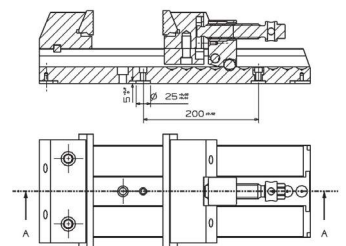
Bajo pedido

*Vices can be adjusted to fit different paletization system.*

*Upon request*

*Les étaux peuvent être adaptés à différents palettes.*

*Sur devis*





A circular inset with a dark green border shows various machine vice accessories, including several large hexagonal nuts and bolts, and a metal bracket, arranged on a dark, textured metal surface. The background of the entire page is a light green with a diagonal line pattern.

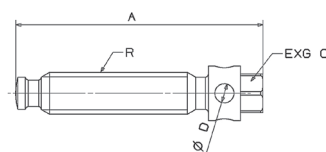
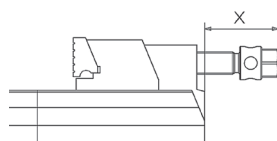
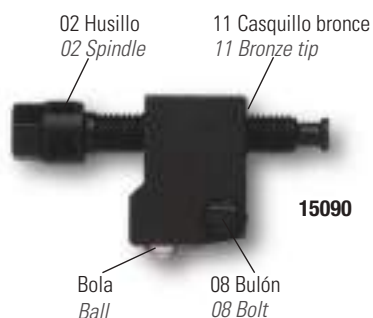
**Accesorios**  
para mordazas

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**Accessories**  
for machine  
vice

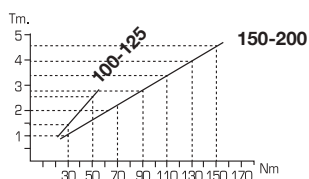
**FORZA**<sup>®</sup> 

## Husillo mecánico / Mechanical spindle



X1  
Husillo  
standar

X2  
Husillo  
corto



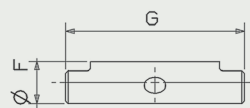
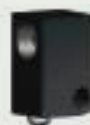
| Ref.    | €/u.   | A   | C  | ØD | R         | ØF | G  | X1  | X2 |             |
|---------|--------|-----|----|----|-----------|----|----|-----|----|-------------|
| 10090   | 95,30  | 120 | 22 | 10 | M18 x 2,5 | 13 | 44 | 65  | 50 | 100         |
| 12590   | 99,50  | 120 | 22 | 10 | M18 x 2,5 | 14 | 55 | 60  | 50 | 125         |
| 15090   | 167,00 | 154 | 24 | 12 | TR26 x 5  | 16 | 68 | 95  | 75 | 150-175-200 |
| 25090   | 249,50 | 154 | 24 | 12 | TR26 x 5  | 18 | 87 | 85  | 65 | 250         |
| 3030090 | 413,00 | 189 | 28 | 18 | TR30 x 5  | 18 | 87 | 100 |    | 300         |

## Despiece aprietes para mordazas mecánico

Spindle for machines vices spare parts

Standard spindle

Short spindle

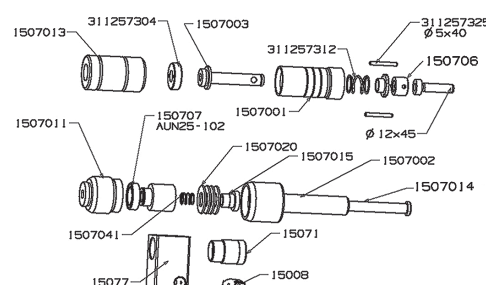
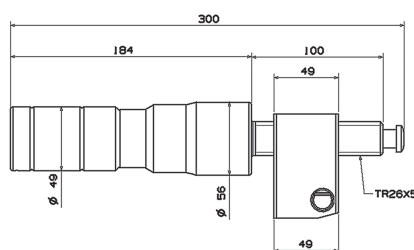
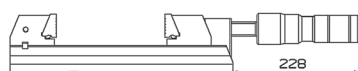


| Mordaza     | Ref. husillo estándar X1 | €/u.   | A   | Ref. husillo corto X2 | €/u.  | A   | Ref. Taco | €/u.   | Ref. Bulón | €/u.  | A  | Ref. Casquillo bronce | €/u.  |
|-------------|--------------------------|--------|-----|-----------------------|-------|-----|-----------|--------|------------|-------|----|-----------------------|-------|
| 100         | 10002                    | 32,50  | 120 | 10022                 | 32,50 | 104 | 10007     | 52,00  | 10008      | 9,60  | 13 | -                     | -     |
| 125         | 10002                    | 32,50  | 120 | 10022                 | 32,50 | 104 | 12507     | 55,70  | 12508      | 10,00 | 14 | -                     | -     |
| 150-175-200 | 15002                    | 45,00  | 154 | 15022                 | 45,00 | 134 | 15007     | 79,00  | 15008      | 10,60 | 16 | 15011                 | 31,00 |
| 250         | 15002                    | 45,00  | 154 | 15022                 | 45,00 | 134 | 25007     | 149,90 | 25008      | 22,00 | 18 | 15011                 | 31,00 |
| 300         | 3030002                  | 103,00 | 189 | -                     | -     | -   | 3030007   | 214,60 | 3030008    | 35,50 | 18 | 3030011               | 58,50 |

## Husillo hidráulico / Hydraulic spindle

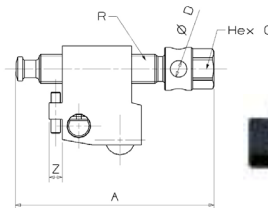


| Ref.  | €/u.   | Descripción             | Ancho de Boca |     |
|-------|--------|-------------------------|---------------|-----|
| 15070 | 599,00 | Husillo hidráulico 5 Tn | 150-175-200   | 5,4 |



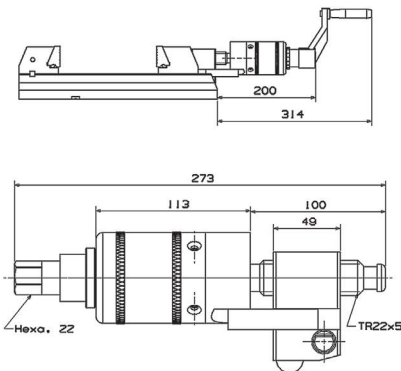
## Posición vertical / Vertical position

| Ref.  | €/u.   | A   | C  | ØD | R         | X  | Z  |             |
|-------|--------|-----|----|----|-----------|----|----|-------------|
| 12595 | 99,50  | 120 | 22 | 10 | M18 x 2,5 | 55 | 9  | 125         |
| 15095 | 167,00 | 154 | 24 | 12 | TR26 x 5  | 85 | 11 | 150-175-200 |



Cuando se monta este husillo en la mordaza la apertura máxima se reduce en "Z".  
When this spindle is assembled in the vice the maximum opening is reduced to "Z"

## Multiplicador par / Torque multiplier

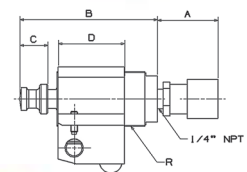


| Ref.  | €/u.   | Descripción           | Ancho de Boca   |     |
|-------|--------|-----------------------|-----------------|-----|
| 15092 | 629,00 | Husillo multiplicador | 150 - 175 - 200 | 5,8 |

## Oleoneumático / Oleonemátic

### Husillos / Spindles

| Ref.  | €/u.   | A  | B   | C  | D  | R         | Ton | Boca    | F  |     |
|-------|--------|----|-----|----|----|-----------|-----|---------|----|-----|
| 10080 | 322,00 | 53 | 95  | 23 | 45 | M36 x 1,5 | 2   | 100     | 7  | 0,9 |
| 12580 | 329,00 | 53 | 95  | 23 | 48 | M36 x 1,5 | 2   | 125     | 10 | 1,2 |
| 15080 | 429,00 | 53 | 128 | 25 | 58 | M48 x 1,5 | 5   | 150-200 | 27 | 2,3 |
| 25080 | 534,00 | 53 | 128 | 25 | 51 | M48 x 1,5 | 5   | 250     | 20 | 3,1 |



Cuando se monta este husillo en la mordaza la apertura máxima se reduce en "F".  
When this spindle is assembled in the vice the maximum opening is reduced to "F"

### Bombas / Pumps

| Ref.   | €/u.     | Descripción         | Ancho de Boca     |      |
|--------|----------|---------------------|-------------------|------|
| 15082* | 1.295,00 | Bomba oleoneumática | Todos los modelos | 10,0 |

\* Incluye manguera.



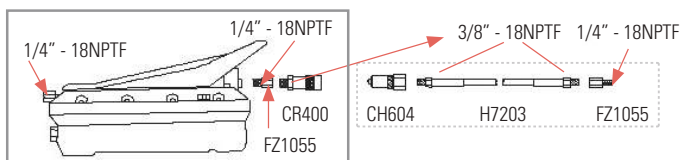
### Accesorios para bomba OLN 15082

Accessories for pump OLN 15082

Es imprescindible usar una bomba para accionar los husillos oleoneumáticos.

It is essential to use the pump to operate the oilpneumatic spindle.

| Ref.   | €/u.   | Descripción                        |      |
|--------|--------|------------------------------------|------|
| 150821 | 132,00 | Manguera de 2 m. con racores       | 1,01 |
| 150822 | 57,00  | Distribuidor 2 salidas con racores | 0,16 |
| 150823 | 98,00  | Distribuidor 3 salidas con racores | 0,30 |



## Manilla articulada / Elbowed handle



| Ref.  | €/u.  | Descripción           |
|-------|-------|-----------------------|
| 15004 | 69,00 | 150 - 175 - 200 - 250 |

## Bridas / Clamps



| Ref. Bridas de mordazas / Stándar vices clamps | €/juego |           |
|------------------------------------------------|---------|-----------|
| 12561                                          | 29,00   | 100 - 125 |
| 15061                                          | 31,00   | 150 - 175 |
| 20061                                          | 36,00   | 200 - 250 |
| 3030061                                        | 65,00   | 300       |

| Ref. Bridas de mordazas partidas / Split vices clamps | €/juego |           |
|-------------------------------------------------------|---------|-----------|
| 1251261                                               | 39,90   | 100 - 125 |
| 1501261                                               | 53,50   | 150       |
| 2001261                                               | 93,00   | 200       |

Juego = 2 unidades. / Set = 2 units.  
Todas las bridas tienen agujero para tornillo M-16. / All clamps have holes for M16 screws.

## Chavetas de alineación / alignment keynuts

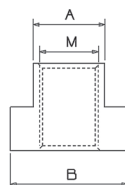
| Ref.  | €/juego | Medida  |                            |
|-------|---------|---------|----------------------------|
| 12540 | 31,50   | 12 / 12 | 30/100<br>30/125           |
| 12541 | 35,00   | 12 / 14 |                            |
| 12544 | 35,00   | 12 / 16 |                            |
| 12547 | 42,50   | 12 / 18 |                            |
| 12549 | 53,90   | 12 / 22 |                            |
| 12543 | 37,00   | 14 / 14 | B/100                      |
| 12545 | 38,00   | 14 / 16 | B/125                      |
| 15040 | 45,00   | 16 / 14 | 30/150<br>30/175<br>30/200 |
| 15041 | 41,00   | 16 / 16 |                            |
| 15042 | 45,50   | 16 / 18 |                            |
| 15043 | 47,50   | 16 / 20 |                            |
| 15044 | 50,10   | 16 / 22 |                            |
| 15048 | 78,00   | 16 / 28 |                            |



| Ref.  | €/juego | Medida  |                  |
|-------|---------|---------|------------------|
| 15045 | 47,10   | 18 / 18 |                  |
| 15046 | 51,20   | 18 / 20 |                  |
| 15049 | 63,50   | 18 / 22 |                  |
| 25043 | 69,00   | 20 / 18 | 30/250<br>30/300 |
| 25044 | 57,80   | 20 / 20 |                  |
| 25045 | 68,70   | 20 / 22 |                  |
| 25048 | 73,00   | 20 / 28 |                  |

Juego = 2 unidades. / Set = 2 units.

## Tuercas T / T slot nuts



| Ref.   | €/u.  | A  | B  | Métrica |
|--------|-------|----|----|---------|
| 150T16 | 16,50 | 16 | 25 | M-14    |
| 395644 | 15,40 | 18 | 28 | M-16    |
| 395645 | 17,90 | 20 | 32 | M-16    |
| 395646 | 19,90 | 22 | 35 | M-16    |
| 395647 | 20,50 | 24 | 40 | M-16    |

## Cancamo / Eyebolt

Para levantar las mordazas con seguridad.  
To lift the vices safely.



| Ref.  | €/u.  | A  | B  | C  |           |
|-------|-------|----|----|----|-----------|
| 15035 | 60,40 | 45 | 50 | 31 | 150 - 200 |



## Gomas de repuesto / Spare rubbers

| Ref.  | 4 gomas<br>€/juego |  |  |
|-------|--------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 10018 | 1,00               | 100                                                                               | 6                                                                                 |
| 12518 | 1,00               | 125                                                                               | 8                                                                                 |

NOTA: Es aconsejable cambiar las gomas cada año.  
It is advisable to change the rubber each year.

| Ref.  | 4 gomas<br>€/juego |  |  |
|-------|--------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 15018 | 1,50               | 150-175                                                                             | 10                                                                                  |
| 20018 | 1,50               | 200                                                                                 | 10                                                                                  |
| 25018 | 2,00               | 250-300                                                                             | 12                                                                                  |

## Soporte en T / T Supports

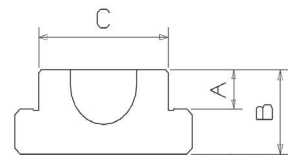
Tipo 1



Tipo 2



Tipo 3

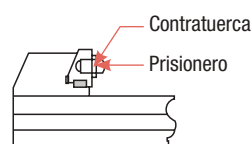


| Modelo  | "T" Tipo | Ref. T oscilante estándar | €/u.   | A    | B  | C    | Ref. T guiada | €/u.   | A  | B    | C    | Ref. T oscilante para mordazas guiadas | €/u.  | A  | B    | C    |
|---------|----------|---------------------------|--------|------|----|------|---------------|--------|----|------|------|----------------------------------------|-------|----|------|------|
| 100     | 1        | 10020                     | 31,00  | 8    | 20 | 32,5 | 1008021       | 48,00  | 11 | 23   | 32,9 | 1008020                                | 37,00 | 11 | 23   | 32,5 |
| 125     | 1        | 12520                     | 37,00  | 10   | 23 | 39   | 1258021       | 55,00  | 13 | 26   | 40,9 | 1258020                                | 40,50 | 13 | 26   | 39   |
| 150-175 | 1        | 15020                     | 42,00  | 12,5 | 27 | 49   | 1508021       | 65,00  | 16 | 28,5 | 50,9 | 1508020                                | 52,00 | 16 | 28,5 | 50   |
| 200     | 2        | 20020                     | 49,00  | 12,5 | 27 | 49   | 2008021       | 69,00  | 16 | 28,5 | 50,9 | 2008020                                | 54,00 | 16 | 28,5 | 50   |
| 250     | 2        | 25020                     | 82,50  | 16   | 29 | 69   | 2508021       | 102,00 | 16 | 29   | 70,9 | 25020                                  | 82,50 | 16 | 29   | 69   |
| 300     | 3        | 3030020                   | 119,00 | 18   | 33 | 69   |               |        |    |      |      |                                        |       |    |      |      |

## Prisionero de bloqueo / Positioning bolt

Para amarrar piezas muy irregulares o muy bastas (forja, fundición, oxicorte, ...).  
Para conseguir 4 buenos puntos de amarre.  
To fasten irregular or very coarse working pieces (forged, iron cast, metal cutting with oxyacetylene. To get 4 good fastening points.

| Ref.  | €/juego |  | Contratuercas |
|-------|---------|-------------------------------------------------------------------------------------|---------------|
| 10059 | 4,30    | 100 - 125                                                                           | M - 8         |
| 15059 | 4,50    | resto                                                                               | M - 10        |



Juego = 4 unidades.  
Set = 4 units.

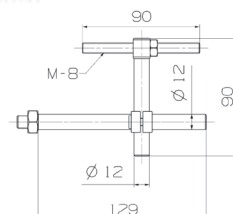


## Tope lateral / Work stop

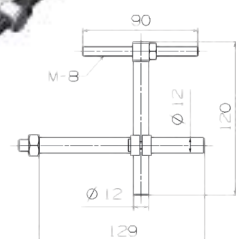
| Ref.   | €/u.  |  |  |
|--------|-------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 10058  | 72,60 | 100                                                                                 | 0,40                                                                                |
| 10058L | 76,80 | 100                                                                                 | 0,45                                                                                |
| 15058  | 74,00 | resto                                                                               | 0,40                                                                                |
| 15058L | 78,00 | resto                                                                               | 0,45                                                                                |



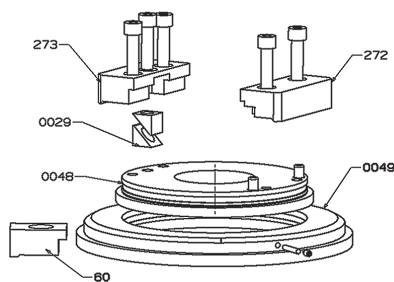
15058



15058L



## Base giratoria / Swivel base



| Ref.  | €/u.   |         | mm. |       |      |
|-------|--------|---------|-----|-------|------|
| B/100 | 314,00 | 100     | 14  | 12560 | 6,5  |
| B/125 | 332,00 | 125     | 14  | 12560 | 9,5  |
| B/150 | 451,00 | 150-175 | 16  | 15060 | 14,0 |
| B/200 | 613,00 | 200     | 16  | 15060 | 20,0 |



### Accesorios para base giratoria Swivel base accessories

#### Bridas / Clamps

| Ref.<br>Brida base | €/juego | BASE          |
|--------------------|---------|---------------|
| 12560              | 40,60   | B/100 - B/125 |
| 15060              | 43,30   | B/150 - B/200 |

Juego = 2 unidades. / Set = 2 units.  
Todas las bridas tienen agujero para tornillo  
M-16. / All clamps have holes for M16 screws.

#### Chavetas / Keynuts

| Ref.<br>Chaveta de<br>alineación | €/juego | BASE          | mm.   |
|----------------------------------|---------|---------------|-------|
| 12545                            | 38,00   | B/100 - B/125 | 14/16 |
| 12543                            | 37,00   | B/100 - B/125 | 14/14 |

Juego = 2 unidades. / Set = 2 units.  
Las chavetas de 16 mm, ver en la página 42. /  
16mm keynuts, see pag. 42.

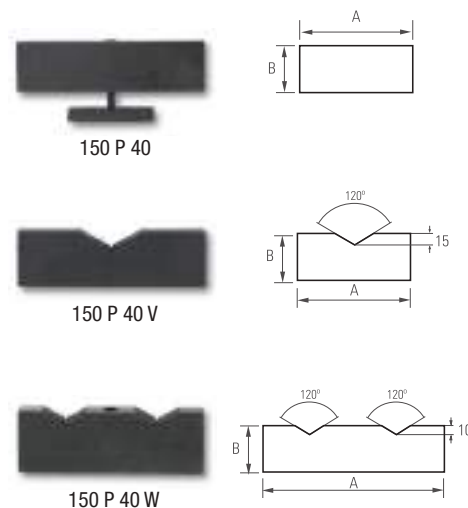


## Paralelas con brida (espesor 16 mm) / Parallels with clamps (thickness 16 mm)

La brida sujeta la paralela evitando que se mueva. /  
The clamps fit the parallel avoiding its movement.

| Ref. forma simple | €/u.  | Ref. forma V | €/u.  | Ref. forma W | €/u.  |
|-------------------|-------|--------------|-------|--------------|-------|
| 150 P 40          | 38,10 | 150 P 40 V   | 62,90 | 150 P 40 W   | 69,50 |
| 150 P 45          | 38,10 | 150 P 45 V   | 62,90 | 150 P 45 W   | 69,50 |
| 150 P 50          | 38,10 | 150 P 50 V   | 62,90 | 150 P 50 W   | 69,50 |
| 175 P 42          | 42,60 | 175 P 42 V   | 63,90 | 175 P 42 W   | 74,00 |
| 175 P 47          | 42,60 | 175 P 47 V   | 63,90 | 175 P 47 W   | 74,00 |
| 175 P 52          | 42,60 | 175 P 52 V   | 63,90 | 175 P 52 W   | 74,00 |
| 200 P 52          | 47,20 | 200 P 52 V   | 73,00 | 200 P 52 W   | 81,90 |
| 200 P 57          | 47,20 | 200 P 57 V   | 73,00 | 200 P 57 W   | 81,90 |
| 200 P 62          | 47,20 | 200 P 62 V   | 73,00 | 200 P 62 W   | 81,90 |

Todas las paralelas incluyen brida de amarre para evitar que se muevan durante el trabajo.  
All the parallels include a fastening clamp to avoid any movement during the work.





Se fija en la ranura central del cuerpo de la mordaza.  
It must be fixed into the central slot of the vice body.

| Ref.     | €/juego | A  | L   | E | ⚖️   |
|----------|---------|----|-----|---|------|
| 12599930 | 120,00  | 30 | 110 | 4 | 0,29 |
| 12599935 | 120,00  | 35 | 110 | 4 | 0,32 |
| 15099940 | 138,00  | 40 | 140 | 6 | 0,60 |
| 15099950 | 138,00  | 50 | 140 | 6 | 0,65 |
| 20099950 | 165,00  | 50 | 180 | 6 | 0,93 |
| 20099958 | 165,00  | 58 | 180 | 6 | 1,06 |

Juego = 2 unidades. / Set = 2 units.



## Bocas para mordazas serie 30 y 60 / *Jaws for vices 30 and 60 series*

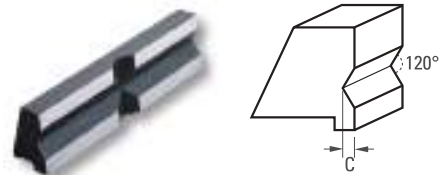


### Bocas blandas / *Soft jaws*



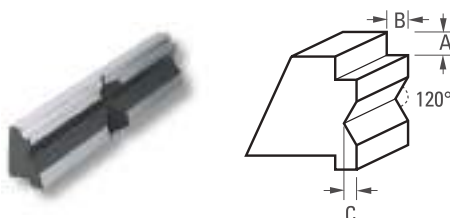
| Ref.  | €/juego |     |
|-------|---------|-----|
| 10050 | 38,00   | 100 |
| 12550 | 48,00   | 125 |
| 15050 | 55,00   | 150 |
| 17550 | 62,00   | 175 |
| 20050 | 75,00   | 200 |

### Bocas prismáticas / *Prismatic jaws*



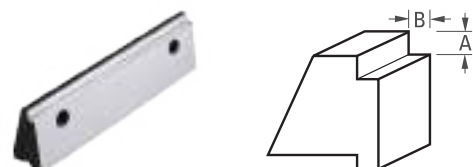
| Ref.  | €/juego |     | C |
|-------|---------|-----|---|
| 10053 | 147,00  | 100 | 3 |
| 12553 | 180,00  | 125 | 4 |
| 15053 | 240,00  | 150 | 5 |
| 17553 | 260,00  | 175 | 5 |
| 20053 | 294,00  | 200 | 5 |

### Bocas prismáticas con escalón / *Stepped prismatic jaws*



| Ref.  | €/juego |     | A | B | C |
|-------|---------|-----|---|---|---|
| 10051 | 162,00  | 100 | 4 | 3 | 3 |
| 12551 | 201,00  | 125 | 4 | 4 | 4 |
| 15051 | 253,00  | 150 | 6 | 5 | 5 |
| 17551 | 283,50  | 175 | 6 | 5 | 5 |
| 20051 | 325,00  | 200 | 6 | 5 | 5 |

### Bocas lisas con escalón / *Stepped smooth jaws*



| Ref.  | €/juego |     | A | B |
|-------|---------|-----|---|---|
| 10052 | 135,00  | 100 | 4 | 3 |
| 12552 | 161,00  | 125 | 4 | 4 |
| 15052 | 211,00  | 150 | 6 | 5 |
| 17552 | 229,50  | 175 | 6 | 5 |
| 20052 | 262,00  | 200 | 6 | 6 |

## Bocas para mordazas serie 30 y 60 / Jaws for vices 30 and 60 series

### Bocas lisas / Smooth jaws



| Ref.    | €/juego |     |
|---------|---------|-----|
| 10054   | 122,00  | 100 |
| 12554   | 138,00  | 125 |
| 15054   | 194,00  | 150 |
| 17554   | 224,00  | 175 |
| 20054   | 265,00  | 200 |
| 25054   | 406,00  | 250 |
| 3030054 | 708,00  | 300 |

### Bocas estándar / Standard jaws

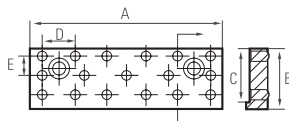


| Ref.    | €/juego |     |
|---------|---------|-----|
| 10055   | 122,00  | 100 |
| 12555   | 138,00  | 125 |
| 15055   | 194,00  | 150 |
| 17555   | 224,00  | 175 |
| 20055   | 265,00  | 200 |
| 25055   | 406,00  | 250 |
| 3030055 | 708,00  | 300 |

Juego = 2 unidades.

Set = 2 units.

### Bocas con pinchos / Jaws with positioning pins

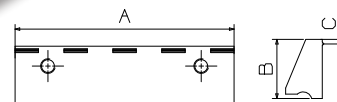


| Ref.  | €/juego |        |
|-------|---------|--------|
| 12556 | 140,00  | 30/100 |
| 15056 | 153,80  | 30/150 |
| 17556 | 180,00  | 30/175 |
| 20056 | 205,60  | 30/200 |

Juego: 2 bocas + 12 pitones

Set: 2 jaws + 12 pins

### Bocas con mordientes / Grip jaw-plates

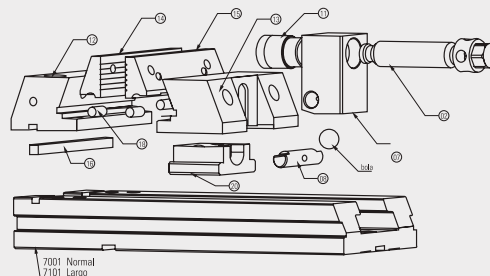


| Ref.  | €/juego | A   | B    | C   |
|-------|---------|-----|------|-----|
| 10057 | 122,00  | 100 | 24   | 1,5 |
| 12557 | 129,00  | 125 | 29,5 | 1,5 |
| 15057 | 194,00  | 150 | 40   | 3   |
| 17557 | 202,00  | 175 | 40   | 3   |
| 20057 | 232,00  | 200 | 40   | 3   |
| 25057 | 349,00  | 175 | 40   | 3   |

### Despiece de mordaza (todos los modelos)

Machine vice spare parts (all models)

|                       |    |                      |
|-----------------------|----|----------------------|
| Husillo               | 02 | Spindle              |
| * Taco husillo        | 07 | Pin block            |
| Bulón taco            | 08 | Contrast pin block   |
| * Casquillo de bronce | 11 | Bronze tip           |
| Portabocas fijo       | 12 | Fixed jaws support   |
| Portabocas móvil      | 13 | Movable jaws support |
| Boca fija             | 14 | Fixed jaws           |
| Boca móvil            | 15 | Movable jaws         |
| Chaveta portabocas    | 16 | Key nut jaw support  |
| Juego de gomas        | 18 | Pair of rubbers      |
| Soporte en T          | 20 | T Support            |
| * Bola                |    | *Ball                |



\* El taco husillo siempre se suministra con el casquillo de bronce y la bola.

Para solicitar cualquier despiece se debe indicar la cota H (ancho de boca) + el n° de despiece.

Ej.: ref. 15015 = Boca móvil para mordaza 30/150.

\* The pin block is always supplied with the ball and the bronze tip.  
To order any spare parts the H figure (jaw wide) must be indicated + spare part number.

E.g. Ref. 15015 = Movable jaw for vice 30/150.





Cabezales  
para hacer  
chaveteros

Internal  
milling head



Video cabezal fresador  
interiores trabajando



## Cabezal fresador de interiores / Internal milling head



Velocidad de entrada máx. r.p.m. 3.000  
Maximum input speed 3.000 r.p.m.

| Ref.  | €/u.     | Ø Min. | ØA  | B   | C  | ØE  | ØG | E/P | ØJ | M       | R  |  |
|-------|----------|--------|-----|-----|----|-----|----|-----|----|---------|----|------------------------------------------------------------------------------------|
| CAFN1 | 1.339,00 | 42     | 35  | 106 | 16 | 130 | 14 | 11  | 1  | M35x1,5 | 16 | 3,10                                                                               |
| CAFN2 | 2.034,00 | 54     | 47  | 132 | 35 | 130 | 15 | 13  | 11 | M45x1,5 | 18 | 4,10                                                                               |
| CAFN3 | 2.701,00 | 78     | 68  | 180 | 50 | 130 | 18 | 15  | 11 | M65x2   | 30 | 8,10                                                                               |
| CAFN4 | 3.746,00 | 95     | 85  | 220 | 58 | 196 | 25 | 22  | 13 | M80x2   | 40 | 18,30                                                                              |
| CAFN5 | 4.899,00 | 130    | 113 | 282 | 76 | 196 | 30 | 25  | 13 | M105x2  | 42 | 30,80                                                                              |

- ✓ Dispone de dos tipos de amarres para las fresas: pinza y portafresas (sólo en los modelos 3, 4 y 5).

*There are two kinds of fastening for the cutters: collet and driver (only in the models, 3, 4 & 5).*

- ✓ Para montar el CAF en la fresadora, es necesaria, la fabricación de una placa de adaptación (ver manual de instrucciones)

*To set up the CAF in to the milling head, it's necessary the production of an adaptation plate (see operating instructions).*

- ✓ Se suministra con cono de arrastre (ISO 40 ó 50), pinza estándar y portafresas.

*It's supplied with drawing cone (ISO 40 ar 50), standard collet and drivers.*

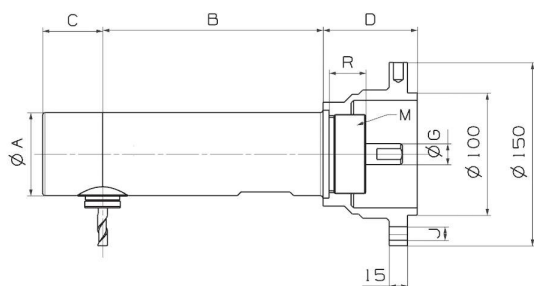
- ✓ Relación de transmisión 1:2.

*Transmission relation 1:2.*



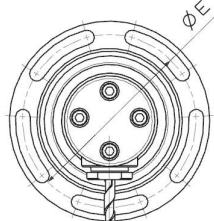
Manual de instrucciones en [www.forza.es](http://www.forza.es)

Manual instructions in [www.forza.es](http://www.forza.es)



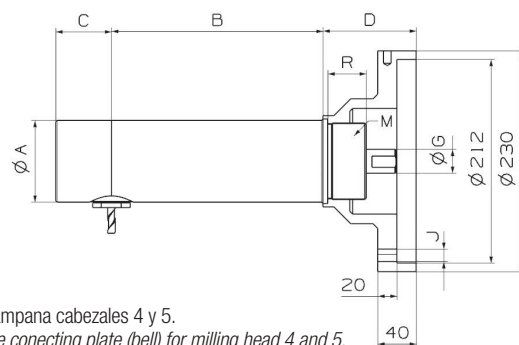
Plano de la campana cabezales 1, 2 y 3.

*Drawing of the connecting plate (bell) for milling head 1, 2 and 3.*



Plano de la campana cabezales 4 y 5.

*Drawing of the connecting plate (bell) for milling head 4 and 5.*



## Cabezal de fresar solo mandrino / Milling head, without adaptor plate



| Ref.  | €/u.     |  |
|-------|----------|---------------------------------------------------------------------------------------|
| 71110 | 1.030,00 | 1,0                                                                                   |
| 71210 | 1.699,00 | 2,0                                                                                   |
| 71310 | 1.956,50 | 6,0                                                                                   |
| 71410 | 2.616,00 | 11,5                                                                                  |
| 71510 | 3.298,00 | 24,0                                                                                  |



## Portafresas con chavetero / Keyway drivers

| Ref.   | €/u.   | Ø  | Cabezal |
|--------|--------|----|---------|
| 714216 | 165,00 | 16 | CAFN4   |
| 715216 | 178,00 | 16 | CAFN5   |
| 715222 | 185,00 | 22 | CAFN5   |



Ø 16 y Ø 22

## Portafresas para fresas roscadas / Thread mill drivers

| Ref.   | €/u.   | R<br>rosca | Cabezal |
|--------|--------|------------|---------|
| 713110 | 150,40 | M-10       | CAFN3   |
| 714110 | 158,00 | M-10       | CAFN4   |
| 714112 | 158,00 | M-12       | CAFN4   |
| 715110 | 175,00 | M-10       | CAFN5   |
| 715112 | 175,00 | M-12       | CAFN5   |
| 715116 | 175,00 | M-16       | CAFN5   |



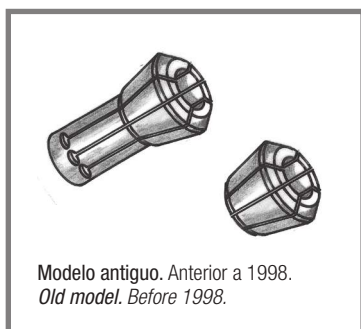
Todos los arrastradores van incluidos en los cabezales completos 3, 4 y 5.  
All drives are including in CAF 3, 4 and 5.

## Pinzas / Collets



- ✓ Pinzas normalizadas de alta precisión tipo ER.  
Standard collets high precision type ER.

\*Pinza de mayor diámetro (incluida en el cabezal).  
Large diameter collet (included in the milling head).



| Ref.    | €/u.  | Medida | CAF | ER             |
|---------|-------|--------|-----|----------------|
| 711904  | 55,00 | Ø 4    | 1   | -              |
| 711905  | 55,00 | Ø 5    | 1   | -              |
| 711906* | 55,00 | Ø 6    | 1   | -              |
| 712904  | 55,50 | Ø 4    | 2   | ER 11          |
| 712905  | 55,50 | Ø 5    | 2   |                |
| 712906  | 55,50 | Ø 6    | 2   |                |
| 712907  | 55,50 | Ø 7    | 2   |                |
| 712908* | 55,50 | Ø 8    | 2   | ER 11 especial |
| 713906  | 68,40 | Ø 6    | 3   | ER 16          |
| 713907  | 68,40 | Ø 7    | 3   |                |
| 713908  | 68,40 | Ø 8    | 3   |                |
| 713910* | 68,40 | Ø 10   | 3   |                |
| 714904  | 74,00 | Ø 4    | 4   | ER 20          |
| 714906  | 74,00 | Ø 6    | 4   |                |
| 714907  | 74,00 | Ø 7    | 4   |                |
| 714908  | 74,00 | Ø 8    | 4   |                |
| 714910  | 74,00 | Ø 10   | 4   |                |
| 714912* | 74,00 | Ø 12   | 4   |                |
| 715906  | 86,40 | Ø 6    | 5   | ER 25          |
| 715908  | 86,40 | Ø 8    | 5   |                |
| 715909  | 86,40 | Ø 9    | 5   |                |
| 715910  | 86,40 | Ø 10   | 5   |                |
| 715912  | 86,40 | Ø 12   | 5   |                |
| 715914  | 86,40 | Ø 14   | 5   |                |
| 715916* | 86,40 | Ø 16   | 5   |                |



Modelo actual ER. Posterior a 1998.  
New model. Since 1998.

## Accesorios del cabezal / Milling head accessories

### Conos / Cones

| Ref.    | €/u.   |
|---------|--------|
| ISO 30  | 117,90 |
| ISO 40  | 123,50 |
| ISO 50  | 134,70 |
| MORSE 5 | 168,30 |

Se incluye con el cabezal.  
Included with the milling head.



Modelo antiguo / Old model



Modelo nuevo / New model

### Adaptador de torreta / Vertical joint

| Ref.   | €/u.   | Medidas    | ⚖   |
|--------|--------|------------|-----|
| 711000 | 195,00 | Para CAF 1 | 4,1 |
| 712000 | 195,00 | Para CAF 2 | 4,1 |

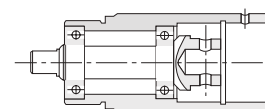


Montaje en fresadora de torreta

### Alargaderas / Extra-longers

| Ref.   | €/u.   | Longitud | Ø   | CAF |
|--------|--------|----------|-----|-----|
| 711020 | 534,00 | 90       | 45  | 1   |
| 711030 | 588,00 | 120      | 45  | 1   |
| 712020 | 558,00 | 100      | 54  | 2   |
| 712030 | 614,00 | 150      | 54  | 2   |
| 713020 | 641,00 | 125      | 78  | 3   |
| 713030 | 696,00 | 175      | 78  | 3   |
| 714020 | 722,00 | 150      | 95  | 4   |
| 714030 | 773,00 | 220      | 95  | 4   |
| 715020 | 794,00 | 200      | 128 | 5   |
| 715030 | 864,30 | 320      | 128 | 5   |

Alargaderas de otras medidas bajo presupuesto  
Extra-longers with other measures by stimate.







## Grupo completo corona / Complete head of transmissions

## Grupo completo piñón / Complete transmission shaft



| Referencia<br>Grupo corona | €/u.   | CAF | Referencia<br>Grupo piñón | €/u.   |
|----------------------------|--------|-----|---------------------------|--------|
| 712012                     | 395,00 | 2   | 712011                    | 255,90 |
| 713012                     | 559,00 | 3   | 713011                    | 249,90 |
| 714012                     | 776,00 | 4   | 714011                    | 352,60 |
| 715012                     | 864,00 | 5   | 715011                    | 447,80 |

### Ejemplo CAF3

CAF3 samples.



| Cabezal | Ref.<br>Contiene | Descripción      | Cant. |
|---------|------------------|------------------|-------|
| CAF 3   | 713012           | Soporte completo | 1     |
|         | 713002           | Corona           | 1     |
|         | 713303           | Soporte corona   | 1     |
|         | 713304           | Platillo         | 1     |
|         | 713402           | Tuerca KM-2      | 1     |
|         | 713513           | Rodam. 51103     | 1     |
|         | 713600           | Rodam. 16004     | 1     |
|         | 713622           | Rodam. 6202      | 1     |
|         | MB2              | Chapa seguridad  | 1     |

| Cabezal | Ref.<br>Contiene | Descripción                | Cant. |
|---------|------------------|----------------------------|-------|
| CAF 3   | 713011           | Piñón completo             | 1     |
|         | 713001           | Piñón                      | 1     |
|         | 713307           | Porta-rodamientos          | 1     |
|         | 713317           | Arandela porta-rodamientos | 1     |
|         | 713618           | Rodam. 61803               | 1     |
|         | 713623           | Rodam. 6003                | 1     |
|         | DI28             | Anillo Seguer 28 Interior  | 1     |
|         | SW17             | Anillos 17 mm exterior     | 1     |

El usuario puede mandarnos el grupo corona usado para repararlo y disponer de él como repuesto.

*Transmission head can be returned to be fixed thus keeping it as a spare.*

### Ejemplo de trabajo

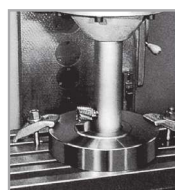
Work samples



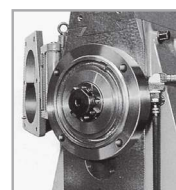
Fresado horizontal.  
*Horizontal milling.*  
*Fraisage horizontal.*



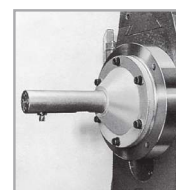
Montaje horizontal.  
*Horizontal assembling.*  
*Montage horizontal.*



Montaje vertical.  
*Vertical assembling.*  
*Montage vertical.*



Preparación para montaje horizontal.  
*See adaptation plate.*  
*Preparation pour montage horizontal.*



Montaje horizontal.  
*Horizontal assembling.*  
*Montage horizontal.*

## Llaves almenadas para tuercas KM / KM nut spanner

Herramientas necesarias para montar el CAF/  
KM nuts spanner for repair milling head

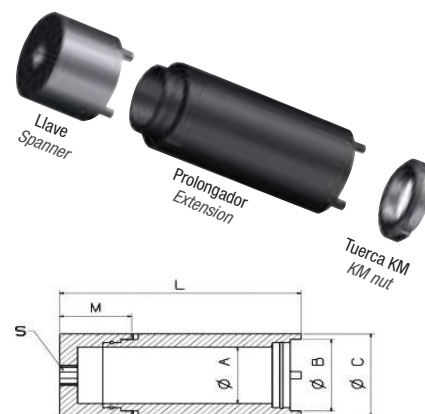


| Ref.   | €/u.   | CAF | KM | B    | A    | N   | L   | ⚖    |
|--------|--------|-----|----|------|------|-----|-----|------|
| 711701 | 66,30  | 1   |    | 25   | 22   | 4,5 | 122 | 0,55 |
| 711702 | 75,20  | 1   |    | 32   | 27   | 6   | 77  | 0,53 |
| 711703 | 65,20  | 1   | 7  | 54   | 48   | 5   | 100 | 0,80 |
| 712701 | 70,50  | 2   |    | 28   | 21   | 4,5 | 120 | 0,65 |
| 712702 | 70,50  | 2   |    | 38   | 28,5 | 6   | 62  | 0,58 |
| 713701 | 83,50  | 3   |    | 44   | 25   | 6   | 140 | 1,10 |
| 713702 | 83,50  | 3   | 8  | 58,5 | 52,5 | 6   | 85  | 1,20 |
| 714701 | 83,50  | 4   |    | 48   | 35   | 5,8 | 140 | 1,20 |
| 714702 | 89,00  | 4   | 10 | 70   | 65   | 6   | 65  | 1,90 |
| 715701 | 95,00  | 5   |    | 62   | 45   | 5,8 | 165 | 2,00 |
| 715702 | 95,00  | 5   | 13 | 89   | 79   | 7   | 120 | 3,50 |
| 715703 | 102,00 | 5   | 21 | 140  | 128  | 12  | 120 | 3,60 |

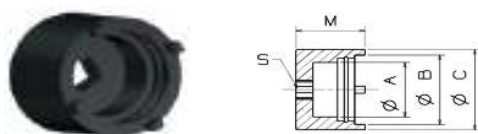
## Llaves para tuercas KM / KM nut spanner

### Llaves completas / Complete spanner

| Ref.  | €/u.   | KM | ØA | ØB   | ØC | L   | M  | N   | S    | ⚖    | ØKM |
|-------|--------|----|----|------|----|-----|----|-----|------|------|-----|
| 96104 | 84,10  | 4  | 18 | 28,5 | 34 | 124 | 40 | 100 | 1/2" | 0,62 | 32  |
| 96105 | 88,60  | 5  | 24 | 34,5 | 40 | 124 | 40 | 100 | 1/2" | 0,75 | 38  |
| 96106 | 94,90  | 6  | 31 | 41,5 | 47 | 134 | 40 | 100 | 1/2" | 0,85 | 45  |
| 96107 | 105,10 | 7  | 36 | 48,5 | 54 | 134 | 40 | 100 | 1/2" | 1,30 | 52  |
| 96108 | 114,50 | 8  | 42 | 53,5 | 60 | 134 | 40 | 100 | 1/2" | 1,49 | 58  |
| 96109 | 124,90 | 9  | 47 | 58   | 67 | 144 | 40 | 110 | 1/2" | 1,75 | 65  |
| 96110 | 136,50 | 10 | 52 | 65   | 72 | 144 | 40 | 110 | 1/2" | 2,10 | 70  |
| 96111 | 160,00 | 11 | 57 | 70,5 | 77 | 144 | 50 | 110 | 3/4" | 2,50 | 75  |
| 96112 | 182,00 | 12 | 62 | 76   | 82 | 144 | 50 | 110 | 3/4" | 2,70 | 80  |
| 96113 | 206,00 | 13 | 67 | 80   | 87 | 153 | 50 | 120 | 3/4" | 3,3  | 85  |
| 96114 | 240,00 | 14 | 74 | 86   | 94 | 153 | 50 | 120 | 3/4" | 3,6  | 92  |



### Solo llave corta / Short spanner

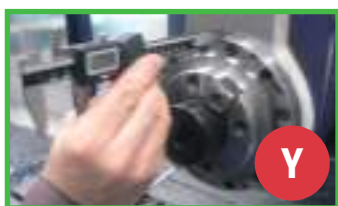
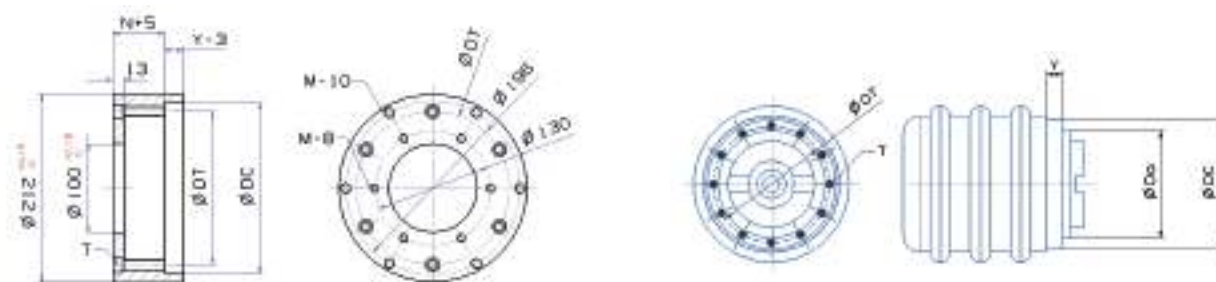


| Ref.   | €/u.   | KM | ØA  | ØB   | ØC  | M  | S    | ⚖    |
|--------|--------|----|-----|------|-----|----|------|------|
| 961021 | 33,00  | 2  | 12  | 21   | 25  | 35 | 22   | 0,11 |
| 961031 | 34,00  | 3  | 18  | 25   | 28  | 40 | 1/2" | 0,10 |
| 961041 | 35,90  | 4  | 18  | 28,5 | 34  | 40 | 1/2" | 0,18 |
| 961051 | 37,60  | 5  | 24  | 34,5 | 40  | 40 | 1/2" | 0,22 |
| 961061 | 40,30  | 6  | 31  | 42   | 47  | 40 | 1/2" | 0,29 |
| 961071 | 44,90  | 7  | 36  | 49   | 54  | 40 | 1/2" | 0,37 |
| 961081 | 48,50  | 8  | 42  | 54   | 60  | 40 | 1/2" | 0,43 |
| 961091 | 53,00  | 9  | 47  | 58   | 67  | 40 | 1/2" | 0,54 |
| 961101 | 56,00  | 10 | 52  | 65   | 72  | 40 | 1/2" | 0,60 |
| 961111 | 67,00  | 11 | 57  | 70,5 | 77  | 50 | 3/4" | 0,81 |
| 961121 | 83,00  | 12 | 62  | 76   | 82  | 50 | 3/4" | 0,88 |
| 961131 | 102,50 | 13 | 67  | 80   | 87  | 50 | 3/4" | 1,25 |
| 961141 | 111,00 | 14 | 74  | 86   | 94  | 50 | 3/4" | 1,45 |
| 961151 | 149,00 | 15 | 80  | 89   | 102 | 80 | 1"   | 2,50 |
| 961161 | 179,00 | 16 | 87  | 98   | 109 | 80 | 1"   | 2,75 |
| 961171 | 198,00 | 17 | 92  | 104  | 114 | 80 | 1"   | 3,00 |
| 961181 | 218,00 | 18 | 102 | 114  | 124 | 80 | 1"   | 3,50 |
| 961191 | 237,00 | 19 | 107 | 119  | 129 | 80 | 1"   | 3,75 |
| 961201 | 254,00 | 20 | 112 | 121  | 136 | 80 | 1"   | 4,20 |
| 961211 | 264,00 | 21 | 122 | 133  | 146 | 80 | 1"   | 4,70 |
| 961301 | 395,00 | 30 | 177 | 186  | 201 | 60 | 1"   | 9,50 |

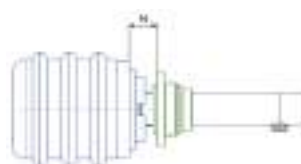
### Solo prolongador / Only extension



| Ref.   | €/u.   | KM | ØA | ØB   | ØC | N   | ⚖    |
|--------|--------|----|----|------|----|-----|------|
| 961042 | 48,20  | 4  | 18 | 28,5 | 34 | 100 | 0,44 |
| 961052 | 51,00  | 5  | 24 | 35   | 40 | 100 | 0,53 |
| 961062 | 54,60  | 6  | 31 | 42   | 47 | 100 | 0,65 |
| 961072 | 60,20  | 7  | 36 | 49   | 54 | 100 | 0,93 |
| 961082 | 66,00  | 8  | 42 | 54   | 60 | 100 | 1,06 |
| 961092 | 71,90  | 9  | 47 | 58   | 67 | 110 | 1,32 |
| 961102 | 80,50  | 10 | 52 | 65   | 72 | 110 | 1,60 |
| 961112 | 93,00  | 11 | 57 | 70,5 | 77 | 110 | 1,70 |
| 961122 | 98,00  | 12 | 62 | 76   | 82 | 110 | 1,78 |
| 961132 | 103,50 | 13 | 67 | 80   | 87 | 120 | 1,95 |
| 961142 | 129,00 | 14 | 74 | 86   | 94 | 120 | 2,15 |



Ver manual.  
See instructions book.



Video fabricación  
placa de acoplamiento

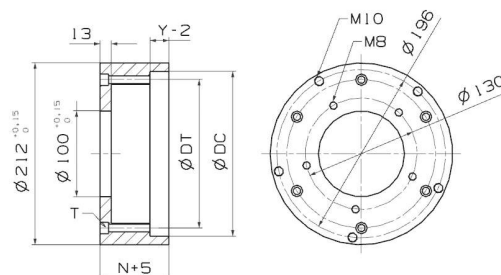


Video how to make  
coupling plate bell

## Montar el cabezal / Mounted milling head



 **placa de acoplamiento** / *Coupling plate*



## Video cabezal trabajando



*Video milling head working*



A circular inset image showing a close-up of a lathe machine. In the foreground, a red tool holder is mounted on the lathe's tool post. The background shows the lathe's bed and other components. The image is set against a blue background with diagonal lines.

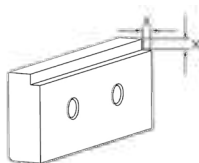
**Mordazas**  
y portaherramientas

---

**Clamps, vices**  
and tools holders

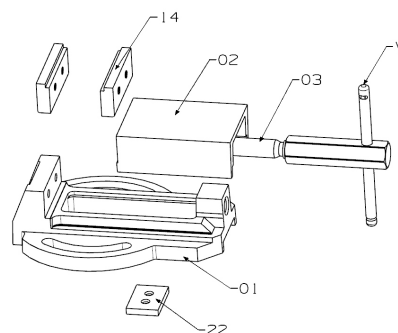
**FORZA<sup>®</sup>** 

## Serie 33 Master / 33 Serie Master



✓ Admite base giratoria. (opcional)  
Admit optional swivel base.

✓ Con bocas duras con escalón.  
With hard jaws with step.



| Ref.    | €/u.   | Boca Jaw | Abertura Opening | X   | ⚖    |
|---------|--------|----------|------------------|-----|------|
| 33/65M  | 140,50 | 65       | 76               | 3   | 2,7  |
| 33/85M  | 190,20 | 85       | 90               | 3   | 4,4  |
| 33/100M | 298,50 | 105      | 116              | 4   | 9,0  |
| 33/125M | 398,00 | 125      | 157              | 4,5 | 16,0 |
| 33/150M | 448,00 | 150      | 190              | 6   | 24,0 |

Incluida manilla. / Pin included

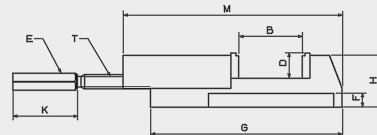


### Características técnicas serie 33

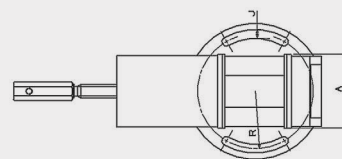
#### 33 serie Technical features



Construida en fundición nodular  
Nodular cast made.



| Ref.   | A   | B   | D    | E  | F    | G   | H  | J   | K   | M   | R   | T      | V      | ⚖   |
|--------|-----|-----|------|----|------|-----|----|-----|-----|-----|-----|--------|--------|-----|
| 33/65  | 65  | 76  | 25,5 | 19 | 11   | 163 | 49 | 4,5 | 81  | 207 | 53  | 14 x 3 | 336509 | 0,9 |
| 33/85  | 85  | 90  | 25,5 | 22 | 14,5 | 188 | 54 | 4,5 | 81  | 242 | 62  | 18 x 4 | 336509 | 1,2 |
| 33/100 | 105 | 116 | 31,5 | 24 | 18   | 241 | 66 | 5,5 | 90  | 310 | 82  | 20 x 4 | 111883 | 2,3 |
| 33/125 | 125 | 157 | 41,5 | 27 | 20,5 | 300 | 83 | 5,5 | 102 | 395 | 97  | 22 x 5 | 111883 | 1,2 |
| 33/150 | 150 | 190 | 52,5 | 27 | 21   | 345 | 95 | 8   | 102 | 470 | 105 | 22 x 5 | 111883 | 2,3 |



## Serie 33P Profesional / 33P Serie Profesional



Saved  
more than  
**+11%**  
**¡Ahorro!**



✓ Admite base giratoria. (opcional)  
Admit optional swivel base.

✓ Con bocas duras con escalón +  
accesorios incluidos.  
Hard jaws with step + accessories  
included..

### Accesorios incluidos / Included accessories



| Ref.    | €/u.<br>Mordaza+acces.<br>Vice+acces | Boca Jaw | Abertura Opening | X   | ⚖    |
|---------|--------------------------------------|----------|------------------|-----|------|
| 33/85P  | 272,00                               | 85       | 90               | 3   | 5,8  |
| 33/100P | 374,00                               | 100      | 116              | 4   | 10,0 |
| 33/125P | 472,00                               | 125      | 157              | 4,5 | 18,0 |

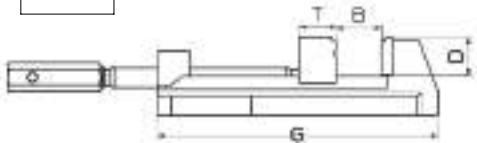
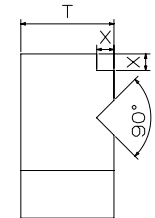
1 Varilla de apriete  
1 juego de bocas prismáticas  
1 juego de bocas blandas  
2 juegos de T: 12/14 - 16/18

1 Pin  
1 set prismatic jaws  
1 set soft jaws.  
2 set T-nut:12/14 - 16/18



✓ Boca móvil con prismas a 90° y escalón.  
Mobile jaw with 90° prisms and step.

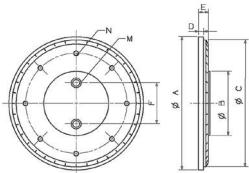
✓ Resto de medidas ver página anterior.  
Other dimensions see 33 series.



| Ref.   | €/u.   | B   | D    | G   | T  | X   | ⚖    |
|--------|--------|-----|------|-----|----|-----|------|
| 82/85  | 156,00 | 95  | 25,5 | 188 | 25 | 3   | 4,0  |
| 82/100 | 230,50 | 116 | 31,5 | 241 | 40 | 4   | 8,5  |
| 82/125 | 269,90 | 160 | 41,5 | 300 | 40 | 4,5 | 14,7 |
| 82/150 | 305,00 | 190 | 52,5 | 345 | 40 | 6   | 18,0 |

Incluida manilla. / Pin included

### Base giratoria / Swivel base



| Ref.    | €/u.   | A   | B   | C   | D  | E  | M   | N   | F  |        | ⚖   |                   |
|---------|--------|-----|-----|-----|----|----|-----|-----|----|--------|-----|-------------------|
| 336598  | 69,40  | 160 | 60  | 149 | 8  | 17 | M10 | M8  | 40 | 336560 | 2,2 | 33/65M            |
| 338598  | 80,70  | 178 | 80  | 167 | 8  | 18 | M10 | M8  | 50 | 336560 | 2,9 | 33/85 - 33/85P    |
| 3310098 | 110,50 | 229 | 115 | 201 | 10 | 22 | M12 | M10 | 80 | 12560  | 6,0 | 33/100M - 33/100P |
| 3312598 | 136,90 | 259 | 125 | 247 | 10 | 22 | M12 | M10 | 80 | 12560  | 7,6 | 33/125M - 33/125P |
| 3315098 | 185,00 | 294 | 150 | 280 | 10 | 23 | M14 | M14 | 90 | 12560  | 9,5 | 33/150M           |

| Ref. bridas | €/juego | Para base giratoria<br>For swivel base |                          |
|-------------|---------|----------------------------------------|--------------------------|
| 336560      | 44,00   | 336598 - 338598                        | 33/65 - 33/85            |
| 12560       | 40,60   | 3310098 - 3312598                      | 33/100 - 33/125 - 33/150 |

Juego = 2 unidades.  
Set = 2 units.

### Varilla de apriete / Pin



| Ref.   | €/u. |                          |
|--------|------|--------------------------|
| 336509 | 4,80 | 33/65 - 33/85            |
| 111893 | 6,60 | 33/100 - 33/125 - 33/150 |

### Juego de bocas blandas / Set soft jaws



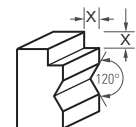
| Ref.    | €/juego |        |
|---------|---------|--------|
| 336550  | 22,00   | 33/65  |
| 338550  | 22,30   | 33/85  |
| 3310050 | 26,00   | 33/100 |
| 3312550 | 27,60   | 33/125 |
| 3315050 | 36,30   | 33/150 |

### Tuercas en T / T-nut



| Ref.     | €/u.  | Canal<br>T Slot  |                 | M   |
|----------|-------|------------------|-----------------|-----|
| 33121408 | 14,00 | para/for 12 - 14 | 33/65 - 33/85   | M8  |
| 33161808 | 14,00 | para/for 16 - 18 | 33/65 - 33/85   | M8  |
| 33121410 | 14,00 | para/for 12 - 14 | 33/100 - 33/125 | M10 |
| 33161810 | 14,00 | para/for 16 - 18 | 33/100 - 33/125 | M10 |
| 33161814 | 18,20 | para/for 16 - 18 | 33/150          | M14 |
| 33202214 | 18,20 | para/for 20 - 22 | 33/150          | M14 |

### Juego de bocas prismáticas con escalón Set prismatic jaws with step



| Ref.    | €/juego |        | X   |
|---------|---------|--------|-----|
| 336551  | 38,90   | 33/65  | 3   |
| 338551  | 44,60   | 33/85  | 3   |
| 3310051 | 50,20   | 33/100 | 4   |
| 3312551 | 62,30   | 33/125 | 4,5 |
| 3315051 | 73,00   | 33/150 | 6   |

# Serie 37 Mordza autocentrante / 37 Serie Self-centering vice

## Mordaza de taladro autocentrante

Self centering  
press drill vice

Con manilla  
With handle  
37/103

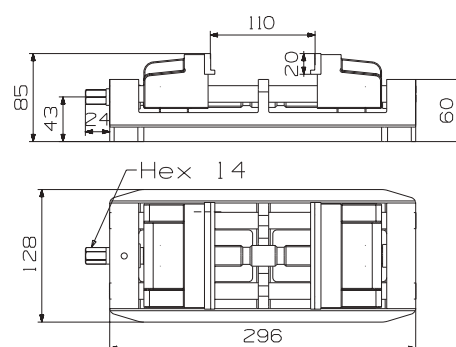


Con pomo de aluminio.  
With aluminium handle  
37/103P

- ✓ Fundición nodular.  
Nodular cast made.
- ✓ Admite base giratoria (opcional).  
Admit swivel base (opcional).
- ✓ Incluye dos juegos de bocas blandas.  
Included 2 set soft jaws.
- ✓ Equipada con bocas con escalón.  
Step jaws are included.



| Ref. Sin base<br>Without swivelbase | €/u.   | Boca<br>Jaw | Abertura<br>Opening | Características<br>Characteristics            | ⚖    |
|-------------------------------------|--------|-------------|---------------------|-----------------------------------------------|------|
| 37/103                              | 521,00 | 103         | 110                 | Con manilla<br>With handle                    | 11,7 |
| 37/103P                             | 482,00 | 103         | 110                 | Con pomo de aluminio<br>With aluminium handle | 10,9 |



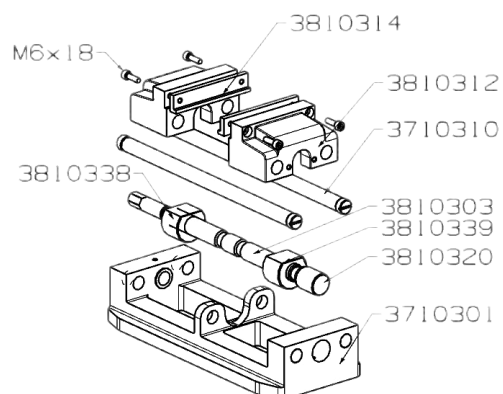
| Ref. Con base<br>With swivelbase | €/u.   | ⚖    |
|----------------------------------|--------|------|
| 37/103B                          | 696,40 | 17,5 |
| 37/103BP                         | 657,40 | 17,6 |

## Bridas / Clamps

| Ref.  | €/juego | Descripción                   |
|-------|---------|-------------------------------|
| 12561 | 29,00   | Juego de bridas<br>Clamps set |

Juego = 2 unidades. / Set = 2 units.

| Ref.    | €/u.  | Descripción      |
|---------|-------|------------------|
| 3710319 | 49,00 | Manilla / Handle |





## Serie 38 Mordaza rápida / Serie 38 Quick clamp vice

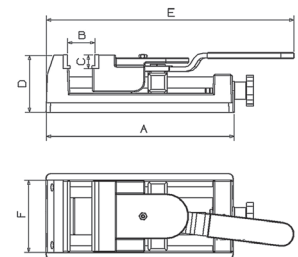
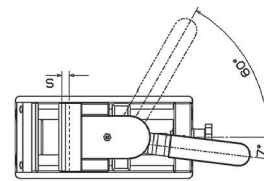
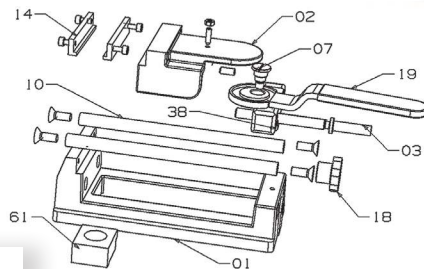
- ✓ Incluye dos juegos de bocas blandas.  
included 2 set soft jaws..

- ✓ Fácil manejo que le permite sujetar y soltar la pieza en décimas de segundo.  
Very fast action.



### Mordaza rápida de taladro

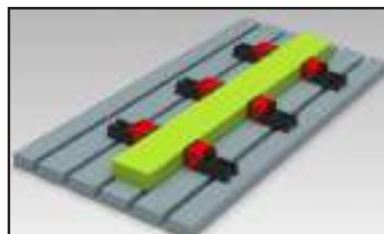
Quick clamp drill vice



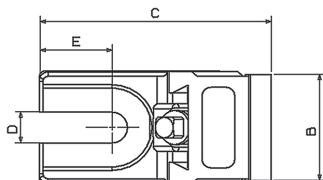
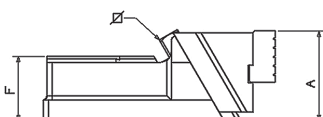
| Ref.   | €/u.   | A   | B   | C  | D   | E   | F   | Carrera apriete / Stroke |       |      |
|--------|--------|-----|-----|----|-----|-----|-----|--------------------------|-------|------|
| 38/80  | 394,00 | 230 | 80  | 20 | 75  | 385 | 80  | 6                        | 12561 | 7,0  |
| 38/103 | 469,50 | 275 | 90  | 20 | 85  | 420 | 103 | 8                        | 12561 | 10,5 |
| 38/125 | 548,00 | 400 | 125 | 30 | 105 | 555 | 125 | 9                        | 15061 | 25,0 |



## Serie 34 Mordaza estandar / Serie 34 Satandard vice



Juego: 2 mordazas + 1 llave / Set: 2 vices + 1 wrench



| Ref.   | €/juego | A      | B   | C   | D  | E  | F  | S<br>Din 471 | M   | ∅  | Rosca<br>Thread |      |
|--------|---------|--------|-----|-----|----|----|----|--------------|-----|----|-----------------|------|
| 34/60  | 341,60  | 50-68  | 60  | 135 | 18 | 42 | 45 | D15          | M8  | 12 | TR14x3          | 4,2  |
| 34/62  | 426,00  | 82-92  | 60  | 175 | 19 | 74 | 57 | D15          | M8  | 12 | TR14x3          | 8,0  |
| 34/79  | 453,40  | 65-85  | 79  | 168 | 25 | 45 | 57 | D20          | M10 | 12 | TR18x4          | 8,2  |
| 34/112 | 885,00  | 89-120 | 115 | 246 | 30 | 65 | 75 | D25          | M12 | 17 | TR22x5          | 26,5 |

### Mordazas sueltas / One vice

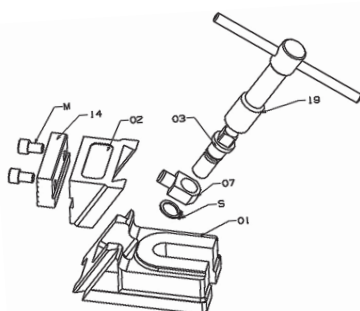


| Ref.    | €/u.   |      |
|---------|--------|------|
| 346000  | 162,30 | 2,0  |
| 346200  | 204,50 | 3,9  |
| 347900  | 218,20 | 4,4  |
| 3411200 | 428,50 | 12,7 |

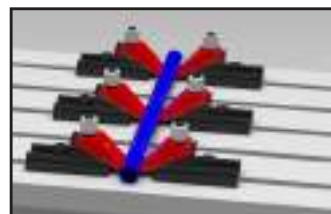
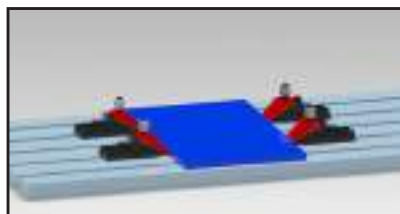
### Accesorios / Accessories



| Ref.    | €/u.  | Ref.    | €/u.  |
|---------|-------|---------|-------|
| 346003  | 11,50 | 346019  | 17,00 |
| 346003  | 11,50 | 346019  | 17,00 |
| 347903  | 14,70 | 346019  | 17,00 |
| 3411203 | 23,00 | 3411219 | 28,00 |



## Serie 35 Mordza deslizante / 37 Serie Downsliding vice



Juego: 4 mordazas / Set: 4 vices

| Ref.  | €/juego | A  | B max | B min | C  | D  | E  | ⚖   |
|-------|---------|----|-------|-------|----|----|----|-----|
| 35/45 | 446,80  | 45 | 13    | 0     | 20 | 60 | 23 | 6,4 |



### Accesorios

### Accessories



| Ref.   | €/u.  |
|--------|-------|
| 354503 | 15,10 |



| Ref.   | €/u. |
|--------|------|
| 354514 | 1,60 |



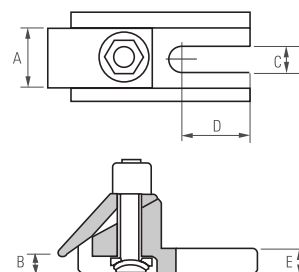
| Ref.   | €/u. |
|--------|------|
| 395608 | 2,50 |

### Mordazas sueltas

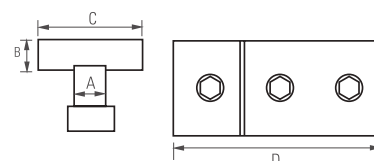
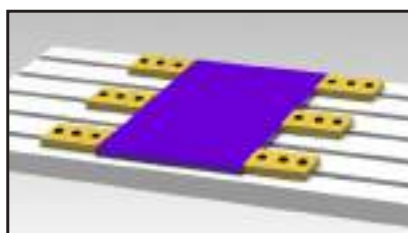
One vice



| Ref.   | €/u.   |
|--------|--------|
| 354500 | 111,70 |



## Serie 36 Mordza plana / 36 Serie Plain vice

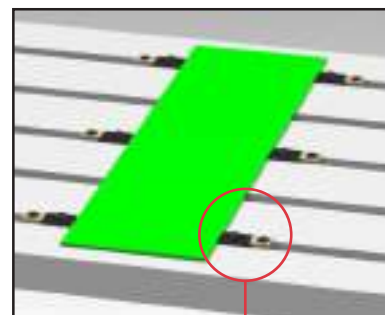
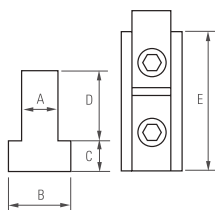


Juego: 4 mordazas / Set: 4 vices

| Ref.  | €/juego/<br>set | A    | B  | C  | D   | ⚖   | Para T<br>For T |
|-------|-----------------|------|----|----|-----|-----|-----------------|
| 36/60 | 313,20          | 15,5 | 12 | 60 | 75  | 2,3 | 16              |
| 36/64 | 352,80          | 17,5 | 15 | 65 | 105 | 4   | 18              |
| 36/65 | 359,20          | 19,5 | 15 | 65 | 105 | 4   | 20              |
| 36/66 | 379,60          | 21,5 | 15 | 65 | 105 | 4,3 | 22              |
| 36/78 | 490,00          | 17,5 | 15 | 80 | 125 | 6,1 | 18              |
| 36/79 | 495,20          | 19,5 | 15 | 80 | 125 | 7,2 | 20              |
| 36/80 | 522,80          | 21,5 | 15 | 80 | 125 | 7,5 | 22              |

Mordazas sueltas / One vice

| Ref.   | €/u.   |
|--------|--------|
| 366000 | 78,30  |
| 366400 | 88,20  |
| 366500 | 89,80  |
| 366600 | 94,90  |
| 367800 | 122,50 |
| 367900 | 123,80 |
| 368000 | 130,70 |



**Juego: 4 mordazas**

Set: 4 vices

| Ref.  | €/juego | A    | B  | C  | D  | E  |     |
|-------|---------|------|----|----|----|----|-----|
| 37/12 | 147,20  | 11,5 | 20 | 8  | 16 | 38 | 0,4 |
| 37/14 | 148,00  | 13,5 | 23 | 9  | 18 | 40 | 0,6 |
| 37/16 | 177,60  | 15,5 | 26 | 10 | 21 | 45 | 0,8 |
| 37/18 | 217,20  | 17,5 | 29 | 11 | 24 | 45 | 1,0 |
| 37/20 | 228,00  | 19,5 | 33 | 13 | 26 | 50 | 1,5 |
| 37/22 | 256,80  | 21,5 | 35 | 14 | 29 | 53 | 1,7 |

**Mordazas sueltas /**

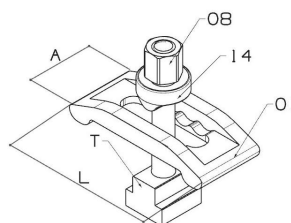
One vice

| Ref.   | €/u.  |
|--------|-------|
| 371200 | 36,80 |
| 371400 | 37,00 |
| 371600 | 44,40 |
| 371800 | 54,30 |
| 372000 | 57,00 |
| 372200 | 64,20 |

Serie 39 Brida de arco / Serie 39 Arched clamp



| Ref.  | €/u.  | L x A    | T  | Rosa / Thread |     |
|-------|-------|----------|----|---------------|-----|
| 39/56 | 42,20 | 123 x 56 | 18 | M16           | 1,0 |
| 39/57 | 44,70 | 123 x 56 | 20 | M16           | 1,0 |
| 39/58 | 46,70 | 123 x 56 | 22 | M16           | 1,1 |
| 39/59 | 47,30 | 123 x 56 | 24 | M16           | 1,2 |
| 39/70 | 66,90 | 160 x 70 | 22 | M20           | 2,0 |
| 39/71 | 69,90 | 160 x 70 | 24 | M20           | 2,1 |
| 39/72 | 71,90 | 160 x 70 | 28 | M20           | 2,3 |

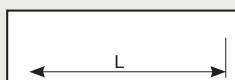


**Accesorios**

**Accessories**



**Espárrago brida / Clamps spindle**



| Ref.    | €/u.  | L   | Rosca / Thread |
|---------|-------|-----|----------------|
| 395603* | 7,90  | 150 | M16            |
| 395604  | 9,60  | 250 | M16            |
| 397003* | 13,00 | 165 | M20            |
| 397004  | 14,30 | 300 | M20            |

\* Standard

**Tuercas en T / T nuts**

| Ref.    | €/u.  | Para T / For T | A x B     | Rosca / Thread |
|---------|-------|----------------|-----------|----------------|
| 395644* | 15,40 | 18             | 17,5 x 28 | M16            |
| 395645  | 17,90 | 20             | 19,5 x 32 | M16            |
| 395646  | 19,90 | 22             | 21,5 x 35 | M16            |
| 395647  | 20,50 | 24             | 23,5 x 35 | M16            |
| 397044* | 19,00 | 22             | 21,5 x 35 | M20            |
| 397045  | 22,00 | 24             | 23,5 x 40 | M20            |
| 397046  | 24,00 | 28             | 27,5 x 45 | M20            |

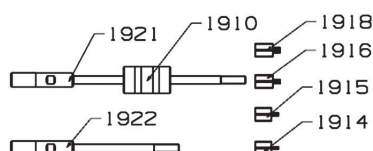
\* Standard



## Extractor de pasadores roscados / Split pins threaded pullers



Los pasadores **M10** se extraen sin adaptador.  
The split pins **M10** are pulled out without adapter.

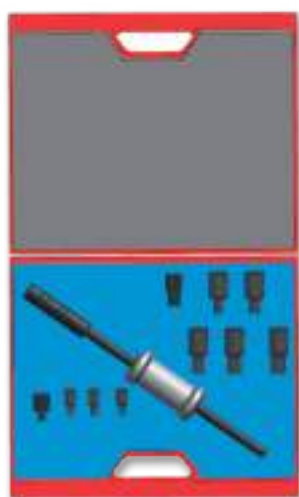


| Ref.        | €/u.          | Descripción                          |     |
|-------------|---------------|--------------------------------------|-----|
| <b>1950</b> | <b>133,50</b> | Juego completo/complet set: M4 - M10 | 1,5 |

### Componentes / Spare parts

| Ref.        | €/u.         | Descripción            |
|-------------|--------------|------------------------|
| <b>1921</b> | <b>34,00</b> | Eje/Shaft 300 mm       |
| <b>1922</b> | <b>27,00</b> | Eje/Shaft 215 mm       |
| <b>1910</b> | <b>21,10</b> | Maza deslizante/Hammer |
| <b>1914</b> | <b>12,10</b> | Adapt. M4              |
| <b>1915</b> | <b>12,10</b> | Adapt. M5              |
| <b>1916</b> | <b>12,10</b> | Adapt. M6              |
| <b>1918</b> | <b>12,10</b> | Adapt. M8              |

## Extractor de pasadores roscados / Split pins threaded pullers



| Ref.        | €/u.          | Contiene/Contains                                                          |     |
|-------------|---------------|----------------------------------------------------------------------------|-----|
| <b>1960</b> | <b>215,80</b> | Juego completo/complete set: M6, M8, M10, M12, M14, M16, M20 + 3/8" y 5/8" | 1,1 |

### Componentes / Spare parts

| Ref.           | €/u.         | Descripción/Description         |
|----------------|--------------|---------------------------------|
| <b>4390</b>    | <b>77,50</b> | Barra de impacto / Slide hammer |
| <b>196020</b>  | <b>15,00</b> | Adapt. 1/2" 20h. a 3/8" 24h.    |
| <b>1102306</b> | <b>6,60</b>  | Adapt. 3/8" 24h. a M6 x 1       |
| <b>1102308</b> | <b>6,60</b>  | Adapt. 3/8" 24h. a M8 x 1,25    |
| <b>1102310</b> | <b>6,60</b>  | Adapt. 3/8" 24h. a M10 x 1,5    |
| <b>196021</b>  | <b>15,00</b> | Adapt. 1/2" 20h. a 5/8" 18h.    |
| <b>1110312</b> | <b>13,70</b> | Adapt. 5/8" 18h. a M12 x 1,75   |
| <b>1110314</b> | <b>13,70</b> | Adapt. 5/8" 18h. a M14 x 2      |
| <b>1110316</b> | <b>13,70</b> | Adapt. 5/8" 18h. a M16 x 2      |
| <b>1110318</b> | <b>13,70</b> | Adapt. 5/8" 18h. a M18 x 2,5    |
| <b>1110320</b> | <b>13,70</b> | Adapt. 5/8" 18h. a M20 x 2,5    |



- ✓ Incluye juego de moletas 1 mm helicoidal.  
1 mm. helicoidal knurl set included.

| Ref.    | €/u.   | A x B x C     | ⚖   |
|---------|--------|---------------|-----|
| ME20/50 | 219,70 | 25 x 18 x 210 | 1,1 |

- ✓ Incluye juego de moletas 1 mm helicoidal.  
1 mm. helicoidal knurl set included.

| Ref.   | €/u.   | A x B x C       | ⚖   |
|--------|--------|-----------------|-----|
| MF2/20 | 155,40 | 19,5 x 20 x 185 | 0,7 |
| M2/20  | 155,40 | 25 x 20 x 185   | 0,7 |

- ✓ Incluye moleta 1 mm recta.  
1 mm. helicoidal knurl included.

| Ref. | €/u.  | A x B x C     | ⚖   |
|------|-------|---------------|-----|
| M1/8 | 72,90 | 16 x 16 x 140 | 0,3 |



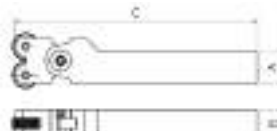
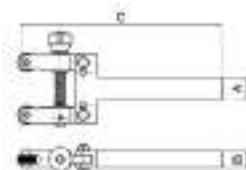
ME20/50



MF2/20



M1/8



## Moletas de acero HSS 8% Co / Knurls

| Ref.<br>Rectas/<br>Straight | Ref.<br>Helicoidales/<br>Helicoidals | €/juego | ⚖   |
|-----------------------------|--------------------------------------|---------|-----|
| 0,6R                        | 0,6H                                 | 51,40   | 0,1 |
| 1R                          | 1H                                   | 47,20   | 0,1 |
| 1,25R                       | 1,25H                                | 42,80   | 0,1 |
| 1,50R                       | 1,50H                                | 42,80   | 0,1 |
| 1,75R                       | 1,75H                                | 42,80   | 0,1 |

Juego = 2 unidades. D: Derecha - I: Izquierda - H: Helicoidal  
Set = 2 units. D: Righth - I: Left - H: Helicoidal



Rectas  
Straight

Helicoidales  
Helicoidals

## Moletas sueltas / Spare Knurls

| Ref.<br>R | Ref.<br>I | Ref.<br>D | €/u.  |
|-----------|-----------|-----------|-------|
| 0,6       | 0,6HI     | 0,6HD     | 25,70 |
| 1         | 1HI       | 1HD       | 23,60 |
| 1,25      | 1,25HI    | 1,25HD    | 21,40 |
| 1,50      | 1,50HI    | 1,50HD    | 21,40 |
| 1,75      | 1,75HI    | 1,75HD    | 21,40 |

## Serie 400 portaherramientas / Serie 400 Tools holders

- ✓ Equipados con una cuchilla y rompevirutas de metal duro (widia).  
Blade and hard metal chip included.

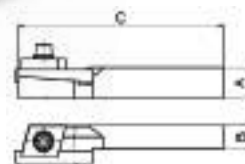
| Ref.<br>Izquierda/<br>Left | €/u.  | ⚡<br>Cuchilla / Blade | A x B x C     | ⚖   |
|----------------------------|-------|-----------------------|---------------|-----|
| 410                        | 49,00 | 10 x 8 x 45           | 22 x 24 x 160 | 0,8 |
| 412                        | 75,00 | 12 x 10 x 55          | 28 x 32 x 180 | 1,6 |



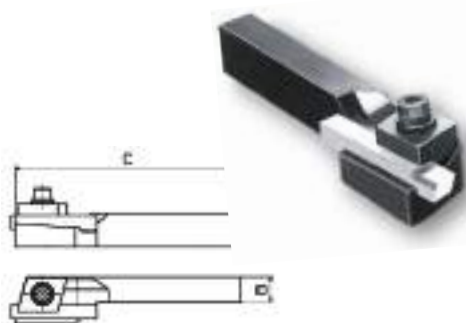
## Serie 500 portaherramientas / Serie 500 Tools holders

| Ref.<br>Derecha/<br>Right | Ref.<br>Izquierda/<br>Left | €/u.  | ⚡<br>Cuchilla / Blade | A x B x C     | ⚖   |
|---------------------------|----------------------------|-------|-----------------------|---------------|-----|
| 508D                      | 508I                       | 55,60 | 6 - 8                 | 20 x 14 x 125 | 0,3 |
| 510D                      | 510I                       | 73,40 | 8 - 10                | 24 x 18 x 155 | 0,5 |
| 512D                      | 512I                       | 93,00 | 10 - 12               | 30 x 24 x 180 | 1,1 |

D: Derecha - I: Izquierda / D: Righth - I: Left



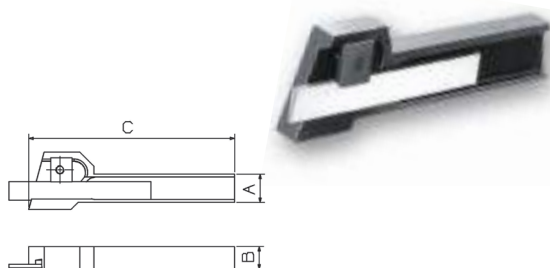
## Serie 600 portaherramientas / Serie 600 Tools holders



| Ref.<br>Derecha/<br>Right | Ref.<br>Izquierda/<br>Left | €/u.  | Cuchilla /<br>Blade | A x B x C       |     |
|---------------------------|----------------------------|-------|---------------------|-----------------|-----|
| 608D                      | 608I                       | 57,80 | 6 - 8               | 19 x 13,5 x 126 | 0,3 |
| 610D                      | 610I                       | 74,40 | 8 - 10              | 24 x 18 x 155   | 0,6 |
| 612D                      | 612I                       | 95,50 | 10 - 12             | 30 x 24 x 180   | 1,2 |

D: Derecha - I: Izquierda / D: Right - I: Left

## Serie 700 Tronzar / Serie 700 Cutt off

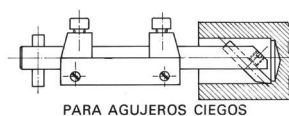


| Ref.<br>Derecha/<br>Right | €/u.  | Cuchilla /<br>Blade | A x B x C       |     |
|---------------------------|-------|---------------------|-----------------|-----|
| 701T                      | 65,00 | 2,5 x 15 - 2 x 13   | 19,5 x 15 x 153 | 0,4 |
| 702T                      | 62,60 | 2,5 x 15 - 2 x 13   | 26 x 13 x 153   | 0,4 |
| 703T                      | 82,50 | 3,5 x 19 - 4 x 22   | 35 x 16 x 178   | 0,8 |

## Serie 800M portaherramientas de interiores / Serie 800M Tools holders

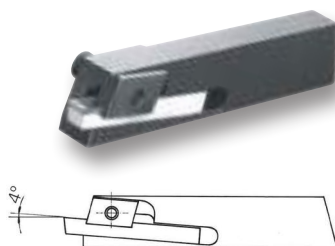


✓ Equipados con dos cuchillas de acero rápido HSS.  
2 Blades HSS included.



| Ref. | €/juego/<br>set | Ø<br>Cuchilla/<br>Blade |            |     |
|------|-----------------|-------------------------|------------|-----|
| 809M | 72,80           | 4                       | Ø 9 x 115  | 0,2 |
| 815M | 99,50           | 8                       | Ø 15 x 170 | 0,6 |
| 818M | 127,00          | 8                       | Ø 18 x 220 | 1,1 |
| 822M | 137,00          | 10                      | Ø 22 x 260 | 1,8 |
| 826M | 179,00          | 10                      | Ø 26 x 285 | 2,5 |
| 830M | 212,00          | 12                      | Ø 30 x 330 | 3,5 |

## Serie 8900 portaherramientas de interiores / Serie 900 Tools holders



D: Derecha - I: Izquierda / D: Right - I: Left

| Ref.<br>Derecha/<br>Right | Ref.<br>Izquierda/<br>Left | €/u.  | Cuchilla /<br>Blade | A x B x C     |     |
|---------------------------|----------------------------|-------|---------------------|---------------|-----|
| 906RD                     | 906RI                      | 29,90 | 6 - 8               | 25 x 14 x 130 | 0,3 |
| 908RD                     | 908RI                      | 43,90 | 8 - 10              | 32 x 18 x 155 | 0,6 |
| 910RD                     | 910RI                      | 49,50 | 10 - 12             | 38 x 22 x 250 | 1,5 |

Los portaherramientas no incluyen cuchilla, excepto en los modelos indicados.

Toolholders without blades.



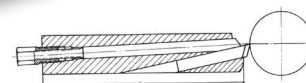
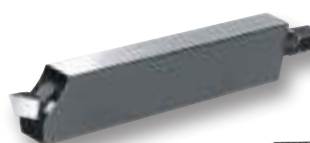
| Ref. | €/u.  | cuchilla/Blade    | A x B x C       |     |
|------|-------|-------------------|-----------------|-----|
| CCN1 | 39,90 | 2,5 x 15 - 2 x 13 | 17,5 x 16 x 158 | 1,1 |



Cuña L10 / Tool holders



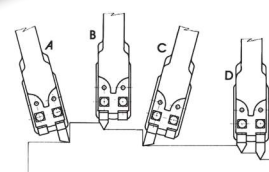
| Ref. | €/u.  | Cuchilla / Blade | A x B x C     |     |
|------|-------|------------------|---------------|-----|
| L10  | 99,00 | 10               | 18 x 34 x 175 | 1,1 |



Serie para torno / Tools holders



| Ref. | €/u.  | Cuchilla / Blade | A x B x C     |     |
|------|-------|------------------|---------------|-----|
| L300 | 52,00 | 8                | 195 x 24 x 12 | 0,9 |
| L500 | 62,00 | 10               | 210 x 28 x 20 | 1,3 |



Serie limadora / Tools holders



| Ref. | €/u.   | Cuchilla / Blade | A x B x C     |     |
|------|--------|------------------|---------------|-----|
| TN1  | 52,20  | 8                | 19 x 16 x 175 | 0,5 |
| TN2  | 71,00  | 10               | 24 x 18 x 200 | 1,0 |
| TN3  | 100,30 | 12               | 26 x 29 x 235 | 2,1 |



Serie W / Tools holders



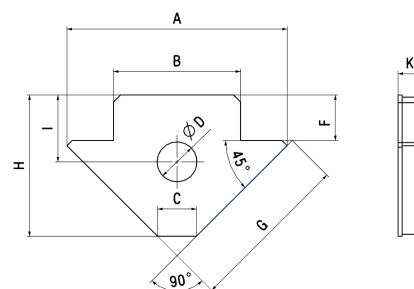
| Ref. | €/u.  | Cuchilla / Blade | A x B x C     |     |
|------|-------|------------------|---------------|-----|
| WN2  | 68,00 | 10               | 24 x 18 x 200 | 1,1 |
| WN3  | 79,50 | 12               | 26 x 29 x 235 | 2,1 |



Los portaherramientas no incluyen cuchilla, excepto en los modelos indicados.

Toolholders without blades.

## Escuadra magnética / Magnetic holders



- Imán de ferrita protegido con baquelita resistente a altas temperaturas
- Capacidad de 45° y 90°.
- Chapas de acero de 2,5 mm unidas con tornillos roscados.

- Ferrite magnet protected with bakelite resistant to high temperatures.

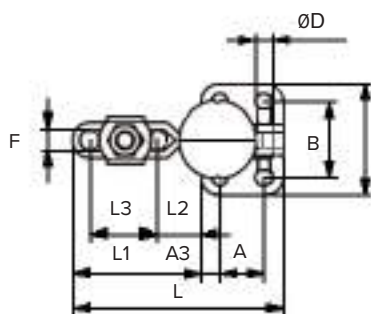
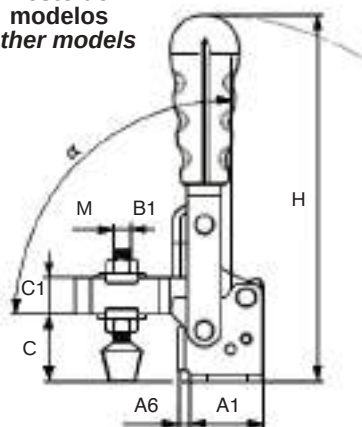
- For welding 45° and 90° angles.

- 2,5 mm thick steel sheet joined with threaded screws.

| Ref.   | €/u.  | A     | B   | C  | ØD | F  | G   | H     | I    | K    |      |
|--------|-------|-------|-----|----|----|----|-----|-------|------|------|------|
| P29003 | 13,40 | 120   | 70  | 14 | 24 | 25 | 91  | 82    | 37   | 14,5 | 0,3  |
| P29004 | 21,40 | 159,5 | 92  | 28 | 29 | 33 | 118 | 102,5 | 48,5 | 17,5 | 0,65 |
| P29005 | 34,90 | 201   | 125 | 39 | 40 | 39 | 153 | 128   | 60   | 20,5 | 1,2  |

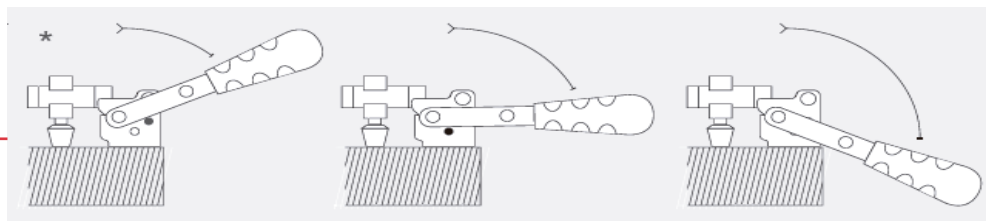
## Grapa rápida vertical / Quick vertical toggle clamps

Resto de modelos  
Other models



P56001

| Ref.    | €/u.  | Fuerza max.    |      | Fuerza max.   |
|---------|-------|----------------|------|---------------|
| P56001  | 21,30 | 450 N - 45Kg   | 0,05 | 450N - 45Kg   |
| P56002* | 27,10 | 1500 N - 150Kg | 0,19 | 1500N - 150Kg |
| P56003* | 31,30 | 2500 N - 250Kg | 0,38 | 2500N - 250Kg |
| P56004* | 40,60 | 3400 N - 340Kg | 0,81 | 3400N - 340Kg |
| P56005* | 63,60 | 3600 N - 360Kg | 1,10 | 3600N - 360Kg |



| Ref.   | A mm | A1 mm | A3 mm | A6 mm | B mm | B1 mm | C mm | C1 mm | C2 mm | D mm | F mm | H mm | L mm | L1 mm | L3 mm | M   | a     |
|--------|------|-------|-------|-------|------|-------|------|-------|-------|------|------|------|------|-------|-------|-----|-------|
| 56001  | 16   | 26    | 5     | -     | 23,4 | 33,4  | 19   | 8     | 2     | 4,4  | 5    | 77   | 50,4 | 24,4  | 16,4  | M5  | 67,4° |
| 56002* | 12,7 | 27    | 7     | -     | 26,9 | 37,9  | 23   | 11    | 3     | 5,1  | 6    | 111  | 69,9 | 42,9  | 21,5  | M6  | 93°   |
| 56003* | 19   | 35    | 8     | 5,5   | 32   | 47    | 32   | 17,5  | 3,2   | 7,1  | 8,9  | 175  | 90   | 55    | 28    | M8  | 90,4° |
| 56004* | 32   | 50    | 9     | 10    | 45   | 64    | 42   | 22    | 4     | 8,3  | 10,6 | 218  | 143  | 92,8  | 60,5  | M10 | 90°   |
| 56005* | 32   | 50,8  | 9,5   | 12,2  | 45   | 64    | 50,8 | 22,5  | 3     | 8,7  | 13,4 | 224  | 176  | 125   | 82,5  | M12 | 101°  |





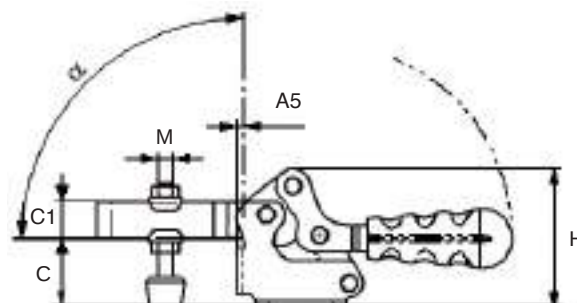
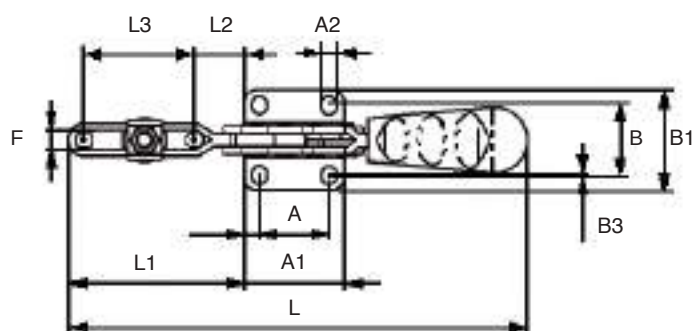
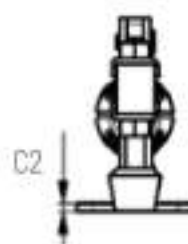
P56050



Resto de modelos  
con mango reforzado

Other models with  
reinforce handle

| Ref.   | €/u.  | Fuerza max.    |      | Fuerza max.   |
|--------|-------|----------------|------|---------------|
| P56050 | 18,70 | 380 N - 38Kg   | 0,03 | 380N - 38Kg   |
| P56051 | 23,70 | 700 N - 70Kg   | 0,07 | 700N - 70kg   |
| P56052 | 26,40 | 900N - 90Kg    | 0,23 | 900N - 90Kg   |
| P56053 | 32,30 | 2200 N - 220Kg | 0,43 | 2200N - 220Kg |
| P56054 | 40,30 | 3400 N - 340Kg | 0,91 | 3400N - 340Kg |



| Ref.   | A mm | A1 mm | A2 mm | A3 mm | B mm | B1 mm | B3 mm | C mm | C1 mm | C2 mm | F mm | H mm | L mm | L1 mm | L2 mm | L3 mm | M   | a   |
|--------|------|-------|-------|-------|------|-------|-------|------|-------|-------|------|------|------|-------|-------|-------|-----|-----|
| P56050 | 11,1 | 24    | 6,8   | 4     | 16   | 23,8  | 4,4   | 7,4  | 6,8   | 1,6   | 4,8  | 17   | 68   | 21    | 6,5   | 9,5   | M4  | 87° |
| P56051 | 13,5 | 25    | 5,2   | 5,7   | 19   | 27    | -     | 19   | 9,5   | 2     | 5,8  | 38,2 | 105  | 36,8  | 12    | 20    | M5  | 94° |
| P56052 | 26   | 38    | 5,5   | 6     | 28   | 40    | 3     | 25   | 14    | 2,5   | 6,2  | 52,6 | 162  | 61,4  | 19    | 3,5   | M6  | 96° |
| P56053 | 26   | 42    | 6,6   | 8     | 31   | 47    | 2,5   | 34   | 17,5  | 3     | 9    | 68,5 | 189  | 66,3  | 22    | 36,8  | M8  | 95° |
| P56054 | 41,2 | 59    | 8,7   | 9     | 43   | 59    | 1,8   | 45   | 23,8  | 4     | 11,4 | 90   | 269  | 103   | 28,5  | 64,8  | M10 | 95° |

| Ref.    | €/u.   | Pág. | Ref.     | €/u.   | Pág. | Ref.       | €/u.     | Pág. | Ref.       | €/u.     | Pág. | Ref.     | €/u.     | Pág. |
|---------|--------|------|----------|--------|------|------------|----------|------|------------|----------|------|----------|----------|------|
| 0,6     | 25,70  | 63   | 12507    | 55,70  | 40   | 15053      | 240,00   | 45   | 1916       | 12,10    | 62   | 25095    | 249,50   | 41   |
| 0,6H    | 51,40  | 63   | 12508    | 10,00  | 40   | 15054      | 194,00   | 46   | 1918       | 12,10    | 62   | 2513024  | 59,00    | 21   |
| 0,6HD   | 25,70  | 63   | 1251261  | 39,90  | 42   | 15055      | 194,00   | 46   | 1921       | 34,00    | 62   | 2517524  | 75,00    | 21   |
| 0,6HI   | 25,70  | 63   | 12518    | 1,00   | 43   | 15056      | 153,80   | 46   | 1922       | 27,00    | 62   | 25/130   | 2.020,00 | 21   |
| 0,6R    | 51,40  | 63   | 12520    | 37,00  | 43   | 15057      | 194,00   | 46   | 1950       | 133,50   | 62   | 25/130L  | 2.259,00 | 21   |
| 1       | 23,60  | 63   | 1252211  | 285,00 | 14   | 15058      | 74,00    | 43   | 1960       | 215,80   | 62   | 25/160   | 2.845,00 | 21   |
| 1H      | 47,20  | 63   | 12540    | 31,50  | 42   | 15058L     | 78,00    | 43   | 196020     | 15,00    | 62   | 25/175   | 2.995,00 | 21   |
| 1HD     | 23,60  | 63   | 12541    | 35,00  | 42   | 15059      | 4,50     | 43   | 196021     | 15,00    | 62   | 25/175L  | 3.195,00 | 21   |
| 1HI     | 23,60  | 63   | 12543    | 37,00  | 42   | 15060      | 43,30    | 44   | 2001261    | 93,00    | 42   | 26/150   | 2.730,00 | 17   |
| 1R      | 47,20  | 63   | 12544    | 35,00  | 42   | 15061      | 31,00    | 42   | 20018      | 1,50     | 43   | 27/160   | 1.129,00 | 32   |
| 1,25    | 21,40  | 63   | 12545    | 38,00  | 42   | 15070      | 599,00   | 40   | 20020      | 49,00    | 43   | 28A150   | 1.235,00 | 33   |
| 1,25H   | 42,80  | 63   | 12547    | 42,50  | 42   | 15080      | 429,00   | 41   | 2002211    | 495,00   | 14   | 2910014  | 37,00    | 31   |
| 1,25HD  | 21,40  | 63   | 12549    | 53,90  | 42   | 1508020    | 52,00    | 43   | 20031      | 701,00   | 14   | 2912514  | 40,40    | 31   |
| 1,25HI  | 21,40  | 63   | 12550    | 48,00  | 45   | 1508021    | 65,00    | 43   | 20050      | 75,00    | 45   | 2915014  | 54,00    | 31   |
| 1,25R   | 42,80  | 63   | 12551    | 201,00 | 45   | 15082      | 1.295,00 | 41   | 20051      | 325,00   | 45   | 2917514  | 62,00    | 31   |
| 1,50    | 21,40  | 63   | 12552    | 161,00 | 45   | 150821     | 132,00   | 41   | 20052      | 262,00   | 45   | 2920014  | 81,00    | 31   |
| 1,50H   | 42,80  | 63   | 12553    | 180,00 | 45   | 150822     | 57,00    | 41   | 20053      | 294,00   | 45   | 29/100   | 758,00   | 30   |
| 1,50HD  | 21,40  | 63   | 12554    | 138,00 | 46   | 150823     | 98,00    | 41   | 20054      | 265,00   | 46   | 29/100G  | 835,00   | 31   |
| 1,50HI  | 21,40  | 63   | 12555    | 138,00 | 46   | 15090      | 167,00   | 40   | 20055      | 265,00   | 46   | 29/100GL | 924,00   | 31   |
| 1,50R   | 42,80  | 63   | 12556    | 140,00 | 46   | 15092      | 629,00   | 41   | 20056      | 205,60   | 46   | 29/100L  | 826,00   | 30   |
| 1,75    | 21,40  | 63   | 12557    | 129,00 | 46   | 15095      | 167,00   | 41   | 20057      | 232,00   | 46   | 29/125   | 874,00   | 30   |
| 1,75H   | 42,80  | 63   | 12560    | 40,60  | 44   | 15099940   | 138,00   | 45   | 20061      | 36,00    | 42   | 29/125G  | 953,00   | 31   |
| 1,75HD  | 21,40  | 63   | 12561    | 29,00  | 42   | 15099950   | 138,00   | 45   | 2008020    | 54,00    | 43   | 29/125GL | 1.034,00 | 31   |
| 1,75HI  | 21,40  | 63   | 12580    | 329,00 | 41   | 150 P 40   | 38,10    | 44   | 2008021    | 69,00    | 43   | 29/125L  | 941,00   | 30   |
| 1,75R   | 42,80  | 63   | 1258020  | 40,50  | 43   | 150 P 40 V | 62,90    | 44   | 20099950   | 165,00   | 45   | 29/125S  | 1.009,50 | 30   |
| 10002   | 32,50  | 40   | 1258021  | 55,00  | 43   | 150 P 40 W | 69,50    | 44   | 20099958   | 165,00   | 45   | 29/150   | 1.278,00 | 30   |
| 10007   | 52,00  | 40   | 12590    | 99,50  | 40   | 150 P 45   | 38,10    | 44   | 200 P 52   | 47,20    | 44   | 29/150G  | 1.442,00 | 31   |
| 10008   | 9,60   | 40   | 12595    | 99,50  | 41   | 150 P 45 V | 62,90    | 44   | 200 P 52 V | 73,00    | 44   | 29/150GL | 1.519,00 | 31   |
| 10018   | 1,00   | 43   | 12599930 | 120,00 | 45   | 150 P 45 W | 69,50    | 44   | 200 P 52 W | 81,90    | 44   | 29/150GS | 1.622,00 | 31   |
| 10020   | 31,00  | 43   | 12599935 | 120,00 | 45   | 150 P 50   | 38,10    | 44   | 200 P 57   | 47,20    | 44   | 29/150L  | 1.369,00 | 30   |
| 10022   | 32,50  | 40   | 15002    | 45,00  | 40   | 150 P 50 V | 62,90    | 44   | 200 P 57 V | 73,00    | 44   | 29/150S  | 1.567,00 | 30   |
| 10050   | 38,00  | 45   | 15004    | 69,00  | 42   | 150 P 50 W | 69,50    | 44   | 200 P 57 W | 81,90    | 44   | 29/150X  | 1.723,00 | 30   |
| 10051   | 162,00 | 45   | 15007    | 79,00  | 40   | 150T16     | 16,50    | 42   | 200 P 62   | 47,20    | 44   | 29/175   | 1.435,00 | 30   |
| 10052   | 135,00 | 45   | 15008    | 10,60  | 40   | 1752211    | 423,00   | 14   | 200 P 62 V | 73,00    | 44   | 29/175G  | 1.597,00 | 31   |
| 10053   | 147,00 | 45   | 15011    | 31,00  | 40   | 17550      | 62,00    | 45   | 200 P 62 W | 81,90    | 44   | 29/175GL | 1.747,00 | 31   |
| 10054   | 122,00 | 46   | 1501261  | 53,50  | 42   | 17551      | 283,50   | 45   | 24/100     | 1.693,00 | 18   | 29/175GS | 1.813,00 | 31   |
| 10055   | 122,00 | 46   | 15018    | 1,50   | 43   | 17552      | 229,50   | 45   | 24/75      | 1.125,00 | 18   | 29/175L  | 1.533,00 | 30   |
| 10057   | 122,00 | 46   | 15020    | 42,00  | 43   | 17553      | 260,0 0  | 45   | 24/95      | 1.299,00 | 18   | 29/175S  | 1.656,00 | 30   |
| 10058   | 72,60  | 43   | 15022    | 45,00  | 40   | 17554      | 224,00   | 46   | 25007      | 149,90   | 40   | 29/175X  | 1.743,00 | 30   |
| 10058L  | 76,80  | 43   | 1502211  | 379,00 | 14   | 17555      | 224,00   | 46   | 25008      | 22,00    | 40   | 29/200   | 1.728,00 | 30   |
| 10059   | 4,30   | 43   | 15031    | 620,00 | 14   | 17556      | 180,00   | 46   | 25018      | 2,00     | 43   | 29/200G  | 1.920,50 | 31   |
| 10080   | 322,00 | 41   | 15035    | 60,40  | 42   | 17557      | 202,00   | 46   | 25020      | 82,50    | 43   | 29/200GL | 2.079,50 | 31   |
| 1008020 | 37,00  | 43   | 15040    | 45,00  | 42   | 175 P 42   | 42,60    | 44   | 2502211    | 639,00   | 14   | 29/200GS | 2.233,00 | 31   |
| 1008021 | 48,00  | 43   | 15041    | 41,00  | 42   | 175 P 42 V | 63,90    | 44   | 25031      | 1.031,00 | 14   | 29/200L  | 1.833,00 | 30   |
| 10090   | 95,30  | 40   | 15042    | 45,50  | 42   | 175 P 42 W | 74,00    | 44   | 25043      | 69,00    | 42   | 29/200S  | 2.064,00 | 30   |
| 1102306 | 6,60   | 62   | 15043    | 47,50  | 42   | 175 P 47   | 42,60    | 44   | 25044      | 57,80    | 42   | 29/200X  | 2.311,00 | 30   |
| 1102308 | 6,60   | 62   | 15044    | 50,10  | 42   | 175 P 47 V | 63,90    | 44   | 25045      | 68,70    | 42   | 29/200XL | 2.422,00 | 30   |
| 1102310 | 6,60   | 62   | 15045    | 47,10  | 42   | 175 P 47 W | 74,00    | 44   | 25048      | 73,00    | 42   | 300/150  | 1.710,00 | 22   |
| 1110312 | 13,70  | 62   | 15046    | 51,20  | 42   | 175 P 52   | 42,60    | 44   | 25054      | 406,00   | 46   | 300/150L | 1.820,00 | 22   |
| 1110314 | 13,70  | 62   | 15048    | 78,00  | 42   | 175 P 52 V | 63,90    | 44   | 25055      | 406,00   | 46   | 300/200  | 2.186,00 | 22   |
| 1110316 | 13,70  | 62   | 15049    | 63,50  | 42   | 175 P 52 W | 74,00    | 44   | 25057      | 349,00   | 46   | 300/200L | 2.285,00 | 22   |
| 1110318 | 13,70  | 62   | 15050    | 55,00  | 45   | 1910       | 21,10    | 62   | 25080      | 534,00   | 41   | 300/200S | 2.597,00 | 22   |
| 1110320 | 13,70  | 62   | 15051    | 253,00 | 45   | 1914       | 12,10    | 62   | 2508021    | 102,00   | 43   | 300/200X | 2.713,00 | 22   |
| 111893  | 6,60   | 57   | 15052    | 211,00 | 45   | 1915       | 12,10    | 62   | 25090      | 249,50   | 40   | 30020090 | 232,00   | 14   |

# Índice por referencias



## References Index

| Ref.      | €/u.     | Pág. | Ref.     | €/u.     | Pág. | Ref.     | €/u.   | Pág. | Ref.      | €/u.     | Pág. | Ref.       | €/u.     | Pág. |
|-----------|----------|------|----------|----------|------|----------|--------|------|-----------|----------|------|------------|----------|------|
| 30025090  | 374,00   | 14   | 30/200GS | 2.637,00 | 11   | 3315098  | 185,00 | 57   | 371400    | 37,00    | 61   | 60/150L-50 | 1.582,00 | 15   |
| 30030031  | 1.550,00 | 14   | 30/200GX | 2.705,00 | 11   | 33161808 | 14,00  | 57   | 371600    | 44,40    | 61   | 60/175     | 1.653,00 | 15   |
| 30030090  | 537,00   | 14   | 30/200L  | 2.087,00 | 9    | 33161810 | 14,00  | 57   | 371800    | 54,30    | 61   | 60/175L    | 1.747,00 | 15   |
| 3030002   | 103,00   | 40   | 30/200P  | 2.230,00 | 16   | 33161814 | 18,20  | 57   | 372000    | 57,00    | 61   | 60/200     | 1.988,00 | 15   |
| 3030007   | 214,60   | 40   | 30/200PF | 1.080,00 | 16   | 33202214 | 18,20  | 57   | 372200    | 64,20    | 61   | 60/200L    | 2.087,00 | 15   |
| 3030008   | 35,50    | 40   | 30/200PM | 1.150,00 | 16   | 336509   | 4,80   | 57   | 37/103    | 521,00   | 58   | 60/200XL   | 2.630,00 | 15   |
| 3030011   | 58,50    | 40   | 30/200S  | 2.451,00 | 9    | 336550   | 22,00  | 57   | 37/103B   | 696,40   | 58   | 610D       | 74,40    | 64   |
| 3030020   | 119,00   | 43   | 30/200X  | 2.515,00 | 9    | 336551   | 38,90  | 57   | 37/103BP  | 657,40   | 58   | 610I       | 74,40    | 64   |
| 3030054   | 708,00   | 46   | 30/200XL | 2.630,00 | 9    | 336560   | 44,00  | 57   | 37/103P   | 482,00   | 58   | 612D       | 95,50    | 64   |
| 3030055   | 708,00   | 46   | 30/250   | 2.840,00 | 9    | 336598   | 69,40  | 57   | 37/12     | 147,20   | 61   | 612I       | 95,50    | 64   |
| 3030061   | 65,00    | 42   | 30/250G  | 3.007,00 | 11   | 338550   | 22,30  | 57   | 37/14     | 148,00   | 61   | 701T       | 65,00    | 64   |
| 3030090   | 413,00   | 40   | 30/250GL | 3.298,00 | 11   | 338551   | 44,60  | 57   | 37/16     | 177,60   | 61   | 702T       | 62,60    | 64   |
| 30/100    | 854,00   | 9    | 30/250GS | 3.494,00 | 11   | 338598   | 80,70  | 57   | 37/18     | 217,20   | 61   | 703T       | 82,50    | 64   |
| 30/100G   | 972,00   | 11   | 30/250GX | 3.740,00 | 11   | 33/100M  | 298,50 | 56   | 37/20     | 228,00   | 61   | 711000     | 195,00   | 50   |
| 30/100GL  | 1.059,00 | 11   | 30/250L  | 3.070,00 | 9    | 33/100P  | 374,00 | 56   | 37/22     | 256,80   | 61   | 711020     | 534,00   | 50   |
| 30/100L   | 920,00   | 9    | 30/250S  | 3.225,00 | 9    | 33/125M  | 398,00 | 56   | 38/103    | 469,50   | 59   | 711030     | 588,00   | 50   |
| 30/100P   | 1.004,00 | 16   | 30/250X  | 3.403,00 | 9    | 33/125P  | 472,00 | 56   | 38/125    | 548,00   | 59   | 71110      | 1.030,00 | 48   |
| 30/100PF  | 478,20   | 16   | 30/300   | 4.370,00 | 9    | 33/150M  | 448,00 | 56   | 38/80     | 394,00   | 59   | 711701     | 66,30    | 52   |
| 30/100PM  | 525,80   | 16   | 30/300L  | 4.520,00 | 9    | 33/65M   | 140,50 | 56   | 395603*   | 7,90     | 61   | 711702     | 75,20    | 52   |
| 30/125    | 1.005,00 | 9    | 30/300S  | 4.999,00 | 9    | 33/85M   | 190,20 | 56   | 395604    | 9,60     | 61   | 711703     | 65,20    | 52   |
| 30/125A1  | 1.059,00 | 8    | 30V125   | 2.110,00 | 29   | 33/85P   | 272,00 | 56   | 395608    | 2,50     | 60   | 711904     | 55,00    | 49   |
| 30/125G   | 1.115,00 | 11   | 30V125P  | 3.180,00 | 28   | 3411200  | 428,50 | 59   | 395644    | 15,40    | 61   | 711905     | 55,00    | 49   |
| 30/125GL  | 1.195,00 | 11   | 31/125   | 1.490,00 | 34   | 3411203  | 23,00  | 59   | 395645    | 17,90    | 61   | 711906     | 55,00    | 49   |
| 30/125L   | 1.068,00 | 9    | 31/125H  | 1.807,00 | 35   | 3411219  | 28,00  | 59   | 395646    | 19,90    | 61   | 712000     | 195,00   | 50   |
| 30/125LA1 | 1.130,00 | 8    | 31/125HL | 1.820,00 | 35   | 346000   | 162,30 | 59   | 395647    | 20,50    | 61   | 712011     | 255,90   | 51   |
| 30/125P   | 1.171,00 | 16   | 31/125L  | 1.575,00 | 34   | 346003   | 11,50  | 59   | 397003    | 13,00    | 61   | 712012     | 395,00   | 51   |
| 30/125PF  | 599,00   | 16   | 31/160   | 1.835,00 | 34   | 346019   | 17,00  | 59   | 397004    | 14,30    | 61   | 712020     | 558,00   | 50   |
| 30/125PM  | 573,00   | 16   | 31/160H  | 2.350,00 | 35   | 346200   | 204,50 | 59   | 397044    | 19,00    | 61   | 712030     | 614,00   | 50   |
| 30/125R   | 1.295,00 | 9    | 31/160HL | 2.490,00 | 35   | 347900   | 218,20 | 59   | 397045    | 22,00    | 61   | 71210      | 1.699,00 | 48   |
| 30/125RL  | 1.370,00 | 9    | 31/160L  | 1.970,00 | 34   | 347903   | 14,70  | 59   | 397046    | 24,00    | 61   | 712701     | 70,50    | 52   |
| 30/125S   | 1.130,00 | 9    | 32/100 N | 1.053,00 | 36   | 34/112   | 885,00 | 59   | 39/56     | 42,20    | 61   | 712702     | 70,50    | 52   |
| 30/150    | 1.496,00 | 9    | 32/100 S | 619,00   | 36   | 34/60    | 341,60 | 59   | 39/57     | 44,70    | 61   | 712904     | 55,50    | 49   |
| 30/150D   | 2.320,00 | 25   | 32/100D  | 395,00   | 37   | 34/62    | 426,00 | 59   | 39/58     | 46,70    | 61   | 712905     | 55,50    | 49   |
| 30/150G   | 1.692,00 | 11   | 32/125D  | 564,00   | 37   | 34/79    | 453,40 | 59   | 39/59     | 47,30    | 61   | 712906     | 55,50    | 49   |
| 30/150GL  | 1.766,00 | 11   | 32/150D  | 629,00   | 37   | 354500   | 111,70 | 60   | 39/70     | 66,90    | 61   | 712907     | 55,50    | 49   |
| 30/150GS  | 1.927,00 | 11   | 32/25 M  | 137,00   | 37   | 354503   | 15,10  | 60   | 39/71     | 69,90    | 61   | 712908     | 55,50    | 49   |
| 30/150GX  | 2.028,00 | 11   | 32/30 M  | 175,00   | 37   | 354514   | 1,60   | 60   | 39/72     | 71,90    | 61   | 713011     | 249,90   | 51   |
| 30/150L   | 1.582,00 | 9    | 32/46 M  | 189,00   | 37   | 35/45    | 446,80 | 60   | 410       | 49,00    | 63   | 713012     | 559,00   | 51   |
| 30/150P   | 1.690,00 | 16   | 32/50 N  | 765,00   | 36   | 366000   | 78,30  | 60   | 412       | 75,00    | 63   | 713020     | 641,00   | 50   |
| 30/150PF  | 840,50   | 16   | 32/50 S  | 246,00   | 36   | 366400   | 88,20  | 60   | 4390      | 77,50    | 62   | 713030     | 696,00   | 50   |
| 30/150PM  | 849,50   | 16   | 32/60D   | 168,00   | 37   | 366500   | 89,80  | 60   | 508D      | 55,60    | 63   | 71310      | 1.956,50 | 48   |
| 30/150S   | 1.770,00 | 9    | 32/75 N  | 929,00   | 36   | 366600   | 94,90  | 60   | 508I      | 55,60    | 63   | 713110     | 150,40   | 49   |
| 30/150X   | 1.919,00 | 9    | 32/80 S  | 397,00   | 36   | 367800   | 122,50 | 60   | 510D      | 73,40    | 63   | 713701     | 83,50    | 52   |
| 30/175    | 1.653,00 | 9    | 32/80D   | 239,00   | 37   | 367900   | 123,80 | 60   | 510I      | 73,40    | 63   | 713702     | 83,50    | 52   |
| 30/175G   | 1.852,00 | 11   | 3310050  | 26,00    | 57   | 368000   | 130,70 | 60   | 512D      | 93,00    | 63   | 713906     | 68,40    | 49   |
| 30/175GL  | 1.994,00 | 11   | 3310051  | 50,20    | 57   | 36/60    | 313,20 | 60   | 512I      | 93,00    | 63   | 713907     | 68,40    | 49   |
| 30/175GS  | 2.057,00 | 11   | 3310098  | 110,50   | 57   | 36/64    | 352,80 | 60   | 608D      | 57,80    | 64   | 713908     | 68,40    | 49   |
| 30/175GX  | 2.175,00 | 11   | 33121408 | 14,00    | 57   | 36/65    | 359,20 | 60   | 608I      | 57,80    | 64   | 713910     | 68,40    | 49   |
| 30/175L   | 1.747,00 | 9    | 33121410 | 14,00    | 57   | 36/66    | 379,60 | 60   | 60/125    | 1.005,00 | 15   | 714011     | 352,60   | 51   |
| 30/175S   | 1.864,00 | 9    | 3312550  | 27,60    | 57   | 36/78    | 490,00 | 60   | 60/125L   | 1.068,00 | 15   | 714012     | 776,00   | 51   |
| 30/175X   | 1.967,00 | 9    | 3312551  | 62,30    | 57   | 36/79    | 495,20 | 60   | 60/150    | 1.496,00 | 15   | 714020     | 722,00   | 50   |
| 30/200    | 1.988,00 | 9    | 3312598  | 136,90   | 57   | 36/80    | 522,80 | 60   | 60/150-50 | 1.496,00 | 15   | 714030     | 773,00   | 50   |
| 30/200G   | 2.177,00 | 11   | 3315050  | 36,30    | 57   | 3710319  | 49,00  | 58   | 60/150D   | 2.258,00 | 25   | 71410      | 2.616,00 | 48   |
| 30/200GL  | 2.336,00 | 11   | 3315051  | 73,00    | 57   | 371200   | 36,80  | 61   | 60/150L   | 1.582,00 | 15   | 714110     | 158,00   | 49   |

# Índice por referencias

## References Index



| Ref.   | €/u.     | Pág. | Ref.        | €/u.     | Pág. | Ref.         | €/u.     | Pág. | Ref. | €/u.   | Pág. |
|--------|----------|------|-------------|----------|------|--------------|----------|------|------|--------|------|
| 714112 | 158,00   | 49   | 96106       | 94,90    | 52   | DD125/500G-1 | 1.924,00 | 27   | TN2  | 71,00  | 65   |
| 714216 | 165,00   | 49   | 961061      | 40,30    | 52   | DD125/500G   | 2.322,00 | 27   | TN3  | 100,30 | 65   |
| 714701 | 83,50    | 52   | 961062      | 54,60    | 52   | DD125/600    | 2.356,00 | 27   | WN2  | 68,00  | 65   |
| 714702 | 89,00    | 52   | 96107       | 105,10   | 52   | DD125/600-1  | 2.017,50 | 27   | WN3  | 79,50  | 65   |
| 714904 | 74,00    | 49   | 961071      | 44,90    | 52   | DD125/600G-1 | 2.124,00 | 27   |      |        |      |
| 714906 | 74,00    | 49   | 961072      | 60,20    | 52   | DD125/600G*  | 2.549,00 | 27   |      |        |      |
| 714907 | 74,00    | 49   | 96108       | 114,50   | 52   | DF125/450    | 1.830,00 | 26   |      |        |      |
| 714908 | 74,00    | 49   | 961081      | 48,50    | 52   | GN/125       | 345,00   | 35   |      |        |      |
| 714910 | 74,00    | 49   | 961082      | 66,00    | 52   | GN/160       | 434,00   | 35   |      |        |      |
| 714912 | 74,00    | 49   | 96109       | 124,90   | 52   | ISO 30       | 117,90   | 50   |      |        |      |
| 715011 | 447,80   | 51   | 961091      | 53,00    | 52   | ISO 40       | 123,50   | 50   |      |        |      |
| 715012 | 864,00   | 51   | 961092      | 71,90    | 52   | ISO 50       | 134,70   | 50   |      |        |      |
| 715020 | 794,00   | 50   | 96110       | 136,50   | 52   | L10          | 99,00    | 65   |      |        |      |
| 715030 | 864,30   | 50   | 961101      | 56,00    | 52   | L300         | 52,00    | 65   |      |        |      |
| 71510  | 3.298,00 | 48   | 961102      | 80,50    | 52   | L500         | 62,00    | 65   |      |        |      |
| 715110 | 175,00   | 49   | 96111       | 160,00   | 52   | M1/8         | 72,90    | 63   |      |        |      |
| 715112 | 175,00   | 49   | 961111      | 67,00    | 52   | M2/20        | 155,40   | 63   |      |        |      |
| 715116 | 175,00   | 49   | 961112      | 93,00    | 52   | ME20/50      | 219,70   | 63   |      |        |      |
| 715216 | 178,00   | 49   | 96112       | 182,00   | 52   | MF2/20       | 155,40   | 63   |      |        |      |
| 715222 | 185,00   | 49   | 961121      | 83,00    | 52   | MORSE 5      | 168,30   | 50   |      |        |      |
| 715701 | 95,00    | 52   | 961122      | 98,00    | 52   | P29003       | 13,40    | 66   |      |        |      |
| 715702 | 95,00    | 52   | 96113       | 206,00   | 52   | P29004       | 21,40    | 66   |      |        |      |
| 715703 | 102,00   | 52   | 961131      | 102,50   | 52   | P29005       | 34,90    | 66   |      |        |      |
| 715906 | 86,40    | 49   | 961132      | 103,50   | 52   | P56001       | 21,30    | 66   |      |        |      |
| 715908 | 86,40    | 49   | 96114       | 240,00   | 52   | P56002       | 27,10    | 66   |      |        |      |
| 715909 | 86,40    | 49   | 961141      | 111,00   | 52   | P56003       | 31,30    | 66   |      |        |      |
| 715910 | 86,40    | 49   | 961142      | 129,00   | 52   | P56004       | 40,60    | 66   |      |        |      |
| 715912 | 86,40    | 49   | 961151      | 149,00   | 52   | P56005       | 63,60    | 66   |      |        |      |
| 715914 | 86,40    | 49   | 961161      | 179,00   | 52   | P56050       | 18,70    | 67   |      |        |      |
| 715916 | 86,40    | 49   | 961171      | 198,00   | 52   | P56051       | 23,70    | 67   |      |        |      |
| 809M   | 72,80    | 64   | 961181      | 218,00   | 52   | P56052       | 26,40    | 67   |      |        |      |
| 815M   | 99,50    | 64   | 961191      | 237,00   | 52   | P56053       | 32,30    | 67   |      |        |      |
| 818M   | 127,00   | 64   | 961201      | 254,00   | 52   | P56054       | 40,30    | 67   |      |        |      |
| 822M   | 137,00   | 64   | 961211      | 264,00   | 52   | PRD/125      | 845,50   | 12   |      |        |      |
| 826M   | 179,00   | 64   | 961301      | 395,00   | 52   | PRD/125G     | 931,00   | 13   |      |        |      |
| 82/100 | 230,50   | 57   | B/100       | 314,00   | 44   | PRD/125GL    | 999,50   | 13   |      |        |      |
| 82/125 | 269,90   | 57   | B/125       | 332,00   | 44   | PRD/125L     | 902,70   | 12   |      |        |      |
| 82/150 | 305,00   | 57   | B/150       | 451,00   | 44   | PRD/150      | 1.258,00 | 12   |      |        |      |
| 82/85  | 156,00   | 57   | B/200       | 613,00   | 44   | PRD/150G     | 1.370,00 | 13   |      |        |      |
| 830M   | 212,00   | 64   | B27160      | 260,00   | 32   | PRD/150GL    | 1.449,00 | 13   |      |        |      |
| 906RD  | 29,90    | 64   | B28150      | 295,00   | 33   | PRD/150GS    | 1.560,00 | 13   |      |        |      |
| 906RI  | 29,90    | 64   | CAFN1       | 1.339,00 | 48   | PRD/150L     | 1.330,00 | 12   |      |        |      |
| 908RD  | 43,90    | 64   | CAFN2       | 2.034,00 | 48   | PRD/150S     | 1.483,00 | 12   |      |        |      |
| 908RI  | 43,90    | 64   | CAFN3       | 2.701,00 | 48   | PRD/150X     | 1.625,00 | 12   |      |        |      |
| 910RD  | 49,50    | 64   | CAFN4       | 3.746,00 | 48   | PRD/200      | 1.692,00 | 12   |      |        |      |
| 910RI  | 49,50    | 64   | CAFN5       | 4.899,00 | 48   | PRD/200G     | 1.815,00 | 13   |      |        |      |
| 961021 | 33,00    | 52   | CCN1        | 39,90    | 65   | PRD/200GL    | 1.950,00 | 13   |      |        |      |
| 961031 | 34,00    | 52   | CF/125      | 2.530,00 | 23   | PRD/200GS    | 2.070,00 | 13   |      |        |      |
| 96104  | 84,10    | 52   | CFA125      | 1.799,00 | 24   | PRD/200GX    | 2.275,00 | 13   |      |        |      |
| 961041 | 35,90    | 52   | CFA12512    | 180,00   | 24   | PRD/200L     | 1.789,00 | 12   |      |        |      |
| 961042 | 48,20    | 52   | CFA12513    | 201,00   | 24   | PRD/200S     | 1.980,00 | 12   |      |        |      |
| 96105  | 88,60    | 52   | CFB125      | 2.039,00 | 24   | PRD/200X     | 2.158,00 | 12   |      |        |      |
| 961051 | 37,60    | 52   | DD125/500   | 2.096,00 | 27   | PRD/200XL    | 2.292,00 | 12   |      |        |      |
| 961052 | 51,00    | 52   | DD125/500-1 | 1.756,50 | 27   | TN1          | 52,20    | 65   |      |        |      |



## Notas

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