

## Nuevos productos para técnicos en mecanizado

### **NEW** -M7



La nueva geometría -M7 está diseñada para ranurar y tronzar. Con avances medios-altos, se comporta especialmente bien en los aceros.

→ [Página 18](#)

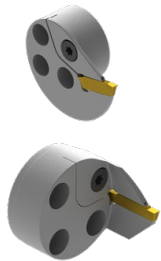
### **NEW** -M8



La geometría rectificada -M8 es la primera opción para aceros inoxidables. Esta geometría solo puede ranurar y tronzar.

→ [Página 19](#)

### **NEW** MaxiChange – Sistema de cabeza intercambiable



El sistema de cabeza intercambiable MaxiChange es modular y, por lo tanto, muy flexible, por lo que se puede utilizar para una extensa gama de aplicaciones gracias a una amplia selección de cabezas intercambiables. MaxiChange GX también aprovecha estas ventajas y las amplía para incluir la función de ranurado interior y exterior, así como el ranurado axial y radial.

Para ranurado radial GX 16 → [Página 51](#)

Para ranurado axial GX 24 → [Página 70](#)



Taladrado

- 1 Brocas HSS
- 2 Brocas de metal duro integral
- 3 Brocas de plaquitas intercambiables
- 4 Escariadores y avellanadores

Roscado

- 5 Cabezales de mandrinado de precisión
- 6 Machos de corte y laminación
- 7 Fresas de roscar por interpolación
- 8 Roscado en torno con plaquitas

Torneado

- 9 Herramientas de torneado de plaquitas
- 10 Herramientas multifunción EcoCut y FreeTurn
- 11 Herramientas de tronzado y ranurado
- 12 Torneado mini

Fresado

- 13 Fresas HSS
- 14 Fresas de metal duro integral
- 15 Fresado con plaquitas intercambiables

Sujeción

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| Funcionamiento de la sujeción                     | 96+97   |
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## CERATIZIT \ Performance

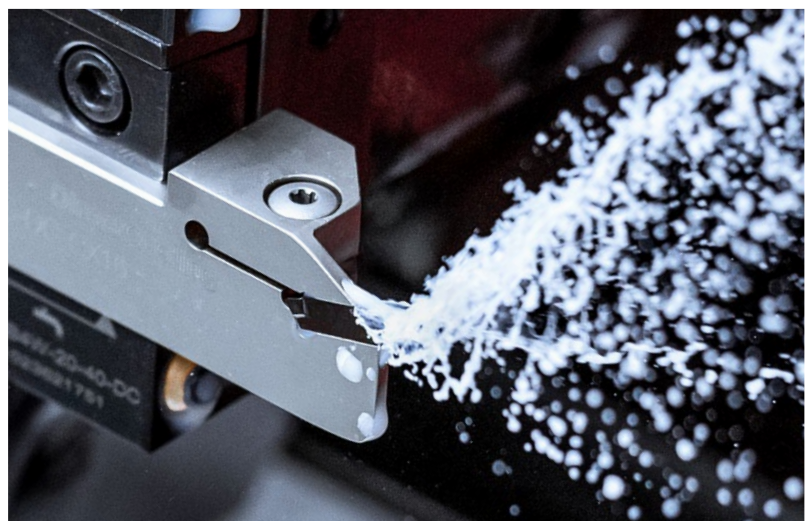
Herramientas de calidad Premium para conseguir el mejor rendimiento.

Las herramientas de calidad Premium de la línea de productos **CERATIZIT Performance** se han creado para usos especiales y destacan por su excelente rendimiento. Si requiere un rendimiento elevado en su producción y los mejores resultados, le recomendamos las herramientas Premium de esta gama.

## Ventajas de DirectCooling




















- ▲ Mejor control de viruta
- ▲ Mayor vida útil de la plaquita
- ▲ Más fiabilidad del proceso
- ▲ Datos de corte más altos
- ▲ Reducción del desgaste
- ▲ Uso universal.














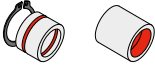




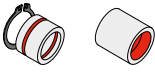











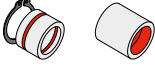


[cuttingtools.ceratizit.com/es/es/direct-cooling](http://cuttingtools.ceratizit.com/es/es/direct-cooling)

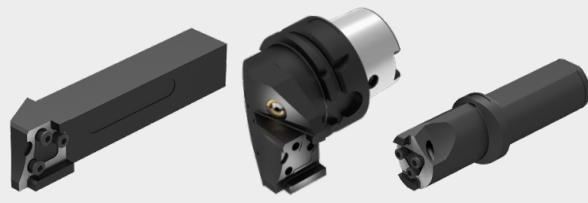



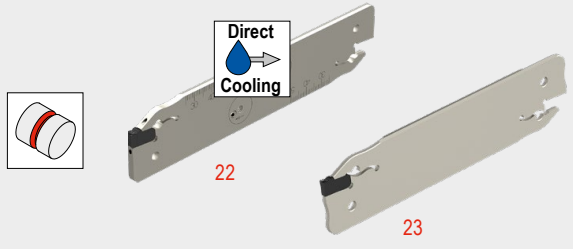
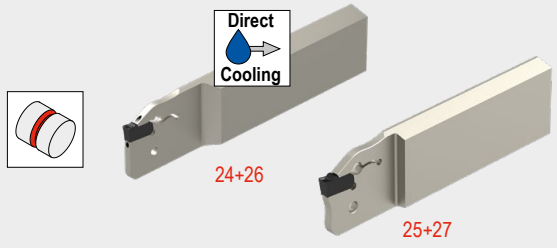
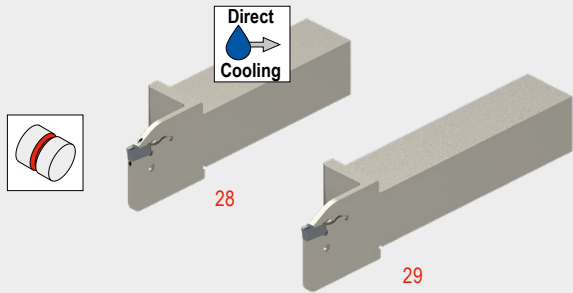
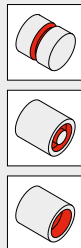


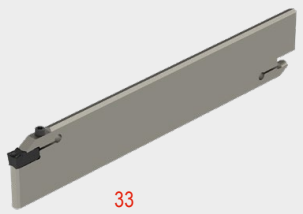
## Explicación de los símbolos





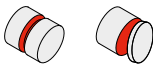








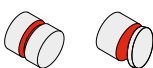


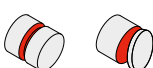


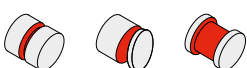










|   |                           |   |                        |   |                       |
|---|---------------------------|---|------------------------|---|-----------------------|
|  | Ranurado                  |  | Mecanizado interior    |  | DirectCooling         |
|  | Tronzado                  |  | Rosca interior         |  | Refrigeración interna |
|  | Ranurado y torneado       |  | Rosca exterior         |  | Repetibilidad         |
|  | Copiado                   | <b>F</b>  | Mecanizado de acabado  | <b>-F2</b>  | Rompevirutas          |
|  | Ranurado axial y torneado | <b>M</b>  | Mecanizado medio       | <b>CTPP345</b>  | Calidad de metal duro |
|  | Circlips                  | <b>R</b>  | Mecanizado de desbaste |  | Corte continuo        |
|   |                           |  | Uso principal          |  | Corte irregular       |
|   |                           |  | Uso ampliado           |  | Corte interrumpido    |

## Vista general

| Número de filos | Sistema | Ranurado  | Tronzado  | Ranurado y torneado   | Copiado   | Ranurado axial y torneado   | Circlips  | Mecanizado interior   | Mecanizado exterior |               | Mecanizado interior |               | Ranurado axial |               | Página |
|-----------------|---------|---|---|---|---|---|---|---|---------------------|---------------|---------------------|---------------|----------------|---------------|--------|
|                 |         |   |   |   |   |   |   |   | CW (mm)             | CDX max. (mm) | DMIN (mm)           | CDX max. (mm) | DAXN (mm)      | CDX max. (mm) |        |
| 1               | SX      |  |  |  |  |   |   |   | 2-6                 | 60            |                     |               |                |               | 14-29  |
|                 | LX      |  |  |  |  |  |   |   | 8-10                | 80            | 200                 | 34            | 500            | 39            | 30-33  |
| 2               | GX 09   |  |  |  |  |   |  |   | 2-3,5               | 7             | 16                  | 6             |                |               | 34-51  |
|                 | GX 16   |  |  |  |  |   |  |   | 2-6                 | 12            | 20,5                | 11            |                |               | 34-51  |
|                 | GX 24   |  |  |  |  |  |   |  | 2-6                 | 21            | 42                  | 19            | 45             | 25            | 52-70  |
| 3               | TX      |  |  |  |  |  |  |   | 0,5-5,15            | 8             | 46                  | 2             | 20             | 3             | 71-79  |

Toolfinder

|         | ModularClamp  | MonoClamp  |
|---------|---|--|
| Sistema |  <p>0° / 90°<br/>80+81</p> <p>0°<br/>82</p> <p>1,5xD / 2,5xD<br/>83</p>                          |  <p>84-86</p> <p>→ Capítulo 16</p>   |
| SX      |   <p>21</p> |    <p>Direct Cooling</p> <p>22</p> <p>23</p> <p>24+26</p> <p>25+27</p> <p>28</p> <p>29</p> |
| LX      |   <p>32</p> |   <p>33</p>  |

| Sistema | Rompevirutas  | Ancho de corte    | Ranurado       | Tronzado  | Ranurado y torneado | Copiado   | Ranurado axial y torneado | Círculos | Mecanizado de acabado  |   | Mecanizado medio |   | Mecanizado de desbaste |   | P | M | K | N | S | H | O  | Página |
|---------|---|-------------------|----------------|---|---------------------|---|---------------------------|----------|--|---|------------------|---|------------------------|---|---|---|---|---|---|---|----|--------|
|         |   |                   |                |   |                     |   |                           |          | F  | M | R                | P | M                      | R |   |   |   |   |   |   |    |        |
| SX      |    | -F2               | 2-4            |    |                     |   |                           |          |   |   |                  |   |                        |   | ● | ● | ● | ○ | ● |   | ○  | 14     |
|         |    | -M1               | 2-6            |    |                     |   |                           |          |   |   |                  |   |                        |   | ● | ● | ● | ○ | ● |   | ○  | 15     |
|         |   | -M2               | 2-6            |   |                     |   |                           |          |    |   |                  |   |                        |   | ● | ● | ● | ○ | ● |   | ○  | 16     |
|         |  | -M3               | CRE<br>1,5-3,0 |  |                     |   |                           |          |   |   |                  |   |                        |   | ● | ● | ● | ○ | ● |   | ○  | 17     |
|         |  | <b>NEW</b><br>-M7 | 2-6            |  |                     |   |                           |          |   |   |                  |   |                        |   | ● | ● | ● | ○ | ● |   | ○  | 18     |
|         |  | <b>NEW</b><br>-M8 | 2-6            |  |                     |   |                           |          |   |   |                  |   |                        |   | ● | ● | ● | ○ | ● |   | ○  | 19     |
|         |  | -27P              | 2-4            |  |                     |   |                           |          |   |   |                  |   |                        |   |   |   |   | ● | ● | ○ |    | ○      |
| LX      |  | -M2               | 8-10           |  |                     |  |                           |          | <br> |   |                  |   |                        | ● | ● | ● | ○ | ● |   | ○ | 30 |        |
|         |  | -M3               | CRE<br>4,0     |  |                     |   |                           |          | <br> |   |                  |   |                        | ● | ● | ● | ○ | ● |   | ○ | 31 |        |

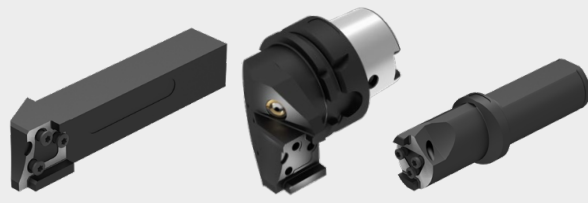

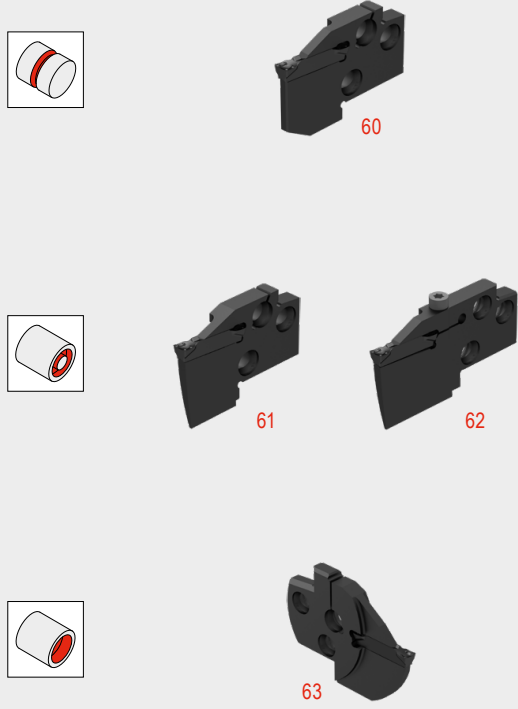
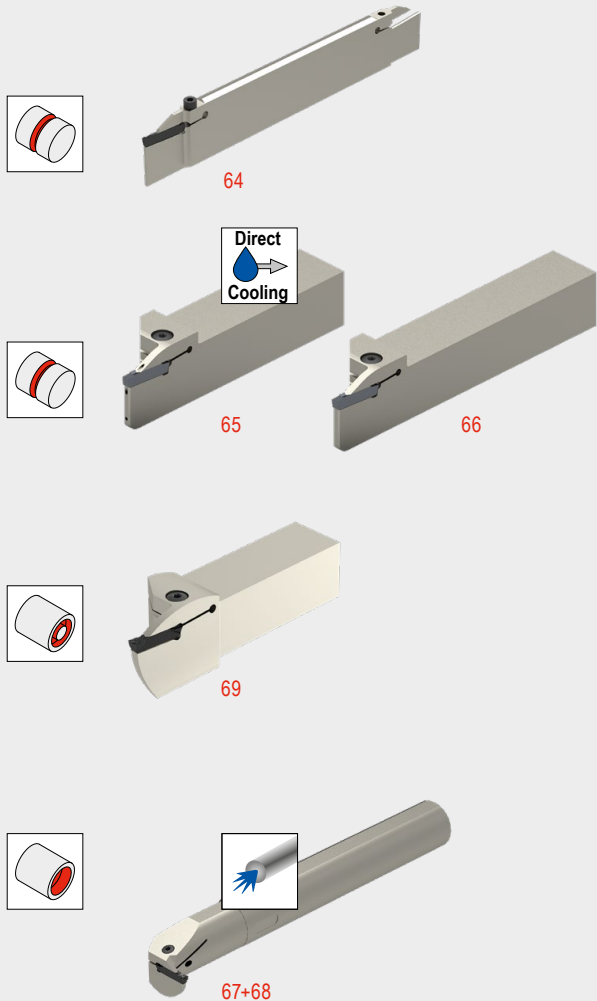
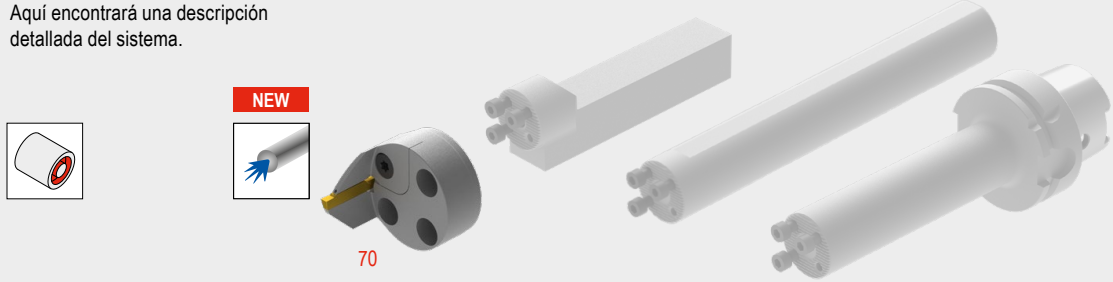
# Toolfinder

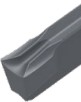













|   | ModularClamp   | MonoClamp  |
|---|--|--|
| Sistema   |  <p>0° / 90°<br/>80+81</p> <p>0°<br/>82</p> <p>1,5xD / 2,5xD<br/>83</p> |  <p>→ Capítulo 16</p>                                      |
| GX 09   |  <p>42</p> <p>43</p> <p>44</p> <p>45</p>                               |  <p>46</p> <p>49</p>                                      |
| GX 16   |  <p>42</p> <p>43</p> <p>44</p> <p>45</p>                              |  <p>Direct<br/>Cooling</p> <p>47</p> <p>48</p> <p>50</p> |
| <b>MaxiChange</b>   |  |  |
| <p>→ Página 12+13<br/>Aquí encontrará una descripción detallada del sistema.</p>  <p>NEW</p> <p>51</p> <p>→ Capítulo 9 – Herramientas de torneado de plaquitas<br/>Aquí encontrará los portaherramientas adecuados.</p> |  |  |

| Sistema        | Rompevirutas | Ancho de corte | Ranurado | Tronzado | Ranurado y torneado | Copiado | Ranurado axial y torneado | Círculos | Mecanizado de acabado | Mecanizado medio | Mecanizado de desbaste | Materiales |   |   |   |   |    |    |  | Página |
|----------------|--------------|----------------|----------|----------|---------------------|---------|---------------------------|----------|-----------------------|------------------|------------------------|------------|---|---|---|---|----|----|--|--------|
|                |              |                |          |          |                     |         |                           |          |                       |                  |                        | P          | M | K | N | S | H  | O  |  |        |
| GX 09<br>GX 16 | -F2          | 2-5            |          |          |                     |         |                           |          |                       |                  |                        | ●          | ● | ● | ○ | ● | ○  | 34 |  |        |
|                | Estándar     | 2-6            |          |          |                     |         |                           |          |                       |                  |                        | ●          | ● | ● | ○ | ● | ○  | 35 |  |        |
|                | -M40         | 2-6            |          |          |                     |         |                           |          |                       |                  |                        | ●          | ● | ● | ○ | ● | ○  | 36 |  |        |
|                | Estándar     | CRE<br>0,8-3,0 |          |          |                     |         |                           |          |                       |                  |                        | ●          | ● | ● | ○ | ● | ○  | 40 |  |        |
|                | Estándar     | 1-4,25         |          |          |                     |         |                           |          |                       |                  |                        | ●          | ● | ● | ○ | ● | ○  | 39 |  |        |
| GX 16          | -M1          | 2-4            |          |          |                     |         |                           |          |                       |                  |                        | ●          | ● | ● | ○ | ● | ○  | 37 |  |        |
|                | -27P         | 2-6            |          |          |                     |         |                           |          |                       |                  |                        |            | ● | ● | ○ | ○ | 38 |    |  |        |
|                | -27P         | CRE<br>1,5-2,5 |          |          |                     |         |                           |          |                       |                  |                        |            | ● | ● | ○ | ○ | 41 |    |  |        |




# Toolfinder

|   | ModularClamp   | MonoClamp  |
|---|--|--|
| Sistema   |  <p>0° / 90°<br/>80+81</p> <p>0°<br/>82</p> <p>1,5xD / 2,5xD<br/>83</p> |  <p>85+86</p> <p>→ Capítulo 16</p>   |
| GX 24   |  <p>60</p> <p>61</p> <p>62</p> <p>63</p>                               |  <p>64</p> <p>Direct Cooling</p> <p>65</p> <p>66</p> <p>69</p> <p>67+68</p> |
| <b>MaxiChange</b>   |  |  |
| <p>→ Página 12+13<br/>Aquí encontrará una descripción detallada del sistema.</p>  <p>70</p> <p>NEW</p> <p>→ Capítulo 9 – Herramientas de torneado de plaquitas<br/>Aquí encontrará los portaherramientas adecuados.</p> |  |  |

| Sistema | Rompevirutas  | Ancho de corte | Ranurado       | Tronzado  | Ranurado y torneado | Copiado   | Ranurado axial y torneado   | Círculos  | Círculos  |   | Mecanizado de desbaste | Acero | Acero inoxidable | Hierro fundido | Materiales no férricos | Aleaciones resistentes al calor | Materiales endurecidos | Materiales no metálicos | Página |
|---------|---|----------------|----------------|---|---------------------|---|---|---|---|---|------------------------|-------|------------------|----------------|------------------------|---------------------------------|------------------------|-------------------------|--------|
|         |   |                |                |   |                     |   |   |   | F   | M |                        |       |                  |                |                        |                                 |                        |                         |        |
| GX 24   |    | -F2            | 3-6            |    |                     |   |    |   |    |   |                        | ●     | ●                | ●              | ○                      | ●                               |                        | ○                       | 52     |
|         |    | -E             | 3-6            |    |                     |   |    |   |    |   |                        | ●     | ●                | ●              | ○                      | ●                               |                        | ○                       | 53     |
|         |  | -M1            | 2-4            |  |                     |   |   |   |  |   |                        | ●     | ●                | ●              | ○                      | ●                               |                        | ○                       | 54     |
|         |  | -M40           | 3-6            |  |                     |   |  |   |  |   |                        | ●     | ●                | ●              | ○                      | ●                               |                        | ○                       | 55     |
|         |  | -M3            | CRE<br>1,5-3,0 |  |                     |  |   |  |  |   |                        | ●     | ○                | ●              |                        | ○                               |                        |                         | 56     |
|         |  | -M33           | CRE<br>1,5-3,0 |  |                     |  |   |  |  |   |                        | ●     | ○                | ●              |                        | ○                               |                        |                         | 57     |
|         |  | -27P           | 3-6            |  |                     |  |   |  |  |   |                        |       |                  | ●              | ●                      | ○                               |                        | ○                       | 58     |
|         |  | -27PF          | CRE<br>3-4     |  |                     |  |   |  |  |   |                        |       |                  | ●              | ●                      | ○                               |                        | ○                       | 59     |

# Toolfinder

**MonoClamp**

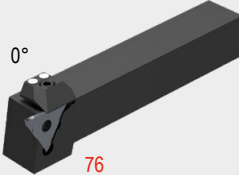


→ Capítulo 16

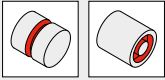
**Sistema**

**TX**

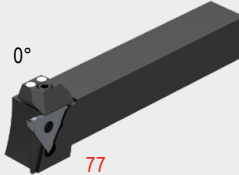
0°




76



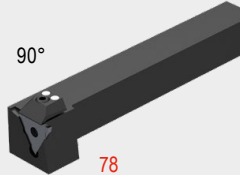
0°




77




90°




78





79



**MaxiChange**

**Vista general**

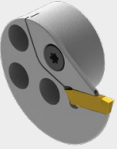
→ **Capítulo 9 – Herramientas de torneado de plaquitas**

**Cabezas intercambiables**





**Para ranurado radial**

**NEW**

GX 16  
51



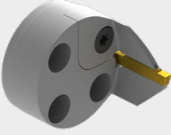
**Para plaquitas negativas**

|   |   |  |   |
|---|---|--|---|
| PCLN 95°  | PDUN 93°  | PDQN 107,5°  | PWLN 95°  |
|  |  |  |  |

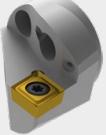
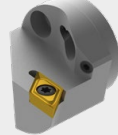

**Para ranurado axial**

**NEW**




GX 24  
70



**Para plaquitas positivas**

|   |   |  |
|---|---|--|
| SCLC 95°  | SDUC 93°  | SDQC 107,5°  |
|  |  |  |

**Para roscas interiores**

|   |   |  |
|---|---|--|
| SVPC 117,5°   | SVUC 93°  | SVQC 107,5°  |
|  |  |  |

11|12

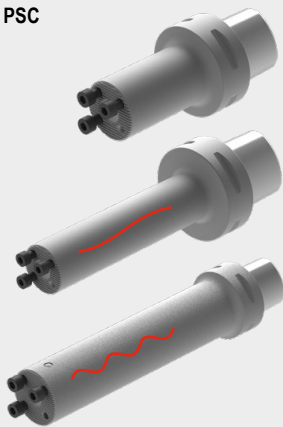
cuttingtools.ceratizit.com

| Sistema | Rompevirutas | Ancho de corte  | Ranurado | Tronzado | Ranurado y torneado | Copiado | Ranurado axial y torneado | Círculos | Mecanizado de acabado | Mecanizado medio | Mecanizado de desbaste | Acero | Acero inoxidable | Hierro fundido | Materiales no férricos | Aleaciones resistentes al calor | Materiales endurecidos | Materiales no metálicos | Página |
|---------|--------------|-----------------|----------|----------|---------------------|---------|---------------------------|----------|-----------------------|------------------|------------------------|-------|------------------|----------------|------------------------|---------------------------------|------------------------|-------------------------|--------|
|         |              |                 |          |          |                     |         |                           |          | F                     | M                | R                      | P     | M                | K              | N                      | S                               | H                      | O                       |        |
| TX      |              | 1,99–2,79       |          |          |                     |         |                           |          |                       |                  |                        | ●     | ●                | ●              | ●                      | ●                               | ○                      | ●                       | 71     |
|         |              | 0,57–5,29       |          |          |                     |         |                           |          |                       |                  |                        | ●     | ●                | ●              | ●                      | ●                               | ○                      | ●                       | 72     |
|         |              | CRE<br>0,25–2,5 |          |          |                     |         |                           |          |                       |                  |                        | ●     | ●                | ●              | ●                      | ●                               | ○                      | ●                       | 73     |
|         |              | 1,5–4,0         |          |          |                     |         |                           |          |                       |                  |                        | ●     | ●                | ●              | ●                      | ●                               | ○                      | ●                       | 74     |
|         |              | 1,5–3,0         |          |          |                     |         |                           |          |                       |                  |                        | ●     | ●                | ●              | ●                      | ●                               | ○                      | ●                       | 75     |

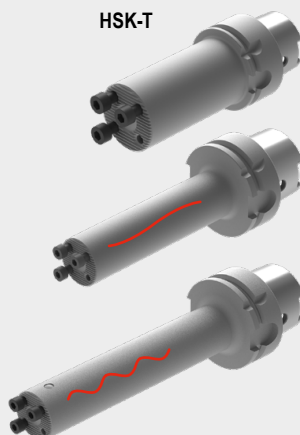
### MaxiChange

#### → Capítulo 9 – Herramientas de torneado de plaquitas Portaherramientas

PSC



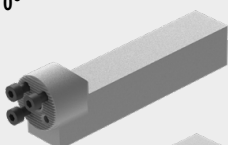
HSK-T



Con atenuación de vibraciones

Amortiguación activa de las vibraciones

Portaherramientas a 0°

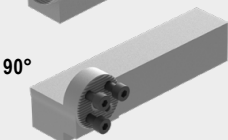


Mango cilíndrico



Amortiguación activa de las vibraciones

90°

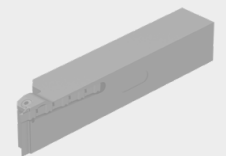


→ [cuttingtools.ceratizit.com](http://cuttingtools.ceratizit.com)

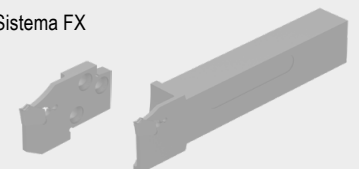
VertiClamp  
→ Catálogo de decoletaje



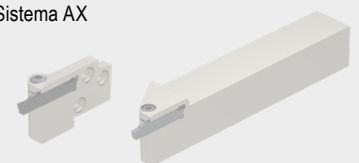
MaxiClick



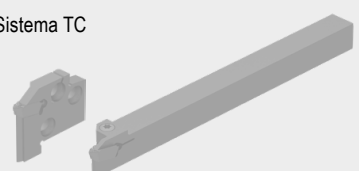
Sistema FX



Sistema AX

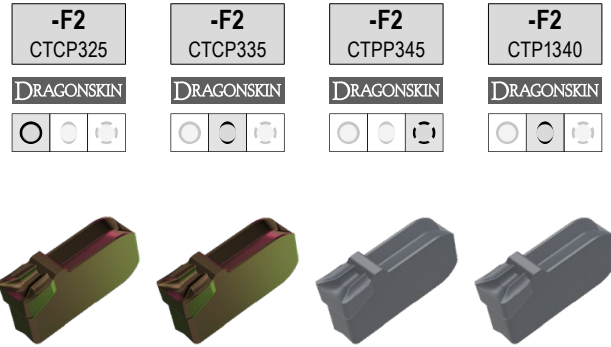
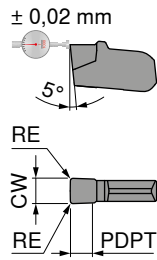
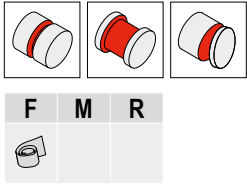


Sistema TC



# Plaquita SX

▲ Geometría rectificada de alta precisión.



| Designación     | CW $\pm 0,02$<br>mm | RE $\pm 0,05$<br>mm | PDPT<br>mm | Para portas | 70 346 ...   |     | 70 346 ...   |     | 70 346 ...   |     | 70 346 ...   |     |
|-----------------|---------------------|---------------------|------------|-------------|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
|                 |                     |                     |            |             | EUR<br>1C/72 |     | EUR<br>1C/72 |     | EUR<br>1C/72 |     | EUR<br>1C/72 |     |
| SX E2.00 N 0.20 | 2                   | 0,2                 | 1,5        | -SX2        |              |     |              |     | 23,67        | 822 | 23,67        | 622 |
| SX E3.00 N 0.30 | 3                   | 0,3                 | 2,0        | -SX3        | 25,44        | 923 | 25,44        | 523 | 25,44        | 823 | 25,44        | 623 |
| SX E4.00 N 0.40 | 4                   | 0,4                 | 2,5        | -SX4        |              |     |              |     | 26,91        | 824 | 26,91        | 624 |

|   |   |   |   |   |
|---|---|---|---|---|
| P | ● | ● | ● | ● |
| M | ○ | ○ | ○ | ○ |
| K | ● | ● | ● | ● |
| N |   |   |   | ○ |
| S | ○ |   | ○ | ● |
| H |   |   |   |   |
| O |   |   |   | ○ |

→ v. Página 88  
→ Recomendación de uso en la página 92

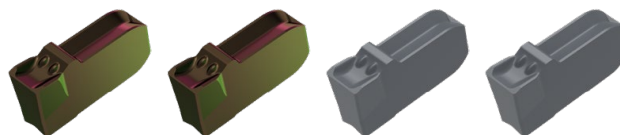
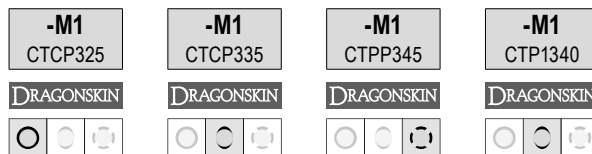
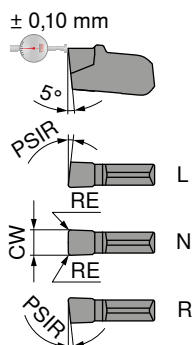
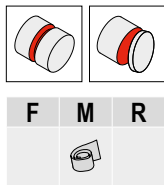
Mecanizado interior

Mecanizado exterior



# Plaquita SX

▲ Geometría especialmente desarrollada con chaflanes de filo negativos disponibles en versión a derechas, izquierdas y neutra



| Designación     | IH | CW $\pm 0,05$<br>mm | RE $\pm 0,05$<br>mm | PSIR | Para portas | 70 342 ...   |     | 70 342 ...   |       | 70 342 ...   |     | 70 342 ...   |     |
|-----------------|----|---------------------|---------------------|------|-------------|--------------|-----|--------------|-------|--------------|-----|--------------|-----|
|                 |    |                     |                     |      |             | EUR<br>1C/72 |     | EUR<br>1C/72 |       | EUR<br>1C/72 |     | EUR<br>1C/72 |     |
| SX E2.00 L 6    | L  | 2                   | 0,2                 | 6°   | -SX2        |              |     |              |       |              |     | 15,87        | 612 |
| SX E3.00 L 6    | L  | 3                   | 0,2                 | 6°   | -SX3        | 16,89        | 913 |              |       |              |     | 16,89        | 613 |
| SX E4.00 L 6    | L  | 4                   | 0,3                 | 6°   | -SX4        |              |     |              |       |              |     | 17,80        | 614 |
| SX E2.00 N 0.20 | N  | 2                   | 0,2                 |      | -SX2        | 15,87        | 922 | 15,87        | 52200 | 15,87        | 822 | 15,87        | 622 |
| SX E3.00 N 0.20 | N  | 3                   | 0,2                 |      | -SX3        | 16,89        | 923 | 16,89        | 523   | 16,89        | 823 | 16,89        | 623 |
| SX E4.00 N 0.30 | N  | 4                   | 0,3                 |      | -SX4        | 17,80        | 924 | 17,80        | 524   | 17,80        | 824 | 17,80        | 624 |
| SX E5.00 N 0.30 | N  | 5                   | 0,3                 |      | -SX5        | 18,95        | 925 | 18,95        | 52500 | 18,95        | 825 | 18,95        | 625 |
| SX E6.00 N 0.40 | N  | 6                   | 0,4                 |      | -SX6        | 20,44        | 926 | 20,44        | 52600 | 20,44        | 826 | 20,44        | 626 |
| SX E2.00 R 6    | R  | 2                   | 0,2                 | 6°   | -SX2        |              |     |              |       |              |     | 15,87        | 602 |
| SX E3.00 R 6    | R  | 3                   | 0,2                 | 6°   | -SX3        | 16,89        | 903 |              |       |              |     | 16,89        | 603 |
| SX E4.00 R 6    | R  | 4                   | 0,3                 | 6°   | -SX4        |              |     |              |       |              |     | 17,80        | 604 |
| P               |    |                     |                     |      |             | ●            |     | ●            |       | ●            |     | ●            |     |
| M               |    |                     |                     |      |             | ○            |     | ○            |       | ●            |     | ●            |     |
| K               |    |                     |                     |      |             | ●            |     | ●            |       |              |     | ●            |     |
| N               |    |                     |                     |      |             |              |     |              |       |              |     | ○            |     |
| S               |    |                     |                     |      |             | ○            |     |              |       | ○            |     | ●            |     |
| H               |    |                     |                     |      |             |              |     |              |       |              |     |              |     |
| O               |    |                     |                     |      |             |              |     |              |       |              |     | ○            |     |

→ v. Página 88  
→ Recomendación de uso en la página 92

**Atención:** ¡En la versión D/I, reducir el avance en un 20–50 %!

→ **Página 100**  
Aquí encontrará más información.

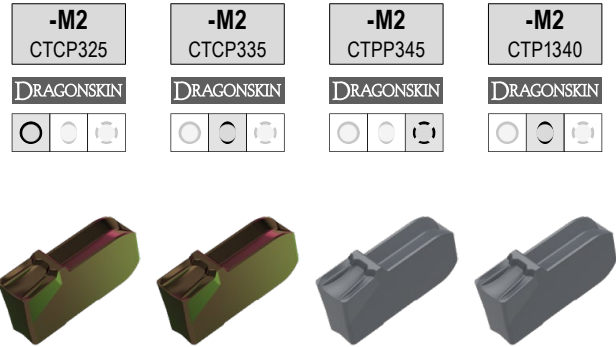
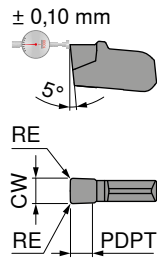
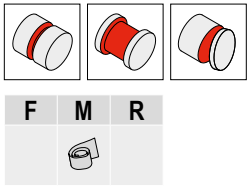
Mecanizado interior

Mecanizado exterior



# Plaquita SX

▲ Geometría universal para el tronzado, ranurado y torneado longitudinal



| Designación     | CW $\pm 0,05$<br>mm | RE $\pm 0,05$<br>mm | PDPT<br>mm | Para portas | 70 343 ...   |     | 70 343 ...   |     | 70 343 ...   |     | 70 343 ...   |     |
|-----------------|---------------------|---------------------|------------|-------------|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
|                 |                     |                     |            |             | EUR<br>1C/72 |     | EUR<br>1C/72 |     | EUR<br>1C/72 |     | EUR<br>1C/72 |     |
| SX E2.00 N 0.20 | 2                   | 0,2                 | 1,5        | -SX2        | 15,87        | 922 | 15,87        | 522 | 15,87        | 822 | 15,87        | 622 |
| SX E3.00 N 0.30 | 3                   | 0,3                 | 2,0        | -SX3        | 16,89        | 923 | 16,89        | 523 | 16,89        | 823 | 16,89        | 623 |
| SX E4.00 N 0.40 | 4                   | 0,4                 | 2,5        | -SX4        | 17,80        | 924 | 17,80        | 524 | 17,80        | 824 | 17,80        | 624 |
| SX E5.00 N 0.40 | 5                   | 0,4                 | 2,7        | -SX5        | 18,95        | 925 | 18,95        | 525 | 18,95        | 825 | 18,95        | 625 |
| SX E6.00 N 0.50 | 6                   | 0,5                 | 3,0        | -SX6        | 20,44        | 926 | 20,44        | 526 | 20,44        | 826 | 20,44        | 626 |
| P               |                     |                     |            |             | ●            |     | ●            |     | ●            |     | ●            |     |
| M               |                     |                     |            |             | ○            |     | ○            |     | ●            |     | ●            |     |
| K               |                     |                     |            |             | ●            |     | ●            |     |              |     |              | ●   |
| N               |                     |                     |            |             |              |     |              |     |              |     |              | ○   |
| S               |                     |                     |            |             | ○            |     |              |     | ○            |     |              | ●   |
| H               |                     |                     |            |             |              |     |              |     |              |     |              |     |
| O               |                     |                     |            |             |              |     |              |     |              |     |              | ○   |

→ v, Página 88  
→ Recomendación de uso en la página 92

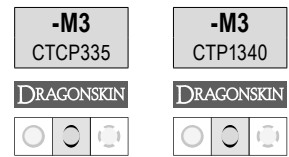
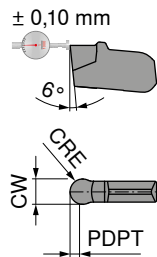
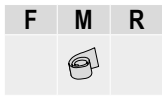
Mecanizado interior

Mecanizado exterior



# Plaquita de ranurado radial SX

- ▲ Para ranurado y copiado
- ▲ Muy buen control de la viruta



| Designación | CW $\pm 0,05$<br>mm | CRE<br>mm | PDPT<br>mm | Para portas |
|-------------|---------------------|-----------|------------|-------------|
| SX R1.50 N  | 3                   | 1,5       | 1,5        | -SX3        |
| SX R2.00 N  | 4                   | 2,0       | 2,0        | -SX4        |
| SX R2.50 N  | 5                   | 2,5       | 2,5        | -SX5        |
| SX R3.00 N  | 6                   | 3,0       | 3,0        | -SX6        |

| 70 344 ... |     | 70 344 ... |     |
|------------|-----|------------|-----|
| EUR        |     | EUR        |     |
| 1C/72      |     | 1C/72      |     |
| 17,96      | 531 | 17,96      | 631 |
| 18,95      | 532 | 18,95      | 632 |
| 20,01      | 533 | 20,01      | 633 |
|            |     | 21,77      | 634 |

|   |   |   |
|---|---|---|
| P | ● | ● |
| M | ○ | ● |
| K | ● | ● |
| N |   | ○ |
| S |   | ● |
| H |   |   |
| O |   | ○ |

→ v<sub>c</sub> Página 88  
→ Recomendación de uso en la página 93

Mecanizado interior

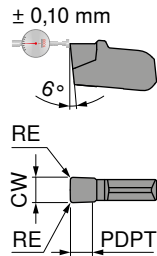
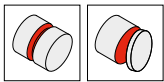
Mecanizado exterior

|  |   |   |  |   |
|--|---|---|--|---|
|  |  |  |  |  |
|  | → 21  | → 22+23   | → 24-27  | → 28+29   |



# Plaquita SX

▲ Para el ranurado y el tronzado con velocidades de avance medias y altas en acero



**NEW**

**-M7**  
CTP1340

**DRAGONSKIN**



**70 347 ...**

EUR  
1C/72

| Designación     | CW $\pm 0,05$<br>mm | RE $\pm 0,05$<br>mm | PDPT<br>mm | Para portas |             |
|-----------------|---------------------|---------------------|------------|-------------|-------------|
| SX E2.00 N 0.20 | 2                   | 0,2                 | 1,5        | -SX2        | 15,87 62200 |
| SX E3.00 N 0.20 | 3                   | 0,2                 | 2,0        | -SX3        | 16,89 62300 |
| SX E4.00 N 0.30 | 4                   | 0,3                 | 2,5        | -SX4        | 17,80 62400 |
| SX E5.00 N 0.30 | 5                   | 0,3                 | 2,7        | -SX5        | 18,95 62500 |
| SX E6.00 N 0.40 | 6                   | 0,4                 | 3,0        | -SX6        | 20,44 62600 |

|   |   |
|---|---|
| P | ● |
| M | ● |
| K | ● |
| N | ○ |
| S | ● |
| H |   |
| O | ○ |

→ v<sub>c</sub> Página 88

→ Recomendación de uso en la página 92

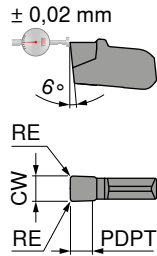
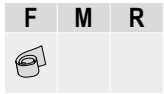
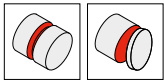
Mecanizado interior

Mecanizado exterior

|  |      |         |         |         |
|--|------|---------|---------|---------|
|  |      |         |         |         |
|  | → 21 | → 22+23 | → 24-27 | → 28+29 |

# Plaquita SX

- ▲ Geometría rectificada
- ▲ Primera opción para el ranurado y el tronzado de acero inoxidable



NEW

**-M8**  
CTP1340

DRAGONSKIN



70 348 ...

| Designación     | CW $\pm 0,05$ | RE $\pm 0,05$ | PDPT | Para portas | EUR   |       |
|-----------------|---------------|---------------|------|-------------|-------|-------|
|                 | mm            | mm            | mm   |             | 1C/72 |       |
| SX E2.00 N 0.20 | 2             | 0,2           | 1,5  | -SX2        | 23,67 | 62200 |
| SX E3.00 N 0.20 | 3             | 0,2           | 2,0  | -SX3        | 25,44 | 62300 |
| SX E4.00 N 0.30 | 4             | 0,3           | 2,5  | -SX4        | 26,91 | 62400 |
| SX E5.00 N 0.30 | 5             | 0,3           | 2,7  | -SX5        | 28,65 | 62500 |
| SX E6.00 N 0.40 | 6             | 0,4           | 3,0  | -SX6        | 30,90 | 62600 |

|   |   |
|---|---|
| P | ● |
| M | ● |
| K | ● |
| N | ○ |
| S | ● |
| H |   |
| O | ○ |

→ v. Página 88  
→ Recomendación de uso en la página 92

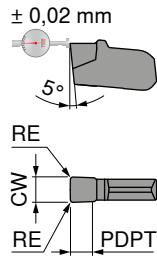
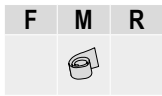
Mecanizado interior

Mecanizado exterior

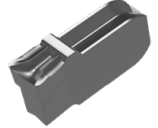


# Plaquita SX

- ▲ Plaquita de tronzado y ranurado con geometría de corte muy positiva y filo de corte extremadamente afilado
- ▲ Especifica para aluminio y otros metales no férricos de viruta larga y blanda



**-27P**  
H216T



| Designación     | CW $\pm 0,02$<br>mm | RE $\pm 0,05$<br>mm | PDPT<br>mm | Para portas |
|-----------------|---------------------|---------------------|------------|-------------|
| SX E2.00 N 0.20 | 2                   | 0,2                 | 2,0        | -SX2        |
| SX E3.00 N 0.30 | 3                   | 0,3                 | 2,5        | -SX3        |
| SX E4.00 N 0.40 | 4                   | 0,4                 | 3,0        | -SX4        |

**70 349 ...**

|            |     |
|------------|-----|
| <b>EUR</b> |     |
| 1C/72      |     |
| 18,83      | 122 |
| 20,15      | 123 |
| 21,33      | 124 |

|   |   |
|---|---|
| P |   |
| M |   |
| K | ● |
| N | ● |
| S | ○ |
| H |   |
| O | ○ |

→ v<sub>c</sub> Página 88  
→ Recomendación de uso en la página 92

Mecanizado interior

Mecanizado exterior

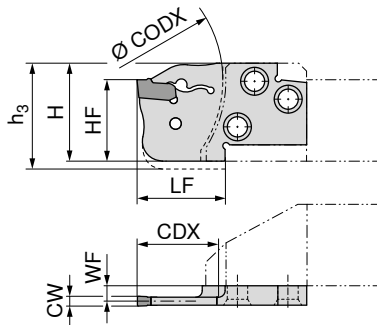


# ModularClamp MSS – Módulo de ranurado radial SX

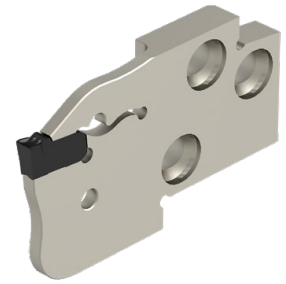
▲ Para ranurar, tronzar y torneer

Incluye:

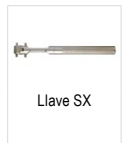
Módulo de ranurado solamente



Las figuras muestran la versión a derechas



| Designación ISO | HF<br>mm | CW<br>mm | WF<br>mm | LF<br>mm | H<br>mm | h <sub>3</sub><br>mm | CODX<br>mm | CDX<br>mm | Para placas de ranurado | A izquierdas           |            | A derechas             |     |
|-----------------|----------|----------|----------|----------|---------|----------------------|------------|-----------|-------------------------|------------------------|------------|------------------------|-----|
|                 |          |          |          |          |         |                      |            |           |                         | 70 897 ...             | 70 896 ... |                        |     |
| E20 R/L 20-SX2  | 20       | 2        | 3,57     | 22       | 24      | 27                   | 60         | 20        | SX .2..                 | EUR<br>2C/71<br>108,60 | 020        | EUR<br>2C/71<br>108,60 | 020 |
| E20 R/L 20-SX3  | 20       | 3        | 3,20     | 22       | 24      | 27                   | 60         | 20        | SX .3..                 | 108,60                 | 120        | 108,60                 | 120 |
| E25 R/L 20-SX2  | 25       | 2        | 5,07     | 22       | 30      |                      | 75         | 20        | SX .2..                 | 109,40                 | 025        | 109,40                 | 025 |
| E25 R/L 25-SX3  | 25       | 3        | 4,70     | 27       | 30      |                      | 75         | 25        | SX .3..                 | 109,40                 | 125        | 109,40                 | 125 |
| E25 R/L 35-SX3  | 25       | 3        | 4,70     | 37       | 30      |                      | 75         | 35        | SX .3..                 | 110,50                 | 225        | 110,50                 | 225 |
| E25 R/L 25-SX4  | 25       | 4        | 4,30     | 27       | 30      |                      | 75         | 25        | SX .4..                 | 109,40                 | 325        | 109,40                 | 325 |
| E25 R/L 35-SX4  | 25       | 4        | 4,30     | 37       | 30      |                      | 75         | 35        | SX .4..                 | 110,50                 | 425        | 110,50                 | 425 |



**Piezas de repuesto**  
**Para placas de ranurado**

|         |        | 70 950 ...            |     |
|---------|--------|-----------------------|-----|
| SX .2.. | SX 2-3 | EUR<br>2A/28<br>33,63 | 836 |
| SX .3.. | SX 2-3 | 33,63                 | 836 |
| SX .4.. | SX 4-6 | 34,31                 | 837 |

Solicite la llave de montaje por separado, si es necesario.



→ 14-20

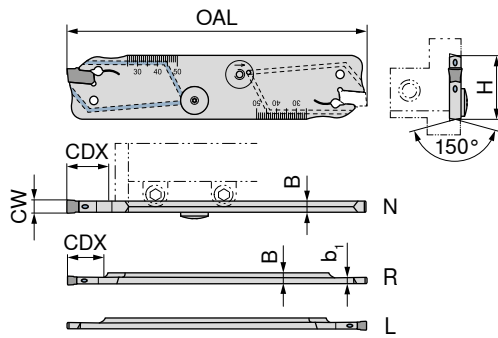
→ 80+81

→ 82

# MonoClamp – Lama radial SX-DC estándar

Incluye:

Lama con 1 tornillo de sellado

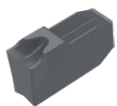


| Designación ISO    | R/L/N | CW<br>mm | H<br>mm | B<br>mm | b <sub>1</sub><br>mm | OAL<br>mm | CDX<br>mm | Para placas de<br>ranurado | 70 884 ...   |     |
|--------------------|-------|----------|---------|---------|----------------------|-----------|-----------|----------------------------|--------------|-----|
|                    |       |          |         |         |                      |           |           |                            | EUR<br>2A/25 |     |
| XLCF L 2602-DC-SX2 | L     | 2        | 26      | 2,4     | 1,6                  | 110       | 25        | SX 2..                     | 190,90       | 712 |
| XLCF R 2602-DC-SX2 | R     | 2        | 26      | 2,4     | 1,6                  | 110       | 25        | SX 2..                     | 190,90       | 512 |
| XLCF N 2603-DC-SX3 | N     | 3        | 26      | 2,5     |                      | 110       | 35        | SX 3..                     | 190,90       | 613 |
| XLCF N 2604-DC-SX4 | N     | 4        | 26      | 3,3     |                      | 110       | 40        | SX 4..                     | 190,90       | 614 |
| XLCF L 3202-DC-SX2 | L     | 2        | 32      | 2,4     | 1,6                  | 150       | 26        | SX 2..                     | 206,90       | 702 |
| XLCF R 3202-DC-SX2 | R     | 2        | 32      | 2,4     | 1,6                  | 150       | 26        | SX 2..                     | 206,90       | 502 |
| XLCF N 3203-DC-SX3 | N     | 3        | 32      | 2,5     |                      | 150       | 50        | SX 3..                     | 206,90       | 603 |
| XLCF N 3204-DC-SX4 | N     | 4        | 32      | 3,3     |                      | 150       | 50        | SX 4..                     | 206,90       | 604 |
| XLCF N 3205-DC-SX5 | N     | 5        | 32      | 4,3     |                      | 150       | 55        | SX 5..                     | 206,90       | 605 |
| XLCF N 3206-DC-SX6 | N     | 6        | 32      | 5,2     |                      | 150       | 60        | SX 6..                     | 206,90       | 606 |



| Piezas de repuesto<br>Para placas de ranurado | 80 950 ... |     | 70 950 ...   |     | 70 950 ...   |     |
|---|------------|-----|--------------|-----|--------------|-----|
|   | EUR<br>Y7  |     | EUR<br>2A/28 |     | EUR<br>2A/28 |     |
| SX 2..  | 15,33      | 128 | 33,63        | 836 | 16,61        | 450 |
| SX 3..  | 15,33      | 128 | 33,63        | 836 | 16,61        | 450 |
| SX 4..  | 15,33      | 128 | 34,31        | 837 | 16,61        | 450 |
| SX 5..  | 15,33      | 128 | 34,31        | 837 | 16,61        | 450 |
| SX 6..  | 15,33      | 128 | 34,31        | 837 | 16,61        | 450 |

Solicite la llave de montaje por separado, si es necesario.



→ 14-20



→ 84



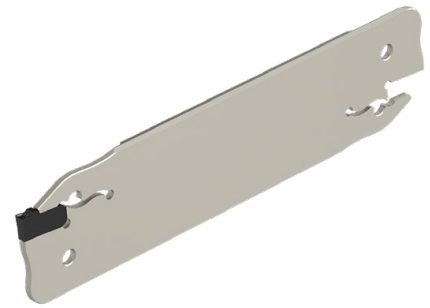
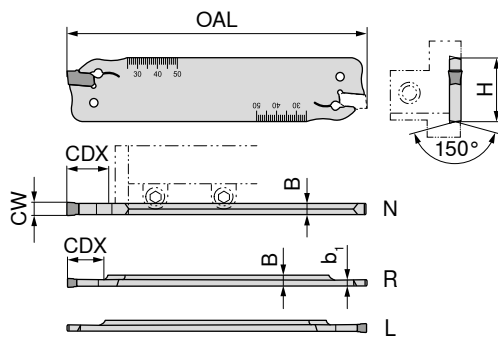
→ Capítulo 16



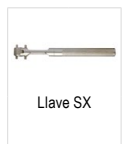
→ Capítulo 16

# MonoClamp – Lama radial SX estándar

Incluye:  
Solo la lama



| Designación ISO | R/L/N | CW<br>mm | H<br>mm | B<br>mm | b <sub>1</sub><br>mm | OAL<br>mm | CDX<br>mm | Para placas de ranurado | 70 884 ... |     |
|-----------------|-------|----------|---------|---------|----------------------|-----------|-----------|-------------------------|------------|-----|
|                 |       |          |         |         |                      |           |           |                         | EUR        |     |
| XLCF L 2602-SX2 | L     | 2        | 26      | 2,4     | 1,5                  | 110       | 25        | SX .2..                 | 111,90     | 212 |
| XLCF R 2602-SX2 | R     | 2        | 26      | 2,4     | 1,5                  | 110       | 25        | SX .2..                 | 111,90     | 012 |
| XLCF N 2603-SX3 | N     | 3        | 26      | 2,4     |                      | 110       | 35        | SX .3..                 | 111,90     | 113 |
| XCLF N 2604-SX4 | N     | 4        | 26      | 3,2     |                      | 110       | 40        | SX .4..                 | 111,90     | 114 |
| XLCF L 3202-SX2 | L     | 2        | 32      | 2,4     | 1,5                  | 150       | 25        | SX .2..                 | 117,10     | 202 |
| XLCF R 3202-SX2 | R     | 2        | 32      | 2,4     | 1,5                  | 150       | 25        | SX .2..                 | 117,10     | 002 |
| XLCF N 3203-SX3 | N     | 3        | 32      | 2,4     |                      | 150       | 50        | SX .3..                 | 117,10     | 103 |
| XLCF N 3204-SX4 | N     | 4        | 32      | 3,2     |                      | 150       | 50        | SX .4..                 | 117,10     | 104 |
| XLCF N 3205-SX5 | N     | 5        | 32      | 4,2     |                      | 150       | 55        | SX .5..                 | 117,10     | 105 |
| XLCF N 3206-SX6 | N     | 6        | 32      | 5,2     |                      | 150       | 60        | SX .6..                 | 117,10     | 106 |



**Piezas de repuesto**  
**Para placas de ranurado**

|         |        | EUR   |     |
|---------|--------|-------|-----|
| SX .2.. | SX 2-3 | 33,63 | 836 |
| SX .3.. | SX 2-3 | 33,63 | 836 |
| SX .4.. | SX 4-6 | 34,31 | 837 |
| SX .5.. | SX 4-6 | 34,31 | 837 |
| SX .6.. | SX 4-6 | 34,31 | 837 |

Solicite la llave de montaje por separado, si es necesario.



→ 14-20

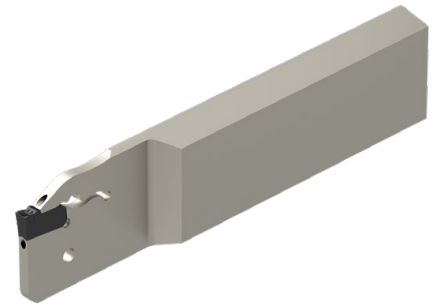
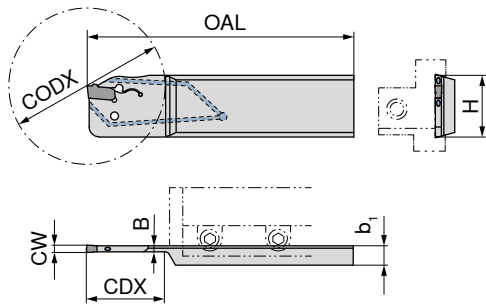
→ 85+86

→ Capítulo 16

→ Capítulo 16

# MonoClamp – Lama radial SX-DC reforzada

Incluye:  
Solo la lama



Las figuras muestran la versión a derechas

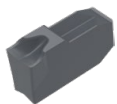
| Designación ISO    | R/L/N | CW<br>mm | H<br>mm | B<br>mm | b <sub>1</sub><br>mm | OAL<br>mm | CODX<br>mm | CDX<br>mm | Para placas de ranurado | 70 879 ...           |
|--------------------|-------|----------|---------|---------|----------------------|-----------|------------|-----------|-------------------------|----------------------|
| XLCF L 2608-DC-SX3 | L     | 3        | 26      | 2,5     | 8                    | 110       | 66         | 33        | SX .3..                 | EUR 2A/25 190,90 713 |
| XLCF R 2608-DC-SX3 | R     | 3        | 26      | 2,5     | 8                    | 110       | 66         | 33        | SX .3..                 | EUR 2A/25 190,90 513 |
| XLCF L 3208-DC-SX3 | L     | 3        | 32      | 2,5     | 8                    | 110       | 66         | 33        | SX .3..                 | EUR 2A/28 206,90 703 |
| XLCF R 3208-DC-SX3 | R     | 3        | 32      | 2,5     | 8                    | 110       | 66         | 33        | SX .3..                 | EUR 2A/28 206,90 503 |



Piezas de repuesto  
Para placas de ranurado  
SX .3..

| 70 950 ...          |
|---------------------|
| EUR 2A/28 33,63 836 |

Solicite la llave de montaje por separado, si es necesario.



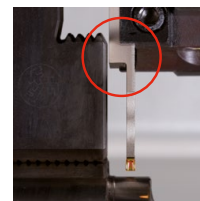
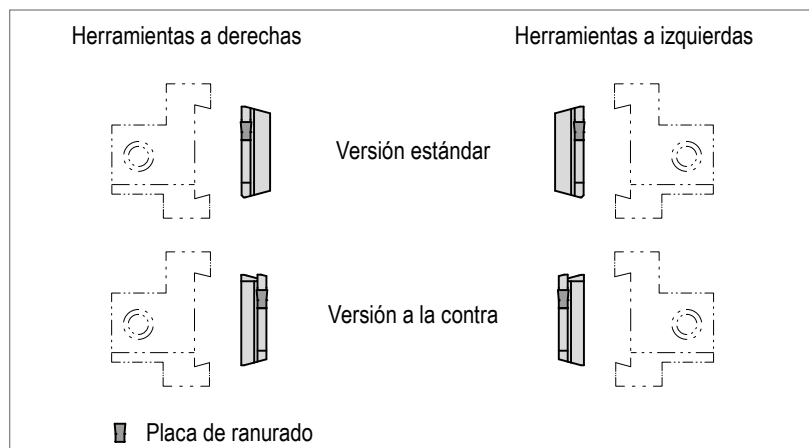
→ 14-20

→ 84

→ Capítulo 16

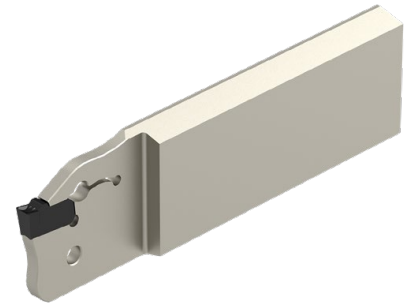
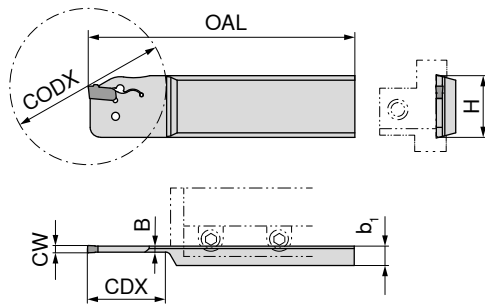
→ Capítulo 16

## Elección de la herramienta correcta



# MonoClamp – Lama radial SX reforzada

Incluye:  
Solo la lama



Las figuras muestran la versión a derechas


| Designación ISO | R/L/N | CW<br>mm | H<br>mm | B<br>mm | b <sub>1</sub><br>mm | OAL<br>mm | CODX<br>mm | CDX<br>mm | Para placas de ranurado | 70 879 ... |                   |
|-----------------|-------|----------|---------|---------|----------------------|-----------|------------|-----------|-------------------------|------------|-------------------|
|                 |       |          |         |         |                      |           |            |           |                         | EUR        |                   |
| XLCF L 2608-SX3 | L     | 3        | 26      | 2,5     | 8                    | 110       | 44         | 22        | SX .3..                 | 171,40     | 213 <sup>1)</sup> |
| XLCF R 2608-SX3 | R     | 3        | 26      | 2,5     | 8                    | 110       | 44         | 22        | SX .3..                 | 171,40     | 013 <sup>1)</sup> |
| XLCF L 3208-SX3 | L     | 3        | 32      | 2,5     | 8                    | 110       | 66         | 33        | SX .3..                 | 161,10     | 203               |
| XLCF R 3208-SX3 | R     | 3        | 32      | 2,5     | 8                    | 110       | 66         | 33        | SX .3..                 | 161,10     | 003               |
| XLCF L 3208-SX4 | L     | 4        | 32      | 3,4     | 8                    | 110       | 66         | 33        | SX .4..                 | 161,10     | 204               |
| XLCF R 3208-SX4 | R     | 4        | 32      | 3,4     | 8                    | 110       | 66         | 33        | SX .4..                 | 161,10     | 004               |

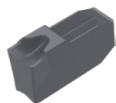
1) Utilizable de ambos lados



### Piezas de repuesto Para placas de ranurado

|         |        | 70 950 ... |     |
|---------|--------|------------|-----|
|         |        | EUR        |     |
| SX .3.. | SX 2-3 | 33,63      | 836 |
| SX .4.. | SX 4-6 | 34,31      | 837 |

 Solicite la llave de montaje por separado, si es necesario.



→ 14-20



→ 85+86



→ Capítulo 16

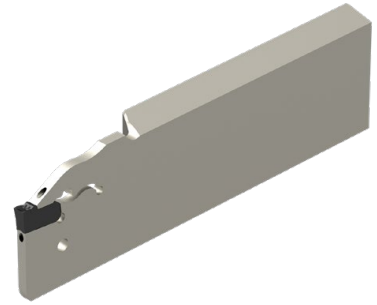
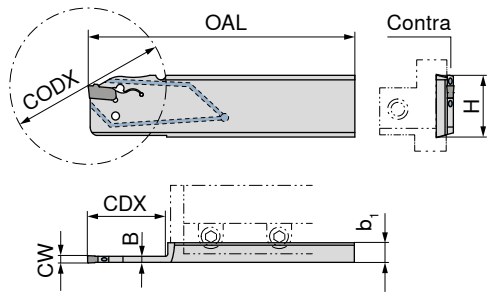


→ Capítulo 16



# MonoClamp – Lama radial reforzada SX-DC, a la contra

Incluye:  
Solo la lama



Las figuras muestran la versión a derechas

| Designación ISO     | R/L/N | Versión | CW<br>mm | H<br>mm | B<br>mm | b <sub>1</sub><br>mm | OAL<br>mm | CODX<br>mm | CDX<br>mm | Para placas de ranurado | 70 877 ...        |
|---------------------|-------|---------|----------|---------|---------|----------------------|-----------|------------|-----------|-------------------------|-------------------|
| XLCF L 3208C-DC-SX3 | L     | Contra  | 3        | 32      | 2,5     | 8                    | 110       | 66         | 33        | SX .3..                 | EUR<br>206,90     |
| XLCF R 3208C-DC-SX3 | R     | Contra  | 3        | 32      | 2,5     | 8                    | 110       | 66         | 33        | SX .3..                 | 703<br>206,90 503 |

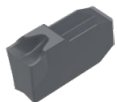


Llave SX

Piezas de repuesto  
Para placas de ranurado  
SX .3..

| 70 950 ...       |
|------------------|
| EUR<br>2A/28     |
| SX 2-3 33,63 836 |

Solicite la llave de montaje por separado, si es necesario.



→ 14-20



→ 84

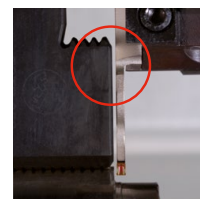
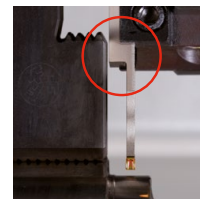
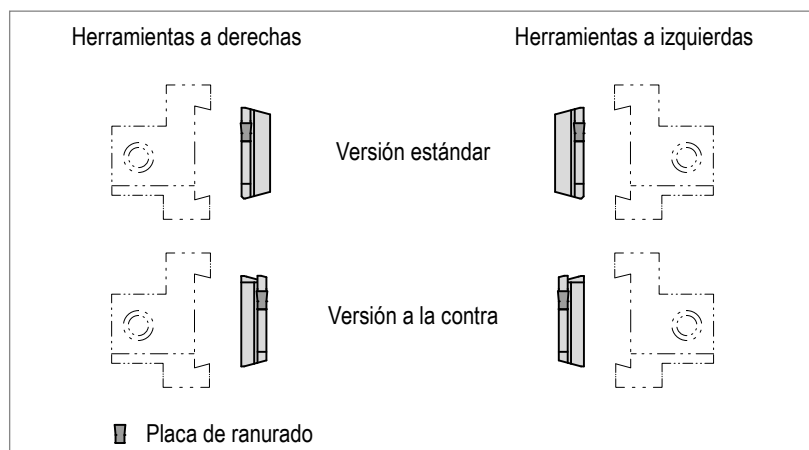


→ Capítulo 16



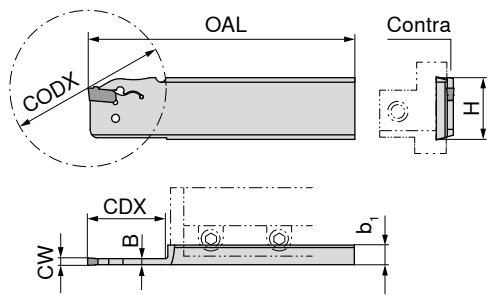
→ Capítulo 16

## Elección de la herramienta correcta



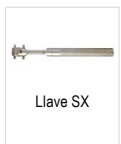
# MonoClamp – Lama radial SX reforzada a la contra

Incluye:  
Solo la lama




Las figuras muestran la versión a derechas

| Designación ISO  | R/L/N | Versión | CW<br>mm | H<br>mm | B<br>mm | b <sub>1</sub><br>mm | OAL<br>mm | CODX<br>mm | CDX<br>mm | Para placas de ranurado | 70 877 ...                 |
|------------------|-------|---------|----------|---------|---------|----------------------|-----------|------------|-----------|-------------------------|----------------------------|
| XLCF L 3208C-SX3 | L     | Contra  | 3        | 32      | 2,5     | 8                    | 110       | 66         | 33        | SX 3..                  | EUR<br>2A/25<br>161,10 203 |
| XLCF R 3208C-SX3 | R     | Contra  | 3        | 32      | 2,5     | 8                    | 110       | 66         | 33        | SX 3..                  | 161,10 003                 |



| Piezas de repuesto<br>Para placas de ranurado | SX 3.. | 70 950 ...                |
|---|--------|---------------------------|
|   |        | EUR<br>2A/28<br>33,63 836 |

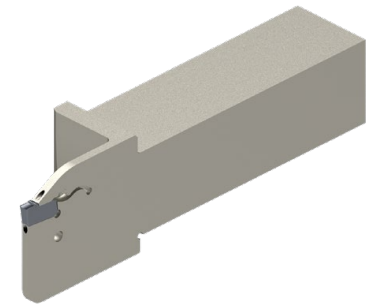
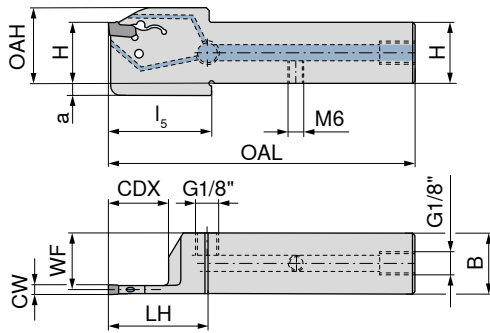
 Solicite la llave de montaje por separado, si es necesario.



# MonoClamp – Portaherramientas monoblock radial SX-DC

Incluye:

Porta monoblock con tapón de rosca y prisionero roscado



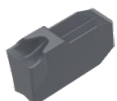
Las figuras muestran la versión a derechas

| Designación ISO             | H<br>mm | B<br>mm | CW<br>mm | WF<br>mm | OAL<br>mm | LH<br>mm | I <sub>5</sub><br>mm | OAH<br>mm | CDX<br>mm | a<br>mm | Para placas de ranurado | A izquierdas               |       | A derechas                 |       |
|-----------------------------|---------|---------|----------|----------|-----------|----------|----------------------|-----------|-----------|---------|-------------------------|----------------------------|-------|----------------------------|-------|
|                             |         |         |          |          |           |          |                      |           |           |         |                         | 70 847 ...<br>EUR<br>2C/71 | 21201 | 70 847 ...<br>EUR<br>2C/71 | 21200 |
| E12 R/L 0022-1212X-K-DC-SX2 | 12      | 12      | 2        | 11,20    | 71        | 27       | 28                   | 22        | 22        | 5       | SX .2..                 | 184,80                     | 21201 | 184,80                     | 21200 |
| E16 R/L 0026-1616X-K-DC-SX2 | 16      | 16      | 2        | 15,20    | 87        | 32       | 33                   | 26        | 26        | 4       | SX .2..                 | 195,20                     | 21601 | 195,20                     | 21600 |
| E16 R/L 0026-1616X-K-DC-SX3 | 16      | 16      | 3        | 14,75    | 87        | 32       | 33                   | 26        | 26        | 4       | SX .3..                 | 195,20                     | 31601 | 195,20                     | 31600 |
| E20 R/L 0026-2020X-K-DC-SX2 | 20      | 20      | 2        | 19,20    | 102       | 32       | 33                   | 31        | 26        | 5       | SX .2..                 | 221,30                     | 22001 | 221,30                     | 22000 |
| E20 R/L 0026-2020X-K-DC-SX3 | 20      | 20      | 3        | 18,75    | 102       | 32       | 33                   | 31        | 26        | 5       | SX .3..                 | 221,30                     | 32001 | 221,30                     | 32000 |
| E20 R/L 0033-2020X-K-DC-SX4 | 20      | 20      | 4        | 18,30    | 109       | 39       | 40                   | 32        | 33        | 5       | SX .4..                 | 221,30                     | 42001 | 221,30                     | 42000 |
| E25 R/L 0033-2525X-K-DC-SX2 | 25      | 25      | 2        | 24,20    | 126       | 41       | 42                   | 36        | 33        | 5       | SX .2..                 | 238,20                     | 22501 | 238,20                     | 22500 |
| E25 R/L 0026-2525X-K-DC-SX3 | 25      | 25      | 3        | 23,75    | 117       | 33       |                      | 31        | 26        |         | SX .3..                 | 238,20                     | 32501 | 238,20                     | 32500 |
| E25 R/L 0033-2525X-K-DC-SX3 | 25      | 25      | 3        | 23,75    | 126       | 41       | 42                   | 36        | 33        | 5       | SX .3..                 | 238,20                     | 32601 | 238,20                     | 32600 |
| E25 R/L 0033-2525X-K-DC-SX4 | 25      | 25      | 4        | 23,30    | 126       | 41       | 42                   | 36        | 33        | 5       | SX .4..                 | 238,20                     | 42501 | 238,20                     | 42500 |
| E25 R/L 0040-2525X-K-DC-SX4 | 25      | 25      | 4        | 23,30    | 133       | 48       | 49                   | 38        | 40        | 6       | SX .4..                 | 238,20                     | 42601 | 238,20                     | 42600 |
| E25 R/L 0040-2525X-K-DC-SX5 | 25      | 25      | 5        | 22,85    | 133       | 48       | 49                   | 38        | 40        | 6       | SX .5..                 | 238,20                     | 52501 | 238,20                     | 52500 |
| E25 R/L 0040-2525X-K-DC-SX6 | 25      | 25      | 6        | 22,35    | 133       | 48       | 49                   | 38        | 40        | 6       | SX .6..                 | 238,20                     | 62501 | 238,20                     | 62500 |

| Piezas de repuesto      | Llave SX                   |        | Tornillo para refrigeración |     | Prisionero Allen           |       |     |      |      |       |
|-------------------------|----------------------------|--------|-----------------------------|-----|----------------------------|-------|-----|------|------|-------|
|                         | 70 950 ...<br>EUR<br>2A/28 | 836    | 70 950 ...<br>EUR<br>2A/28  | 294 | 70 950 ...<br>EUR<br>2A/28 | 86700 |     |      |      |       |
| Para placas de ranurado |                            |        |                             |     |                            |       |     |      |      |       |
| SX .2..                 |                            | SX 2-3 | 33,63                       | 836 | G 1/8"                     | 4,59  | 294 | M6x6 | 3,84 | 86700 |
| SX .3..                 |                            | SX 2-3 | 33,63                       | 836 | G 1/8"                     | 4,59  | 294 | M6x6 | 3,84 | 86700 |
| SX .4..                 |                            | SX 4-6 | 34,31                       | 837 | G 1/8"                     | 4,59  | 294 | M6x6 | 3,84 | 86700 |
| SX .5..                 |                            | SX 4-6 | 34,31                       | 837 | G 1/8"                     | 4,59  | 294 | M6x6 | 3,84 | 86700 |
| SX .6..                 |                            | SX 4-6 | 34,31                       | 837 | G 1/8"                     | 4,59  | 294 | M6x6 | 3,84 | 86700 |



Solicite la llave de montaje por separado, si es necesario.

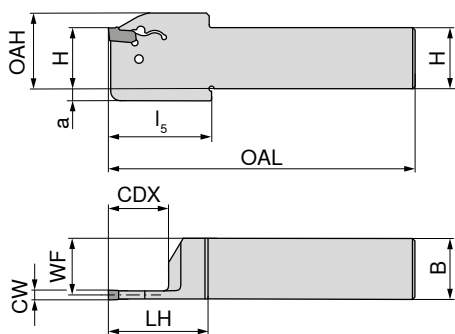


→ 14-20

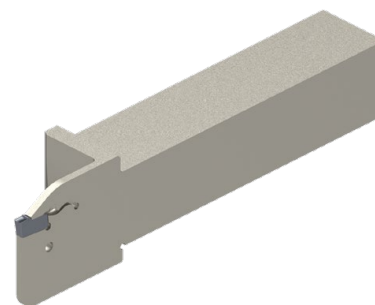
→ Capítulo 16

# MonoClamp – Portaherramientas monoblock radial SX

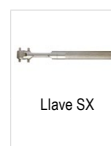
Incluye:  
Solo porta monoblock



Las figuras muestran la versión a derechas



| Designación ISO          | H<br>mm | B<br>mm | CW<br>mm | WF<br>mm | OAL<br>mm | LH<br>mm | I <sub>5</sub><br>mm | OAH<br>mm | CDX<br>mm | a<br>mm | Para placas de ranurado | A izquierdas           |            | A derechas             |            |
|--------------------------|---------|---------|----------|----------|-----------|----------|----------------------|-----------|-----------|---------|-------------------------|------------------------|------------|------------------------|------------|
|                          |         |         |          |          |           |          |                      |           |           |         |                         | 70 846 ...             | 70 846 ... | 70 846 ...             | 70 846 ... |
| E12 R/L 0022-1212K-K-SX2 | 12      | 12      | 2        | 11,20    | 125       | 27       | 28                   | 22        | 22        | 5       | SX .2..                 | EUR<br>2C/71<br>124,90 | 21201      | EUR<br>2C/71<br>124,90 | 21200      |
| E16 R/L 0026-1616K-K-SX2 | 16      | 16      | 2        | 15,20    | 125       | 32       | 33                   | 26        | 26        | 4       | SX .2..                 | 127,40                 | 21601      | 127,40                 | 21600      |
| E16 R/L 0026-1616K-K-SX3 | 16      | 16      | 3        | 14,75    | 125       | 32       | 33                   | 26        | 26        | 4       | SX .3..                 | 127,40                 | 31601      | 127,40                 | 31600      |
| E20 R/L 0026-2020K-K-SX2 | 20      | 20      | 2        | 19,20    | 125       | 32       | 33                   | 31        | 26        | 5       | SX .2..                 | 149,70                 | 22001      | 149,70                 | 22000      |
| E20 R/L 0026-2020K-K-SX3 | 20      | 20      | 3        | 18,75    | 125       | 32       | 33                   | 31        | 26        | 5       | SX .3..                 | 149,70                 | 32001      | 149,70                 | 32000      |
| E20 R/L 0033-2020K-K-SX4 | 20      | 20      | 4        | 18,30    | 125       | 39       | 40                   | 32        | 33        | 5       | SX .4..                 | 149,70                 | 42001      | 149,70                 | 42000      |
| E25 R/L 0033-2525M-K-SX2 | 25      | 25      | 2        | 24,20    | 150       | 41       | 42                   | 36        | 33        | 5       | SX .2..                 | 158,80                 | 22501      | 158,80                 | 22500      |
| E25 R/L 0033-2525M-K-SX3 | 25      | 25      | 3        | 23,75    | 150       | 41       | 42                   | 36        | 33        | 5       | SX .3..                 | 158,80                 | 32601      | 158,80                 | 32600      |
| E25 R/L 0026-2525M-K-SX3 | 25      | 25      | 3        | 23,75    | 150       | 33       |                      | 31        | 26        |         | SX .3..                 | 158,80                 | 32501      | 158,80                 | 32500      |
| E25 R/L 0040-2525M-K-SX4 | 25      | 25      | 4        | 23,30    | 150       | 48       | 49                   | 38        | 40        | 6       | SX .4..                 | 158,80                 | 42601      | 158,80                 | 42600      |
| E25 R/L 0033-2525M-K-SX4 | 25      | 25      | 4        | 23,30    | 150       | 41       | 42                   | 37        | 33        | 5       | SX .4..                 | 158,80                 | 42501      | 158,80                 | 42500      |
| E25 R/L 0040-2525M-K-SX5 | 25      | 25      | 5        | 22,85    | 150       | 48       | 49                   | 38        | 40        | 6       | SX .5..                 | 158,80                 | 52501      | 158,80                 | 52500      |
| E25 R/L 0040-2525M-K-SX6 | 25      | 25      | 6        | 22,35    | 150       | 48       | 49                   | 38        | 40        | 6       | SX .6..                 | 158,80                 | 62501      | 158,80                 | 62500      |



Llave SX

**Piezas de repuesto**  
Para placas de ranurado

|         |        | EUR   |     |
|---------|--------|-------|-----|
| SX .2.. | SX 2-3 | 33,63 | 836 |
| SX .3.. | SX 2-3 | 33,63 | 836 |
| SX .4.. | SX 4-6 | 34,31 | 837 |
| SX .5.. | SX 4-6 | 34,31 | 837 |
| SX .6.. | SX 4-6 | 34,31 | 837 |

Solicite la llave de montaje por separado, si es necesario.

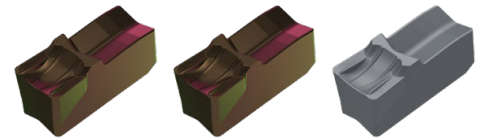
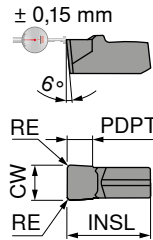
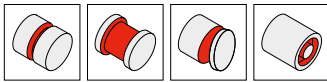


→ 14-20

→ Capítulo 16

# Plaquita LX

- ▲ Ancho de ranurado 8 y 10 mm
- ▲ Ranurado axial desde Ø 500 mm en adelante
- ▲ Ranurado y torneado interiores desde Ø 200 mm en adelante



| Designación       | INSL<br>mm | CW $\pm 0,08$<br>mm | RE $\pm 0,1$<br>mm | PDPT<br>mm | Para portas | 70 337 ...   |     | 70 337 ...   |     | 70 337 ...   |     |
|-------------------|------------|---------------------|--------------------|------------|-------------|--------------|-----|--------------|-----|--------------|-----|
|                   |            |                     |                    |            |             | EUR<br>1A/15 |     | EUR<br>1A/15 |     | EUR<br>1A/15 |     |
| LXE 8.00N0.80-M2  | 19         | 8                   | 0,8                | 5          | E32 N ..-LX | 24,70        | 928 | 24,70        | 578 | 24,70        | 682 |
| LXE 10.00N0.80-M2 | 19         | 10                  | 0,8                | 5          | E32 N ..-LX | 32,92        | 932 | 32,92        | 582 | 32,92        | 678 |
| P                 |            |                     |                    |            |             | ●            |     | ●            |     | ●            |     |
| M                 |            |                     |                    |            |             | ○            |     | ○            |     | ●            |     |
| K                 |            |                     |                    |            |             | ●            |     | ●            |     | ●            |     |
| N                 |            |                     |                    |            |             |              |     |              |     | ○            |     |
| S                 |            |                     |                    |            |             | ○            |     |              |     | ●            |     |
| H                 |            |                     |                    |            |             |              |     |              |     |              |     |
| O                 |            |                     |                    |            |             |              |     |              |     | ○            |     |

→ v. Página 88  
→ Recomendación de uso en la página 93

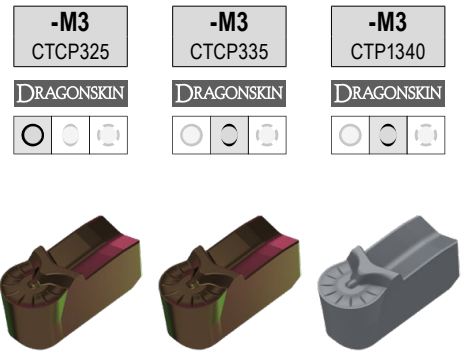
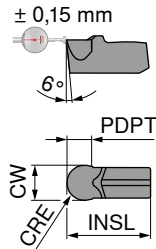
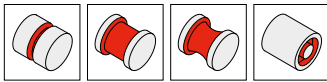
Mecanizado interior

Mecanizado exterior



# Plaquita de ranurado radial LX

- ▲ Ancho de ranurado 8 mm
- ▲ Ranurado axial desde Ø 500 mm en adelante
- ▲ Ranurado y torneado interiores desde Ø 200 mm en adelante



| Designación  | INSL<br>mm | CW<br>mm<br>-/+0,08 | CRE<br>mm | PDPT<br>mm | Para portas<br>E32 N ..-LX | 70 337 ...   |     | 70 337 ...   |     | 70 337 ...   |     |
|--------------|------------|---------------------|-----------|------------|----------------------------|--------------|-----|--------------|-----|--------------|-----|
|              |            |                     |           |            |                            | EUR<br>1A/15 |     | EUR<br>1A/15 |     | EUR<br>1A/15 |     |
| LXR 4.00N-M3 | 19         | 8                   | 4         | 5          | E32 N ..-LX                | 26,33        | 908 | 26,33        | 518 | 26,33        | 618 |
| P            |            |                     |           |            |                            |              | ●   |              | ●   |              | ●   |
| M            |            |                     |           |            |                            |              | ○   |              | ○   |              | ●   |
| K            |            |                     |           |            |                            |              | ●   |              | ●   |              | ●   |
| N            |            |                     |           |            |                            |              |     |              |     |              | ○   |
| S            |            |                     |           |            |                            |              | ○   |              |     |              | ●   |
| H            |            |                     |           |            |                            |              |     |              |     |              |     |
| O            |            |                     |           |            |                            |              |     |              |     |              | ○   |

→ v. Página 88  
→ Recomendación de uso en la página 93

Mecanizado interior

Mecanizado exterior

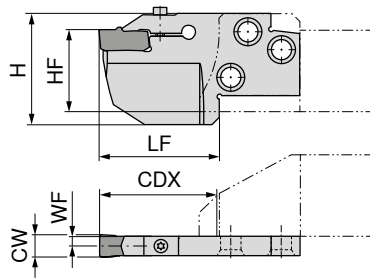


# ModularClamp MSS – Módulo de ranurado axial y radial LX

- ▲ Ancho de ranurado 8 y 10 mm
- ▲ Ranurado axial desde Ø 500 mm en adelante
- ▲ Ranurado y torneado interiores desde Ø 200 mm en adelante

**Incluye:**

Módulo de ranurado solamente

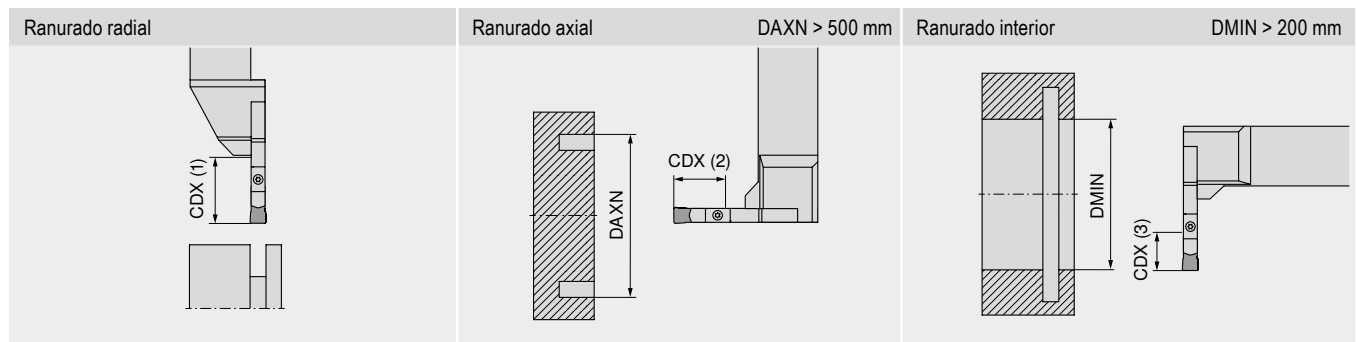


Neutro

**70 835 ...**

| Designación ISO | CW<br>mm | WF<br>mm | LF<br>mm | HF<br>mm | H<br>mm | CDX (1)<br>mm | CDX (2)<br>mm | CDX (3)<br>mm | Para placas de<br>ranurado |
|-----------------|----------|----------|----------|----------|---------|---------------|---------------|---------------|----------------------------|
| E32 N 25-LX     | 8 / 10   | 3,4      | 27       | 32       | 44      | 25            | 19            | 14            | LX ..                      |
| E32 N 32-LX     | 8 / 10   | 3,4      | 34       | 32       | 44      | 32            | 26            | 21            | LX ..                      |
| E32 N 45-LX     | 8 / 10   | 3,4      | 47       | 32       | 44      | 45            | 39            | 34            | LX ..                      |

|        |     |
|--------|-----|
| EUR    |     |
| 2C/71  |     |
| 121,20 | 032 |
| 121,20 | 132 |
| 121,20 | 232 |



**80 950 ...**

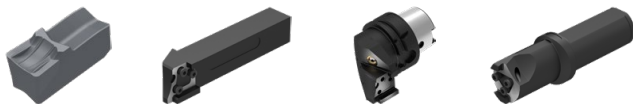
|       |     |
|-------|-----|
| EUR   |     |
| Y7    |     |
| 12,83 | 114 |

**70 950 ...**

|       |     |
|-------|-----|
| EUR   |     |
| 2A/28 |     |
| 6,14  | 204 |

**Piezas de repuesto**  
Para placas de ranurado  
LX ..

T20 M4x18



→ 30+31

→ 80+81

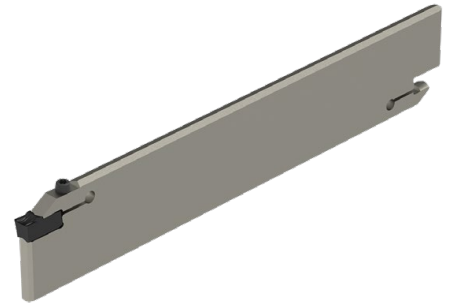
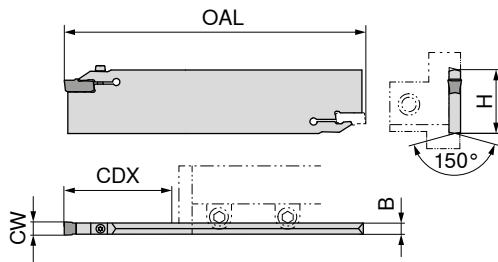
→ 82

→ 83

# MonoClamp – Lama LX

Incluye:

Lama con llave y tornillo de sujeción

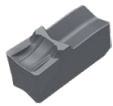


| Designación ISO | H<br>mm | B<br>mm | OAL<br>mm | CW<br>mm | CDX<br>mm | Para placas de<br>ranurado | 70 833 ...                 |
|-----------------|---------|---------|-----------|----------|-----------|----------------------------|----------------------------|
| XLCEN 4608-LX   | 46      | 6,8     | 250       | 8/10     | 80        | LX..                       | EUR<br>2A/25<br>317,80 108 |

Piezas de repuesto  
Para placas de ranurado  
LX..



| 80 950 ...             | 70 950 ...               |
|------------------------|--------------------------|
| EUR<br>Y7<br>12,83 114 | EUR<br>2A/28<br>6,14 204 |



→ 30+31

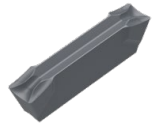
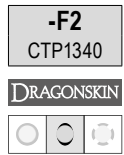
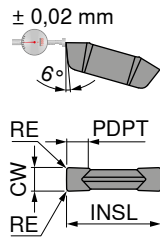
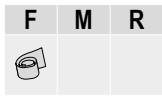
→ 85+86

→ Capítulo 16



# Plaquita GX 09/16

- ▲ Plaquita con periferia rectificada
- ▲ Apta además para tronzado de tubos y piezas con paredes delgadas



| Designación          | INSL<br>mm | CW $\pm 0,02$<br>mm | RE $\pm 0,05$<br>mm | PDPT<br>mm | Para portas | 70 360 ...   |     |
|----------------------|------------|---------------------|---------------------|------------|-------------|--------------|-----|
|                      |            |                     |                     |            |             | EUR<br>1C/72 |     |
| GX 09-1 E2.00 N 0.20 | 9          | 2,0                 | 0,2                 | 1,5        | GX 09-1     | 34,04        | 600 |
| GX 09-1 E2.50 N 0.20 | 9          | 2,5                 | 0,2                 | 1,5        | GX 09-1     | 34,04        | 602 |
| GX 09-2 E3.00 N 0.30 | 9          | 3,0                 | 0,3                 | 2,0        | GX 09-2     | 34,04        | 604 |
| GX 16-1 E2.00 N 0.20 | 16         | 2,0                 | 0,2                 | 2,5        | GX 16-1     | 34,62        | 650 |
| GX 16-2 E3.00 N 0.30 | 16         | 3,0                 | 0,3                 | 3,0        | GX 16-2     | 34,62        | 652 |
| GX 16-3 E4.00 N 0.40 | 16         | 4,0                 | 0,4                 | 3,5        | GX 16-3     | 37,91        | 654 |
| GX 16-3 E5.00 N 0.40 | 16         | 5,0                 | 0,4                 | 3,5        | GX 16-3     | 37,91        | 656 |

|   |   |
|---|---|
| P | ● |
| M | ● |
| K | ● |
| N | ○ |
| S | ● |
| H |   |
| O | ○ |

→ v. Página 88  
→ Recomendación de uso en la página 89

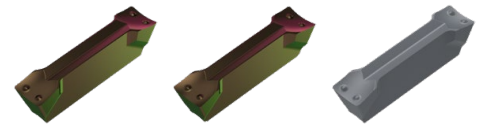
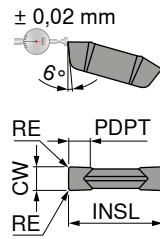
### Mecanizado interior

### Mecanizado exterior



# Plaquita GX 09/16 – Estándar

▲ También apto para tronzar piezas de paredes finas



| Designación          | INSL<br>mm | CW<br>+/-0,02<br>mm | RE<br>+/-0,05<br>mm | PDPT<br>mm | Para portas | 70 350 ...   |     | 70 350 ...   |     | 70 350 ...   |     |
|----------------------|------------|---------------------|---------------------|------------|-------------|--------------|-----|--------------|-----|--------------|-----|
|                      |            |                     |                     |            |             | EUR<br>1C/72 |     | EUR<br>1C/72 |     | EUR<br>1C/72 |     |
| GX 09-1 E2.00 N 0.20 | 9          | 2,0                 | 0,2                 | 1,5        | GX 09-1     | 34,04        | 984 |              |     | 34,04        | 634 |
| GX 09-1 E2.50 N 0.20 | 9          | 2,5                 | 0,2                 | 1,5        | GX 09-1     | 34,04        | 988 |              |     | 34,04        | 638 |
| GX 09-2 E3.00 N 0.30 | 9          | 3,0                 | 0,3                 | 2,0        | GX 09-2     | 34,04        | 992 |              |     | 34,04        | 642 |
| GX 16-1 E2.00 N 0.20 | 16         | 2,0                 | 0,2                 | 2,5        | GX 16-1     | 34,62        | 900 | 34,62        | 500 | 34,62        | 600 |
| GX 16-1 E2.50 N 0.20 | 16         | 2,5                 | 0,2                 | 2,5        | GX 16-1     | 34,62        | 904 | 34,62        | 504 | 34,62        | 604 |
| GX 16-2 E3.00 N 0.30 | 16         | 3,0                 | 0,3                 | 3,0        | GX 16-2     | 34,62        | 908 | 34,62        | 508 | 34,62        | 608 |
| GX 16-2 E3.00 N 0.50 | 16         | 3,0                 | 0,5                 | 3,0        | GX 16-2     | 34,62        | 910 |              |     |              |     |
| GX 16-2 E3.50 N 0.30 | 16         | 3,5                 | 0,3                 | 3,0        | GX 16-2     | 34,62        | 912 | 34,62        | 512 | 34,62        | 612 |
| GX 16-3 E4.00 N 0.40 | 16         | 4,0                 | 0,4                 | 3,5        | GX 16-3     | 37,91        | 916 | 37,91        | 516 | 37,91        | 616 |
| GX 16-3 E5.00 N 0.40 | 16         | 5,0                 | 0,4                 | 3,5        | GX 16-3     | 37,91        | 924 | 37,91        | 524 | 37,91        | 624 |
| GX 16-4 E6.00 N 0.50 | 16         | 6,0                 | 0,5                 | 4,0        | GX 16-4     | 40,01        | 928 |              |     | 40,01        | 628 |
| GX 16-4 E6.00 N 0.80 | 16         | 6,0                 | 0,8                 | 4,0        | GX 16-4     | 40,01        | 930 |              |     |              |     |
| P                    |            |                     |                     |            |             | ●            |     | ●            |     | ●            |     |
| M                    |            |                     |                     |            |             | ○            |     | ○            |     | ●            |     |
| K                    |            |                     |                     |            |             | ●            |     | ●            |     | ●            |     |
| N                    |            |                     |                     |            |             |              |     |              |     | ○            |     |
| S                    |            |                     |                     |            |             |              | ○   |              |     | ●            |     |
| H                    |            |                     |                     |            |             |              |     |              |     |              |     |
| O                    |            |                     |                     |            |             |              |     |              |     | ○            |     |

→ v. Página 88  
→ Recomendación de uso en la página 89

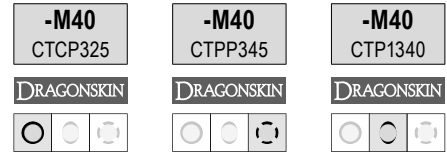
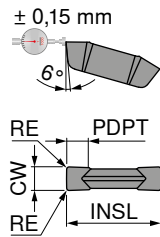
Mecanizado interior

Mecanizado exterior



# Plaquita GX 09/16

▲ Muy buen control de virutas



| Designación          | INSL<br>mm | CW<br>mm | RE<br>mm | PDPT<br>mm | Para portas | 70 351 ...   |     | 70 351 ...   |     | 70 351 ...   |     |
|----------------------|------------|----------|----------|------------|-------------|--------------|-----|--------------|-----|--------------|-----|
|                      |            |          |          |            |             | EUR<br>1C/72 |     | EUR<br>1C/72 |     | EUR<br>1C/72 |     |
| GX 09-1 E2.00 N 0.20 | 9          | 2        | 0,2      | 1,5        | GX 09-1     | 22,24        | 986 | 22,24        | 886 | 22,24        | 686 |
| GX 09-2 E3.00 N 0.30 | 9          | 3        | 0,3      | 2,0        | GX 09-2     | 22,24        | 994 | 22,24        | 894 | 22,24        | 694 |
| GX 16-1 E2.00 N 0.20 | 16         | 2        | 0,2      | 2,5        | GX 16-1     | 22,52        | 902 | 22,52        | 802 | 22,52        | 602 |
| GX 16-2 E3.00 N 0.30 | 16         | 3        | 0,3      | 3,0        | GX 16-2     | 22,52        | 910 | 22,52        | 810 | 22,52        | 610 |
| GX 16-3 E4.00 N 0.40 | 16         | 4        | 0,4      | 3,5        | GX 16-3     | 25,07        | 918 | 25,07        | 818 | 25,07        | 618 |
| GX 16-3 E5.00 N 0.40 | 16         | 5        | 0,4      | 3,5        | GX 16-3     | 27,63        | 926 | 27,63        | 826 | 27,63        | 626 |
| GX 16-4 E6.00 N 0.50 | 16         | 6        | 0,5      | 4,0        | GX 16-4     | 30,14        | 930 | 30,14        | 830 | 30,14        | 630 |

|   |   |   |   |
|---|---|---|---|
| P | ● | ● | ● |
| M | ○ | ● | ● |
| K | ● | ● | ● |
| N | ● | ● | ○ |
| S | ○ | ○ | ● |
| H | ● | ● | ● |
| O | ○ | ○ | ○ |

→ v. Página 88  
→ Recomendación de uso en la página 89

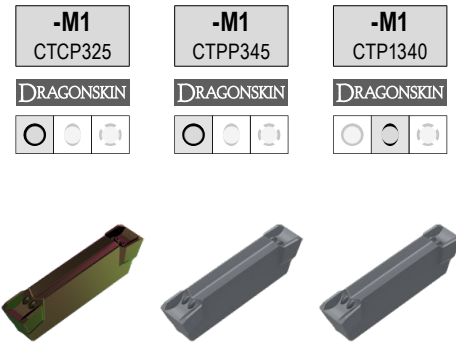
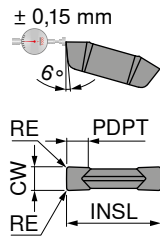
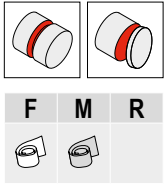
### Mecanizado interior

### Mecanizado exterior



# Plaquita GX 16

▲ Muy buen control de viruta



| Designación          | INSL<br>mm | CW<br>mm | RE<br>mm | PDPT<br>mm | Para portas | 70 362 ...   |     | 70 362 ...   |     | 70 362 ...   |     |
|----------------------|------------|----------|----------|------------|-------------|--------------|-----|--------------|-----|--------------|-----|
|                      |            |          |          |            |             | EUR<br>1C/72 |     | EUR<br>1C/72 |     | EUR<br>1C/72 |     |
| GX 16-1 E2.00 N 0.20 | 16         | 2        | 0,2      | 2,0        | GX 16-1     |              |     |              |     |              |     |
| GX 16-2 E3.00 N 0.20 | 16         | 3        | 0,2      | 2,5        | GX 16-2     | 22,52        | 902 | 22,52        | 800 | 22,52        | 600 |
| GX 16-3 E4.00 N 0.30 | 16         | 4        | 0,3      | 3,0        | GX 16-3     | 25,07        | 904 | 25,07        | 802 | 25,07        | 604 |
| P                    |            |          |          |            |             | ●            |     | ●            |     | ●            |     |
| M                    |            |          |          |            |             | ○            |     | ○            |     | ○            |     |
| K                    |            |          |          |            |             | ●            |     | ●            |     | ●            |     |
| N                    |            |          |          |            |             |              |     |              |     |              | ○   |
| S                    |            |          |          |            |             | ○            |     | ○            |     | ○            | ●   |
| H                    |            |          |          |            |             |              |     |              |     |              |     |
| O                    |            |          |          |            |             |              |     |              |     |              | ○   |

→ v. Página 88  
→ Recomendación de uso en la página 90

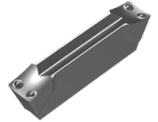
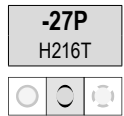
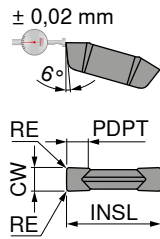
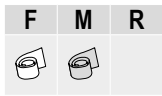
### Mecanizado interior

### Mecanizado exterior



# Plaquita GX 16

- ▲ Plaquita de tronzado y ranurado con geometría de corte muy positiva y filo de corte extremadamente afilado
- ▲ Con periferia rectificada



70 350 ...

| Designación          | INSL<br>mm | CW $\pm 0,02$<br>mm | RE $\pm 0,05$<br>mm | PDPT<br>mm | Para portas | EUR<br>1C/72 |     |
|----------------------|------------|---------------------|---------------------|------------|-------------|--------------|-----|
| GX 16-1 E2.00 N 0.20 | 16         | 2                   | 0,2                 | 2,5        | GX 16-1     | 26,26        | 650 |
| GX 16-2 E3.00 N 0.30 | 16         | 3                   | 0,3                 | 3,0        | GX 16-2     | 26,26        | 658 |
| GX 16-3 E4.00 N 0.40 | 16         | 4                   | 0,4                 | 3,5        | GX 16-3     | 28,65        | 670 |
| GX 16-4 E6.00 N 0.50 | 16         | 6                   | 0,5                 | 4,0        | GX 16-4     | 30,14        | 678 |

|   |   |
|---|---|
| P |   |
| M |   |
| K | ● |
| N | ● |
| S | ○ |
| H |   |
| O | ○ |

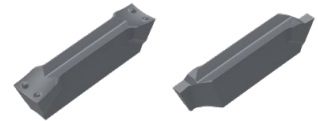
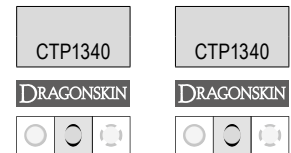
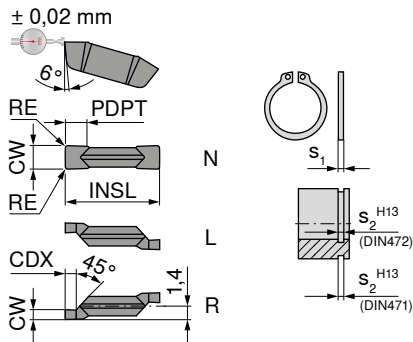
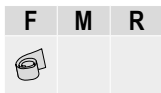
→ v<sub>c</sub> Página 88  
→ Recomendación de uso en la página 89

Mecanizado interior

Mecanizado exterior



# Plaquita para ranura de circlips GX 09/16 – Estándar



| Designación     | IH | INSL<br>mm | s <sub>1</sub><br>mm | s <sub>2</sub><br>mm | CW $\pm 0,02$<br>mm | RE $\pm 0,05$<br>mm | CDX<br>mm | PDPT<br>mm | Para portas    | 70 352 ...   |              |
|-----------------|----|------------|----------------------|----------------------|---------------------|---------------------|-----------|------------|----------------|--------------|--------------|
|                 |    |            |                      |                      |                     |                     |           |            |                | EUR<br>1C/72 | EUR<br>1C/72 |
| GX 09-1 S1.00 L | L  | 9          | 0,80                 | 0,90                 | 1,00                |                     | 1,14      |            | R/L 02-GX 09-1 |              | 34,04 684    |
| GX 09-1 S1.20 L | L  | 9          | 1,00                 | 1,10                 | 1,20                |                     | 1,34      |            | R/L 02-GX 09-1 |              | 34,04 686    |
| GX 09-1 S1.40 L | L  | 9          | 1,20                 | 1,30                 | 1,40                |                     | 1,53      |            | R/L 02-GX 09-1 |              | 34,04 688    |
| GX 09-1 S1.70 L | L  | 9          | 1,50                 | 1,60                 | 1,70                |                     | 1,82      |            | R/L 02-GX 09-1 |              | 34,04 690    |
| GX 09-1 S1.95 N | N  | 9          | 1,75                 | 1,85                 | 1,95                | 0,1                 |           | 2,0        | GX 09-1        | 34,04        | 692          |
| GX 09-1 S2.25 N | N  | 9          | 2,00                 | 2,15                 | 2,25                | 0,1                 |           | 2,0        | GX 09-1        | 34,04        | 694          |
| GX 09-2 S2.75 N | N  | 9          | 2,50                 | 2,65                 | 2,75                | 0,1                 |           | 2,0        | GX 09-2        | 34,04        | 696          |
| GX 09-2 S3.25 N | N  | 9          | 3,00                 | 3,15                 | 3,25                | 0,1                 |           | 2,0        | GX 09-2        | 34,04        | 698          |
| GX 09-1 S1.00 R | R  | 9          | 0,80                 | 0,90                 | 1,00                |                     | 1,14      |            | R/L 02-GX 09-1 |              | 34,04 676    |
| GX 09-1 S1.20 R | R  | 9          | 1,00                 | 1,10                 | 1,20                |                     | 1,34      |            | R/L 02-GX 09-1 |              | 34,04 678    |
| GX 09-1 S1.40 R | R  | 9          | 1,20                 | 1,30                 | 1,40                |                     | 1,53      |            | R/L 02-GX 09-1 |              | 34,04 680    |
| GX 09-1 S1.70 R | R  | 9          | 1,50                 | 1,60                 | 1,70                |                     | 1,82      |            | R/L 02-GX 09-1 |              | 34,04 682    |
| GX 16-2 S0.60 L | L  | 16         | 0,40                 | 0,50                 | 0,60                |                     | 0,75      |            | R/L 03-GX 16-2 |              | 34,62 607    |
| GX 16-2 S0.80 L | L  | 16         | 0,60                 | 0,70                 | 0,80                |                     | 0,94      |            | R/L 03-GX 16-2 |              | 34,62 609    |
| GX 16-2 S0.90 L | L  | 16         | 0,70                 | 0,80                 | 0,90                |                     | 1,04      |            | R/L 03-GX 16-2 |              | 34,62 611    |
| GX 16-2 S1.00 L | L  | 16         | 0,80                 | 0,90                 | 1,00                |                     | 1,14      |            | R/L 03-GX 16-2 |              | 34,62 612    |
| GX 16-2 S1.20 L | L  | 16         | 1,00                 | 1,10                 | 1,20                |                     | 1,34      |            | R/L 03-GX 16-2 |              | 34,62 614    |
| GX 16-2 S1.40 L | L  | 16         | 1,20                 | 1,30                 | 1,40                |                     | 1,53      |            | R/L 03-GX 16-2 |              | 34,62 616    |
| GX 16-2 S1.70 L | L  | 16         | 1,50                 | 1,60                 | 1,70                |                     | 1,82      |            | R/L 03-GX 16-2 |              | 34,62 618    |
| GX 16-2 S1.95 L | L  | 16         | 1,75                 | 1,85                 | 1,95                |                     | 2,07      |            | R/L 03-GX 16-2 |              | 34,62 620    |
| GX 16-2 S2.25 L | L  | 16         | 2,00                 | 2,15                 | 2,25                |                     | 2,36      |            | R/L 03-GX 16-2 |              | 34,62 622    |
| GX 16-2 S2.75 N | N  | 16         | 2,50                 | 2,65                 | 2,75                | 0,1                 |           | 3,0        | GX 16-2        | 34,62        | 624          |
| GX 16-2 S3.25 N | N  | 16         | 3,00                 | 3,15                 | 3,25                | 0,1                 |           | 3,0        | GX 16-2        | 34,62        | 626          |
| GX 16-3 S4.25 N | N  | 16         | 4,00                 | 4,15                 | 4,25                | 0,2                 |           | 3,5        | GX 16-3        | 37,91        | 628          |
| GX 16-2 S0.60 R | R  | 16         | 0,40                 | 0,50                 | 0,60                |                     | 0,75      |            | R/L 03-GX 16-2 |              | 34,62 695    |
| GX 16-2 S0.80 R | R  | 16         | 0,60                 | 0,70                 | 0,80                |                     | 0,94      |            | R/L 03-GX 16-2 |              | 34,62 697    |
| GX 16-2 S0.90 R | R  | 16         | 0,70                 | 0,80                 | 0,90                |                     | 1,04      |            | R/L 03-GX 16-2 |              | 34,62 699    |
| GX 16-2 S1.00 R | R  | 16         | 0,80                 | 0,90                 | 1,00                |                     | 1,14      |            | R/L 03-GX 16-2 |              | 34,62 700    |
| GX 16-2 S1.20 R | R  | 16         | 1,00                 | 1,10                 | 1,20                |                     | 1,34      |            | R/L 03-GX 16-2 |              | 34,62 702    |
| GX 16-2 S1.40 R | R  | 16         | 1,20                 | 1,30                 | 1,40                |                     | 1,53      |            | R/L 03-GX 16-2 |              | 34,62 704    |
| GX 16-2 S1.70 R | R  | 16         | 1,50                 | 1,60                 | 1,70                |                     | 1,82      |            | R/L 03-GX 16-2 |              | 34,62 706    |
| GX 16-2 S1.95 R | R  | 16         | 1,75                 | 1,85                 | 1,95                |                     | 2,07      |            | R/L 03-GX 16-2 |              | 34,62 708    |
| GX 16-2 S2.25 R | R  | 16         | 2,00                 | 2,15                 | 2,25                |                     | 2,36      |            | R/L 03-GX 16-2 |              | 34,62 710    |
| P               |    |            |                      |                      |                     |                     |           |            |                | ●            | ●            |
| M               |    |            |                      |                      |                     |                     |           |            |                | ●            | ●            |
| K               |    |            |                      |                      |                     |                     |           |            |                | ●            | ●            |
| N               |    |            |                      |                      |                     |                     |           |            |                | ○            | ○            |
| S               |    |            |                      |                      |                     |                     |           |            |                | ●            | ●            |
| H               |    |            |                      |                      |                     |                     |           |            |                |              |              |
| O               |    |            |                      |                      |                     |                     |           |            |                | ○            | ○            |

→ v. Página 88  
→ Recomendación de uso en la página 90



**Atención – En caso de mecanizado interior:**

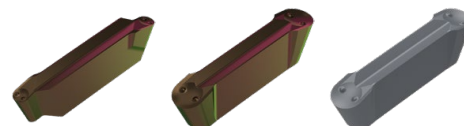
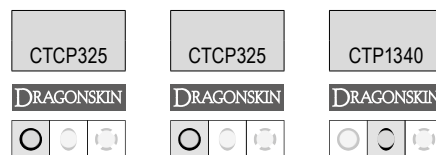
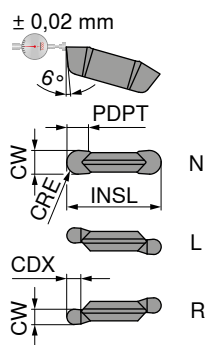
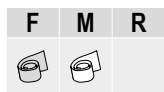
Plaquita a derechas → módulo o porta de torneado interior monobloc a izquierdas.  
Plaquita a izquierdas → módulo o porta de torneado interior monobloc a derechas.

Mecanizado interior

Mecanizado exterior



# Plaquitas de radio GX 09/16 – estándar



| Designación     | IH | INSL<br>mm | CW $\pm 0,02$<br>mm | CRE<br>mm | PDPT<br>mm | CDX<br>mm | Para portas    | 70 354 ...   |       | 70 354 ...   |     | 70 354 ...   |     |
|-----------------|----|------------|---------------------|-----------|------------|-----------|----------------|--------------|-------|--------------|-----|--------------|-----|
|                 |    |            |                     |           |            |           |                | EUR<br>1C/72 |       | EUR<br>1C/72 |     | EUR<br>1C/72 |     |
| GX 09-1 R1.00 N | N  | 9          | 2,0                 | 1,0       | 1,0        |           | GX 09-1        |              | 41,04 | 992          |     |              |     |
| GX 09-1 R1.20 N | N  | 9          | 2,4                 | 1,2       | 1,2        |           | GX 09-1        |              | 41,04 | 996          |     |              |     |
| GX 16-2 R0.80 L | L  | 16         | 1,6                 | 0,8       |            | 1,78      | R/L 03-GX 16-2 | 42,09        | 912   |              |     |              |     |
| GX 16-2 R1.00 L | L  | 16         | 2,0                 | 1,0       |            | 2,18      | R/L 03-GX 16-2 | 42,09        | 916   |              |     |              |     |
| GX 16-2 R1.20 L | L  | 16         | 2,4                 | 1,2       |            | 2,58      | R/L 03-GX 16-2 | 42,09        | 920   |              |     |              |     |
| GX 16-2 R1.50 N | N  | 16         | 3,0                 | 1,5       | 1,5        |           | GX 16-2        |              |       | 42,09        | 924 | 42,09        | 624 |
| GX 16-3 R2.00 N | N  | 16         | 4,0                 | 2,0       | 2,0        |           | GX 16-3        |              |       | 45,69        | 928 | 45,69        | 628 |
| GX 16-3 R2.50 N | N  | 16         | 5,0                 | 2,5       | 2,5        |           | GX 16-3        |              |       | 45,69        | 932 | 45,69        | 632 |
| GX 16-4 R3.00 N | N  | 16         | 6,0                 | 3,0       | 3,0        |           | GX 16-4        |              |       | 47,79        | 936 | 47,79        | 636 |
| GX 16-2 R0.80 R | R  | 16         | 1,6                 | 0,8       |            | 1,78      | R/L 03-GX 16-2 | 42,09        | 900   |              |     |              |     |
| GX 16-2 R1.00 R | R  | 16         | 2,0                 | 1,0       |            | 2,18      | R/L 03-GX 16-2 | 42,09        | 904   |              |     |              |     |
| GX 16-2 R1.20 R | R  | 16         | 2,4                 | 1,2       |            | 2,58      | R/L 03-GX 16-2 | 42,09        | 908   |              |     |              |     |
| P               |    |            |                     |           |            |           |                | ●            |       | ●            |     | ●            |     |
| M               |    |            |                     |           |            |           |                | ○            |       | ○            |     | ○            |     |
| K               |    |            |                     |           |            |           |                | ●            |       | ●            |     | ●            |     |
| N               |    |            |                     |           |            |           |                |              |       |              |     |              | ○   |
| S               |    |            |                     |           |            |           |                | ○            |       | ○            |     | ○            | ●   |
| H               |    |            |                     |           |            |           |                |              |       |              |     |              |     |
| O               |    |            |                     |           |            |           |                |              |       |              |     |              | ○   |

→ v. Página 88  
→ Recomendación de uso en la página 90



### Atención – En caso de mecanizado interior:

Plaquita a derechas → módulo o porta de torneado interior monobloc a izquierdas.

Plaquita a izquierdas → módulo o porta de torneado interior monobloc a derechas.

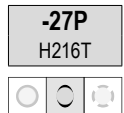
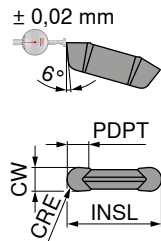
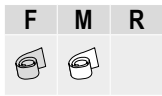
#### Mecanizado interior

#### Mecanizado exterior



# Plaquitas de radio GX 16

- ▲ Plaquita con geometría de filo de corte extremadamente positiva y filo de corte afilado
- ▲ Con periferia rectificada



| Designación     | INSL<br>mm | CW $\pm 0,02$<br>mm | CRE<br>mm | PDPT<br>mm | Para portas |
|-----------------|------------|---------------------|-----------|------------|-------------|
| GX 16-2 R1.50 N | 16         | 3                   | 1,5       | 1,5        | GX 16-2     |
| GX 16-3 R2.00 N | 16         | 4                   | 2,0       | 2,0        | GX 16-3     |
| GX 16-3 R2.50 N | 16         | 5                   | 2,5       | 2,5        | GX 16-3     |

70 354 ...

|            |     |
|------------|-----|
| <b>EUR</b> |     |
| 1C/72      |     |
| 31,63      | 674 |
| 34,20      | 678 |
| 34,20      | 682 |

|   |   |
|---|---|
| P |   |
| M |   |
| K | ● |
| N | ● |
| S | ○ |
| H |   |
| O | ○ |

→ v<sub>c</sub> Página 88  
→ Recomendación de uso en la página 90

Mecanizado interior

Mecanizado exterior



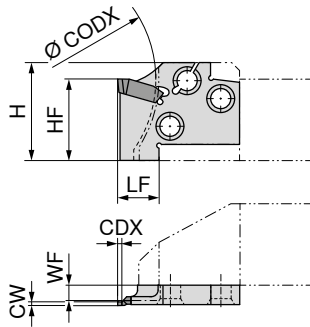


# ModularClamp MSS – Módulo de ranurado radial GX 09/16

- ▲ Para ranuras Circlips ≤ 2,75 mm
- ▲ Para ranuras radiales de hasta ≤ 1,2 mm
- ▲ Para rebaje exterior

**Incluye:**

Módulo de ranurado solamente



Las figuras muestran la versión a derechas

| Designación ISO    | CW<br>mm | WF<br>mm | LF<br>mm | HF<br>mm | H<br>mm | CODX<br>mm | CDX<br>mm | Para placas de<br>ranurado | A izquierdas           |            | A derechas             |     |
|--------------------|----------|----------|----------|----------|---------|------------|-----------|----------------------------|------------------------|------------|------------------------|-----|
|                    |          |          |          |          |         |            |           |                            | 70 871 ...             | 70 870 ... |                        |     |
| E16 R/L 02-GX 09-1 | <1,95    | 3,15     | 8        | 16       | 19,5    | 48         | 2         | GX 09-1 ..R/L              | EUR<br>2C/71<br>108,60 | 116        | EUR<br>2C/71<br>108,60 | 116 |
| E20 R/L 03-GX 16-2 | <2,75    | 3,40     | 13       | 20       | 24,0    | 60         | 3         | GX 16-2 ..R/L              | 108,60                 | 120        | 108,60                 | 120 |
| E25 R/L 03-GX 16-2 | <2,75    | 4,90     | 13       | 25       | 30,0    | 75         | 3         | GX 16-2 ..R/L              | 109,40                 | 125        | 109,40                 | 125 |

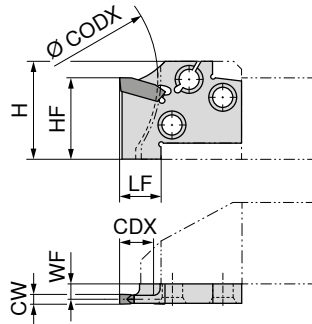


# ModularClamp MSS – Módulo de ranurado radial GX 09/16

- ▲ Para ranurado y torneado
- ▲ Para ranuras Circlips ≤ 5,25 mm
- ▲ Para ranuras radiales de hasta ≤ 2,5 mm
- ▲ Para rebaje exterior

**Incluye:**

Módulo de ranurado solamente



| Designación ISO    | CW<br>mm    | WF<br>mm | LF<br>mm | HF<br>mm | H<br>mm | CODX<br>mm | CDX<br>mm | Para placas de<br>ranurado | A izquierdas |            | A derechas   |              |
|--------------------|-------------|----------|----------|----------|---------|------------|-----------|----------------------------|--------------|------------|--------------|--------------|
|                    |             |          |          |          |         |            |           |                            | 70 866 ...   | 70 865 ... | EUR<br>2C/71 | EUR<br>2C/71 |
| E16 R/L 07-GX 09-1 | 2,00 - 2,75 | 3,15     | 8        | 16       | 19,5    | 48         | 7         | GX 09-1 ..N                | 108,60       | 016        | 108,60       | 016          |
| E16 R/L 07-GX 09-2 | 2,76 - 3,75 | 2,80     | 8        | 16       | 19,5    | 48         | 7         | GX 09-2 ..N                | 108,60       | 116        | 108,60       | 116          |
| E20 R/L 12-GX 16-1 | 2,00 - 2,75 | 3,75     | 13       | 20       | 24,0    | 60         | 12        | GX 16-1 ..N                | 108,60       | 020        | 108,60       | 020          |
| E20 R/L 12-GX 16-2 | 2,76 - 3,75 | 3,40     | 13       | 20       | 24,0    | 60         | 12        | GX 16-2 ..N                | 108,60       | 120        | 108,60       | 120          |
| E20 R/L 12-GX 16-3 | 3,76 - 5,00 | 2,93     | 13       | 20       | 24,0    | 60         | 12        | GX 16-3 ..N                | 108,60       | 220        | 108,60       | 220          |
| E25 R/L 12-GX 16-1 | 2,00 - 2,75 | 5,25     | 13       | 25       | 30,0    | 75         | 12        | GX 16-1 ..N                | 109,40       | 025        | 109,40       | 025          |
| E25 R/L 12-GX 16-2 | 2,76 - 3,75 | 4,90     | 13       | 25       | 30,0    | 75         | 12        | GX 16-2 ..N                | 109,40       | 125        | 109,40       | 125          |
| E25 R/L 12-GX 16-3 | 3,76 - 5,00 | 4,43     | 13       | 25       | 30,0    | 75         | 12        | GX 16-3 ..N                | 109,40       | 225        | 109,40       | 225          |
| E25 R/L 12-GX 16-4 | 5,01 - 6,50 | 3,80     | 13       | 25       | 30,0    | 75         | 12        | GX 16-4 ..N                | 109,40       | 325        | 109,40       | 325          |

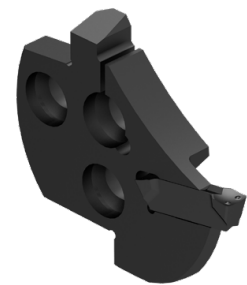
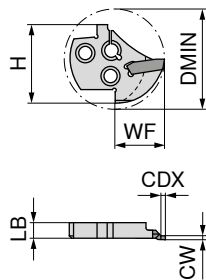


# ModularClamp MSS – Módulo de ranurado radial GX 09/16 para mecanizado interior

- ▲ Para ranuras Circlips ≤ 2,75 mm
- ▲ Para ranuras radiales de hasta ≤ 1,2 mm

**Incluye:**

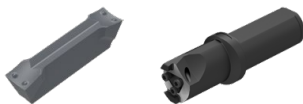
Módulo de ranurado solamente



Las figuras muestran la versión a derechas

| Designación ISO    | CW<br>mm | LB<br>mm | WF<br>mm | H<br>mm | CDX<br>mm | DMIN<br>mm | Para placas de<br>ranurado | A izquierdas           |            | A derechas             |            |
|--------------------|----------|----------|----------|---------|-----------|------------|----------------------------|------------------------|------------|------------------------|------------|
|                    |          |          |          |         |           |            |                            | 70 886 ...             | 70 885 ... | 70 886 ...             | 70 885 ... |
| I16 R/L 02-GX 09-1 | <1,95    | 3,8      | 10,0     | 16,4    | 2         | 20         | GX 09-1 ..R/L              | EUR<br>2C/71<br>108,60 | 016        | EUR<br>2C/71<br>108,60 | 016        |
| I20 R/L 02-GX 09-1 | <1,95    | 3,8      | 12,0     | 20,3    | 2         | 25         | GX 09-1 ..R/L              | 108,60                 | 020        | 108,60                 | 020        |
| I25 R/L 02-GX 09-1 | <1,95    | 3,8      | 15,5     | 24,9    | 2         | 32         | GX 09-1 ..R/L              | 109,40                 | 025        | 109,40                 | 025        |
| I32 R/L 03-GX 16-2 | <2,75    | 5,9      | 20,0     | 32,2    | 3         | 40         | GX 16-2 ..R/L              | 110,50                 | 032        | 110,50                 | 032        |
| I40 R/L 03-GX 16-2 | <2,75    | 5,9      | 24,5     | 39,6    | 3         | 50         | GX 16-2 ..R/L              | 111,40                 | 040        | 111,40                 | 040        |

**i** Con módulos a derechas → usar plaquitas a izquierdas  
Con módulos a izquierdas → usar plaquitas a derechas



→ 34-41

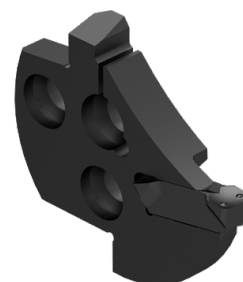
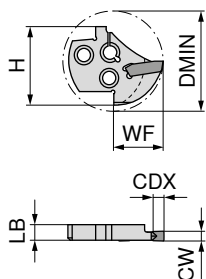
→ 83

# ModularClamp MSS – Módulo de ranurado radial GX 09/16 para mecanizado interior

- ▲ Para ranuras Circlips ≤ 5,25 mm
- ▲ Para ranuras radiales de hasta ≤ 2,5 mm

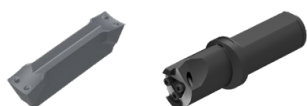
**Incluye:**

Módulo de ranurado solamente



Las figuras muestran la versión a derechas

| Designación ISO    | CW<br>mm    | LB<br>mm | WF<br>mm | H<br>mm | CDX<br>mm | DMIN<br>mm | Para placas de<br>ranurado | A izquierdas           |            | A derechas             |            |
|--------------------|-------------|----------|----------|---------|-----------|------------|----------------------------|------------------------|------------|------------------------|------------|
|                    |             |          |          |         |           |            |                            | 70 881 ...             | 70 880 ... | 70 881 ...             | 70 880 ... |
| I16 R/L 04-GX 09-1 | 2,00 - 2,75 | 3,8      | 10,0     | 16,4    | 4         | 20         | GX 09-1 ..N                | EUR<br>2C/71<br>108,60 | 017        | EUR<br>2C/71<br>108,60 | 017        |
| I16 R/L 04-GX 09-2 | 2,76 - 3,75 | 3,8      | 10,0     | 16,4    | 4         | 20         | GX 09-2 ..N                | 108,60                 | 117        | 108,60                 | 117        |
| I20 R/L 05-GX 09-1 | 2,00 - 2,75 | 3,8      | 12,0     | 20,3    | 5         | 25         | GX 09-1 ..N                | 108,60                 | 021        | 108,60                 | 021        |
| I20 R/L 05-GX 09-2 | 2,76 - 3,75 | 3,8      | 12,0     | 20,3    | 5         | 25         | GX 09-2 ..N                | 108,60                 | 121        | 108,60                 | 121        |
| I25 R/L 06-GX 09-1 | 2,00 - 2,75 | 3,8      | 15,5     | 24,9    | 6         | 32         | GX 09-1 ..N                | 109,40                 | 026        | 109,40                 | 026        |
| I25 R/L 06-GX 09-2 | 2,76 - 3,75 | 3,8      | 15,5     | 24,9    | 6         | 32         | GX 09-2 ..N                | 109,40                 | 126        | 109,40                 | 126        |
| I32 R/L 09-GX 16-1 | 2,00 - 2,75 | 5,9      | 20,0     | 32,2    | 9         | 40         | GX 16-1 ..N                | 110,50                 | 033        | 110,50                 | 033        |
| I32 R/L 09-GX 16-2 | 2,76 - 3,75 | 5,9      | 20,0     | 32,2    | 9         | 40         | GX 16-2 ..N                | 110,50                 | 133        | 110,50                 | 133        |
| I32 R/L 09-GX 16-3 | 3,76 - 5,00 | 5,9      | 20,0     | 32,2    | 9         | 40         | GX 16-3 ..N                | 110,50                 | 233        | 110,50                 | 233        |
| I32 R/L 09-GX 16-4 | 5,01 - 6,50 | 5,9      | 20,0     | 32,2    | 9         | 40         | GX 16-4 ..N                | 110,50                 | 333        | 110,50                 | 333        |
| I40 R/L 10-GX 16-1 | 2,00 - 2,75 | 5,9      | 24,5     | 39,6    | 10        | 50         | GX 16-1 ..N                | 111,40                 | 041        | 111,40                 | 041        |
| I40 R/L 10-GX 16-2 | 2,76 - 3,75 | 5,9      | 24,5     | 39,6    | 10        | 50         | GX 16-2 ..N                | 111,40                 | 141        | 111,40                 | 141        |
| I40 R/L 10-GX 16-3 | 3,76 - 5,00 | 5,9      | 24,5     | 39,6    | 10        | 50         | GX 16-3 ..N                | 111,40                 | 241        | 111,40                 | 241        |
| I40 R/L 10-GX 16-4 | 5,01 - 6,50 | 5,9      | 24,5     | 39,6    | 10        | 50         | GX 16-4 ..N                | 111,40                 | 341        | 111,40                 | 341        |



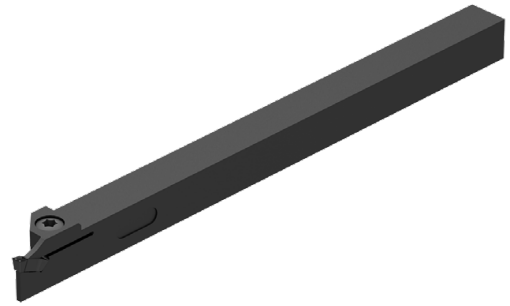
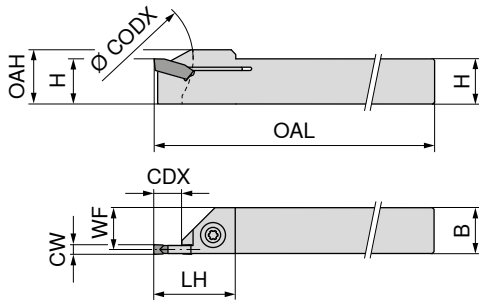
→ 34-41

→ 83

# MonoClamp – Portaherramientas monoblock radial GX 09

**Incluye:**

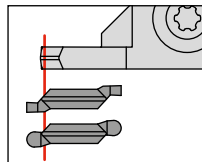
Porta monoblock con llave Torx y tornillo de sujeción



Las figuras muestran la versión a derechas

| Designación ISO       | H<br>mm | B<br>mm | CW<br>mm    | WF<br>mm | OAH<br>mm | OAL<br>mm | LH<br>mm | CODX<br>mm | CDX<br>mm | Para placas de ranurado | A izquierdas           |            | A derechas             |     |
|-----------------------|---------|---------|-------------|----------|-----------|-----------|----------|------------|-----------|-------------------------|------------------------|------------|------------------------|-----|
|                       |         |         |             |          |           |           |          |            |           |                         | 70 863 ...             | 70 862 ... |                        |     |
| E10 R/L 00-1010M-GX09 | 10      | 10      | 2,00 - 3,50 | 9,35     | 12        | 150       | 18       | 30         | 7         | GX 09 ..                | EUR<br>2C/71<br>156,20 | 010        | EUR<br>2C/71<br>156,20 | 010 |

**1** Cuando se utilizan placas a izquierdas o derechas, se debe retocar el porta en la parte frontal para garantizar un corte limpio.



**Piezas de repuesto**  
Para placas de ranurado  
GX 09 ..



|                    |                       |
|--------------------|-----------------------|
| 80 950 ...         | 70 950 ...            |
| EUR<br>Y7<br>11,96 | EUR<br>2A/28<br>13,34 |
| 113                | 442                   |
| T15                | M4x11                 |



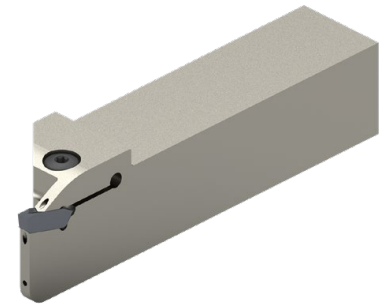
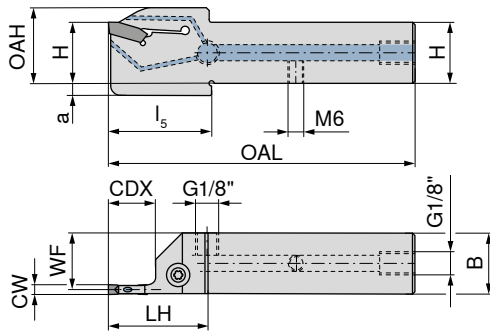
→ 34-40

→ Capítulo 16

# MonoClamp – Portaherramientas monoblock radial GX-DC 16

Incluye:

Porta monoblock con llave Torx y tornillo de sujeción



Las figuras muestran la versión a derechas

| Designación ISO                | H<br>mm | B<br>mm | CW<br>mm | WF<br>mm | OAH<br>mm | OAL<br>mm | LH<br>mm | I <sub>5</sub><br>mm | a<br>mm | CDX<br>mm | Para placas de ranurado | A izquierdas |              | A derechas   |              |
|--------------------------------|---------|---------|----------|----------|-----------|-----------|----------|----------------------|---------|-----------|-------------------------|--------------|--------------|--------------|--------------|
|                                |         |         |          |          |           |           |          |                      |         |           |                         | 70 842 ...   | 70 842 ...   | 70 842 ...   | 70 842 ...   |
|                                |         |         |          |          |           |           |          |                      |         |           |                         | EUR<br>2C/71 | EUR<br>2C/71 | EUR<br>2C/71 | EUR<br>2C/71 |
| E16 R/L 0013S2-1616X-S-DC-GX16 | 16      | 16      | 2        | 15,20    | 21        | 90        | 35       | 36                   | 4       | 13        | GX 16-1 E2..            | 186,40       | 21601        | 186,40       | 21600        |
| E16 R/L 0013S3-1616X-S-DC-GX16 | 16      | 16      | 3        | 14,85    | 21        | 90        | 35       | 36                   | 4       | 13        | GX 16-2 E3..            | 186,40       | 31601        | 186,40       | 31600        |
| E16 R/L 0013S4-1616X-S-DC-GX16 | 16      | 16      | 4        | 14,40    | 21        | 90        | 35       | 36                   | 4       | 13        | GX 16-3 E4..            | 186,40       | 41601        | 186,40       | 41600        |
| E16 R/L 0013S5-1616X-S-DC-GX16 | 16      | 16      | 5        | 14,00    | 21        | 90        | 35       | 36                   | 4       | 13        | GX 16-3 E5..            | 186,40       | 51601        | 186,40       | 51600        |
| E20 R/L 0013S2-2020X-S-DC-GX16 | 20      | 20      | 2        | 19,20    | 25        | 104       | 35       |                      |         | 13        | GX 16-1 E2..            | 214,60       | 22001        | 214,60       | 22000        |
| E20 R/L 0013S3-2020X-S-DC-GX16 | 20      | 20      | 3        | 18,85    | 25        | 104       | 35       |                      |         | 13        | GX 16-2 E3..            | 214,60       | 32001        | 214,60       | 32000        |
| E20 R/L 0013S4-2020X-S-DC-GX16 | 20      | 20      | 4        | 18,40    | 25        | 104       | 35       |                      |         | 13        | GX 16-3 E4..            | 214,60       | 42001        | 214,60       | 42000        |
| E20 R/L 0013S5-2020X-S-DC-GX16 | 20      | 20      | 5        | 18,00    | 25        | 104       | 35       |                      |         | 13        | GX 16-3 E5..            | 214,60       | 52001        | 214,60       | 52000        |
| E25 R/L 0013S3-2525X-S-DC-GX16 | 25      | 25      | 3        | 23,85    | 30        | 119       | 35       |                      |         | 13        | GX 16-2 E3..            | 228,30       | 32501        | 228,30       | 32500        |
| E25 R/L 0013S4-2525X-S-DC-GX16 | 25      | 25      | 4        | 23,40    | 30        | 119       | 35       |                      |         | 13        | GX 16-3 E4..            | 228,30       | 42501        | 228,30       | 42500        |
| E25 R/L 0013S5-2525X-S-DC-GX16 | 25      | 25      | 5        | 23,00    | 30        | 119       | 35       |                      |         | 13        | GX 16-3 E5..            | 228,30       | 52501        | 228,30       | 52500        |



Destornillador



Tornillo de sujeción

Piezas de repuesto

Para placas de ranurado

|              |          |     | 80 950 ... | 70 950 ...   |
|--------------|----------|-----|------------|--------------|
|              |          |     | EUR<br>Y7  | EUR<br>2A/28 |
| GX 16-1 E2.. | T15 - IP | 128 | 15,33      | 12,31 865    |
| GX 16-2 E3.. | T15 - IP | 128 | 15,33      | 12,31 865    |
| GX 16-3 E4.. | T15 - IP | 128 | 15,33      | 12,31 865    |
| GX 16-3 E5.. | T15 - IP | 128 | 15,33      | 12,31 865    |



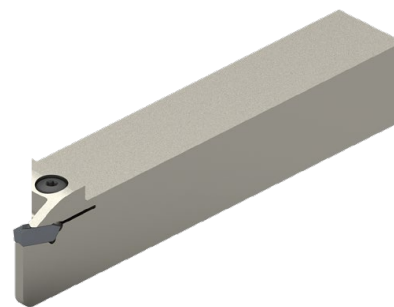
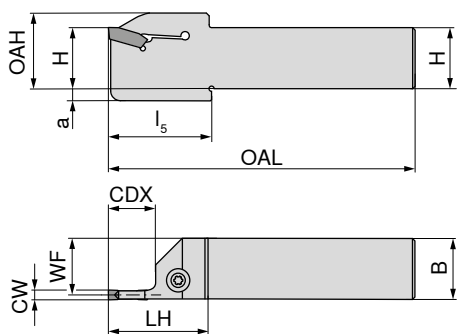
→ 34-41

→ Capítulo 16

# MonoClamp – Portaherramientas monoblock radial GX 16

Incluye:

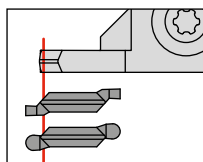
Porta monoblock con llave Torx y tornillo de sujeción



Las figuras muestran la versión a derechas

| Designación ISO             | H<br>mm | B<br>mm | CW<br>mm | WF<br>mm | OAH<br>mm | OAL<br>mm | LH<br>mm | l <sub>5</sub><br>mm | a<br>mm | CDX<br>mm | Para placas de ranurado | A izquierdas | A derechas   |
|-----------------------------|---------|---------|----------|----------|-----------|-----------|----------|----------------------|---------|-----------|-------------------------|--------------|--------------|
|                             |         |         |          |          |           |           |          |                      |         |           |                         | 70 843 ...   | 70 843 ...   |
|                             |         |         |          |          |           |           |          |                      |         |           |                         | EUR<br>2C/71 | EUR<br>2C/71 |
| E12 R/L 0013S2-1212K-S-GX16 | 12      | 12      | 2        | 11,20    | 17        | 125       | 25       | 26                   | 4       | 13        | GX 16-1 E2..            | 115,20 21201 | 115,20 21200 |
| E12 R/L 0013S3-1212K-S-GX16 | 12      | 12      | 3        | 10,85    | 17        | 125       | 25       | 26                   | 4       | 13        | GX 16-2 E3..            | 115,20 31201 | 115,20 31200 |
| E16 R/L 0013S2-1616K-S-GX16 | 16      | 16      | 2        | 15,20    | 21        | 125       | 25       | 26                   | 4       | 13        | GX 16-1 E2..            | 123,00 21601 | 123,00 21600 |
| E16 R/L 0013S3-1616K-S-GX16 | 16      | 16      | 3        | 14,85    | 21        | 125       | 25       | 26                   | 4       | 13        | GX 16-2 E3..            | 123,00 31601 | 123,00 31600 |
| E16 R/L 0013S4-1616K-S-GX16 | 16      | 16      | 4        | 14,40    | 21        | 125       | 25       | 26                   | 4       | 13        | GX 16-3 E4..            | 123,00 41601 | 123,00 41600 |
| E16 R/L 0013S5-1616K-S-GX16 | 16      | 16      | 5        | 14,00    | 21        | 125       | 25       | 26                   | 4       | 13        | GX 16-3 E5..            | 123,00 51601 | 123,00 51600 |
| E20 R/L 0013S2-2020K-S-GX16 | 20      | 20      | 2        | 19,20    | 25        | 125       | 25       |                      |         | 13        | GX 16-1 E2..            | 141,70 22001 | 141,70 22000 |
| E20 R/L 0013S3-2020K-S-GX16 | 20      | 20      | 3        | 18,85    | 25        | 125       | 25       |                      |         | 13        | GX 16-2 E3..            | 141,70 32001 | 141,70 32000 |
| E20 R/L 0013S4-2020K-S-GX16 | 20      | 20      | 4        | 18,40    | 25        | 125       | 25       |                      |         | 13        | GX 16-3 E4..            | 141,70 42001 | 141,70 42000 |
| E20 R/L 0013S5-2020K-S-GX16 | 20      | 20      | 5        | 18,00    | 25        | 125       | 25       |                      |         | 13        | GX 16-3 E5..            | 141,70 52001 | 141,70 52000 |
| E25 R/L 0013S3-2525M-S-GX16 | 25      | 25      | 3        | 23,85    | 30        | 150       | 25       |                      |         | 13        | GX 16-2 E3..            | 150,70 32501 | 150,70 32500 |
| E25 R/L 0013S4-2525M-S-GX16 | 25      | 25      | 4        | 23,40    | 30        | 150       | 25       |                      |         | 13        | GX 16-3 E4..            | 150,70 42501 | 150,70 42500 |
| E25 R/L 0013S5-2525M-S-GX16 | 25      | 25      | 5        | 23,00    | 30        | 150       | 25       |                      |         | 13        | GX 16-3 E5..            | 150,70 52501 | 150,70 52500 |

**i** Cuando se utilizan placas a izquierdas o derechas, se debe retocar el porta en la parte frontal para garantizar un corte limpio.



**Piezas de repuesto**

**Para placas de ranurado**

|              |          | 80 950 ... | 70 950 ...             |
|--------------|----------|------------|------------------------|
|              |          | EUR<br>Y7  | EUR<br>2A/28           |
| GX 16-1 E2.. | T15 - IP | 15,33 128  | M5x18 - 15IP 12,31 865 |
| GX 16-2 E3.. | T15 - IP | 15,33 128  | M5x18 - 15IP 12,31 865 |
| GX 16-3 E4.. | T15 - IP | 15,33 128  | M5x18 - 15IP 12,31 865 |
| GX 16-3 E5.. | T15 - IP | 15,33 128  | M5x18 - 15IP 12,31 865 |



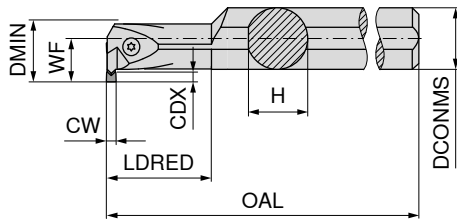
→ 34-41

→ Capítulo 16

# MonoClamp – Portas de torneado interior monobloc radial GX 09

Incluye:

Porta de interiores con llave y tornillo de sujeción

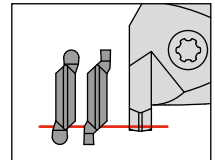


Las figuras muestran la versión a derechas

| Designación ISO      | H<br>mm | DCONMS<br>mm | DMIN<br>mm | CW<br>mm    | CDX<br>mm | WF<br>mm | OAL<br>mm | LDRED<br>mm | Para placas de ranurado | A izquierdas |     | A derechas   |     |
|----------------------|---------|--------------|------------|-------------|-----------|----------|-----------|-------------|-------------------------|--------------|-----|--------------|-----|
|                      |         |              |            |             |           |          |           |             |                         | EUR          | 012 | EUR          | 012 |
| I12 R/L 90-2,5D-GX09 | 15,25   | 16           | 16         | 2,00 - 3,75 | 3         | 11       | 150       | 30          | GX 09 ..                | 70 859 ...   |     | 70 858 ...   |     |
|                      |         |              |            |             |           |          |           |             |                         | EUR<br>2C/71 |     | EUR<br>2C/71 |     |
|                      |         |              |            |             |           |          |           |             |                         | 191,40       | 012 | 191,40       | 012 |

**1** Con portas de torneado interior a derechas → usar plaquitas a izquierdas  
Con portas de torneado interior a izquierdas → usar plaquitas a derechas

**1** Al usar plaquitas D o I, la herramienta debe mecanizarse posteriormente en la parte frontal para garantizar el corte.



Piezas de repuesto  
Para placas de ranurado  
GX 09 ..



|     |            |     |            |
|-----|------------|-----|------------|
|     | 80 950 ... |     | 70 950 ... |
|     | EUR        |     | EUR        |
|     | Y7         |     | 2A/28      |
| T15 | 11,96      | 113 | M3,5x12,5  |
|     |            |     | 11,57      |
|     |            |     | 441        |



→ 34-40

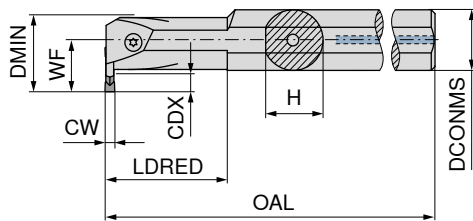
→ Capítulo 16



# MonoClamp – Portas de torneado interior monobloc radial GX 16

**Incluye:**

Porta de interiores con llave y tornillo de sujeción

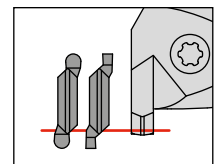


Las figuras muestran la versión a derechas

| Designación ISO        | H<br>mm | DCONMS<br>mm | DMIN<br>mm | CW<br>mm    | CDX<br>mm | WF<br>mm | OAL<br>mm | LDRED<br>mm | Para placas de ranurado | A izquierdas |              | A derechas |     |
|------------------------|---------|--------------|------------|-------------|-----------|----------|-----------|-------------|-------------------------|--------------|--------------|------------|-----|
|                        |         |              |            |             |           |          |           |             |                         | 70 893 ...   | 70 892 ...   |            |     |
|                        |         |              |            |             |           |          |           |             |                         | EUR<br>2C/71 | EUR<br>2C/71 |            |     |
| I16 R/L 90-2.0D-GX16-1 | 15,25   | 16           | 20,5       | 2,00 - 2,75 | 5,0       | 13,5     | 150       | 32          | GX 16-1                 | 168,60       | 516          | 168,60     | 516 |
| I16 R/L 90-2.0D-GX16-2 | 15,25   | 16           | 20,5       | 2,76 - 3,75 | 5,0       | 13,5     | 150       | 32          | GX 16-2                 | 168,60       | 616          | 168,60     | 616 |
| I20 R/L 90-2.0D-GX16-2 | 19,00   | 20           | 25,0       | 2,76 - 3,75 | 5,5       | 15,5     | 180       | 40          | GX 16-2                 | 182,10       | 620          | 182,10     | 620 |
| I25 R/L 90-2.0D-GX16-2 | 24,00   | 25           | 32,0       | 2,76 - 3,75 | 8,0       | 20,5     | 200       | 50          | GX 16-2                 | 211,70       | 625          | 211,70     | 625 |
| I25 R/L 90-2.0D-GX16-3 | 24,00   | 25           | 32,0       | 3,76 - 5,00 | 10,0      | 22,5     | 200       | 50          | GX 16-3                 | 211,70       | 725          | 211,70     | 725 |
| I32 R/L 90-2.0D-GX16-2 | 31,00   | 32           | 42,0       | 2,76 - 3,75 | 11,0      | 27,5     | 250       | 64          | GX 16-2                 | 246,10       | 632          | 246,10     | 632 |
| I32 R/L 90-2.0D-GX16-3 | 31,00   | 32           | 42,0       | 3,76 - 5,00 | 11,0      | 27,5     | 250       | 64          | GX 16-3                 | 246,10       | 732          | 246,10     | 732 |

**i** Con portas de torneado interior a derechas → usar plaquitas a izquierdas  
Con portas de torneado interior a izquierdas → usar plaquitas a derechas

**i** Al usar plaquitas D o I, la herramienta debe mecanizarse posteriormente en la parte frontal para garantizar el corte.



| Piezas de repuesto<br>Para placas de ranurado | 80 950 ... |     | 70 950 ... |       |
|---|------------|-----|------------|-------|
|   | EUR        | Y7  | EUR        | 2A/28 |
| GX 16-1                                       | 11,96      | 113 | 11,07      | 403   |
| GX 16-2                                       | 11,96      | 113 | 11,07      | 403   |
| GX 16-3                                       | 11,96      | 113 | 11,07      | 403   |



→ 34-41

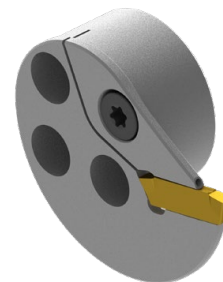
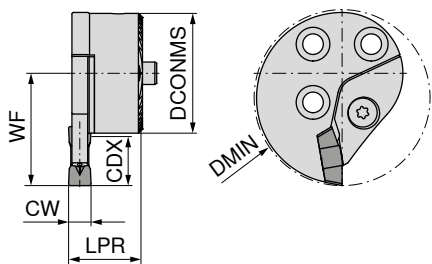
→ Capítulo 16

# MaxiChange-GX – Cabezal intercambiable GX-DC 16

▲ Para Ranurado y Torneado

**Incluye:**

Cabeza intercambiable de ranurado con brida y tornillo de sujeción



Las figuras muestran la versión a derechas

| Designación ISO           | DCONMS<br>mm | CW<br>mm | WF<br>mm | LPR<br>mm | DMIN<br>mm | CDX<br>mm | Para placas de<br>ranurado | NEW<br>A izquierdas |            | NEW<br>A derechas |            |
|---------------------------|--------------|----------|----------|-----------|------------|-----------|----------------------------|---------------------|------------|-------------------|------------|
|                           |              |          |          |           |            |           |                            | 84 188 ...          | 84 189 ... | 84 188 ...        | 84 189 ... |
|                           |              |          |          |           |            |           |                            | EUR<br>Y8           |            | EUR<br>Y8         |            |
| WK25 R/L 14-DC GX 16-S2   | 25           | 2        | 27       | 14,00     | 41         | 14        | GX 16-1 ..N                | 176,20              | 22500      | 176,20            | 22500      |
| WK25 R/L 14-DC GX 16-S3   | 25           | 3        | 27       | 14,75     | 41         | 14        | GX 16-2 ..N                | 176,20              | 32500      | 176,20            | 32500      |
| WK25 R/L 14-DC GX 16-S4/5 | 25           | 4/5      | 27       | 15,75     | 41         | 14        | GX 16-3 ..N                | 176,20              | 42500      | 176,20            | 42500      |
| WK32 R/L 13-DC GX 16-S4/5 | 32           | 4/5      | 30       | 17,75     | 47         | 13        | GX 16-3 ..N                | 185,90              | 43200      | 185,90            | 43200      |
| WK32 R/L 13-DC GX 16-S6   | 32           | 6        | 30       | 19,35     | 47         | 13        | GX 16-3 ..N                | 185,90              | 63200      | 185,90            | 63200      |

| Piezas de repuesto<br>Para N° de artículo | Brida de sujeción |           | Junta O    |           | Tornillo de sujeción |            | Pasador de sujeción |           |         |      |       |
|---|-------------------|-----------|------------|-----------|----------------------|------------|---------------------|-----------|---------|------|-------|
|   | 84 950 ...        | EUR<br>Y8 | 84 950 ... | EUR<br>Y8 | 84 950 ...           | EUR<br>Y8  | 84 950 ...          | EUR<br>Y8 |         |      |       |
| 84 189 22500                              | 39,57             | 50400     | 2x1        | 3,14      | 50300                | M4X4/T15   | 5,89                | 50000     | D3H6X10 | 3,70 | 53000 |
| 84 188 22500                              | 39,57             | 50500     | 2x1        | 3,14      | 50300                | M4X4/T15   | 5,89                | 50000     | D3H6X10 | 3,70 | 53000 |
| 84 189 32500                              | 39,57             | 50600     | 2x1        | 3,14      | 50300                | M4X4/T15   | 5,89                | 50000     | D3H6X10 | 3,70 | 53000 |
| 84 188 32500                              | 39,57             | 50700     | 2x1        | 3,14      | 50300                | M4X4/T15   | 5,89                | 50000     | D3H6X10 | 3,70 | 53000 |
| 84 189 42500                              | 39,57             | 50800     | 2x1        | 3,14      | 50300                | M4X4/T15   | 5,89                | 50000     | D3H6X10 | 3,70 | 53000 |
| 84 188 42500                              | 39,57             | 50900     | 2x1        | 3,14      | 50300                | M4X4/T15   | 5,89                | 50000     | D3H6X10 | 3,70 | 53000 |
| 84 189 43200                              | 42,97             | 51000     | 2x1        | 3,14      | 50300                | M5X5,5/T15 | 6,22                | 50100     | D4H6X10 | 3,70 | 53100 |
| 84 188 43200                              | 42,97             | 51100     | 2x1        | 3,14      | 50300                | M5X5,5/T15 | 6,22                | 50100     | D4H6X10 | 3,70 | 53100 |
| 84 189 63200                              | 42,97             | 51200     | 2x1        | 3,14      | 50300                | M5X5,5/T15 | 6,22                | 50100     | D4H6X10 | 3,70 | 53100 |
| 84 188 63200                              | 42,97             | 51300     | 2x1        | 3,14      | 50300                | M5X5,5/T15 | 6,22                | 50100     | D4H6X10 | 3,70 | 53100 |

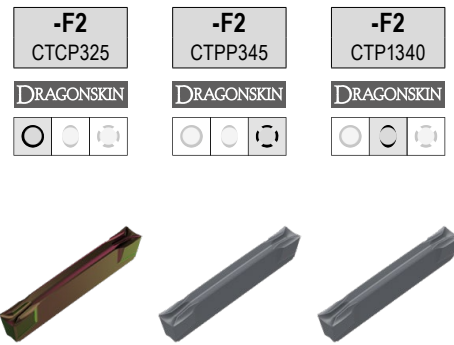
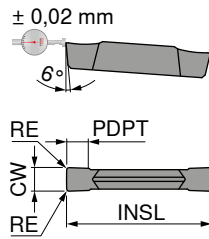
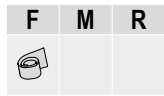
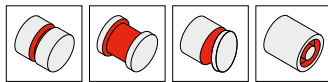


→ 34-41

→ Capítulo 9

# Plaquita GX 24

- ▲ Placa con periferia rectificada
- ▲ Apta también para el tronzado de tubos y piezas de paredes delgadas



| Designación          | INSL<br>mm | CW $\pm 0,02$<br>mm | RE $\pm 0,05$<br>mm | PDPT<br>mm | Para portas | 70 350 ...   |     | 70 350 ...   |     | 70 350 ...   |     |
|----------------------|------------|---------------------|---------------------|------------|-------------|--------------|-----|--------------|-----|--------------|-----|
|                      |            |                     |                     |            |             | EUR<br>1C/72 |     | EUR<br>1C/72 |     | EUR<br>1C/72 |     |
| GX 24-2 E3.00 N 0.30 | 24         | 3,0                 | 0,3                 | 2,5        | GX 24-2     | 35,68        | 962 | 35,68        | 862 | 35,68        | 662 |
| GX 24-2 E3.50 N 0.30 | 24         | 3,5                 | 0,3                 | 2,5        | GX 24-2     |              |     | 35,68        | 864 |              |     |
| GX 24-3 E4.00 N 0.40 | 24         | 4,0                 | 0,4                 | 3,0        | GX 24-3     | 38,49        | 966 | 38,49        | 866 | 38,49        | 666 |
| GX 24-3 E5.00 N 0.40 | 24         | 5,0                 | 0,4                 | 3,5        | GX 24-3     | 42,24        | 970 | 42,24        | 870 | 42,24        | 671 |
| GX 24-4 E6.00 N 0.50 | 24         | 6,0                 | 0,5                 | 4,0        | GX 24-4     |              |     | 46,43        | 872 | 46,43        | 672 |

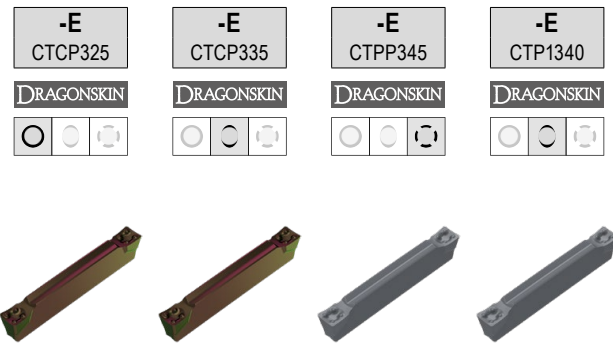
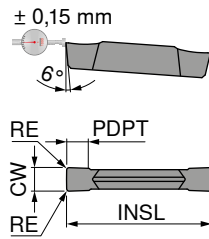
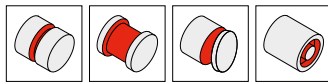
|   |  |   |   |   |
|---|--|---|---|---|
| P |  | ● | ● | ● |
| M |  | ○ | ● | ● |
| K |  | ● |   | ● |
| N |  |   |   | ○ |
| S |  | ○ | ○ | ● |
| H |  |   |   |   |
| O |  |   |   | ○ |

→ v. Página 88  
→ Recomendación de uso en la página 89



# Plaquita GX 24

- ▲ De uso universal.
- ▲ Primera opción para el ranurado axial



| Designación          | INSL<br>mm | CW $\pm 0,05$<br>mm | RE $\pm 0,05$<br>mm | PDPT<br>mm | Para portas | 70 350 ...   |     | 70 350 ...   |     | 70 350 ...   |     | 70 350 ...   |     |
|----------------------|------------|---------------------|---------------------|------------|-------------|--------------|-----|--------------|-----|--------------|-----|--------------|-----|
|                      |            |                     |                     |            |             | EUR<br>1C/72 |     | EUR<br>1C/72 |     | EUR<br>1C/72 |     | EUR<br>1C/72 |     |
| GX 24-2 E3.00 N 0.30 | 24         | 3                   | 0,3                 | 2,5        | GX 24-2     | 24,00        | 932 | 24,00        | 532 | 24,00        | 832 | 24,00        | 632 |
| GX 24-3 E4.00 N 0.40 | 24         | 4                   | 0,4                 | 3,0        | GX 24-3     | 26,26        | 936 | 26,26        | 536 | 26,26        | 836 | 26,26        | 636 |
| GX 24-3 E5.00 N 0.40 | 24         | 5                   | 0,4                 | 3,0        | GX 24-3     | 28,65        | 940 | 28,65        | 540 | 28,65        | 840 | 28,65        | 640 |
| GX 24-4 E6.00 N 0.50 | 24         | 6                   | 0,5                 | 3,5        | GX 24-4     | 31,50        | 944 | 31,50        | 544 | 31,50        | 844 | 31,50        | 644 |
| P                    |            |                     |                     |            |             | ●            |     | ●            |     | ●            |     | ●            |     |
| M                    |            |                     |                     |            |             | ○            |     | ○            |     | ●            |     | ●            |     |
| K                    |            |                     |                     |            |             | ●            |     | ●            |     |              |     |              | ●   |
| N                    |            |                     |                     |            |             |              |     |              |     |              |     |              | ○   |
| S                    |            |                     |                     |            |             |              | ○   |              |     |              | ○   |              | ●   |
| H                    |            |                     |                     |            |             |              |     |              |     |              |     |              |     |
| O                    |            |                     |                     |            |             |              |     |              |     |              |     |              | ○   |

→ v<sub>c</sub> Página 88  
→ Recomendación de uso en la página 89

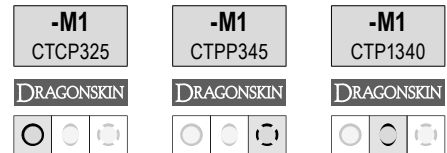
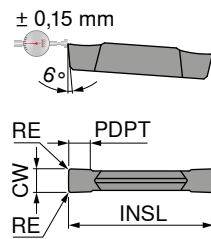
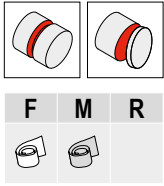
### Mecanizado interior

### Mecanizado exterior



# Plaquita GX 24

▲ Muy buen control de viruta



| Designación          | INSL<br>mm | CW<br>mm | RE<br>mm | Para portas | 70 363 ...   |     | 70 363 ...   |     | 70 363 ...   |     |
|----------------------|------------|----------|----------|-------------|--------------|-----|--------------|-----|--------------|-----|
|                      |            |          |          |             | EUR<br>1C/72 |     | EUR<br>1C/72 |     | EUR<br>1C/72 |     |
| GX 24-1 E2.00 N 0.20 | 24         | 2        | 0,2      | GX 24-1     | 24,00        | 900 | 24,00        | 800 | 24,00        | 600 |
| GX 24-2 E3.00 N 0.20 | 24         | 3        | 0,2      | GX 24-2     | 24,00        | 902 | 24,00        | 802 | 24,00        | 602 |
| GX 24-3 E4.00 N 0.30 | 24         | 4        | 0,3      | GX 24-3     | 26,26        | 904 | 26,26        | 804 | 26,26        | 604 |

|   |   |   |   |
|---|---|---|---|
| P | ● | ● | ● |
| M | ○ | ● | ● |
| K | ● | ○ | ● |
| N | ○ | ○ | ○ |
| S | ○ | ○ | ● |
| H |   |   |   |
| O |   |   | ○ |

→ v. Página 88  
→ Recomendación de uso en la página 90

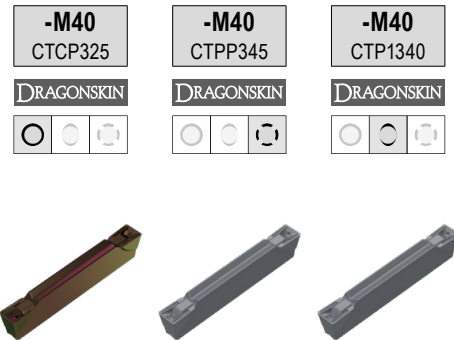
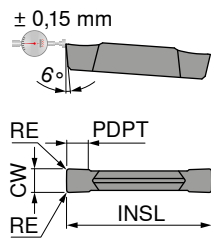
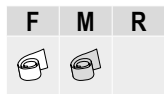
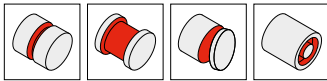
### Mecanizado interior

### Mecanizado exterior



# Plaquita GX 24

▲ Muy buen control de viruta



| Designación          | INSL<br>mm | CW<br>mm | RE<br>mm | PDPT<br>mm | Para portas | 70 364 ...   |     | 70 364 ...   |     | 70 364 ...   |     |
|----------------------|------------|----------|----------|------------|-------------|--------------|-----|--------------|-----|--------------|-----|
|                      |            |          |          |            |             | EUR<br>1C/72 |     | EUR<br>1C/72 |     | EUR<br>1C/72 |     |
| GX 24-2 E3.00 N 0.30 | 24         | 3        | 0,3      | 3,5        | GX 24-2     | 24,00        | 900 | 24,00        | 800 | 24,00        | 600 |
| GX 24-3 E4.00 N 0.40 | 24         | 4        | 0,4      | 4,0        | GX 24-3     | 26,26        | 902 | 26,26        | 802 | 26,26        | 602 |
| GX 24-3 E5.00 N 0.40 | 24         | 5        | 0,4      | 4,0        | GX 24-3     | 28,65        | 904 | 28,65        | 804 | 28,65        | 604 |
| GX 24-4 E6.00 N 0.50 | 24         | 6        | 0,5      | 4,0        | GX 24-4     | 31,50        | 906 | 31,50        | 806 | 31,50        | 606 |
| P                    |            |          |          |            |             | ●            |     | ●            |     | ●            |     |
| M                    |            |          |          |            |             | ○            |     | ●            |     | ●            |     |
| K                    |            |          |          |            |             | ●            |     |              |     | ●            |     |
| N                    |            |          |          |            |             |              |     |              |     |              | ○   |
| S                    |            |          |          |            |             |              | ○   |              | ○   |              | ●   |
| H                    |            |          |          |            |             |              |     |              |     |              |     |
| O                    |            |          |          |            |             |              |     |              |     |              | ○   |

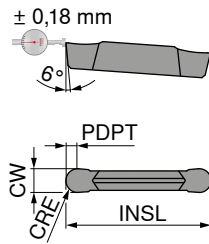
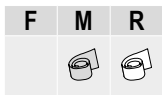
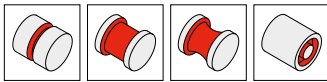
→ v. Página 88  
→ Recomendación de uso en la página 89

Mecanizado interior

Mecanizado exterior



# Plaquitas de radio GX 24



| Designación     | INSL<br>mm | CW $\pm 0,05$<br>mm | CRE<br>mm | PDPT<br>mm | Para portas | 70 354 ...   |     | 70 354 ...   |     |
|-----------------|------------|---------------------|-----------|------------|-------------|--------------|-----|--------------|-----|
|                 |            |                     |           |            |             | EUR<br>1C/72 |     | EUR<br>1C/72 |     |
| GX 24-2 R1.50 N | 24,4       | 3                   | 1,5       | 1,5        | GX 24-2     | 31,93        | 952 | 31,93        | 552 |
| GX 24-3 R2.00 N | 24,4       | 4                   | 2,0       | 2,5        | GX 24-3     | 34,20        | 954 | 34,20        | 554 |
| GX 24-3 R2.50 N | 24,4       | 5                   | 2,5       | 3,0        | GX 24-3     | 35,68        | 956 | 35,68        | 556 |
| GX 24-4 R3.00 N | 24,4       | 6                   | 3,0       | 4,0        | GX 24-4     | 38,35        | 958 | 38,35        | 558 |

|   |   |   |
|---|---|---|
| P | ● | ● |
| M | ○ | ○ |
| K | ● | ● |
| N |   |   |
| S | ○ |   |
| H |   |   |
| O |   |   |

→ v<sub>c</sub> Página 88  
→ Recomendación de uso en la página 90

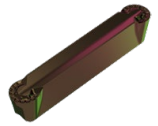
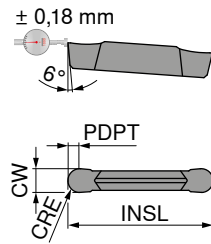
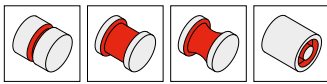
### Mecanizado interior

### Mecanizado exterior



# Plaquitas de radio GX 24

▲ Adecuado para mecanizar materiales tenaces y dúctiles



| Designación     | INSL<br>mm | CW $\pm 0,05$<br>mm | CRE<br>mm | PDPT<br>mm | Para portas |
|-----------------|------------|---------------------|-----------|------------|-------------|
| GX 24-2 R1.50 N | 24,4       | 3                   | 1,5       | 1,5        | GX 24-2     |
| GX 24-3 R2.00 N | 24,4       | 4                   | 2,0       | 2,5        | GX 24-3     |
| GX 24-3 R2.50 N | 24,4       | 5                   | 2,5       | 3,0        | GX 24-3     |
| GX 24-4 R3.00 N | 24,4       | 6                   | 3,0       | 4,0        | GX 24-4     |

**70 365 ...**

|            |       |
|------------|-------|
| <b>EUR</b> |       |
| 1C/72      |       |
| 31,93      | 95200 |
| 34,20      | 95400 |
| 35,68      | 95600 |
| 38,35      | 95800 |

|   |   |
|---|---|
| P | ● |
| M | ○ |
| K | ● |
| N | ○ |
| S | ○ |
| H |   |
| O |   |

→  $v_c$  Página 88  
→ Recomendación de uso en la página 90

### Mecanizado interior

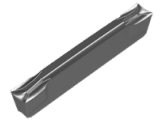
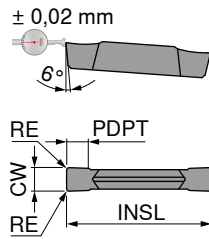
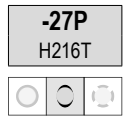
### Mecanizado exterior





# Plaquita GX 24

- ▲ Plaquita de tronzado y ranurado con geometría de corte muy positiva y filo de corte extremadamente afilado
- ▲ Con periferia rectificada



| Designación          | INSL<br>mm | CW $\pm 0,02$<br>mm | RE $\pm 0,05$<br>mm | PDPT<br>mm | Para portas |
|----------------------|------------|---------------------|---------------------|------------|-------------|
| GX 24-2 E3.00 N 0.30 | 24         | 3                   | 0,3                 | 2,5        | GX 24-2     |
| GX 24-3 E4.00 N 0.40 | 24         | 4                   | 0,4                 | 3,0        | GX 24-3     |
| GX 24-3 E5.00 N 0.40 | 24         | 5                   | 0,4                 | 3,5        | GX 24-3     |
| GX 24-4 E6.00 N 0.50 | 24         | 6                   | 0,5                 | 4,0        | GX 24-4     |

70 350 ...

| EUR<br>1C/72 |     |
|--------------|-----|
| 28,65        | 682 |
| 31,50        | 684 |
| 32,83        | 686 |
| 34,04        | 688 |

|   |   |
|---|---|
| P |   |
| M |   |
| K | ● |
| N | ● |
| S | ○ |
| H |   |
| O | ○ |

→ v. Página 88  
→ Recomendación de uso en la página 89

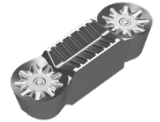
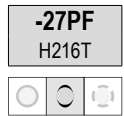
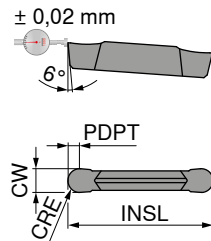
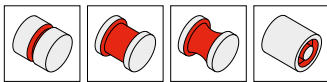
### Mecanizado interior

### Mecanizado exterior



# Plaquitas de radio GX 24

- ▲ Plaquita con geometría de filo de corte extremadamente positiva
- ▲ Plaquita con periferia rectificada



| Designación     | INSL<br>mm | CW $+0,02$<br>mm | CRE<br>mm | PDPT<br>mm | Para portas |
|-----------------|------------|------------------|-----------|------------|-------------|
| GX 24-4 R3.00 N | 25,4       | 6                | 3         | 4          | GX 24-4     |
| GX 24-5 R4.00 N | 25,4       | 8                | 4         | 5          | GX 24-5     |

70 353 ...

|            |     |
|------------|-----|
| <b>EUR</b> |     |
| 1C/72      |     |
| 42,83      | 500 |
| 45,20      | 506 |

|   |   |
|---|---|
| P |   |
| M |   |
| K | ● |
| N | ● |
| S | ○ |
| H |   |
| O | ○ |

→ v<sub>c</sub> Página 88  
→ Recomendación de uso en la página 90

Mecanizado interior

Mecanizado exterior

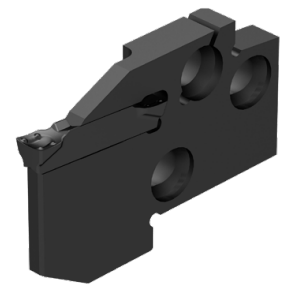
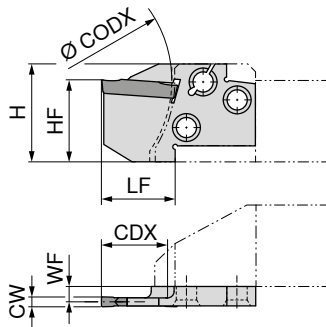


# ModularClamp MSS – Módulo de ranurado radial GX 24

- ▲ Para tronzado y ranurado radial profundo
- ▲ Para torneado

**Incluye:**

Módulo de ranurado solamente

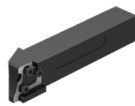


Las figuras muestran la versión a derechas

| Designación ISO    | CW<br>mm    | WF<br>mm | LF<br>mm | HF<br>mm | H<br>mm | CODX<br>mm | CDX<br>mm | Para placas de<br>ranurado | A izquierdas           |            | A derechas             |       |
|--------------------|-------------|----------|----------|----------|---------|------------|-----------|----------------------------|------------------------|------------|------------------------|-------|
|                    |             |          |          |          |         |            |           |                            | 70 868 ...             | 70 867 ... |                        |       |
| E20 R/L 21-GX 24-1 | 2,00 - 2,75 | 3,60     | 22       | 20       | 24      | 60         | 21        | GX 24-1                    | EUR<br>2C/71<br>108,60 | 020        | EUR<br>2C/71<br>108,60 | 020   |
| E20 R/L 21-GX 24-2 | 3           | 3,40     | 22       | 20       | 24      | 60         | 21        | GX 24-2                    | 108,60                 | 120        | 108,60                 | 120   |
| E20 R/L 21-GX 24-3 | 4/5         | 2,93     | 22       | 20       | 24      | 30         | 21        | GX 24-3                    | 108,60                 | 22000      | 108,60                 | 22000 |
| E25 R/L 21-GX 24-1 | 2,00 - 2,75 | 5,10     | 22       | 25       | 30      | 75         | 21        | GX 24-1                    | 109,40                 | 025        | 109,40                 | 025   |
| E25 R/L 21-GX 24-2 | 3           | 4,90     | 22       | 25       | 30      | 75         | 21        | GX 24-2                    | 109,40                 | 125        | 109,40                 | 125   |
| E25 R/L 21-GX 24-3 | 4/5         | 4,43     | 22       | 25       | 30      | 75         | 21        | GX 24-3                    | 109,40                 | 225        | 109,40                 | 225   |
| E25 R/L 21-GX 24-4 | 6           | 3,80     | 22       | 25       | 30      | 75         | 21        | GX 24-4                    | 109,40                 | 325        | 109,40                 | 325   |
| E25 R/L 21-GX 24-5 | 8           | 2,95     | 23       | 25       | 30      | 75         | 21        | GX 24-5                    | 109,40                 | 425        | 109,40                 | 425   |



→ 52-59



→ 80+81



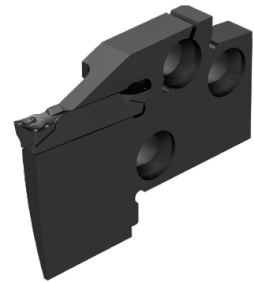
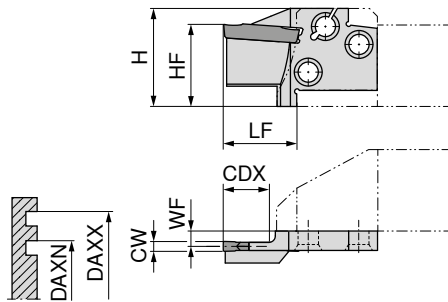
→ 82

# ModularClamp MSS – Módulo de ranurado axial GX 24 corto

- ▲ Para ranurado axial
- ▲ Para refrentado

**Incluye:**

Módulo de ranurado solamente



Las figuras muestran la versión a derechas

| Designación ISO      | DAXN<br>mm | DAXX<br>mm | CW<br>mm | WF<br>mm | LF<br>mm | HF<br>mm | H<br>mm | CDX<br>mm | Para placas de<br>ranurado | A izquierdas |            | A derechas   |              |
|----------------------|------------|------------|----------|----------|----------|----------|---------|-----------|----------------------------|--------------|------------|--------------|--------------|
|                      |            |            |          |          |          |          |         |           |                            | 70 891 ...   | 70 890 ... | EUR<br>2C/71 | EUR<br>2C/71 |
| E20 R/L 14-GX 24-2 A | 50         | 70         | 3        | 3,40     | 22       | 20       | 24      | 14        | GX 24-2                    | 141,10       | 100        | 141,10       | 100          |
| E20 R/L 14-GX 24-2 A | 70         | 100        | 3        | 3,40     | 22       | 20       | 24      | 14        | GX 24-2                    | 141,10       | 102        | 141,10       | 102          |
| E20 R/L 14-GX 24-2 A | 100        | 150        | 3        | 3,40     | 22       | 20       | 24      | 14        | GX 24-2                    | 141,10       | 104        | 141,10       | 104          |
| E25 R/L 15-GX 24-2 A | 50         | 70         | 3        | 4,90     | 22       | 25       | 30      | 15        | GX 24-2                    | 142,30       | 200        | 142,30       | 200          |
| E25 R/L 15-GX 24-2 A | 70         | 100        | 3        | 4,90     | 22       | 25       | 30      | 15        | GX 24-2                    | 142,30       | 202        | 142,30       | 202          |
| E25 R/L 15-GX 24-2 A | 100        | 150        | 3        | 4,90     | 22       | 25       | 30      | 15        | GX 24-2                    | 142,30       | 204        | 142,30       | 204          |
| E25 R/L 15-GX 24-3 A | 50         | 70         | 4/5      | 4,43     | 22       | 25       | 30      | 15        | GX 24-3                    | 142,30       | 206        | 142,30       | 206          |
| E25 R/L 15-GX 24-3 A | 70         | 100        | 4/5      | 4,43     | 22       | 25       | 30      | 15        | GX 24-3                    | 142,30       | 208        | 142,30       | 208          |
| E25 R/L 15-GX 24-3 A | 100        | 150        | 4/5      | 4,43     | 22       | 25       | 30      | 15        | GX 24-3                    | 142,30       | 210        | 142,30       | 210          |
| E25 R/L 15-GX 24-3 A | 150        | 300        | 4/5      | 4,43     | 22       | 25       | 30      | 15        | GX 24-3                    | 142,30       | 212        | 142,30       | 212          |
| E25 R/L 15-GX 24-4 A | 50         | 70         | 6        | 3,80     | 22       | 25       | 30      | 15        | GX 24-4                    | 142,30       | 214        | 142,30       | 214          |
| E25 R/L 15-GX 24-4 A | 70         | 100        | 6        | 3,80     | 22       | 25       | 30      | 15        | GX 24-4                    | 142,30       | 216        | 142,30       | 216          |
| E25 R/L 15-GX 24-4 A | 100        | 150        | 6        | 3,80     | 22       | 25       | 30      | 15        | GX 24-4                    | 142,30       | 218        | 142,30       | 218          |
| E25 R/L 15-GX 24-4 A | 150        | 300        | 6        | 3,80     | 22       | 25       | 30      | 15        | GX 24-4                    | 142,30       | 220        | 142,30       | 220          |



→ 52-59



→ 80+81



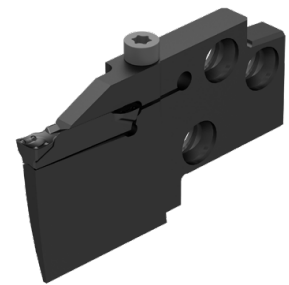
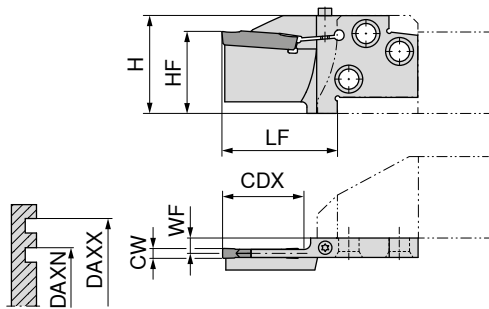
→ 82

# ModularClamp MSS – Módulo de ranurado axial GX 24 largo

- ▲ Para ranurado axial
- ▲ Para refrentado

**Incluye:**

Módulo de ranurado solamente



Las figuras muestran la versión a derechas

| Designación ISO       | DAXN<br>mm | DAXX<br>mm | CW<br>mm | WF<br>mm | LF<br>mm | HF<br>mm | H<br>mm | CDX<br>mm | Para placas de ranurado | A izquierdas           |            | A derechas             |     |
|-----------------------|------------|------------|----------|----------|----------|----------|---------|-----------|-------------------------|------------------------|------------|------------------------|-----|
|                       |            |            |          |          |          |          |         |           |                         | 70 895 ...             | 70 894 ... |                        |     |
| E25 R/L 21-GX 24-3 AS | 50         | 70         | 4/5      | 4,53     | 35       | 25       | 30      | 21        | GX 24-3                 | EUR<br>2C/71<br>145,10 | 200        | EUR<br>2C/71<br>145,10 | 200 |
| E25 R/L 21-GX 24-3 AS | 70         | 100        | 4/5      | 4,53     | 35       | 25       | 30      | 21        | GX 24-3                 | 145,10                 | 202        | 145,10                 | 202 |
| E25 R/L 21-GX 24-3 AS | 100        | 150        | 4/5      | 4,53     | 35       | 25       | 30      | 21        | GX 24-3                 | 145,10                 | 204        | 145,10                 | 204 |
| E25 R/L 21-GX 24-3 AS | 150        | 300        | 4/5      | 4,53     | 35       | 25       | 30      | 21        | GX 24-3                 | 145,10                 | 206        | 145,10                 | 206 |
| E25 R/L 25-GX 24-4 AS | 50         | 70         | 6        | 3,90     | 35       | 25       | 30      | 25        | GX 24-4                 | 145,10                 | 210        | 145,10                 | 210 |
| E25 R/L 25-GX 24-4 AS | 70         | 100        | 6        | 3,90     | 35       | 25       | 30      | 25        | GX 24-4                 | 145,10                 | 212        | 145,10                 | 212 |
| E25 R/L 25-GX 24-4 AS | 100        | 150        | 6        | 3,90     | 35       | 25       | 30      | 25        | GX 24-4                 | 145,10                 | 214        | 145,10                 | 214 |
| E25 R/L 25-GX 24-4 AS | 150        | 300        | 6        | 3,90     | 35       | 25       | 30      | 25        | GX 24-4                 | 145,10                 | 216        | 145,10                 | 216 |

**i** Los módulos axiales del modelo "GX 24 largo" pueden sujetarse desde ambos lados (contraversión). Esto quiere decir que los módulos axiales largos GX 24, se pueden utilizar en portas ModularClamp de derechas o de izquierdas.

| Piezas de repuesto<br>Para placas de ranurado | 80 950 ... |     | 70 950 ...   |     |
|---|------------|-----|--------------|-----|
|   | EUR<br>Y7  | 113 | EUR<br>2A/28 | 160 |
| GX 24-3                                       | 11,96      | 113 | 5,27         | 160 |
| GX 24-4                                       | 11,96      | 113 | 5,27         | 160 |



→ 52-59

→ 80+81

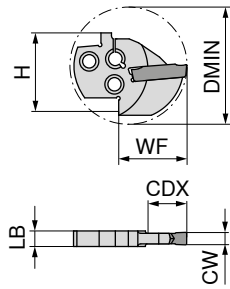
→ 82

# ModularClamp MSS – Módulo de ranurado radial GX 24 para mecanizado interior

▲ Para el ranurado y torneado

**Incluye:**

Módulo de ranurado solamente



Neutro

70 880 ...

| Designación ISO  | CW<br>mm    | LB<br>mm | WF<br>mm | H<br>mm | CDX<br>mm | DMIN<br>mm | Para placas de<br>ranurado | EUR<br>2C/71 |     |
|------------------|-------------|----------|----------|---------|-----------|------------|----------------------------|--------------|-----|
| I40 N 19-GX 24-2 | 2,76 - 3,75 | 6,2      | 33,5     | 40,7    | 19        | 60         | GX 24-2 ..N                | 126,50       | 340 |
| I40 N 19-GX 24-3 | 3,76 - 5,00 | 6,2      | 33,5     | 40,7    | 19        | 60         | GX 24-3 ..N                | 126,50       | 440 |
| I40 N 19-GX 24-4 | 5,01 - 6,50 | 6,2      | 33,5     | 40,7    | 19        | 60         | GX 24-4 ..N                | 126,50       | 540 |



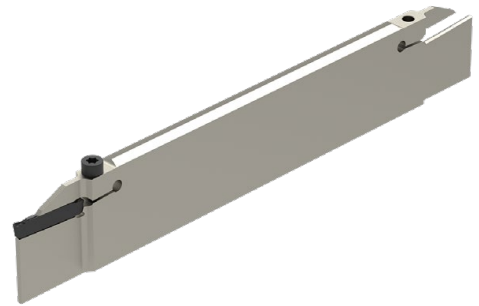
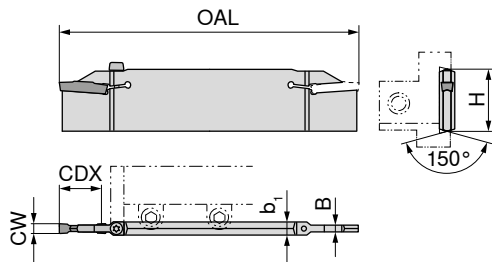
→ 52-59

→ 83

# MonoClamp – Lama radial GX 24

Incluye:

Lama con llave y tornillo de sujeción



| Designación ISO     | CW<br>mm | H<br>mm | B<br>mm | b <sub>1</sub><br>mm | OAL<br>mm | CDX<br>mm | Para placas de ranurado |
|---------------------|----------|---------|---------|----------------------|-----------|-----------|-------------------------|
| XLCF N 3203-GX24-1S | 2        | 32      | 1,05    | 6,2                  | 180       | 21        | GX 24-1                 |
| XLCF N 3203-GX24-2S | 3        | 32      | 2,10    | 6,2                  | 180       | 21        | GX 24-2                 |
| XLCF N 3204-GX24-3S | 4/5      | 32      | 3,05    | 6,2                  | 180       | 21        | GX 24-3                 |
| XLCF N 3206-GX24-4S | 6        | 32      | 4,20    | 6,2                  | 180       | 21        | GX 24-4                 |

70 834 ...

EUR  
2A/25

|        |     |
|--------|-----|
| 106,00 | 102 |
| 107,60 | 103 |
| 114,70 | 104 |
| 135,60 | 106 |

Piezas de repuesto  
Para placas de ranurado

|         |     | 80 950 ... |     | 70 950 ...   |     |
|---------|-----|------------|-----|--------------|-----|
|         |     | EUR<br>Y7  |     | EUR<br>2A/28 |     |
| GX 24-1 | T15 | 11,96      | 113 | 5,27         | 160 |
| GX 24-2 | T15 | 11,96      | 113 | 5,27         | 160 |
| GX 24-3 | T15 | 11,96      | 113 | 5,27         | 160 |
| GX 24-4 | T15 | 11,96      | 113 | 5,27         | 160 |



80 950 ...

70 950 ...

EUR  
Y7

EUR  
2A/28



→ 52-59

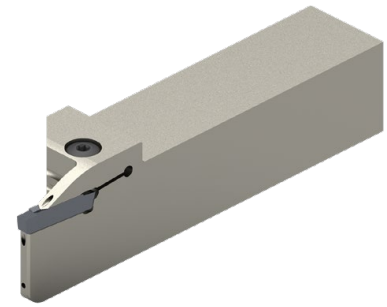
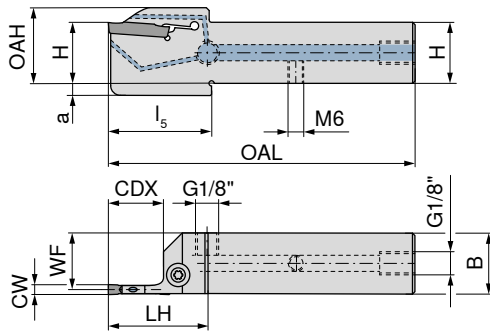
→ 85+86

→ Capítulo 16

# MonoClamp – Portaherramientas monoblock radial GX-DC 24

Incluye:

Porta monoblock con llave y tornillo de sujeción



Las figuras muestran la versión a derechas

| Designación ISO                | H<br>mm | B<br>mm | CW<br>mm | WF<br>mm | OAH<br>mm | OAL<br>mm | LH<br>mm | I <sub>5</sub><br>mm | CDX<br>mm | a<br>mm | Para placas de ranurado | A izquierdas               |       | A derechas                 |       |
|--------------------------------|---------|---------|----------|----------|-----------|-----------|----------|----------------------|-----------|---------|-------------------------|----------------------------|-------|----------------------------|-------|
|                                |         |         |          |          |           |           |          |                      |           |         |                         | 70 844 ...<br>EUR<br>2C/71 | 21601 | 70 844 ...<br>EUR<br>2C/71 | 21600 |
| E16 R/L 0021S2-1616X-S-DC-GX24 | 16      | 16      | 2        | 15,2     | 22        | 94        | 39       | 40                   | 21        | 4       | GX 24-1 E2..            | 200,40                     | 21601 | 200,40                     | 21600 |
| E16 R/L 0021S3-1616X-S-DC-GX24 | 16      | 16      | 3        | 14,8     | 22        | 94        | 39       | 40                   | 21        | 4       | GX 24-2 E3..            | 200,40                     | 31601 | 200,40                     | 31600 |
| E20 R/L 0021S2-2020X-S-DC-GX24 | 20      | 20      | 2        | 19,2     | 26        | 109       | 40       |                      | 21        |         | GX 24-1 E2..            | 230,70                     | 22001 | 230,70                     | 22000 |
| E20 R/L 0021S3-2020X-S-DC-GX24 | 20      | 20      | 3        | 18,8     | 26        | 109       | 40       |                      | 21        |         | GX 24-2 E3..            | 230,70                     | 32001 | 230,70                     | 32000 |
| E20 R/L 0021S4-2020X-S-DC-GX24 | 20      | 20      | 4        | 18,3     | 26        | 109       | 40       |                      | 21        |         | GX 24-3 E4..            | 230,70                     | 42001 | 230,70                     | 42000 |
| E20 R/L 0021S5-2020X-S-DC-GX24 | 20      | 20      | 5        | 18,0     | 26        | 109       | 40       |                      | 21        |         | GX 24-3 E5..            | 230,70                     | 52001 | 230,70                     | 52000 |
| E25 R/L 0021S3-2525X-S-DC-GX24 | 25      | 25      | 3        | 23,8     | 31        | 124       | 40       |                      | 21        |         | GX 24-2 E3..            | 246,70                     | 32501 | 246,70                     | 32500 |
| E25 R/L 0021S4-2525X-S-DC-GX24 | 25      | 25      | 4        | 23,3     | 31        | 124       | 40       |                      | 21        |         | GX 24-3 E4..            | 246,70                     | 42501 | 246,70                     | 42500 |
| E25 R/L 0021S5-2525X-S-DC-GX24 | 25      | 25      | 5        | 23,0     | 31        | 124       | 40       |                      | 21        |         | GX 24-3 E5..            | 246,70                     | 52501 | 246,70                     | 52500 |
| E25 R/L 0021S6-2525X-S-DC-GX24 | 25      | 25      | 6        | 22,5     | 31        | 124       | 40       |                      | 21        |         | GX 24-4 E6..            | 246,70                     | 62501 | 246,70                     | 62500 |



| Piezas de repuesto<br>Para placas de ranurado |          | 80 950 ... |     | 70 950 ...   |           |
|---|----------|------------|-----|--------------|-----------|
|   |          | EUR<br>Y7  | 128 | EUR<br>2A/28 | 865       |
| GX 24-1 E2..                                  | T15 - IP | 15,33      | 128 | M5x18 - 15IP | 12,31 865 |
| GX 24-2 E3..                                  | T15 - IP | 15,33      | 128 | M5x18 - 15IP | 12,31 865 |
| GX 24-3 E4..                                  | T15 - IP | 15,33      | 128 | M5x18 - 15IP | 12,31 865 |
| GX 24-3 E5..                                  | T15 - IP | 15,33      | 128 | M5x18 - 15IP | 12,31 865 |
| GX 24-4 E6..                                  | T15 - IP | 15,33      | 128 | M5x18 - 15IP | 12,31 865 |



→ 52-59

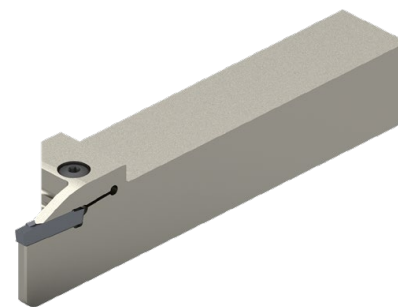
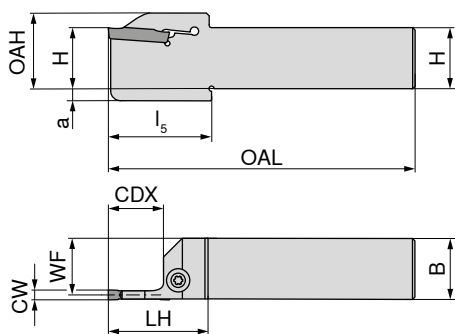
→ Capítulo 16



# MonoClamp – Portaherramientas monoblock radial GX 24

Incluye:

Porta monoblock con llave y tornillo de sujeción



Las figuras muestran la versión a derechas

| Designación ISO             | H<br>mm | B<br>mm | CW<br>mm | WF<br>mm | OAH<br>mm | OAL<br>mm | LH<br>mm | I <sub>5</sub><br>mm | CDX<br>mm | a<br>mm | Para placas de ranurado | A izquierdas           |            | A derechas             |       |
|-----------------------------|---------|---------|----------|----------|-----------|-----------|----------|----------------------|-----------|---------|-------------------------|------------------------|------------|------------------------|-------|
|                             |         |         |          |          |           |           |          |                      |           |         |                         | 70 845 ...             | 70 845 ... |                        |       |
| E16 R/L 0021S2-1616K-S-GX24 | 16      | 16      | 2        | 15,2     | 22        | 125       | 39       | 40                   | 21        | 4       | GX 24-1 E2..            | EUR<br>2C/71<br>132,20 | 21601      | EUR<br>2C/71<br>132,20 | 21600 |
| E16 R/L 0021S3-1616K-S-GX24 | 16      | 16      | 3        | 14,8     | 22        | 125       | 39       | 40                   | 21        | 4       | GX 24-2 E3..            | 132,20                 | 31601      | 132,20                 | 31600 |
| E20 R/L 0021S2-2020K-S-GX24 | 20      | 20      | 2        | 19,2     | 26        | 125       | 40       |                      | 21        |         | GX 24-1 E2..            | 152,30                 | 22001      | 152,30                 | 22000 |
| E20 R/L 0021S3-2020K-S-GX24 | 20      | 20      | 3        | 18,8     | 26        | 125       | 40       |                      | 21        |         | GX 24-2 E3..            | 152,30                 | 32001      | 152,30                 | 32000 |
| E20 R/L 0021S4-2020K-S-GX24 | 20      | 20      | 4        | 18,3     | 26        | 125       | 40       |                      | 21        |         | GX 24-3 E4..            | 152,30                 | 42001      | 152,30                 | 42000 |
| E20 R/L 0021S5-2020K-S-GX24 | 20      | 20      | 5        | 18,0     | 26        | 125       | 40       |                      | 21        |         | GX 24-3 E5..            | 152,30                 | 52001      | 152,30                 | 52000 |
| E25 R/L 0021S3-2525M-S-GX24 | 25      | 25      | 3        | 23,8     | 31        | 150       | 40       |                      | 21        |         | GX 24-2 E3..            | 162,80                 | 32501      | 162,80                 | 32500 |
| E25 R/L 0021S4-2525M-S-GX24 | 25      | 25      | 4        | 23,3     | 31        | 150       | 40       |                      | 21        |         | GX 24-3 E4..            | 162,80                 | 42501      | 162,80                 | 42500 |
| E25 R/L 0021S5-2525M-S-GX24 | 25      | 25      | 5        | 23,0     | 31        | 150       | 40       |                      | 21        |         | GX 24-3 E5..            | 162,80                 | 52501      | 162,80                 | 52500 |
| E25 R/L 0021S6-2525M-S-GX24 | 25      | 25      | 6        | 22,5     | 31        | 150       | 40       |                      | 21        |         | GX 24-4 E6..            | 162,80                 | 62501      | 162,80                 | 62500 |



**Piezas de repuesto**  
Para placas de ranurado

|              |          | 80 950 ... | 70 950 ...             |
|--------------|----------|------------|------------------------|
|              |          | EUR<br>Y7  | EUR<br>2A/28           |
| GX 24-1 E2.. | T15 - IP | 15,33 128  | M5x18 - 15IP 12,31 865 |
| GX 24-2 E3.. | T15 - IP | 15,33 128  | M5x18 - 15IP 12,31 865 |
| GX 24-3 E4.. | T15 - IP | 15,33 128  | M5x18 - 15IP 12,31 865 |
| GX 24-3 E5.. | T15 - IP | 15,33 128  | M5x18 - 15IP 12,31 865 |
| GX 24-4 E6.. | T15 - IP | 15,33 128  | M5x18 - 15IP 12,31 865 |



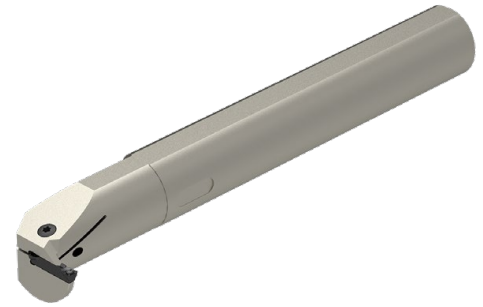
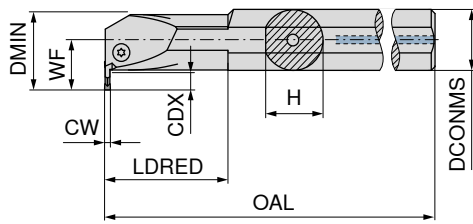
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# MonoClamp – Portas de torneado interior monobloc radial GX 24

**Incluye:**

Porta de interiores con llave y tornillo de sujeción



Las figuras muestran la versión a derechas

| Designación ISO        | H<br>mm | DCONMS<br>mm | DMIN<br>mm | CW<br>mm    | CDX<br>mm | WF<br>mm | OAL<br>mm | LDRED<br>mm | Para placas de ranurado | A izquierdas           |            | A derechas             |     |
|------------------------|---------|--------------|------------|-------------|-----------|----------|-----------|-------------|-------------------------|------------------------|------------|------------------------|-----|
|                        |         |              |            |             |           |          |           |             |                         | 70 895 ...             | 70 894 ... |                        |     |
| I32 R/L 90-2.0D-GX24-2 | 31,0    | 32           | 42         | 2,76 - 3,75 | 11        | 27,5     | 250       | 64          | GX 24-2                 | EUR<br>2C/71<br>246,10 | 132        | EUR<br>2C/71<br>246,10 | 132 |
| I32 R/L 90-2.0D-GX24-3 | 31,0    | 32           | 42         | 3,76 - 5,00 | 11        | 27,5     | 250       | 64          | GX 24-3                 | EUR<br>2C/71<br>246,10 | 232        | EUR<br>2C/71<br>246,10 | 232 |
| I40 R/L 90-2.0D-GX24-3 | 38,5    | 40           | 53         | 3,76 - 5,00 | 12        | 32,5     | 300       | 80          | GX 24-3                 | EUR<br>2C/71<br>305,90 | 240        | EUR<br>2C/71<br>305,90 | 240 |



**Piezas de repuesto**

**Para placas de ranurado**

|         |     | 80 950 ...             | 70 950 ...               |
|---------|-----|------------------------|--------------------------|
| GX 24-2 | T20 | EUR<br>Y7<br>12,83 114 | EUR<br>2A/28<br>7,37 404 |
| GX 24-3 | T20 | EUR<br>Y7<br>12,83 114 | EUR<br>2A/28<br>7,37 404 |



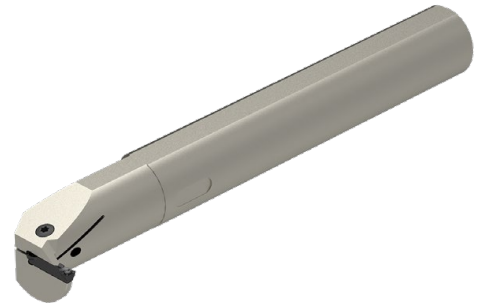
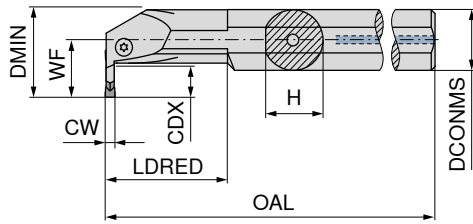
→ 52-59

→ Capítulo 16

# MonoClamp – Portas de torneado interior monobloc radial GX 24

Incluye:

Porta de interiores con llave y tornillo de sujeción



Las figuras muestran la versión a derechas

| Designación ISO        | H<br>mm | DCONMS<br>mm | DMIN<br>mm | CW<br>mm    | CDX<br>mm | WF<br>mm | OAL<br>mm | LDRED<br>mm | Para placas de ranurado | A izquierdas           |            | A derechas             |     |
|------------------------|---------|--------------|------------|-------------|-----------|----------|-----------|-------------|-------------------------|------------------------|------------|------------------------|-----|
|                        |         |              |            |             |           |          |           |             |                         | 70 895 ...             | 70 894 ... |                        |     |
| I32 R/L 90-2.0D-GX24-4 | 31,0    | 32           | 47         | 5,01 - 6,50 | 17,5      | 30,4     | 250       | 64          | GX 24-4                 | EUR<br>2C/71<br>246,10 | 332        | EUR<br>2C/71<br>246,10 | 332 |
| I40 R/L 90-2.0D-GX24-4 | 38,5    | 40           | 57         | 5,01 - 6,50 | 17,5      | 34,4     | 300       | 80          | GX 24-4                 | EUR<br>305,90          | 340        | EUR<br>305,90          | 340 |



Piezas de repuesto  
Para placas de ranurado  
GX 24-4

|  | 80 950 ...         | 70 950 ...           |
|--|--------------------|----------------------|
|  | EUR<br>Y7<br>12,83 | EUR<br>2A/28<br>7,37 |
|  | 114                | 404                  |
|  |                    | M5x18                |



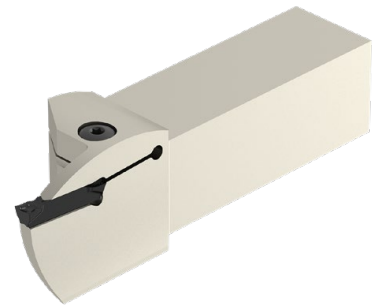
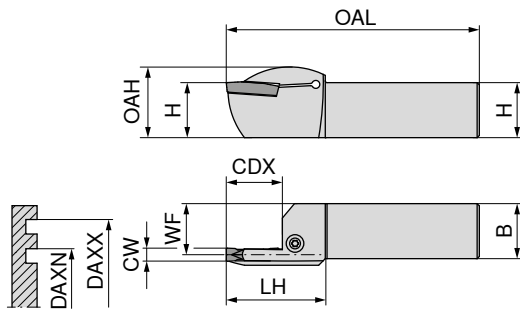
→ 52-59

→ Capítulo 16

# MonoClamp – Porta monoblock axial GX 24

Incluye:

Porta monoblock con llave y tornillo de sujeción



Las figuras muestran la versión a derechas

| Designación ISO           | H<br>mm | B<br>mm | CW<br>mm | WF<br>mm | DAXN<br>mm | DAXX<br>mm | OAH<br>mm | OAL<br>mm | LH<br>mm | CDX<br>mm | Para placas de<br>ranurado | A izquierdas |            | A derechas   |              |
|---------------------------|---------|---------|----------|----------|------------|------------|-----------|-----------|----------|-----------|----------------------------|--------------|------------|--------------|--------------|
|                           |         |         |          |          |            |            |           |           |          |           |                            | 70 904 ...   | 70 903 ... | EUR<br>2C/71 | EUR<br>2C/71 |
| E25 R/L 0012-2525X-GX24-2 | 25      | 25      | 3        | 24,7     | 45         | 50         | 32        | 115       | 45       | 12        | GX 24-2                    | 165,80       | 202        | 165,80       | 202          |
| E25 R/L 0016-2525X-GX24-2 | 25      | 25      | 3        | 24,7     | 50         | 60         | 32        | 115       | 45       | 16        | GX 24-2                    | 165,80       | 204        | 165,80       | 204          |
| E25 R/L 0019-2525X-GX24-2 | 25      | 25      | 3        | 24,7     | 60         | 75         | 32        | 115       | 45       | 19        | GX 24-2                    | 165,80       | 206        | 165,80       | 206          |
| E25 R/L 0019-2525X-GX24-2 | 25      | 25      | 3        | 24,7     | 75         | 100        | 32        | 115       | 45       | 19        | GX 24-2                    | 165,80       | 208        | 165,80       | 208          |
| E25 R/L 0022-2525X-GX24-2 | 25      | 25      | 3        | 24,7     | 100        | 130        | 32        | 115       | 45       | 22        | GX 24-2                    | 165,80       | 210        | 165,80       | 210          |
| E25 R/L 0022-2525X-GX24-2 | 25      | 25      | 3        | 24,7     | 130        | 180        | 32        | 115       | 45       | 22        | GX 24-2                    | 165,80       | 212        | 165,80       | 212          |
| E25 R/L 0022-2525X-GX24-2 | 25      | 25      | 3        | 24,7     | 180        | 300        | 32        | 115       | 45       | 22        | GX 24-2                    | 165,80       | 214        | 165,80       | 214          |
| E25 R/L 0012-2525X-GX24-3 | 25      | 25      | 4+5      | 24,2     | 45         | 50         | 32        | 115       | 45       | 12        | GX 24-3                    | 165,80       | 232        | 165,80       | 232          |
| E25 R/L 0020-2525X-GX24-3 | 25      | 25      | 4+5      | 24,2     | 50         | 60         | 32        | 115       | 45       | 20        | GX 24-3                    | 165,80       | 234        | 165,80       | 234          |
| E25 R/L 0020-2525X-GX24-3 | 25      | 25      | 4+5      | 24,2     | 60         | 75         | 32        | 115       | 45       | 20        | GX 24-3                    | 165,80       | 236        | 165,80       | 236          |
| E25 R/L 0022-2525X-GX24-3 | 25      | 25      | 4+5      | 24,2     | 75         | 100        | 32        | 115       | 45       | 22        | GX 24-3                    | 165,80       | 238        | 165,80       | 238          |
| E25 R/L 0022-2525X-GX24-3 | 25      | 25      | 4+5      | 24,2     | 100        | 150        | 32        | 115       | 45       | 22        | GX 24-3                    | 165,80       | 240        | 165,80       | 240          |
| E25 R/L 0022-2525X-GX24-3 | 25      | 25      | 4+5      | 24,2     | 150        | 300        | 32        | 115       | 45       | 22        | GX 24-3                    | 165,80       | 242        | 165,80       | 242          |
| E25 R/L 0022-2525X-GX24-4 | 25      | 25      | 6        | 23,2     | 50         | 70         | 32        | 115       | 45       | 22        | GX 24-4                    | 165,80       | 262        | 165,80       | 262          |
| E25 R/L 0025-2525X-GX24-4 | 25      | 25      | 6        | 23,2     | 70         | 100        | 32        | 115       | 45       | 25        | GX 24-4                    | 165,80       | 264        | 165,80       | 264          |
| E25 R/L 0025-2525X-GX24-4 | 25      | 25      | 6        | 23,2     | 100        | 150        | 32        | 115       | 45       | 25        | GX 24-4                    | 165,80       | 266        | 165,80       | 266          |
| E25 R/L 0025-2525X-GX24-4 | 25      | 25      | 6        | 23,2     | 150        | 300        | 32        | 115       | 45       | 25        | GX 24-4                    | 165,80       | 268        | 165,80       | 268          |



Destornillador



Tornillo de sujeción

Piezas de repuesto

Para placas de ranurado

|         |          | 80 950 ... | 70 950 ...             |
|---------|----------|------------|------------------------|
|         |          | EUR<br>Y7  | EUR<br>2A/28           |
| GX 24-2 | T15 - IP | 15,33 128  | M5x18 - 15IP 12,31 865 |
| GX 24-3 | T15 - IP | 15,33 128  | M5x18 - 15IP 12,31 865 |
| GX 24-4 | T15 - IP | 15,33 128  | M5x18 - 15IP 12,31 865 |



→ 52-59

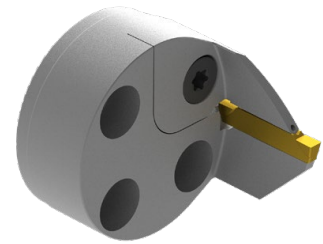
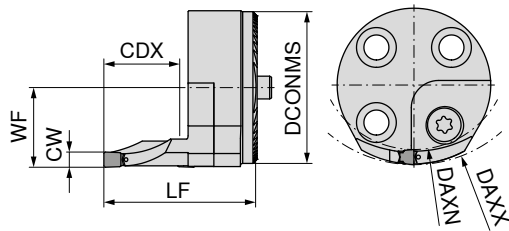
→ Capítulo 16

# MaxiChange-GX – Cabeza intercambiable ranurado axial GX-DC 24

▲ Para ranurado axial

Incluye:

Cabeza intercambiable de ranurado con brida y tornillo de sujeción



Las figuras muestran la versión a derechas

| Designación ISO                  | DCONMS<br>mm | DAXN<br>mm | DAXX<br>mm | CW<br>mm | WF<br>mm | LF<br>mm | CDX<br>mm | Para placas de<br>ranurado | NEW<br>A izquierdas |            | NEW<br>A derechas |            |
|----------------------------------|--------------|------------|------------|----------|----------|----------|-----------|----------------------------|---------------------|------------|-------------------|------------|
|                                  |              |            |            |          |          |          |           |                            | 84 186 ...          | 84 187 ... | 84 186 ...        | 84 187 ... |
|                                  |              |            |            |          |          |          |           |                            | EUR<br>Y8           |            | EUR<br>Y8         |            |
| WK40 R/L 20-DC GX 24-S3 D50-70   | 40           | 50         | 70         | 3        | 21       | 40       | 20        | GX 24-2 ..N                | 224,90              | 34000      | 224,90            | 34000      |
| WK40 R/L 20-DC GX 24-S3 D70-100  | 40           | 70         | 100        | 3        | 21       | 40       | 20        | GX 24-2 ..N                | 224,90              | 34100      | 224,90            | 34100      |
| WK40 R/L 20-DC GX 24-S3 D100-150 | 40           | 100        | 150        | 3        | 21       | 40       | 20        | GX 24-2 ..N                | 224,90              | 34200      | 224,90            | 34200      |
| WK40 R/L 20-DC GX 24-S3 D150-300 | 40           | 150        | 300        | 3        | 21       | 40       | 20        | GX 24-2 ..N                | 224,90              | 34300      | 224,90            | 34300      |
| WK40 R/L 20-DC GX 24-S4 D50-70   | 40           | 50         | 70         | 4        | 21       | 40       | 20        | GX 24-3 ..N                | 239,40              | 44000      | 239,40            | 44000      |
| WK40 R/L 20-DC GX 24-S4 D70-100  | 40           | 70         | 100        | 4        | 21       | 40       | 20        | GX 24-3 ..N                | 239,40              | 44100      | 239,40            | 44100      |
| WK40 R/L 20-DC GX 24-S4 D100-150 | 40           | 100        | 150        | 4        | 21       | 40       | 20        | GX 24-3 ..N                | 239,40              | 44200      | 239,40            | 44200      |
| WK40 R/L 20-DC GX 24-S4 D150-300 | 40           | 150        | 300        | 4        | 21       | 40       | 20        | GX 24-3 ..N                | 239,40              | 44300      | 239,40            | 44300      |



| Piezas de repuesto<br>Para N° de artículo | 84 950 ... |           | 84 950 ... |       | 84 950 ... |       | 84 950 ... |       |
|---|------------|-----------|------------|-------|------------|-------|------------|-------|
|   | EUR<br>Y8  |           | EUR<br>Y8  |       | EUR<br>Y8  |       | EUR<br>Y8  |       |
| 84 187 34000                              | 44,42      | 51400 2x1 | 3,14       | 50300 | 7,01       | 50200 | 3,70       | 53200 |
| 84 186 34000                              | 44,42      | 51800 2x1 | 3,14       | 50300 | 7,01       | 50200 | 3,70       | 53200 |
| 84 187 34100                              | 45,09      | 51500 2x1 | 3,14       | 50300 | 7,01       | 50200 | 3,70       | 53200 |
| 84 186 34100                              | 45,09      | 51900 2x1 | 3,14       | 50300 | 7,01       | 50200 | 3,70       | 53200 |
| 84 187 34200                              | 46,33      | 51600 2x1 | 3,14       | 50300 | 7,01       | 50200 | 3,70       | 53200 |
| 84 186 34200                              | 46,33      | 52000 2x1 | 3,14       | 50300 | 7,01       | 50200 | 3,70       | 53200 |
| 84 187 34300                              | 48,90      | 51700 2x1 | 3,14       | 50300 | 7,01       | 50200 | 3,70       | 53200 |
| 84 186 34300                              | 48,90      | 52100 2x1 | 3,14       | 50300 | 7,01       | 50200 | 3,70       | 53200 |
| 84 187 44000                              | 44,42      | 52200 2x1 | 3,14       | 50300 | 7,01       | 50200 | 3,70       | 53200 |
| 84 186 44000                              | 44,42      | 52600 2x1 | 3,14       | 50300 | 7,01       | 50200 | 3,70       | 53200 |
| 84 187 44100                              | 45,09      | 52300 2x1 | 3,14       | 50300 | 7,01       | 50200 | 3,70       | 53200 |
| 84 186 44100                              | 45,09      | 52700 2x1 | 3,14       | 50300 | 7,01       | 50200 | 3,70       | 53200 |
| 84 187 44200                              | 46,33      | 52400 2x1 | 3,14       | 50300 | 7,01       | 50200 | 3,70       | 53200 |
| 84 186 44200                              | 46,33      | 52800 2x1 | 3,14       | 50300 | 7,01       | 50200 | 3,70       | 53200 |
| 84 187 44300                              | 48,90      | 52500 2x1 | 3,14       | 50300 | 7,01       | 50200 | 3,70       | 53200 |
| 84 186 44300                              | 48,90      | 52900 2x1 | 3,14       | 50300 | 7,01       | 50200 | 3,70       | 53200 |

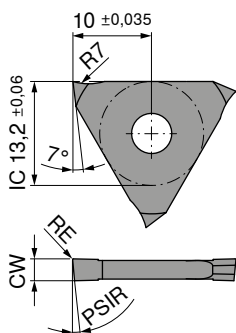
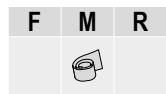
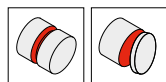


→ 52-59

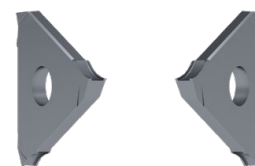
→ Capítulo 9

# Placa de ranurado TX para ranurado y tronzado

- ▲ Profundidad de corte 5,0 mm
- ▲ Ancho de corte 1,99–2,79 mm



Las figuras muestran la versión a derechas



A izquierdas      A derechas

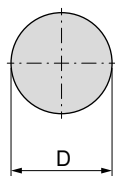
| Designación ISO  | CW <sub>-0,05</sub><br>mm | RE<br>mm | PSIR | Para portas             | 73 302 ... |     | 73 301 ... |     |
|------------------|---------------------------|----------|------|-------------------------|------------|-----|------------|-----|
|                  |                           |          |      |                         | EUR        |     | EUR        |     |
| TX R/L 0518.00.1 | 1,99                      | 0,1      | 5°   | R/L 207 ... / 780 ... 1 | 32,25      | 204 | 32,25      | 204 |
| TX R/L 0521.00.2 | 2,29                      | 0,1      | 5°   | R/L 207 ... / 780 ... 2 | 32,25      | 206 | 32,25      | 206 |
| TX R/L 0526.00.2 | 2,79                      | 0,1      | 5°   | R/L 207 ... / 780 ... 2 | 32,82      | 208 | 32,82      | 208 |

|   |   |   |
|---|---|---|
| P | ● | ● |
| M | ● | ● |
| K | ● | ● |
| N | ● | ● |
| S | ● | ● |
| H | ○ | ○ |
| O | ● | ● |

→ v. Página 88

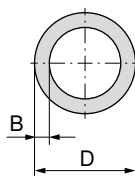
## Profundidad de corte

Barras



máx. 10 mm

Tubo



D ≤ 50 mm: espesor de pared B = aprox. 5 mm  
D ≥ 50 mm: espesor de pared B = aprox. 4 mm

Mecanizado interior



→ 79

Mecanizado exterior



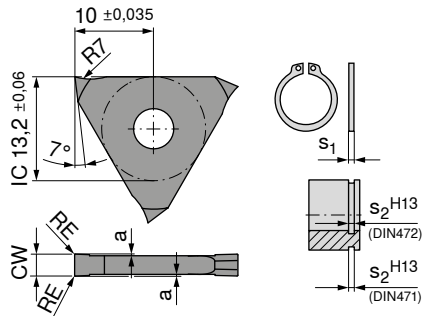
→ 76–78

# Plaquita TX para anillos de retención

▲ Para ranuras Circlips conforme a DIN 471/472



CWX500



Neutro

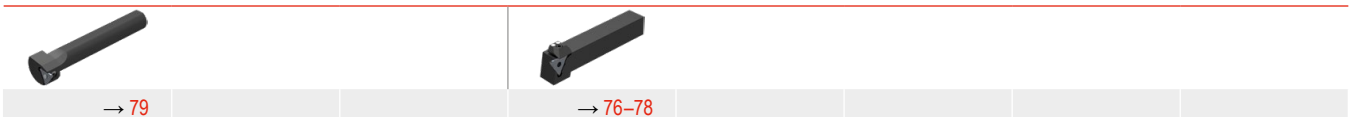
73 300 ...

| Designación    | s <sub>2</sub><br>mm | CW <sub>-0,05</sub><br>mm | RE<br>mm | a <sub>±0,02</sub><br>mm | Para portas | EUR<br>Y6 |     |
|----------------|----------------------|---------------------------|----------|--------------------------|-------------|-----------|-----|
| TX N 0050.00.1 | 0,50                 | 0,57                      | 0,05     | 0,07                     | R/L ...1    | 22,02     | 204 |
| TX N 0060.00.1 | 0,60                 | 0,67                      | 0,05     | 0,07                     | R/L ...1    | 22,02     | 206 |
| TX N 0070.00.1 | 0,70                 | 0,77                      | 0,05     | 0,08                     | R/L ...1    | 22,02     | 208 |
| TX N 0080.00.1 | 0,80                 | 0,87                      | 0,05     | 0,08                     | R/L ...1    | 22,02     | 210 |
| TX N 0090.00.1 | 0,90                 | 0,97                      | 0,05     | 0,08                     | R/L ...1    | 22,02     | 212 |
| TX N 0100.00.1 | 1,00                 | 1,07                      | 0,10     | 0,09                     | R/L ...1    | 22,02     | 214 |
| TX N 0110.00.1 | 1,10                 | 1,24                      | 0,10     | 0,15                     | R/L ...1    | 22,02     | 216 |
| TX N 0130.00.1 | 1,30                 | 1,44                      | 0,10     | 0,15                     | R/L ...1    | 22,02     | 218 |
| TX N 0160.00.1 | 1,60                 | 1,74                      | 0,10     | 0,20                     | R/L ...1    | 22,02     | 220 |
| TX N 0185.00.1 | 1,85                 | 1,99                      | 0,10     | 0,20                     | R/L ...1    | 22,02     | 222 |
| TX N 0215.00.2 | 2,15                 | 2,29                      | 0,10     | 0,20                     | R/L ...2    | 22,02     | 224 |
| TX N 0265.00.2 | 2,65                 | 2,79                      | 0,10     | 0,20                     | R/L ...2    | 22,02     | 226 |
| TX N 0315.00.3 | 3,15                 | 3,29                      | 0,10     | 0,20                     | R/L ...3    | 23,16     | 228 |
| TX N 0415.00.4 | 4,15                 | 4,29                      | 0,10     | 0,20                     | R/L ...4    | 23,29     | 230 |
| TX N 0515.00.4 | 5,15                 | 5,29                      | 0,10     | 0,20                     | R/L ...4    | 23,99     | 232 |
| P              |                      |                           |          |                          |             |           | ●   |
| M              |                      |                           |          |                          |             |           | ●   |
| K              |                      |                           |          |                          |             |           | ●   |
| N              |                      |                           |          |                          |             |           | ●   |
| S              |                      |                           |          |                          |             |           | ●   |
| H              |                      |                           |          |                          |             |           | ○   |
| O              |                      |                           |          |                          |             |           | ●   |

→ v<sub>c</sub> Página 88

Mecanizado interior

Mecanizado exterior

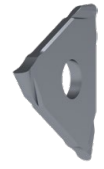
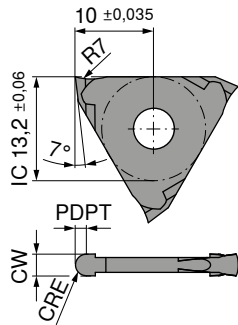
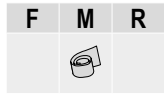


# Plaquita de ranurado radial TX para rincones

▲ Radio completo para ancho de corte 0,5–5,0 mm



CWX500



Neutro

**73 304 ...**

| Designación    | CRE mm | CW $_{+/-0,05}$ mm | PDPT mm | Para portas | EUR   |     |
|----------------|--------|--------------------|---------|-------------|-------|-----|
| TX N 0002.05.1 | 0,25   | 0,5                | 0,20    | R/L ...1    | 30,42 | 212 |
| TX N 0005.10.1 | 0,50   | 1,0                | 0,35    | R/L ...1    | 30,42 | 214 |
| TX N 0006.12.1 | 0,60   | 1,2                | 0,40    | R/L ...1    | 30,42 | 216 |
| TX N 0008.16.1 | 0,80   | 1,6                | 0,55    | R/L ...1    | 30,42 | 218 |
| TX N 0010.20.2 | 1,00   | 2,0                | 0,70    | R/L ...2    | 33,66 | 204 |
| TX N 0012.25.2 | 1,25   | 2,5                | 0,85    | R/L ...2    | 35,25 | 220 |
| TX N 0015.30.3 | 1,50   | 3,0                | 1,00    | R/L ...3    | 35,96 | 206 |
| TX N 0020.40.4 | 2,00   | 4,0                | 1,20    | R/L ...4    | 35,67 | 208 |
| TX N 0025.50.4 | 2,50   | 5,0                | 1,50    | R/L ...4    | 36,23 | 210 |

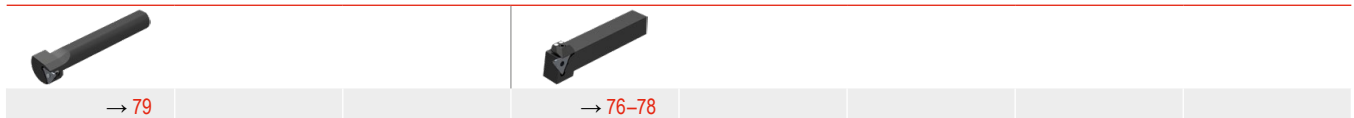
|   |   |
|---|---|
| P | ● |
| M | ● |
| K | ● |
| N | ● |
| S | ● |
| H | ○ |
| O | ● |

→ v<sub>c</sub> Página 88

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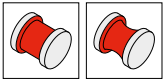
Mecanizado interior

Mecanizado exterior

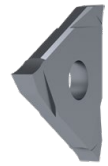
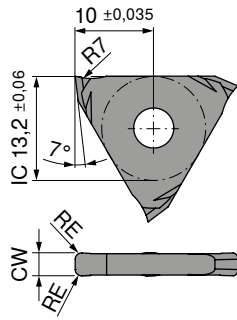




# Plaquita para ranurado y torneado de copia de precisión



CWX500



Neutro

**73 303 ...**

| Designación    | CW <sup>+0,03</sup><br>mm | RE<br>mm | Para portas                       | EUR<br>Y6 |     |
|----------------|---------------------------|----------|-----------------------------------|-----------|-----|
| TX N 0150.02.1 | 1,5                       | 0,2      | R/L 207 ... / 738 ... / 660 ... 1 | 27,27     | 204 |
| TX N 0200.02.1 | 2,0                       | 0,2      | R/L 207 ... / 738 ... / 660 ... 1 | 27,27     | 206 |
| TX N 0200.04.1 | 2,0                       | 0,4      | R/L 207 ... / 738 ... / 660 ... 1 | 27,27     | 208 |
| TX N 0300.02.2 | 3,0                       | 0,2      | R/L 207 ... / 738 ... / 660 ... 2 | 28,69     | 210 |
| TX N 0300.06.2 | 3,0                       | 0,6      | R/L 207 ... / 738 ... / 660 ... 2 | 28,69     | 212 |
| TX N 0300.08.2 | 3,0                       | 0,8      | R/L 207 ... / 738 ... / 660 ... 2 | 28,69     | 214 |
| TX N 0400.02.3 | 4,0                       | 0,2      | R/L 207 ... / 738 ... / 660 ... 3 | 28,98     | 216 |
| TX N 0400.08.3 | 4,0                       | 0,8      | R/L 207 ... / 738 ... / 660 ... 3 | 28,98     | 218 |
| TX N 0400.12.3 | 4,0                       | 1,2      | R/L 207 ... / 738 ... / 660 ... 3 | 28,98     | 220 |

|   |   |
|---|---|
| P | ● |
| M | ● |
| K | ● |
| N | ● |
| S | ● |
| H | ○ |
| O | ● |

→ v<sub>c</sub> Página 88

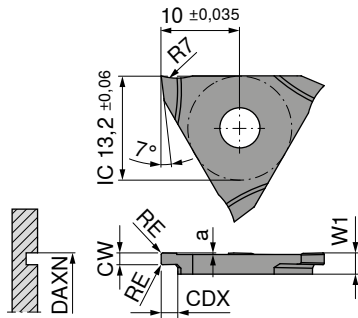
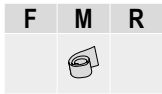
Mecanizado interior

Mecanizado exterior

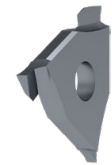
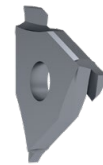
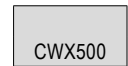
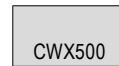


# Plaquita para ranurado axial

- ▲ Profundidad de corte de hasta 3,5 mm
- ▲ Ancho de corte 1,5–5,0 mm



Las figuras muestran la versión a derechas



A izquierdas

A derechas

| Designación ISO | CW<br>mm | W1<br>mm | CDX<br>mm | a<br>mm | DAXN<br>mm | RE<br>mm | Para portas   |
|-----------------|----------|----------|-----------|---------|------------|----------|---------------|
| TX R/L 2015.2.2 | 1,5      | 2,7      | 2         | 0,2     | 20         | 0,2      | R/L 207 ... 2 |
| TX R/L 3020.2.2 | 2,0      | 2,7      | 3         | 0,2     | 30         | 0,2      | R/L 207 ... 2 |
| TX R/L 3030.2.3 | 3,0      | 3,7      | 3         | 0,2     | 30         | 0,2      | R/L 207 ... 3 |

| 73 306 ... |     | 73 305 ... |     |
|------------|-----|------------|-----|
| EUR        |     | EUR        |     |
| Y6         |     | Y6         |     |
| 32,11      | 204 | 32,11      | 204 |
| 32,11      | 206 | 32,11      | 206 |
| 32,38      | 208 | 32,38      | 208 |

|   |   |   |
|---|---|---|
| P | ● | ● |
| M | ● | ● |
| K | ● | ● |
| N | ● | ● |
| S | ● | ● |
| H | ○ | ○ |
| O | ● | ● |

→ v, Página 88

Mecanizado interior

Mecanizado exterior



→ 76+77

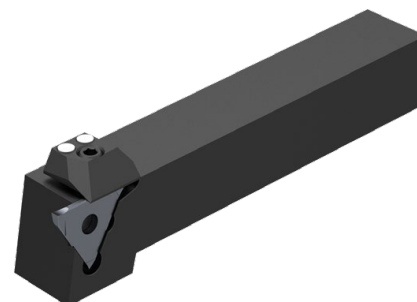
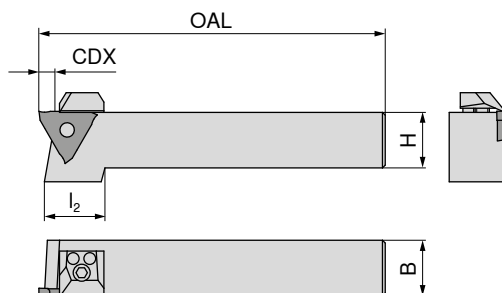
# MonoClamp – Porta axial/radial TX 0° profundidad de corte máx. 6 mm

▲ Para tronzado y ranurado radiales y axiales

▲ Ancho de corte 0,5–6,3 mm

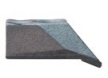




Incluye:

Solo porta de ranurado



Las figuras muestran la versión a derechas

| Designación ISO | H mm | B <sup>+0,1</sup> mm | OAL mm | l <sub>2</sub> mm | CDX mm | Para placas de ranurado | A izquierdas |            | A derechas |     |
|-----------------|------|----------------------|--------|-------------------|--------|-------------------------|--------------|------------|------------|-----|
|                 |      |                      |        |                   |        |                         | 73 501 ...   | 73 500 ... |            |     |
|                 |      |                      |        |                   |        |                         | EUR Y6       | EUR Y6     |            |     |
| R/L 207.1212.1  | 12   | 12                   | 100    | 24                | 4      | TX R/N/L ...1           | 132,50       | 112        | 132,50     | 112 |
| R/L 207.1616.1  | 16   | 16                   | 125    | 22                | 4      | TX R/N/L ...1           | 118,20       | 116        | 118,20     | 116 |
| R/L 207.2020.1  | 20   | 20                   | 125    | 21                | 4      | TX R/N/L ...1           | 91,62        | 120        | 91,62      | 120 |
| R/L 207.2525.1  | 25   | 25                   | 150    |                   | 4      | TX R/N/L ...1           | 96,14        | 125        | 96,14      | 125 |
| R/L 207.1212.2  | 12   | 12                   | 100    | 24                | 6      | TX R/N/L ...2           | 132,50       | 212        | 132,50     | 212 |
| R/L 207.1616.2  | 16   | 16                   | 125    | 22                | 6      | TX R/N/L ...2           | 118,20       | 216        | 118,20     | 216 |
| R/L 207.2020.2  | 20   | 20                   | 125    | 21                | 6      | TX R/N/L ...2           | 91,62        | 220        | 91,62      | 220 |
| R/L 207.2525.2  | 25   | 25                   | 150    |                   | 6      | TX R/N/L ...2           | 96,14        | 225        | 96,14      | 225 |
| R/L 207.1212.3  | 12   | 12                   | 100    | 24                | 6      | TX R/N/L ...3           | 132,50       | 312        | 132,50     | 312 |
| R/L 207.1616.3  | 16   | 16                   | 125    | 22                | 6      | TX R/N/L ...3           | 118,20       | 316        | 118,20     | 316 |
| R/L 207.2020.3  | 20   | 20                   | 125    | 21                | 6      | TX R/N/L ...3           | 91,62        | 320        | 91,62      | 320 |
| R/L 207.2525.3  | 25   | 25                   | 150    |                   | 6      | TX R/N/L ...3           | 96,14        | 325        | 96,14      | 325 |
| R 207.3232.3    | 32   | 32                   | 170    |                   | 6      | TX R/N/L ...3           |              |            | 112,20     | 332 |
| R/L 207.1616.4  | 16   | 16                   | 125    | 22                | 6      | TX R/N/L ...4           | 118,20       | 416        | 118,20     | 416 |
| R/L 207.2020.4  | 20   | 20                   | 125    | 21                | 6      | TX R/N/L ...4           | 91,62        | 420        | 91,62      | 420 |
| R/L 207.2525.4  | 25   | 25                   | 150    |                   | 6      | TX R/N/L ...4           | 96,14        | 425        | 96,14      | 425 |

|                         |  |  |  |  |  |
|-------------------------|---|---|---|---|---|
|                         | 73 950 ...  | 73 950 ...  | 70 950 ...  | 73 950 ...  | 73 950 ...  |
| Piezas de repuesto      | EUR Y6  | EUR Y6  | EUR 2A/28   | EUR Y6  | EUR Y6  |
| Para placas de ranurado |   |   |   |   |   |
| TX R/N/L ...1           | 26,53   | 020   | SW3 3,15 176  | M6x20 5,44 028  | Ø 4x18 0,48 030   |
| TX R/N/L ...1           |   | 26,53 024   | SW3 3,15 176  | M6x20 5,44 028  | Ø 4x18 0,48 030   |
| TX R/N/L ...2           |   | 26,53 024   | SW3 3,15 176  | M6x20 5,44 028  | Ø 4x18 0,48 030   |
| TX R/N/L ...2           | 26,53   | 020   | SW3 3,15 176  | M6x20 5,44 028  | Ø 4x18 0,48 030   |
| TX R/N/L ...3           |   | 26,53 024   | SW3 3,15 176  | M6x20 5,44 028  | Ø 4x18 0,48 030   |
| TX R/N/L ...3           | 26,53   | 020   | SW3 3,15 176  | M6x20 5,44 028  | Ø 4x18 0,48 030   |
| TX R/N/L ...4           | 29,45   | 022   | SW3 3,15 176  | M6x20 5,44 028  | Ø 4x18 0,48 030   |
| TX R/N/L ...4           |   | 29,45 026   | SW3 3,15 176  | M6x20 5,44 028  | Ø 4x18 0,48 030   |



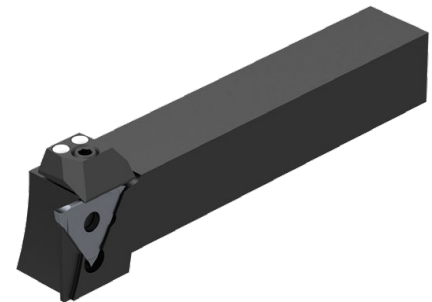
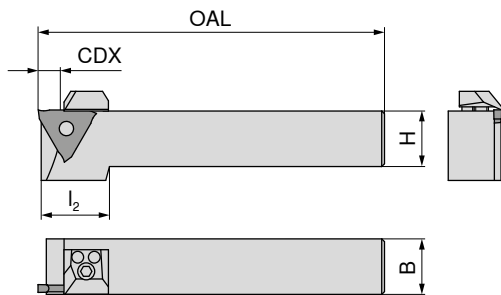
→ 71-75

→ Capítulo 16

# MonoClamp – Portaherramientas 0° profundidad de corte 8 mm

- ▲ Para tronzado y ranurado radiales
- ▲ Ancho de corte 1,9–6,3 mm

**Incluye:**  
Solo porta de ranurado



Las figuras muestran la versión a derechas

| Designación ISO | H<br>mm | B $\pm 0,1$<br>mm | OAL<br>mm | l <sub>2</sub><br>mm | CDX<br>mm | Para placas de<br>ranurado | A izquierdas       |            | A derechas         |     |
|-----------------|---------|-------------------|-----------|----------------------|-----------|----------------------------|--------------------|------------|--------------------|-----|
|                 |         |                   |           |                      |           |                            | 73 503 ...         | 73 502 ... |                    |     |
| R/L 780.2020.2  | 20      | 20                | 125       | 24                   | 8         | TX R/N/L ...2              | EUR<br>Y6<br>97,98 | 120        | EUR<br>Y6<br>97,98 | 120 |
| R/L 780.2525.2  | 25      | 25                | 150       |                      | 8         | TX R/N/L ...2              | 102,90             | 125        | 102,90             | 125 |
| R/L 780.2020.3  | 20      | 20                | 125       | 24                   | 8         | TX R/N/L ...3              | 97,98              | 220        | 97,98              | 220 |
| R/L 780.2525.3  | 25      | 25                | 150       |                      | 8         | TX R/N/L ...3              | 102,90             | 225        | 102,90             | 225 |
| R/L 780.2020.4  | 20      | 20                | 125       | 24                   | 8         | TX R/N/L ...4              | 97,98              | 320        | 97,98              | 320 |
| R/L 780.2525.4  | 25      | 25                | 150       |                      | 8         | TX R/N/L ...4              | 102,90             | 325        | 102,90             | 325 |

| Piezas de repuesto<br>Para placas de ranurado | 73 950 ... |     | 73 950 ... |     | 70 950 ...   |     | 73 950 ... |     | 73 950 ... |     |
|---|------------|-----|------------|-----|--------------|-----|------------|-----|------------|-----|
|   | EUR<br>Y6  |     | EUR<br>Y6  |     | EUR<br>2A/28 |     | EUR<br>Y6  |     | EUR<br>Y6  |     |
| TX R/N/L ...2                                 | 26,53      | 020 |            |     | 3,15         | 176 | 5,44       | 028 | 0,48       | 030 |
| TX R/N/L ...2                                 |            |     | 26,53      | 024 | 3,15         | 176 | 5,44       | 028 | 0,48       | 030 |
| TX R/N/L ...3                                 | 26,53      | 020 |            |     | 3,15         | 176 | 5,44       | 028 | 0,48       | 030 |
| TX R/N/L ...3                                 |            |     | 26,53      | 024 | 3,15         | 176 | 5,44       | 028 | 0,48       | 030 |
| TX R/N/L ...4                                 | 29,45      | 022 |            |     | 3,15         | 176 | 5,44       | 028 | 0,48       | 030 |
| TX R/N/L ...4                                 |            |     | 29,45      | 026 | 3,15         | 176 | 5,44       | 028 | 0,48       | 030 |



→ 71-75

→ Capítulo 16

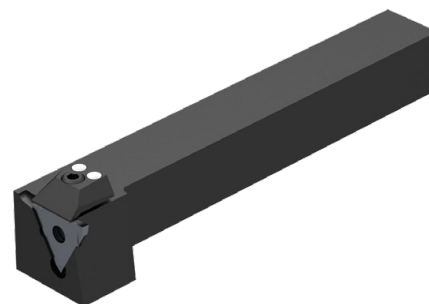
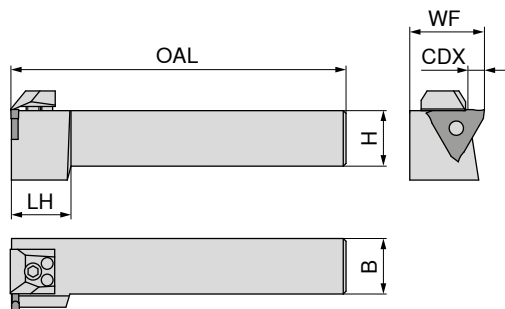
# MonoClamp – Porta radial TX 90° profundidad de corte máx. 6 mm

▲ Para tronzado y ranurado radiales

▲ Ancho de corte 0,5–6,3 mm

Incluye:

Solo porta de ranurado



Las figuras muestran la versión a derechas

| Designación ISO | H mm | B $\pm 0,1$ mm | OAL mm | LH mm | WF $\pm 0,07$ mm | CDX mm | Para placas de ranurado | A izquierdas |     | A derechas |     |
|-----------------|------|----------------|--------|-------|------------------|--------|-------------------------|--------------|-----|------------|-----|
|                 |      |                |        |       |                  |        |                         | EUR          |     | EUR        |     |
| R/L 738.2020.1  | 20   | 20             | 150    | 20    | 27               | 4      | TX R/N/L ...1           | 114,20       | 120 | 114,20     | 120 |
| R/L 738.2525.1  | 25   | 25             | 150    |       | 32               | 4      | TX R/N/L ...1           | 118,20       | 125 | 118,20     | 125 |
| R/L 738.2020.2  | 20   | 20             | 150    | 20    | 27               | 6      | TX R/N/L ...2           | 114,20       | 220 | 114,20     | 220 |
| R/L 738.2525.2  | 25   | 25             | 150    |       | 32               | 6      | TX R/N/L ...2           | 118,20       | 225 | 118,20     | 225 |
| R/L 738.2020.3  | 20   | 20             | 150    | 20    | 27               | 6      | TX R/N/L ...3           | 114,20       | 320 | 114,20     | 320 |
| R/L 738.2525.3  | 25   | 25             | 150    |       | 32               | 6      | TX R/N/L ...3           | 118,20       | 325 | 118,20     | 325 |
| R/L 738.2020.4  | 20   | 20             | 150    | 20    | 27               | 6      | TX R/N/L ...4           | 114,20       | 420 | 114,20     | 420 |
| R/L 738.2525.4  | 25   | 25             | 150    |       | 32               | 6      | TX R/N/L ...4           | 118,20       | 425 | 118,20     | 425 |

| Piezas de repuesto<br>Para placas de ranurado | 73 950 ... |     | 73 950 ... |     | 70 950 ... |     | 73 950 ... |     | 73 950 ... |     |
|---|------------|-----|------------|-----|------------|-----|------------|-----|------------|-----|
|   | EUR        |     | EUR        |     | EUR        |     | EUR        |     | EUR        |     |
| TX R/N/L ...1                                 | 26,53      | 020 | 26,53      | 024 | 3,15       | 176 | 5,44       | 028 | 0,48       | 030 |
| TX R/N/L ...2                                 | 26,53      | 020 | 26,53      | 024 | 3,15       | 176 | 5,44       | 028 | 0,48       | 030 |
| TX R/N/L ...3                                 | 26,53      | 020 | 26,53      | 024 | 3,15       | 176 | 5,44       | 028 | 0,48       | 030 |
| TX R/N/L ...4                                 | 29,45      | 022 | 29,45      | 026 | 3,15       | 176 | 5,44       | 028 | 0,48       | 030 |



→ 71-75

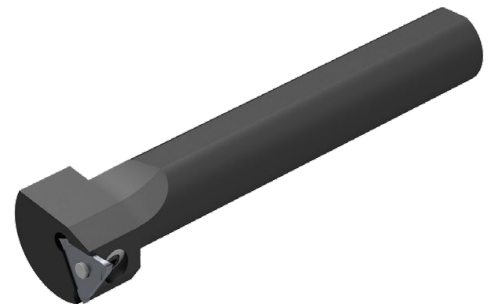
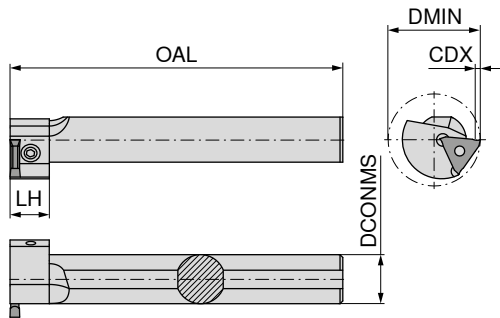
→ Capítulo 16

# MonoClamp – Porta de torneado interior radial TX

- ▲ Para ranurado radial interior
- ▲ Ancho de corte 0,5–6,3 mm

**Incluye:**

Solo porta de interiores



Las figuras muestran la versión a derechas

| Designación ISO | DCONMS <sub>gr</sub><br>mm | DMIN<br>mm | OAL<br>mm | LH<br>mm | CDX<br>mm | Para placas de ranurado | A izquierdas  |            | A derechas    |            |
|-----------------|----------------------------|------------|-----------|----------|-----------|-------------------------|---------------|------------|---------------|------------|
|                 |                            |            |           |          |           |                         | 73 511 ...    | 73 510 ... | 73 511 ...    | 73 510 ... |
| R/L 660.0025.1  | 25                         | 46         | 170       | 20       | 2         | TX R/N/L ...1           | EUR Y6 156,40 | 125        | EUR Y6 156,40 | 125        |
| R/L 660.0032.1  | 32                         | 46         | 200       | 20       | 2         | TX R/N/L ...1           | EUR Y6 192,40 | 132        | EUR Y6 192,40 | 132        |
| R/L 660.0040.1  | 40                         | 46         | 250       |          | 2         | TX R/N/L ...1           | EUR Y6 193,60 | 140        | EUR Y6 193,60 | 140        |
| R/L 660.0025.2  | 25                         | 46         | 170       | 20       | 2         | TX R/N/L ...2           | EUR Y6 156,40 | 225        | EUR Y6 156,40 | 225        |
| R/L 660.0032.2  | 32                         | 46         | 200       | 20       | 2         | TX R/N/L ...2           | EUR Y6 192,40 | 232        | EUR Y6 192,40 | 232        |
| R/L 660.0040.2  | 40                         | 46         | 250       |          | 2         | TX R/N/L ...2           | EUR Y6 193,60 | 240        | EUR Y6 193,60 | 240        |
| R/L 660.0025.3  | 25                         | 46         | 170       | 20       | 2         | TX R/N/L ...3           | EUR Y6 156,40 | 325        | EUR Y6 156,40 | 325        |
| R/L 660.0032.3  | 32                         | 46         | 200       | 20       | 2         | TX R/N/L ...3           | EUR Y6 192,40 | 332        | EUR Y6 192,40 | 332        |
| R/L 660.0040.3  | 40                         | 46         | 250       |          | 2         | TX R/N/L ...3           | EUR Y6 193,60 | 340        | EUR Y6 193,60 | 340        |

| Agujero Ø <sub>min.</sub> en mm | 46 | 50 | 60 | 80  | 100 | Para placas de ranurado |
|---------------------------------|----|----|----|-----|-----|-------------------------|
| CDX <sub>máx.</sub> en mm       | 2  | 3  | 4  | 4,5 | 5   | TX R/N/L ...1           |
|                                 | 2  | 3  | 4  | 4,5 | 5   | TX R/N/L ...2           |
|                                 | 2  | 3  | 4  | 4,5 | 5   | TX R/N/L ...3           |
|                                 | 2  | 3  | 4  | 4,5 | 5   | TX R/N/L ...4           |

11

| Piezas de repuesto      | 73 950 ... | 70 950 ... | 73 950 ... |
|-------------------------|------------|------------|------------|
| Para placas de ranurado | EUR Y6     | EUR 2A/28  | EUR Y6     |
| TX R/N/L ...1           | 32,75 011  | 3,15 176   | 5,44 009   |
| TX R/N/L ...2           | 32,75 011  | 3,15 176   | 5,44 009   |
| TX R/N/L ...3           | 32,75 011  | 3,15 176   | 5,44 009   |



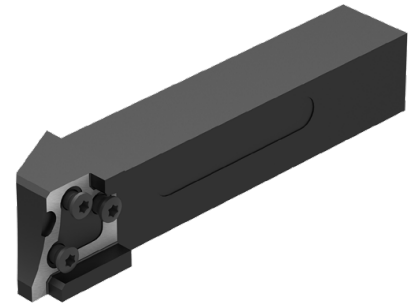
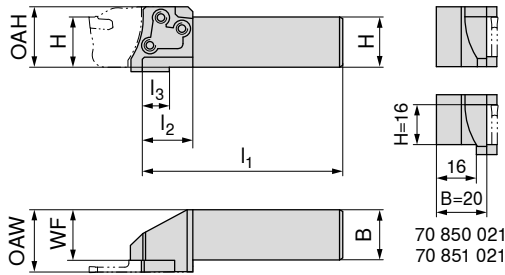
→ 71-74

→ Capítulo 16

# ModularClamp MSS – Portaherramientas 0°

Incluye:

Porta base con tornillo de sujeción



Las figuras muestran la versión a derechas

| Designación ISO  | H<br>mm | B<br>mm | OAW<br>mm | OAH<br>mm | WF<br>mm | l <sub>1</sub><br>mm | l <sub>2</sub><br>mm | l <sub>3</sub><br>mm | Para módulos  | A izquierdas           |                   | A derechas             |                   |
|------------------|---------|---------|-----------|-----------|----------|----------------------|----------------------|----------------------|---------------|------------------------|-------------------|------------------------|-------------------|
|                  |         |         |           |           |          |                      |                      |                      |               | 70 851 ...             | 70 850 ...        | 70 851 ...             | 70 850 ...        |
| E16 R/L 00-1616G | 16      | 16      | 19,25     | 19,5      | 15,75    | 90                   | 16                   |                      | E16 R/L ...   | EUR<br>2C/71<br>167,60 | 016               | EUR<br>2C/71<br>167,60 | 016               |
| E20 R/L 00-1620G | 16      | 20      | 24,25     | 24,0      | 20,15    | 90                   | 20                   |                      | E20 R/L/N ... | 169,10                 | 021 <sup>1)</sup> | 169,10                 | 021 <sup>1)</sup> |
| E20 R/L 00-2020J | 20      | 20      | 24,25     | 24,0      | 20,15    | 110                  | 20                   |                      | E20 R/L/N ... | 169,10                 | 020               | 169,10                 | 020               |
| E25 R/L 00-2525L | 25      | 25      | 31,00     | 30,0      | 25,50    | 140                  | 25                   |                      | E25 R/L ...   | 172,60                 | 025               | 172,60                 | 025               |
| E32 R/L 00-3225N | 32      | 25      | 31,00     | 38,0      | 25,50    | 160                  | 32                   |                      | E32 R/L ...   | 177,30                 | 032               | 177,30                 | 032               |
| E32 L 00-3232N   | 32      | 32      | 38,00     | 38,8      | 32,50    | 180                  | 32                   | 16                   | E32 R/L ...   | 180,40                 | 13200             |                        |                   |
| E32 R 00-3232Q   | 32      | 32      | 38,00     | 38,8      | 32,50    | 180                  | 32                   | 16                   | E32 R/L ...   |                        |                   | 180,40                 | 13200             |

1) Ver dibujo

Para portaherramientas a derechas → usar módulo a derechas (o neutro)  
Para portaherramientas a izquierdas → usar módulos a izquierdas (o neutros)



| Piezas de repuesto<br>Para N° de artículo | 80 950 ... |     | 70 950 ...   |           |
|---|------------|-----|--------------|-----------|
|   | EUR<br>Y7  |     | EUR<br>2A/28 |           |
| 70 851 016 / 70 850 016                   | 11,96      | 113 | M3,5x12,5    | 11,57 441 |
| 70 851 021 / 70 850 021                   | 11,96      | 113 | M4x14        | 11,07 403 |
| 70 851 020 / 70 850 020                   | 11,96      | 113 | M4x14        | 11,07 403 |
| 70 851 025 / 70 850 025                   | 12,83      | 114 | M5x18        | 7,37 404  |
| 70 851 032 / 70 850 032                   | 13,18      | 115 | M6x20        | 5,46 405  |



SX

→ 21



LX

→ 32



GX 09 / GX 16

→ 42+43



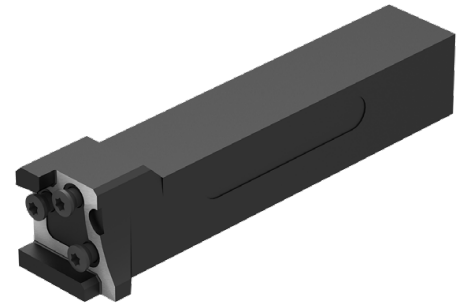
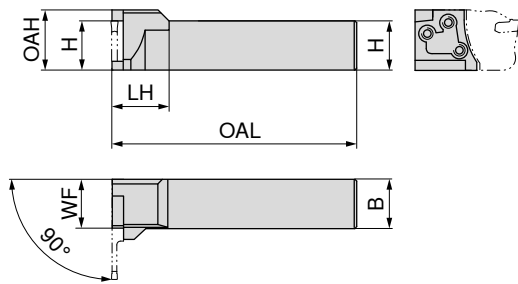
GX 24

→ 60-62

# ModularClamp MSS – Portaherramientas 90°

Incluye:

Porta base con tornillo de sujeción



Las figuras muestran la versión a derechas

| Designación ISO  | H<br>mm | B<br>mm | OAH<br>mm | WF<br>mm | OAL<br>mm | LH<br>mm | Para módulos  | A izquierdas           |            | A derechas             |     |
|------------------|---------|---------|-----------|----------|-----------|----------|---------------|------------------------|------------|------------------------|-----|
|                  |         |         |           |          |           |          |               | 70 855 ...             | 70 854 ... |                        |     |
| E20 R/L 90-2020J | 20      | 20      | 24        | 20       | 110       | 20       | E20 R/L/N ... | EUR<br>2C/71<br>169,10 | 020        | EUR<br>2C/71<br>169,10 | 020 |
| E25 R/L 90-2525L | 25      | 25      | 30        | 25       | 140       | 28       | E25 R/L ...   | 172,60                 | 025        | 172,60                 | 025 |
| E32 R/L 90-3225N | 32      | 25      | 38        | 32       | 160       | 34       | E32 R/L ...   | 177,30                 | 032        | 177,30                 | 032 |

**i** Para portaherramientas a derechas → usar módulos a izquierdas (o neutros)  
Para portaherramientas a izquierdas → usar módulo a derechas (o neutro)



Piezas de repuesto  
Para N° de artículo

|                         | 80 950 ... |     | 70 950 ... |     |
|-------------------------|------------|-----|------------|-----|
|                         | EUR        |     | EUR        |     |
| 70 855 020 / 70 854 020 | Y7         | 113 | 2A/28      | 403 |
| 70 855 025 / 70 854 025 | 11,96      | 114 | 11,07      | 404 |
| 70 855 032 / 70 854 032 | 12,83      | 115 | 7,37       | 405 |
|                         | 13,18      |     | 5,46       |     |



SX

→ 21



LX

→ 32



GX 09 / GX 16

→ 42+43



GX 24

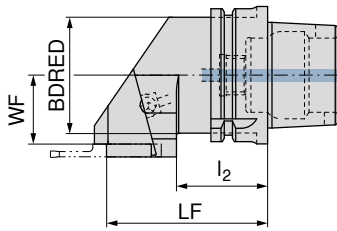
→ 60-62



# ModularClamp MSS – Porta base a 0° HSK-T

Incluye:

Porta base con tornillo de sujeción



Las figuras muestran la versión a derechas

| Designación ISO    | Tamaño de porta | LF mm | l <sub>2</sub> mm | BDRED mm | WF mm | Para módulos | A izquierdas |                  | A derechas |                  |
|--------------------|-----------------|-------|-------------------|----------|-------|--------------|--------------|------------------|------------|------------------|
|                    |                 |       |                   |          |       |              | EUR          | 525              | EUR        | 525              |
| HSK T63 E25 R/L 00 | HSK-T 63        | 67    | 42                | 53       | 38,7  | E25 R/L...   | 74 581 ...   | EUR 2D/80 445,00 | 74 580 ... | EUR 2D/80 445,00 |

**1** Para portaherramientas a derechas → usar módulo a derechas  
Para portaherramientas a izquierdas → usar módulos a izquierdas

| Piezas de repuesto                             | Tapón de sellado                    | Boquilla de pulverización           | Destornillador                 | Tornillo de sujeción             | Llave hueca con punta               |
|--|-------------------------------------|-------------------------------------|--------------------------------|----------------------------------|-------------------------------------|
| Para N° de artículo<br>74 580 525 / 74 581 525 | 70 950 ...<br>EUR 2A/28 26,06 05600 | 70 950 ...<br>EUR 2A/28 37,46 05500 | 80 950 ...<br>EUR Y7 12,83 114 | 70 950 ...<br>EUR 2A/28 7,37 404 | 70 950 ...<br>EUR 2A/28 57,91 05700 |

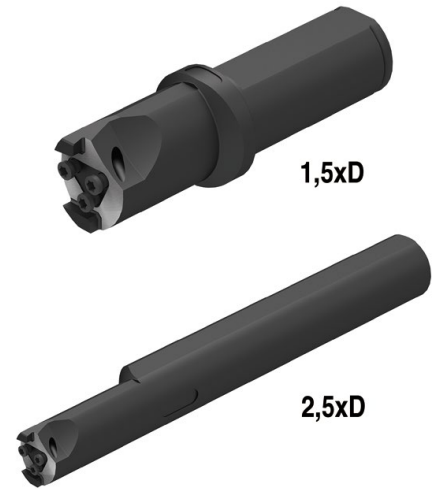
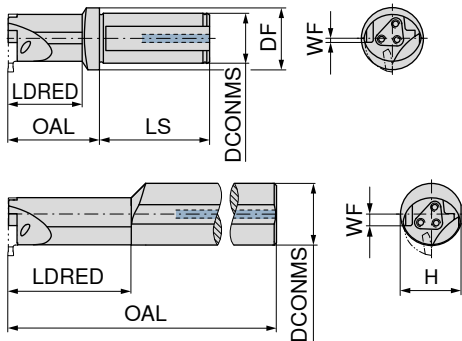
| SX   | LX   | GX 09 / GX 16 | GX 24   |
|------|------|---------------|---------|
| → 21 | → 32 | → 42+43       | → 60-62 |

# ModularClamp MSS – Portas de torneado interior GX

▲ Con refrigeración interna

**Incluye:**

Porta de interiores con tornillo de sujeción



Las figuras muestran la versión a derechas

|         | Designación ISO    | DCONMS<br>mm | DF<br>mm | WF<br>mm | H<br>mm | OAL<br>mm | LDRED<br>mm | LS<br>mm | Para módulos | A izquierdas           |            | A derechas             |            |
|---------|--------------------|--------------|----------|----------|---------|-----------|-------------|----------|--------------|------------------------|------------|------------------------|------------|
|         |                    |              |          |          |         |           |             |          |              | 70 861 ...             | 70 860 ... | 70 861 ...             | 70 860 ... |
| ≤ 1,5xD | I16 R/L 90-1,5 D-N | 20           | 25       | 1,0      |         | 32        | 24          | 50       | I 16 R/L     | EUR<br>2C/71<br>185,20 | 017        | EUR<br>2C/71<br>185,20 | 017        |
|         | I20 R/L 90-1,5 D-N | 20           | 25       | 1,0      |         | 37        | 30          | 50       | I 20 R/L     | 226,90                 | 021        | 226,90                 | 021        |
|         | I25 R/L 90-1,5 D-N | 25           | 32       | 1,5      |         | 46        | 38          | 56       | I 25 R/L     | 260,10                 | 026        | 260,10                 | 026        |
|         | I32 R/L 90-1,5 D-N | 32           | 40       | 2,0      |         | 59        | 48          | 60       | I 32 R/L     | 335,30                 | 033 1)     | 335,30                 | 033 1)     |
|         | I40 R/L 90-1,5 D-N | 40           | 50       | 2,5      |         | 72        | 60          | 70       | I 40 R/L/N   | 418,10                 | 041        | 418,10                 | 041        |
| ≤ 2,5xD | I16 R/L 90-2,5 D-N | 20           |          | 4,5      | 19,0    | 180       | 40          |          | I 16 R/L     | 199,50                 | 117        | 199,50                 | 117        |
|         | I20 R/L 90-2,5 D-N | 25           |          | 6,0      | 24,0    | 200       | 50          |          | I 20 R/L     | 242,80                 | 121        | 242,80                 | 121        |
|         | I25 R/L 90-2,5 D-N | 32           |          | 7,0      | 31,0    | 250       | 63          |          | I 25 R/L     | 277,80                 | 126        | 277,80                 | 126        |
|         | I32 R/L 90-2,5 D-N | 40           |          | 9,5      | 38,0    | 300       | 80          |          | I 32 R/L     | 362,20                 | 133 1)     | 362,20                 | 133 1)     |
|         | I40 R/L 90-2,5 D-N | 50           |          | 11,5     | 48,5    | 350       | 100         |          | I 40 R/L/N   | 461,20                 | 141        | 461,20                 | 141        |

1) con 2 superficies de sujeción

**1** Para portaherramientas a derechas → usar módulo a derechas (o neutro)  
Para portaherramientas a izquierdas → usar módulos a izquierdas (o neutros)



Destornillador



Tornillo de sujeción

**Piezas de repuesto**  
Para módulos

|            |     | 80 950 ...             | 70 950 ...                          |
|------------|-----|------------------------|-------------------------------------|
| I 16 R/L   | T08 | EUR<br>Y7<br>10,05 110 | M2,5x10<br>EUR<br>2A/28<br>9,14 440 |
| I 20 R/L   | T10 | 11,78 112              | M3x11<br>9,48 444                   |
| I 25 R/L   | T15 | 11,96 113              | M3,5x12,5<br>11,57 441              |
| I 32 R/L   | T20 | 12,83 114              | M4,5x17<br>10,52 445                |
| I 40 R/L/N | T20 | 12,83 114              | M5x18<br>7,37 404                   |



GX 09 / GX 16

→ 44+45



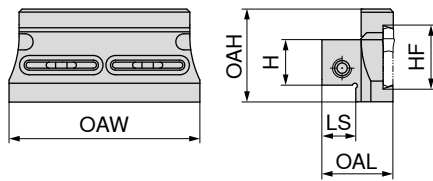
GX 24

→ 63

# Porta de sujeción dividido para lamas DC

Incluye:

Porta-lamas completo, pero sin lama



| Designación    | H<br>mm | HF<br>mm | OAH<br>mm | LS<br>mm | OAL<br>mm | OAW<br>mm | Para lamas | 70 829 ...<br>EUR<br>2A/25 |     |
|----------------|---------|----------|-----------|----------|-----------|-----------|------------|----------------------------|-----|
| SBN 2020-26-DC | 20      | 26       | 43,0      | 20       | 40,0      | 82        | XLC.. 26.. | 302,30                     | 020 |
| SBN 2020-32-DC | 20      | 32       | 43,0      | 20       | 40,0      | 95        | XLC.. 32.. | 302,30                     | 120 |
| SBN 2525-32-DC | 25      | 32       | 48,5      | 25       | 44,5      | 95        | XLC.. 32.. | 311,80                     | 025 |
| SBN 3232-32-DC | 32      | 32       | 52,0      | 32       | 51,0      | 95        | XLC.. 32.. | 326,30                     | 032 |

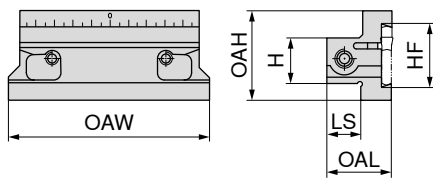
| Piezas de repuesto<br>Para N° de artículo | Tornillo para refrigeración<br>70 950 ...<br>EUR<br>2A/28 |          | Regla de terminales<br>70 950 ...<br>EUR<br>2A/28 |           | Tornillo de apriete<br>70 950 ...<br>EUR<br>2A/28 |          |
|---|---|----------|---|-----------|---|----------|
|   | 70 829 020  | G 1/8"   | 4,59 294  | CU70      | 40,85 290   | M6x12    |
| 70 829 120                                | G 1/8"  | 4,59 294 | CU85  | 40,85 291 | M6x12   | 2,86 861 |
| 70 829 025                                | G 1/8"  | 4,59 294 | CU85  | 40,85 291 | M6x12   | 2,86 861 |
| 70 829 032                                | G 1/8"  | 4,59 294 | CU85  | 40,85 291 | M6x12   | 2,86 861 |

| Piezas de repuesto<br>Para N° de artículo | Llave "L"<br>70 950 ...<br>EUR<br>2A/28 |          | Junta O<br>70 950 ...<br>EUR<br>2A/28 |          | Junta O<br>70 950 ...<br>EUR<br>2A/28 |          |
|---|---|----------|---------------------------------------|----------|---------------------------------------|----------|
|   | 70 829 020                              | SW5      | 4,75 265                              | 19x2,5   | 5,55 293                              | 23x2,5   |
| 70 829 120                                | SW5                                     | 4,75 265 | 19x2,5                                | 5,55 293 | 23x2,5                                | 5,55 292 |
| 70 829 025                                | SW5                                     | 4,75 265 |                                       |          | 23x2,5                                | 5,55 292 |
| 70 829 032                                | SW5                                     | 4,75 265 |                                       |          | 23x2,5                                | 5,55 292 |

# Porta de sujeción para lamas

**Incluye:**

Porta lamas completo, pero sin lama ni kit refrigeración



| Designación   | H<br>mm | HF<br>mm | OAH<br>mm | LS<br>mm | OAL<br>mm | OAW<br>mm | Para lamas | 70 830 ... |     |
|---------------|---------|----------|-----------|----------|-----------|-----------|------------|------------|-----|
|               |         |          |           |          |           |           |            | EUR        |     |
| SBN 2020-26-K | 20      | 26       | 39        | 20       | 33,0      | 90        | XLC.. 26.. | 207,50     | 020 |
| SBN 2520-32-K | 25      | 32       | 48        | 20       | 36,0      | 110       | XLC.. 32.. | 207,50     | 025 |
| SBN 3229-32-K | 32      | 32       | 48        | 29       | 44,5      | 120       | XLC.. 32.. | 212,10     | 032 |
| SBN 3229-46-K | 32      | 46       | 70        | 29       | 52,0      | 150       | XLC.. 46.. | 351,10     | 132 |
| SBN 4037-46-K | 40      | 46       | 70        | 37       | 60,0      | 150       | XLC.. 46.. | 426,20     | 140 |

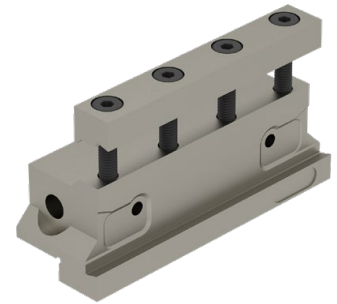
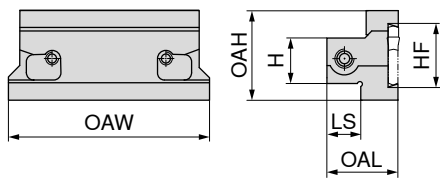
| Piezas de repuesto<br>Para lamas |     | 70 950 ... |     | 70 950 ... |     | 70 950 ... |          |
|----------------------------------|-----|------------|-----|------------|-----|------------|----------|
|                                  |     | EUR        |     | EUR        |     | EUR        |          |
| XLC.. 26..                       | SW5 | 4,75       | 265 | 53,89      | 278 | M6x25      | 2,66 269 |
| XLC.. 32..                       | SW5 | 4,75       | 265 | 53,89      | 278 | M6x25      | 2,66 269 |
| XLC.. 46..                       | SW6 | 6,67       | 266 | 52,49      | 279 | M8x35      | 2,66 282 |



# Porta de sujeción dividido para lamas

**Incluye:**

Porta lamas completo, pero sin lama ni kit refrigeración



| Designación    | H mm | HF mm | OAH mm | LS mm | OAL mm | OAW mm | Para lamas | 70 831 ...           |
|----------------|------|-------|--------|-------|--------|--------|------------|----------------------|
| SBN 2020-26-KS | 20   | 26    | 39     | 20    | 35,0   | 90     | XLC.. 26.. | EUR 2A/25 252,20 020 |
| SBN 2520-32-KS | 25   | 32    | 48     | 20    | 38,0   | 110    | XLC.. 32.. | EUR 260,10 025       |
| SBN 3229-32-KS | 32   | 32    | 48     | 29    | 46,5   | 120    | XLC.. 32.. | EUR 269,80 032       |

**Piezas de repuesto**  
**Para lamas**

|            |     | 70 950 ... | 70 950 ... | 70 950 ...     |
|------------|-----|------------|------------|----------------|
|            |     | EUR 2A/28  | EUR 2A/28  | EUR 2A/28      |
| XLC.. 26.. | SW5 | 4,75 265   | 53,89 278  | M6x25 2,66 269 |
| XLC.. 32.. | SW5 | 4,75 265   | 53,89 278  | M6x25 2,66 269 |



## Ejemplos de materiales relacionados con las tablas de datos de corte

|                        | Subgrupo de materiales                         | Índice                            | Composición / estructura / tratamiento térmico      | Resistencia N/mm <sup>2</sup> / HB / HRC | Número del material | Designación del material   | Número del material | Designación del material            |
|------------------------|--|-----------------------------------|---|--|---------------------|----------------------------|---------------------|-------------------------------------|
| P                      | Acero sin aleaer                               | P.1.1                             | < 0,15 % C<br>recocido                              | 420 N/mm <sup>2</sup> / 125 HB           | 1.0401              | C15                        | 1.1141              | F111, F112, ST52                    |
|                        |  | P.1.2                             | < 0,45 % C<br>recocido                              | 640 N/mm <sup>2</sup> / 190 HB           | 1.1191              | C45E                       | 1.0718              | F211, F212, F213                    |
|                        |  | P.1.3                             | < 0,45 % C<br>templado y revenido                   | 840 N/mm <sup>2</sup> / 250 HB           | 1.1191              | C45E                       | 1.0535              | F113- F114-C45                      |
|                        |  | P.1.4                             | < 0,75 % C<br>recocido                              | 910 N/mm <sup>2</sup> / 270 HB           | 1.1223              | C60R                       | 1.0535              | C55, C55K                           |
|                        |  | P.1.5                             | < 0,75 % C<br>templado y revenido                   | 1010 N/mm <sup>2</sup> / 300 HB          | 1.1223              | C60R                       | 1.0727              | 45S20, 46S20                        |
|                        | Acero de baja aleación                         | P.2.1                             | recocido  | 610 N/mm <sup>2</sup> / 180 HB           | 1.7131              | 16MnCr5                    | 1.6587              | F151, F152                          |
|                        |  | P.2.2                             | templado y revenido                                 | 930 N/mm <sup>2</sup> / 275 HB           | 1.7131              | 16MnCr5                    | 1.6587              | F152, F154, F155                    |
|                        |  | P.2.3                             | templado y revenido                                 | 1010 N/mm <sup>2</sup> / 300 HB          | 1.7225              | 42CrMo4                    | 1.3505              | F125                                |
|                        |  | P.2.4                             | templado y revenido                                 | 1200 N/mm <sup>2</sup> / 375 HB          | 1.7225              | 42CrMo4                    | 1.3505              | F125, F127, F156                    |
|                        | Acero de alta aleación y acero de herramientas | P.3.1                             | recocido  | 680 N/mm <sup>2</sup> / 200 HB           | 1.4021              | X20Cr13                    | 1.4034              | X46Cr13                             |
|                        |  | P.3.2                             | templado y revenido                                 | 1100 N/mm <sup>2</sup> / 300 HB          | 1.2343              | X38CrMoV5-1                | 1.4034              | F521, F522, 1.2379                  |
|                        |  | P.3.3                             | templado y revenido                                 | 1300 N/mm <sup>2</sup> / 400 HB          | 1.2343              | X38CrMoV5-1                | 1.4034              | 1.2738, 1.2311                      |
|                        | Acero inoxidable                               | P.4.1                             | Ferrítico / martensítico<br>recocido                | 680 N/mm <sup>2</sup> / 200 HB           | 1.4016              | X6Cr17                     | 1.2316              | 410, 420, 430, 440C                 |
|                        |  | P.4.2                             | Martensítico<br>templado y revenido                 | 1010 N/mm <sup>2</sup> / 300 HB          | 1.4112              | X90CrMoV18                 | 1.2316              | 431, 420, 430, 440C                 |
| M                      | Acero inoxidable                               | M.1.1                             | Austenítico / austenítico-ferrítico<br>recocido     | 610 N/mm <sup>2</sup> / 180 HB           | 1.4301              | X5CrNi18-10                | 1.4571              | 303, 304, 316, 304L                 |
|                        |  | M.2.1                             | Resistentes al calor, superausteníticos<br>recocido | 300 HB                                   | 1.4841              | X15CrNiSi25-21             | 1.4539              | 310, 314, 330, 904L                 |
|                        |  | M.3.1                             | Austenítico / ferrítico (Dúplex)                    | 780 N/mm <sup>2</sup> / 230 HB           | 1.4462              | X2CrNiMoN22-5-3            | 1.4501              | 2205, 2304, 2507                    |
| K                      | Fundición gris                                 | K.1.1                             | Perlítico / ferrítico                               | 350 N/mm <sup>2</sup> / 180 HB           | 0.6010              | GG-10                      | 0.6025              | GG-25, GJL-250                      |
|                        |  | K.1.2                             | Perlítico (martensítico)                            | 500 N/mm <sup>2</sup> / 260 HB           | 0.6030              | GG-30                      | 0.6045              | GJL-300, FG-30                      |
|                        | Fundición gris con grafito esferoidal          | K.2.1                             | Ferrítico   | 540 N/mm <sup>2</sup> / 160 HB           | 0.7040              | GGG-40                     | 0.7060              | GJS-400, FGE-42                     |
|                        |  | K.2.2                             | Perlítico   | 845 N/mm <sup>2</sup> / 250 HB           | 0.7070              | GGG-70                     | 0.7080              | GGG-60, GJS-600                     |
|                        | Hierro fundido maleable                        | K.3.1                             | Ferrítico   | 440 N/mm <sup>2</sup> / 130 HB           | 0.8035              | GTW-35-04                  | 0.8045              | GTW-45                              |
|                        |  | K.3.2                             | Perlítico   | 780 N/mm <sup>2</sup> / 230 HB           | 0.8165              | GTS-65-02                  | 0.8170              | GTS-70-02                           |
| N                      | Aleación de aluminio forjado                   | N.1.1                             | No endurecible                                      | 60 HB                                    | 3.0255              | Al99,5                     | 3.3315              | AlMg1, 1050A, 6082                  |
|                        |  | N.1.2                             | Endurecible   | 340 N/mm <sup>2</sup> / 100 HB           | 3.1355              | AlCuMg2                    | 3.2315              | 2024, 5083, 7075                    |
|                        | Aleación de aluminio fundido                   | N.2.1                             | ≤ 12 % Si, no endurecible                           | 250 N/mm <sup>2</sup> / 75 HB            | 3.2581              | G-AlSi12                   | 3.2163              | AlSi12, AlSi9Cu3                    |
|                        |  | N.2.2                             | ≤ 12 % Si, endurecible                              | 300 N/mm <sup>2</sup> / 90 HB            | 3.2134              | G-AlSi5Cu1Mg               | 3.2373              | AlSi7Mg, AlSi9Mg                    |
|                        |  | N.2.3                             | > 12 % Si, no endurecible                           | 440 N/mm <sup>2</sup> / 130 HB           |                     | G-AlSi17Cu4Mg              |                     | G-AlSi18CuNiMg                      |
|                        | Cobre y aleaciones de cobre (bronce, latón)    | N.3.1                             | Aleaciones para mecanizado, Pb > 1 %                | 375 N/mm <sup>2</sup> / 110 HB           | 2.0380              | CuZn39Pb2 (Ms58)           | 2.0410              | Latón v/corta, Bronce               |
|                        |  | N.3.2                             | Cu Zn, Cu Sn Zn                                     | 300 N/mm <sup>2</sup> / 90 HB            | 2.0331              | CuZn15                     | 2.4070              | Latón viruta larga                  |
|                        |  | N.3.3                             | Cu Sn, cobre sin plomo y cobre electrolítico        | 340 N/mm <sup>2</sup> / 100 HB           | 2.0060              | E-Cu57                     | 2.0590              | Cobre 99,9%, C101                   |
| Aleaciones de magnesio | N.4.1  | Magnesio y aleaciones de magnesio | 70 HB   | 3.5612                                   | MgAl6Zn             | 3.5312                     | MgAl3Zn             |                                     |
| S                      | Aleaciones resistentes al calor                | S.1.1                             | recocido  | 680 N/mm <sup>2</sup> / 200 HB           | 1.4864              | X12NiCrSi 36-16            | 1.4865              | Invar 36, A286                      |
|                        |  | S.1.2                             | Base - Fe<br>endurecido                             | 950 N/mm <sup>2</sup> / 280 HB           | 1.4980              | X6NiCrTiMoVB25-15-2        | 1.4876              | Incoloy 800                         |
|                        |  | S.2.1                             | recocido  | 840 N/mm <sup>2</sup> / 250 HB           | 2.4631              | NiCr20TiAl (Nimonic80A)    | 3.4856              | Hastelloy C276                      |
|                        |  | S.2.2                             | Base Ni o Co<br>endurecido                          | 1180 N/mm <sup>2</sup> / 350 HB          | 2.4668              | NiCr19Nb5Mo3 (Inconel 718) | 2.4955              | Haynes, Rene 41                     |
|                        |  | S.2.3                             | fundido   | 1080 N/mm <sup>2</sup> / 320 HB          | 2.4765              | CoCr20W15Ni                | 1.3401              | Cromo-Cobalto                       |
|                        | Aleaciones de titanio                          | S.3.1                             | Titanio puro  | 400 N/mm <sup>2</sup>                    | 3.7025              | Ti99,8                     | 3.7034              | Ti Grado 1, 2, 3, 4                 |
|                        |  | S.3.2                             | Aleaciones Alpha- + Beta<br>endurecido              | 1050 N/mm <sup>2</sup> / 320 HB          | 3.7165              | TiAl6V4                    | Ti-6246             | Ti Grado 5                          |
| S.3.3                  | Aleaciones Beta                                | 1400 N/mm <sup>2</sup> / 410 HB   | Ti555.3   | Ti-5Al-5V-5Mo-3Cr                        | R56410              | Ti10V2Fe3Al                |                     |                                     |
| H                      | Acero templado                                 | H.1.1                             | templado y endurecido                               | 46-55 HRC                                |                     |                            |                     |                                     |
|                        |  | H.1.2                             | templado y endurecido                               | 56-60 HRC                                |                     |                            |                     |                                     |
|                        |  | H.1.3                             | templado y endurecido                               | 61-65 HRC                                |                     |                            |                     |                                     |
|                        |  | H.1.4                             | templado y endurecido                               | 66-70 HRC                                |                     |                            |                     |                                     |
|                        | Fundición templada                             | H.2.1                             | fundido   | 400 HB                                   |                     |                            |                     |                                     |
|                        | Fundición gris endurecida                      | H.3.1                             | templado y endurecido                               | 55 HRC                                   |                     |                            |                     |                                     |
| O                      | No metálicos                                   | O.1.1                             | Duroplásticos, Termoestables                        | ≤ 150 N/mm <sup>2</sup>                  |                     |                            | PU                  | Baquellita, Fenólicos Resinas Epoxy |
|                        |  | O.1.2                             | Termoplásticos                                      | ≤ 100 N/mm <sup>2</sup>                  |                     |                            | PE, PET, PMMA, PS   | Nylon, PVC, ABS, Teflón, PC, POM    |
|                        |  | O.2.1                             | Reforzado con fibras aramidadas                     | ≤ 1000 N/mm <sup>2</sup>                 |                     |                            |                     | Kevlar, Nomex                       |
|                        |  | O.2.2                             | Reforzado con fibra de vidrio / carbono             | ≤ 1000 N/mm <sup>2</sup>                 |                     |                            | CFRP, GFRP          |                                     |
|                        |  | O.3.1                             | Grafito   |  |                     |                            |                     |                                     |


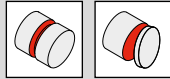

\* Resistencia a la tracción


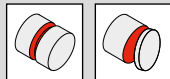

### Datos de corte para plaquitas de ranurado


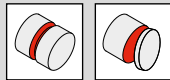

| Índice | Sistema SX, LX, GX      |         |         |         |         |         |       | Sistema TX              |            | ● Opción preferente |                 |                                |
|--------|-------------------------|---------|---------|---------|---------|---------|-------|-------------------------|------------|---------------------|-----------------|--------------------------------|
|        | CTCP325                 | CTCP335 | CTPP345 | CTPP520 | CTPP535 | CTP1340 | H216T | CWX500                  |            | ○ Apto              |                 |                                |
|        | DRAGONSKIN              |         |         |         |         |         |       | v <sub>c</sub> (m/min.) | f (mm/rev) | Talladrina          | Aire comprimido | Cantidad mínima de lubricación |
|        | v <sub>c</sub> (m/min.) |         |         |         |         |         |       |                         |            |                     |                 |                                |
| P.1.1  | 220                     | 185     | 135     | 235     | 180     | 180     |       | 160                     | 0,03-0,10  | ●                   |                 |                                |
| P.1.2  | 195                     | 160     | 120     | 205     | 150     | 150     |       | 140                     | 0,03-0,10  | ●                   |                 |                                |
| P.1.3  | 170                     | 140     | 105     | 175     | 125     | 125     |       | 110                     | 0,03-0,10  | ●                   |                 |                                |
| P.1.4  | 165                     | 130     | 100     | 165     | 120     | 115     |       | 110                     | 0,03-0,10  | ●                   |                 |                                |
| P.1.5  | 150                     | 120     | 95      | 150     | 105     | 100     |       | 90                      | 0,03-0,10  | ●                   |                 |                                |
| P.2.1  | 200                     | 165     | 120     | 210     | 160     | 155     |       | 110                     | 0,03-0,10  | ●                   |                 |                                |
| P.2.2  | 160                     | 130     | 100     | 160     | 115     | 110     |       | 90                      | 0,03-0,10  | ●                   |                 |                                |
| P.2.3  | 150                     | 120     | 95      | 150     | 105     | 100     |       | 90                      | 0,03-0,07  | ●                   |                 |                                |
| P.2.4  | 120                     | 90      | 75      | 115     | 75      | 70      |       | 80                      | 0,03-0,06  | ●                   |                 |                                |
| P.3.1  | 150                     | 130     | 100     | 185     | 120     | 110     |       | 80                      | 0,03-0,07  | ●                   |                 |                                |
| P.3.2  | 95                      | 90      | 80      | 130     | 90      | 75      |       | 60                      | 0,03-0,07  | ●                   |                 |                                |
| P.3.3  | 45                      | 50      | 60      | 75      | 60      | 40      |       | 50                      | 0,03-0,07  | ●                   |                 |                                |
| P.4.1  | 150                     | 130     | 100     | 185     | 120     | 110     |       | 100                     | 0,03-0,06  | ●                   |                 |                                |
| P.4.2  | 125                     | 110     | 90      | 160     | 105     | 95      |       | 90                      | 0,03-0,06  | ●                   |                 |                                |
| M.1.1  | 150                     | 130     | 100     | 185     | 120     | 110     |       | 110                     | 0,02-0,06  | ●                   |                 |                                |
| M.2.1  | 95                      | 90      | 80      | 130     | 90      | 80      |       | 90                      | 0,02-0,06  | ●                   |                 |                                |
| M.3.1  | 135                     | 115     | 95      | 170     | 110     | 100     |       | 70                      | 0,02-0,06  | ●                   |                 |                                |
| K.1.1  | 170                     | 135     |         | 140     | 165     | 150     | 140   | 140                     | 0,03-0,10  | ●                   |                 |                                |
| K.1.2  | 150                     | 115     |         | 115     | 150     | 125     | 115   | 100                     | 0,03-0,10  | ●                   |                 |                                |
| K.2.1  | 160                     | 130     |         | 180     | 145     | 140     | 150   | 90                      | 0,03-0,10  | ●                   |                 |                                |
| K.2.2  | 145                     | 105     |         | 115     | 155     | 120     | 110   | 80                      | 0,03-0,10  | ●                   |                 |                                |
| K.3.1  | 210                     | 150     |         | 130     | 190     | 170     | 170   | 140                     | 0,03-0,10  | ●                   |                 |                                |
| K.3.2  | 140                     | 115     |         | 110     | 145     | 120     | 140   | 120                     | 0,03-0,10  | ●                   |                 |                                |
| N.1.1  |                         |         |         |         |         | 300     | 400   | 330                     | 0,05-0,12  | ●                   |                 |                                |
| N.1.2  |                         |         |         |         |         | 200     | 400   | 310                     | 0,05-0,12  | ●                   |                 |                                |
| N.2.1  |                         |         |         |         |         | 300     | 450   | 270                     | 0,05-0,12  | ●                   |                 |                                |
| N.2.2  |                         |         |         |         |         | 200     | 450   | 230                     | 0,05-0,12  | ●                   |                 |                                |
| N.2.3  |                         |         |         |         |         | 150     | 500   | 140                     | 0,05-0,12  | ●                   |                 |                                |
| N.3.1  |                         |         |         |         |         | 300     | 425   | 240                     | 0,05-0,12  | ●                   |                 |                                |
| N.3.2  |                         |         |         |         |         | 300     | 400   | 200                     | 0,05-0,12  | ●                   |                 |                                |
| N.3.3  |                         |         |         |         |         | 200     | 275   | 180                     | 0,05-0,12  | ●                   |                 |                                |
| N.4.1  |                         |         |         |         |         | 200     | 225   | 180                     | 0,05-0,12  | ●                   |                 |                                |
| S.1.1  | 35                      |         |         | 40      | 30      | 35      | 40    | 60                      | 0,02-0,07  | ●                   |                 |                                |
| S.1.2  | 30                      |         | 30      | 30      | 25      | 30      | 30    | 50                      | 0,02-0,08  | ●                   |                 |                                |
| S.2.1  | 20                      |         | 25      | 20      | 15      | 20      | 30    | 60                      | 0,02-0,09  | ●                   |                 |                                |
| S.2.2  | 15                      |         |         | 15      | 15      | 15      | 25    | 50                      | 0,02-0,10  | ●                   |                 |                                |
| S.2.3  | 15                      |         |         | 20      | 15      | 15      | 20    | 40                      | 0,02-0,11  | ●                   |                 |                                |
| S.3.1  |                         |         |         | 125     | 85      | 85      | 90    | 60                      | 0,02-0,12  | ●                   |                 |                                |
| S.3.2  |                         |         |         | 50      | 35      | 40      | 55    | 40                      | 0,02-0,13  | ●                   |                 |                                |
| S.3.3  |                         |         |         | 35      | 25      | 30      | 40    | 30                      | 0,02-0,14  | ●                   |                 |                                |
| H.1.1  |                         |         |         | 15      |         |         |       | 50                      | 0,01-0,07  | ●                   |                 |                                |
| H.1.2  |                         |         |         | 15      |         |         |       |                         |            |                     |                 |                                |
| H.1.3  |                         |         |         |         |         |         |       |                         |            |                     |                 |                                |
| H.1.4  |                         |         |         |         |         |         |       |                         |            |                     |                 |                                |
| H.2.1  |                         |         |         | 15      |         |         |       |                         |            |                     |                 |                                |
| H.3.1  |                         |         |         | 40      |         |         |       |                         |            |                     |                 |                                |
| O.1.1  |                         |         |         |         |         | 130     | 130   | 180                     | 0,05-0,12  | ●                   |                 |                                |
| O.1.2  |                         |         |         |         |         |         |       | 180                     | 0,05-0,12  | ●                   |                 |                                |
| O.2.1  |                         |         |         |         |         | 105     | 105   | 150                     | 0,05-0,12  | ●                   |                 |                                |
| O.2.2  |                         |         |         |         |         |         |       | 110                     | 0,05-0,12  | ●                   |                 |                                |
| O.3.1  |                         |         |         |         |         |         |       | 170                     | 0,03-0,10  | ●                   |                 |                                |


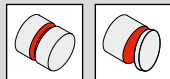

¡Los datos de corte dependen en gran medida de condiciones externas tales como la estabilidad y sujeción de la herramienta, el material y el tipo de máquina!  
Los valores indicados son teóricos y deben aumentarse o reducirse dependiendo de las condiciones de uso, se pueden ajustar un ±20 %!

## GX – Profundidades de corte y avances

| Estándar GX / GX-E     |  |           |           |           |           |           |           |   |  |  |           |
|------------------------|--|-----------|-----------|-----------|-----------|-----------|-----------|---|--|--|-----------|
| Ancho de corte CW (mm) |  Torneado longitudinal<br>Profundidad de corte $a_p$ (mm)<br>Avance $f$ (mm/rev.) |           |           |           |           |           |           |  Ranurado / tronzado<br>$f$ (mm/rev) |  |  Ranurado axial<br>$f$ (mm/rev) |           |
|                        | 0,5  | 1,0       | 1,5       | 2,0       | 2,5       | 3,0       | 3,5       |   |  |  |           |
|                        | 2  | 0,10–0,15 | 0,05–0,15 | 0,05–0,12 | 0,05–0,10 |           |           |   |  |  | 0,05–0,20 |
| 3                      | 0,10–0,17  | 0,05–0,17 | 0,05–0,17 | 0,05–0,15 | 0,05–0,12 |           |           |   |  | 0,10–0,25  |           |
| 4                      | 0,10–0,20  | 0,07–0,20 | 0,07–0,20 | 0,07–0,20 | 0,07–0,17 | 0,07–0,15 |           |   |  | 0,10–0,25  |           |
| 5                      | 0,10–0,25  | 0,10–0,25 | 0,07–0,25 | 0,07–0,25 | 0,07–0,22 | 0,07–0,20 |           |   |  | 0,10–0,30  |           |
| 6                      | 0,15–0,30  | 0,15–0,30 | 0,15–0,30 | 0,15–0,30 | 0,15–0,30 | 0,15–0,25 | 0,15–0,22 |   |  | 0,15–0,35  |           |

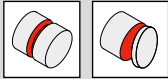

| GX-M40                 |  |           |           |           |           |           |           |   |  |  |            |           |
|------------------------|--|-----------|-----------|-----------|-----------|-----------|-----------|---|--|--|------------|-----------|
| Ancho de corte CW (mm) |  Torneado longitudinal<br>Profundidad de corte $a_p$ (mm)<br>Avance $f$ (mm/rev.) |           |           |           |           |           |           |  Ranurado / tronzado<br>$f$ (mm/rev) |  |  Ranurado axial<br>$f$ (mm/rev) |            |           |
|                        | 0,5  | 1,0       | 1,5       | 2,0       | 2,5       | 3,0       | 3,5       | 4,0   |  |  |            |           |
|                        | 2  | 0,10–0,20 | 0,05–0,20 | 0,05–0,17 | 0,05–0,15 |           |           |   |  |  |            | 0,05–0,15 |
| 3                      | 0,10–0,22  | 0,10–0,22 | 0,10–0,21 | 0,10–0,20 | 0,10–0,17 |           |           |   |  |  | 0,075–0,20 |           |
| 4                      | 0,10–0,25  | 0,10–0,25 | 0,10–0,25 | 0,10–0,25 | 0,10–0,22 | 0,10–0,17 |           |   |  |  | 0,10–0,25  |           |
| 5                      | 0,10–0,30  | 0,10–0,30 | 0,10–0,30 | 0,10–0,30 | 0,10–0,27 | 0,10–0,23 | 0,10–0,20 |   |  |  | 0,10–0,30  |           |
| 6                      | 0,10–0,35  | 0,10–0,35 | 0,10–0,35 | 0,10–0,35 | 0,10–0,32 | 0,10–0,27 | 0,10–0,23 | 0,10–0,20   |  |  | 0,15–0,325 |           |


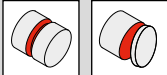
| GX-F2                  |  |           |           |           |           |           |           |   |           |  |  |            |           |
|------------------------|--|-----------|-----------|-----------|-----------|-----------|-----------|---|-----------|--|--|------------|-----------|
| Ancho de corte CW (mm) |  Torneado longitudinal<br>Profundidad de corte $a_p$ (mm)<br>Avance $f$ (mm/rev.) |           |           |           |           |           |           |  Ranurado / tronzado<br>$f$ (mm/rev) |           |  Ranurado axial<br>$f$ (mm/rev) |  |            |           |
|                        | 0,50   | 0,75      | 1,00      | 1,25      | 1,50      | 1,75      | 2,00      | 2,25  | 2,50      |  |  |            |           |
|                        | 2  | 0,03–0,15 | 0,03–0,15 | 0,03–0,15 | 0,03–0,10 |           |           |   |           |  |  |            | 0,05–0,15 |
| 3                      | 0,04–0,17  | 0,04–0,17 | 0,04–0,17 | 0,04–0,15 | 0,04–0,13 | 0,04–0,12 |           |   |           |  |  | 0,075–0,20 |           |
| 4                      | 0,05–0,20  | 0,05–0,20 | 0,05–0,20 | 0,05–0,20 | 0,05–0,20 | 0,05–0,17 | 0,05–0,15 |   |           |  |  | 0,10–0,25  |           |
| 5                      | 0,07–0,20  | 0,07–0,20 | 0,07–0,20 | 0,07–0,20 | 0,07–0,20 | 0,07–0,20 | 0,07–0,17 | 0,07–0,15   |           |  |  | 0,10–0,30  |           |
| 6                      | 0,10–0,23  | 0,10–0,23 | 0,10–0,23 | 0,10–0,23 | 0,10–0,23 | 0,10–0,23 | 0,10–0,23 | 0,10–0,19   | 0,10–0,15 |  |  | 0,15–0,325 |           |


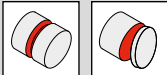
| GX-27P                 |  |           |           |           |           |           |           |   |  |  |  |           |           |
|------------------------|--|-----------|-----------|-----------|-----------|-----------|-----------|---|--|--|--|-----------|-----------|
| Ancho de corte CW (mm) |  Torneado longitudinal<br>Profundidad de corte $a_p$ (mm)<br>Avance $f$ (mm/rev.) |           |           |           |           |           |           |  Ranurado / tronzado<br>$f$ (mm/rev) |  |  Ranurado axial<br>$f$ (mm/rev) |  |           |           |
|                        | 0,5  | 1,0       | 1,5       | 2,0       | 2,5       | 3,0       | 3,5       | 4,0   |  |  |  |           |           |
|                        | 2  | 0,05–0,23 | 0,05–0,23 | 0,05–0,23 | 0,05–0,20 |           |           |   |  |  |  |           | 0,05–0,20 |
| 3                      | 0,05–0,25  | 0,05–0,25 | 0,05–0,25 | 0,05–0,25 | 0,05–0,20 |           |           |   |  |  |  | 0,05–0,25 |           |
| 4                      | 0,10–0,30  | 0,10–0,30 | 0,10–0,30 | 0,10–0,30 | 0,10–0,30 | 0,10–0,25 |           |   |  |  |  | 0,05–0,30 |           |
| 5                      | 0,10–0,35  | 0,10–0,35 | 0,10–0,35 | 0,10–0,35 | 0,10–0,35 | 0,10–0,32 | 0,10–0,30 |   |  |  |  | 0,10–0,35 |           |
| 6                      | 0,10–0,40  | 0,10–0,40 | 0,10–0,40 | 0,10–0,40 | 0,10–0,40 | 0,10–0,36 | 0,10–0,33 | 0,10–0,30   |  |  |  | 0,10–0,40 |           |


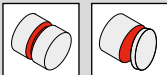


## GX – Profundidades de corte y avances

| GX-M1                  |   | Placas GX circlips  |                     |
|------------------------|---|---|---------------------|
| Ancho de corte CW (mm) |  |  | Ranurado / tronzado |
|                        | Avance f (mm/rev.)  |   |                     |
| 2                      | 0,05–0,15   | 0,60–1,70   | 0,02–0,09           |
| 3                      | 0,10–0,20   | 1,95–2,25   | 0,05–0,10           |
| 4                      | 0,10–0,25   | 2,75–3,25   | 0,05–0,12           |

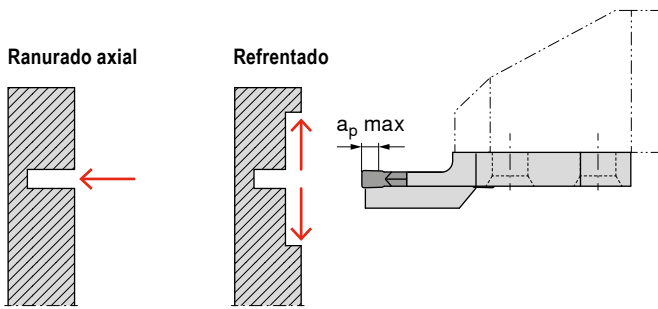
| Estándar GX / GX-27P / GX-27PF |   |           |           |           |           |           |           |           |   |            |
|--------------------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---|------------|
| Radio CRE (mm)                 |  Torneado longitudinal |           |           |           |           |           |           |           |  Ranurado / tronzado |            |
|                                | Profundidad de corte a <sub>p</sub> (mm)  |           |           |           |           |           |           |           |   | f (mm/rev) |
|                                | 0,5   | 1,0       | 1,5       | 2,0       | 2,5       | 3,0       | 3,5       | 4,0       |   |            |
| Avance f (mm/rev.)             |   |           |           |           |           |           |           |           |   |            |
| 0,8                            |   |           |           |           |           |           |           |           |   | 0,05–0,10  |
| 1,0                            |   |           |           |           |           |           |           |           |   | 0,05–0,15  |
| 1,2                            |   |           |           |           |           |           |           |           |   | 0,05–0,15  |
| 1,5                            | 0,10–0,45   | 0,05–0,45 | 0,05–0,40 |           |           |           |           |           |   | 0,05–0,15  |
| 2,0                            | 0,15–0,50   | 0,10–0,50 | 0,10–0,50 | 0,10–0,40 |           |           |           |           |   | 0,075–0,20 |
| 2,5                            | 0,15–0,60   | 0,10–0,60 | 0,10–0,60 | 0,10–0,50 | 0,10–0,45 |           |           |           |   | 0,10–0,25  |
| 3,0                            | 0,25–0,70   | 0,20–0,70 | 0,15–0,70 | 0,15–0,70 | 0,15–0,65 | 0,15–0,60 | 0,15–0,55 |           |   | 0,10–0,30  |
| 4,0                            | 0,25–0,80   | 0,20–0,80 | 0,15–0,80 | 0,15–0,80 | 0,15–0,80 | 0,15–0,80 | 0,15–0,75 | 0,15–0,70 |   | 0,15–0,35  |

| GX-M3              |   |           |           |           |           |           |  |  |   |            |
|--------------------|---|-----------|-----------|-----------|-----------|-----------|--|--|---|------------|
| Radio CRE (mm)     |  Torneado longitudinal |           |           |           |           |           |  |  |  Ranurado / tronzado |            |
|                    | Profundidad de corte a <sub>p</sub> (mm)  |           |           |           |           |           |  |  |   | f (mm/rev) |
|                    | 0,5   | 1,0       | 1,5       | 2,0       | 2,5       | 3,0       |  |  |   |            |
| Avance f (mm/rev.) |   |           |           |           |           |           |  |  |   |            |
| 1,5                | 0,15–0,35   | 0,15–0,35 | 0,15–0,30 |           |           |           |  |  |   | 0,05–0,20  |
| 2,0                | 0,15–0,40   | 0,15–0,40 | 0,15–0,40 | 0,15–0,30 |           |           |  |  |   | 0,10–0,25  |
| 2,5                | 0,15–0,50   | 0,15–0,50 | 0,15–0,50 | 0,15–0,40 | 0,15–0,35 |           |  |  |   | 0,10–0,25  |
| 3,0                | 0,20–0,70   | 0,20–0,70 | 0,20–0,70 | 0,20–0,60 | 0,20–0,50 | 0,20–0,40 |  |  |   | 0,10–0,35  |

| GX-M33             |   |           |           |           |           |           |  |  |   |            |
|--------------------|---|-----------|-----------|-----------|-----------|-----------|--|--|---|------------|
| Radio CRE (mm)     |  Torneado longitudinal |           |           |           |           |           |  |  |  Ranurado / tronzado |            |
|                    | Profundidad de corte a <sub>p</sub> (mm)  |           |           |           |           |           |  |  |   | f (mm/rev) |
|                    | 0,5   | 1,0       | 1,5       | 2,0       | 2,5       | 3,0       |  |  |   |            |
| Avance f (mm/rev.) |   |           |           |           |           |           |  |  |   |            |
| 1,5                | 0,05–0,25   | 0,05–0,20 | 0,05–0,15 |           |           |           |  |  |   | 0,05–0,15  |
| 2,0                | 0,05–0,35   | 0,05–0,30 | 0,05–0,25 | 0,05–0,20 |           |           |  |  |   | 0,05–0,20  |
| 2,5                | 0,10–0,45   | 0,10–0,40 | 0,10–0,35 | 0,10–0,30 | 0,10–0,25 |           |  |  |   | 0,05–0,25  |
| 3,0                | 0,10–0,50   | 0,10–0,45 | 0,10–0,40 | 0,10–0,35 | 0,10–0,30 | 0,10–0,25 |  |  |   | 0,10–0,25  |

# GX 24 – Ranurado axial y refrentado

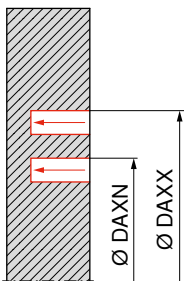
## Valores indicativos de avance



| Designación       | Ranurado axial     | Refrentado |                          |
|-------------------|--------------------|------------|--------------------------|
|                   | Avance f (mm/rev.) | f (mm/rev) | a <sub>p</sub> máx. (mm) |
| GX 24-2 E 3.00 .. | 0,05–0,15          | 0,05–0,20  | 2,5                      |
| GX 24-3 E 4.00 .. | 0,05–0,15          | 0,05–0,25  | 3,0                      |
| GX 24-3 E 5.00 .. | 0,05–0,15          | 0,10–0,25  | 3,0                      |
| GX 24-4 E 6.00 .. | 0,05–0,20          | 0,10–0,30  | 3,5                      |

## Instrucciones de mecanizado

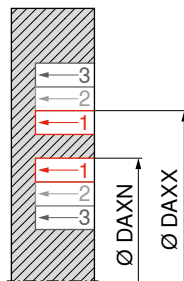
### Ranurado axial



Solo es posible con módulos y portas monoblock axiales dentro de la gama de diámetros determinados. (p. ej. 50 – 70 mm).

**Importante:** ¡La gama de diámetros indicada vale siempre para el diámetro exterior de la ranura!

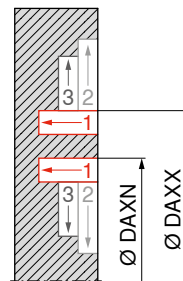
### Ranurado axial – ensanchamiento de la ranura



El ensanchamiento de ranura es factible por encima y por debajo de la gama de diámetros señalada en el módulo y porta monoblock axiales.

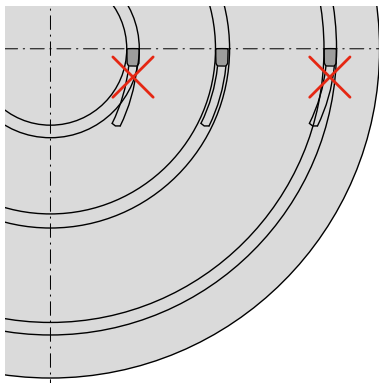
**Importante:** solo la primera ranura debe estar dentro de la gama de diámetros señalada en el módulo y porta monoblock axiales. La profundidad de la ranura de ensanchamiento no debe ser mayor que la de la ranura original.

### Ranurado axial y refrentado




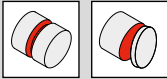
En el refrentado, es factible ensanchar la ranura por encima y por debajo de la gama de diámetros señalada en el módulo y porta monoblock axiales.


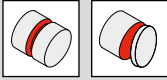
**Importante:** sólo la primera ranura debe estar dentro de la gama de diámetros del módulo indicada.


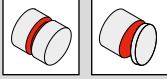


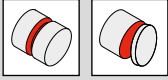
**Atención:** El diámetro de las ranuras a mecanizar debe quedar dentro de la gama de diámetros señalada en el módulo y porta monoblock axiales. De lo contrario la herramienta se puede dañar o destruir.

## SX – Profundidades de corte y avances

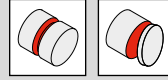
| SX-F2                  |   |           |           |           |           |           |           |   |  |
|------------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|---|--|
| Ancho de corte CW (mm) |  Torneado longitudinal |           |           |           |           |           |           |  Ranurado / tronzado |  |
|                        | Profundidad de corte $a_p$ (mm)   |           |           |           |           |           |           | f (mm/rev)  |  |
|                        | 0,50  | 0,75      | 1,00      | 1,25      | 1,50      | 1,75      | 2,00      |   |  |
|                        | Avance f (mm/rev.)  |           |           |           |           |           |           |   |  |
| 2                      | 0,03–0,15   | 0,03–0,15 | 0,03–0,15 | 0,03–0,10 |           |           |           | 0,05–0,15   |  |
| 3                      | 0,04–0,17   | 0,04–0,17 | 0,04–0,17 | 0,04–0,15 | 0,04–0,13 | 0,04–0,12 |           | 0,075–0,20  |  |
| 4                      | 0,05–0,20   | 0,05–0,20 | 0,05–0,20 | 0,05–0,20 | 0,05–0,20 | 0,05–0,17 | 0,05–0,15 | 0,10–0,25   |  |

| SX-27P                 |   |           |           |           |           |           |  |   |  |
|------------------------|---|-----------|-----------|-----------|-----------|-----------|--|---|--|
| Ancho de corte CW (mm) |  Torneado longitudinal |           |           |           |           |           |  |  Ranurado / tronzado |  |
|                        | Profundidad de corte $a_p$ (mm)   |           |           |           |           |           |  | f (mm/rev)  |  |
|                        | 0,5   | 1,0       | 1,5       | 2,0       | 2,5       | 3,0       |  |   |  |
|                        | Avance f (mm/rev.)  |           |           |           |           |           |  |   |  |
| 2                      | 0,05–0,23   | 0,05–0,23 | 0,05–0,23 | 0,05–0,20 |           |           |  | 0,05–0,20   |  |
| 3                      | 0,05–0,25   | 0,05–0,25 | 0,05–0,25 | 0,05–0,25 | 0,05–0,20 |           |  | 0,05–0,25   |  |
| 4                      | 0,10–0,30   | 0,10–0,30 | 0,10–0,30 | 0,10–0,30 | 0,10–0,30 | 0,10–0,25 |  | 0,05–0,30   |  |




| SX-M2                  |   |           |           |           |           |           |  |   |  |
|------------------------|---|-----------|-----------|-----------|-----------|-----------|--|---|--|
| Ancho de corte CW (mm) |  Torneado longitudinal |           |           |           |           |           |  |  Ranurado / tronzado |  |
|                        | Profundidad de corte $a_p$ (mm)   |           |           |           |           |           |  | f (mm/rev)  |  |
|                        | 0,5   | 1,0       | 1,5       | 2,0       | 2,5       | 3,0       |  |   |  |
|                        | Avance f (mm/rev.)  |           |           |           |           |           |  |   |  |
| 2                      | 0,05–0,17   | 0,05–0,13 | 0,05–0,10 |           |           |           |  | 0,05–0,15   |  |
| 3                      | 0,07–0,20   | 0,07–0,20 | 0,07–0,18 | 0,07–0,15 |           |           |  | 0,075–0,20  |  |
| 4                      | 0,10–0,25   | 0,10–0,25 | 0,10–0,25 | 0,10–0,22 | 0,10–0,18 |           |  | 0,10–0,25   |  |
| 5                      | 0,12–0,27   | 0,12–0,27 | 0,12–0,27 | 0,12–0,25 | 0,12–0,22 |           |  | 0,10–0,30   |  |
| 6                      | 0,15–0,30   | 0,15–0,30 | 0,15–0,30 | 0,15–0,30 | 0,15–0,25 | 0,15–0,20 |  | 0,15–0,35   |  |




| SX-M1                  |   |
|------------------------|---|
| Ancho de corte CW (mm) |  Ranurado / tronzado |
|                        | f (mm/rev)  |
| 2                      | 0,05–0,15   |
| 3                      | 0,10–0,20   |
| 4                      | 0,10–0,25   |
| 5                      | 0,15–0,30   |
| 6                      | 0,15–0,35   |




| SX-M7                  |   |
|------------------------|---|
| Ancho de corte CW (mm) |  Ranurado / tronzado |
|                        | f (mm/rev)  |
| 2                      | 0,10–0,20   |
| 3                      | 0,10–0,20   |
| 4                      | 0,10–0,20   |
| 5                      | 0,15–0,25   |
| 6                      | 0,15–0,25   |

| SX-M8                  |   |
|------------------------|---|
| Ancho de corte CW (mm) |  Ranurado / tronzado |
|                        | f (mm/rev)  |
| 2                      | 0,05–0,20   |
| 3                      | 0,05–0,20   |
| 4                      | 0,05–0,15   |
| 5                      | 0,05–0,15   |
| 6                      | 0,05–0,15   |

## SX/LX – Profundidades de corte y avances

| SX-M3                |  |           |           |           |           |           |   |  |
|----------------------|--|-----------|-----------|-----------|-----------|-----------|---|--|
| Radio<br>CRE<br>(mm) |  Torneado longitudinal<br>Profundidad de corte $a_p$ (mm) |           |           |           |           |           |   Ranurado / tronzado |  |
|                      | 0,5  | 1,0       | 1,5       | 2,0       | 2,5       | 3,0       | f (mm/rev)  |  |
|                      | Avance f (mm/rev.)   |           |           |           |           |           |   |  |
| 1,5                  | 0,15–0,35  | 0,15–0,35 | 0,15–0,30 |           |           |           | 0,05–0,20   |  |
| 2                    | 0,15–0,40  | 0,15–0,40 | 0,15–0,40 | 0,15–0,30 |           |           | 0,10–0,25   |  |
| 2,5                  | 0,15–0,50  | 0,15–0,50 | 0,15–0,50 | 0,15–0,40 | 0,15–0,35 |           | 0,10–0,25   |  |
| 3                    | 0,20–0,70  | 0,20–0,70 | 0,20–0,70 | 0,20–0,60 | 0,20–0,50 | 0,20–0,40 | 0,10–0,35   |  |

| LX-M2                           |  |           |           |           |           |           |           |           |   |  |
|---------------------------------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---|--|
| Ancho de<br>corte<br>CW<br>(mm) |  Torneado longitudinal<br>Profundidad de corte $a_p$ (mm) |           |           |           |           |           |           |           |   Ranurado / tronzado |  |
|                                 | 0,5  | 1,0       | 1,5       | 2,0       | 2,5       | 3,0       | 3,5       | 4,0       | f (mm/rev)  |  |
|                                 | Avance f (mm/rev.)   |           |           |           |           |           |           |           |   |  |
| 8                               | 0,17–0,45  | 0,17–0,45 | 0,17–0,45 | 0,17–0,45 | 0,17–0,40 | 0,17–0,37 | 0,17–0,35 |           | 0,20–0,50   |  |
| 10                              | 0,20–0,50  | 0,20–0,50 | 0,20–0,50 | 0,20–0,50 | 0,20–0,46 | 0,20–0,42 | 0,20–0,38 | 0,20–0,35 | 0,20–0,50   |  |

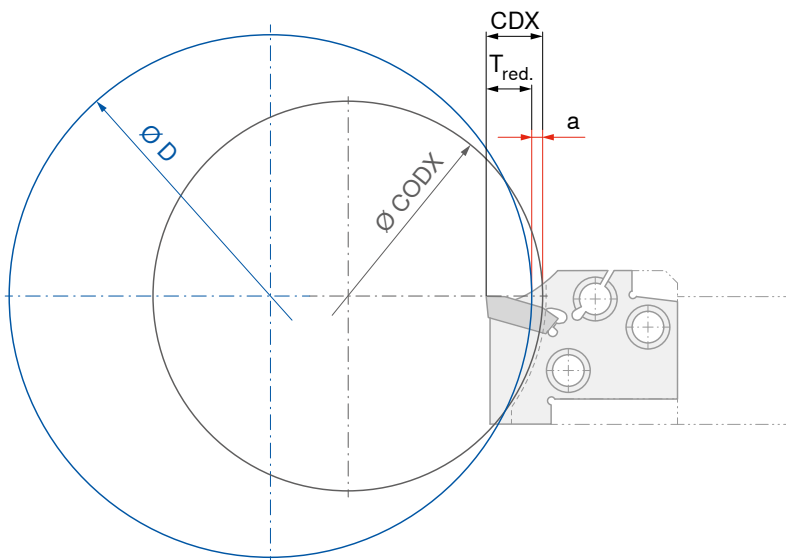
| LX-M3                |  |           |           |           |           |           |           |           |   |  |
|----------------------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---|--|
| Radio<br>CRE<br>(mm) |  Torneado longitudinal<br>Profundidad de corte $a_p$ (mm) |           |           |           |           |           |           |           |   Ranurado / tronzado |  |
|                      | 0,5  | 1,0       | 1,5       | 2,0       | 2,5       | 3,0       | 3,5       | 4,0       | f (mm/rev)  |  |
|                      | Avance f (mm/rev.)   |           |           |           |           |           |           |           |   |  |
| 4                    | 0,25–0,80  | 0,25–0,80 | 0,25–0,80 | 0,25–0,80 | 0,25–0,80 | 0,25–0,70 | 0,25–0,60 | 0,25–0,50 | 0,15–0,35   |  |

## ModularClamp – Reducción de la profundidad de corte

Los módulos de ranurado ModularClamp están adaptados a un diámetro de pieza CODX específico dependiendo del tamaño. Si el diámetro de la pieza de trabajo es mayor que CODX del módulo de ranurado, la profundidad de ranurado alcanzable se reduce en función de la medida "a". Las dimensiones de la reducción se pueden comprobar en la siguiente tabla.

|        |     | Disminución de la profundidad máxima de ranurado (CDX) en mm                                  |     |     |     |     |     |       |     |       |     |       |     |       |     |     |     |       |
|--------|-----|---|-----|-----|-----|-----|-----|-------|-----|-------|-----|-------|-----|-------|-----|-----|-----|-------|
|        |     | 0,5   | 1,0 | 1,5 | 2,0 | 2,5 | 3,0 | 3,5   | 4,0 | 4,5   | 5,0 | 5,5   | 6,0 | 6,5   | 7,0 | 7,5 | 8,0 |       |
| Tamaño | E12 | 35  | 40  | 45  | 60  | 75  | 115 | > 250 |     |       |     |       |     |       |     |     |     |       |
|        | E16 | 50  | 55  | 60  | 70  | 80  | 100 | 130   | 200 | > 420 |     |       |     |       |     |     |     |       |
|        | E20 | 60  | 65  | 70  | 75  | 85  | 95  | 110   | 130 | 165   | 220 | > 330 |     |       |     |     |     |       |
|        | E25 | 75  | 80  | 85  | 90  | 100 | 110 | 125   | 140 | 160   | 190 | 240   | 320 | > 500 |     |     |     |       |
|        | E32 | 95  | 100 | 105 | 110 | 120 | 125 | 135   | 145 | 160   | 180 | 200   | 225 | 270   | 320 | 400 | 530 | > 800 |
|        |     | Diámetro de la pieza D (mm)   |     |     |     |     |     |       |     |       |     |       |     |       |     |     |     |       |
|        |     | Diámetro máximo de la pieza de trabajo (CODX) para profundidad de ranurado máxima (CDX) en mm |     |     |     |     |     |       |     |       |     |       |     |       |     |     |     |       |

### Ejemplo de cálculo:



CDX =  
Profundidad de ranurado máxima (mm)

CODX =  
Ø máx. de pieza de trabajo con profundidad de corte completa (mm)

a =  
Reducción (mm)

$$T_{red.} = CDX - a$$

**E25R21-GX24-3**

CDX = 21 mm, Ø CODX = 75 mm  
Tamaño 25

Diámetro de la pieza de trabajo  
D = Ø 100 mm

$$T_{red.} = CDX - a = 21 - 2 = 19 \text{ mm}$$

## MonoClamp – Reducción de la profundidad de corte

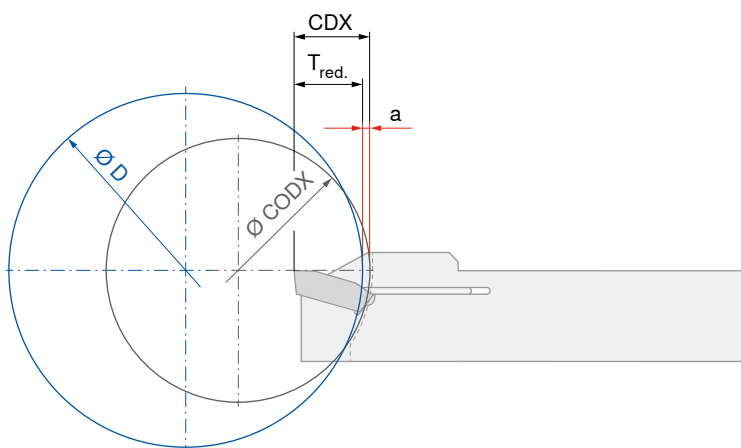
Las herramientas de tronzado MonoClamp se ajustan a un diámetro específico de la pieza de trabajo, que depende del ancho de la ranura y el tamaño del mango. Si el diámetro de la pieza de trabajo es mayor que el CODX del módulo de ranurado, la profundidad del ranurado alcanzable disminuye en la dimensión "a". El valor de esta disminución se puede determinar con la siguiente tabla:

|       |               | Disminución de la profundidad máxima de ranurado (CDX) en mm |     |     |     |     |     |     |       |     |        |
|-------|---------------|--|-----|-----|-----|-----|-----|-----|-------|-----|--------|
|       |               | 0,5  | 1,0 | 1,5 | 2,0 | 2,5 | 3,0 | 3,5 | 4,0   | 4,5 |        |
| Mango | E12R/L0022... | 44   | 70  | 80  | 95  | 115 | 150 | 225 | > 450 |     |        |
|       | E16R/L0026... | 52   | 90  | 105 | 125 | 155 | 210 | 305 | > 600 |     |        |
|       | E20R/L0026... | 52   | 110 | 125 | 140 | 160 | 195 | 240 | 320   | 475 | > 950  |
|       | E20R/L0033... | 66   | 110 | 125 | 140 | 160 | 195 | 240 | 320   | 475 | > 950  |
|       | E25R/L0026... | 52   | 140 | 160 | 190 | 235 | 310 | 465 | > 930 |     |        |
|       | E25R/L0033... | 66   | 155 | 175 | 200 | 230 | 275 | 340 | 450   | 675 | > 1350 |
|       | E25R/L0040... | 80   | 155 | 175 | 200 | 230 | 275 | 340 | 450   | 675 | > 1350 |

Diámetro de la pieza D (mm)

Diámetro máximo de la pieza de trabajo (CODX) para profundidad de ranurado máxima (CDX) en mm

Ejemplo de cálculo:



CDX =  
Profundidad de ranurado máxima (mm)

CODX =  
Ø máx. de pieza de trabajo con profundidad de corte completa (mm)

a =  
Reducción (mm)

$$T_{red.} = CDX - a$$

**E25R0033...**  
CDX = 33 mm, Ø CODX = 66 mm

Diámetro de la pieza de trabajo  
D = Ø 200 mm

$$T_{red.} = CDX - a = 33 - 1,5 = 31,5 \text{ mm}$$

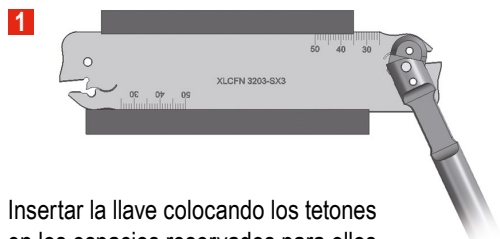
## Funcionamiento del sistema SX

### Funcionamiento del sistema – Poner y quitar las plaquitas de corte

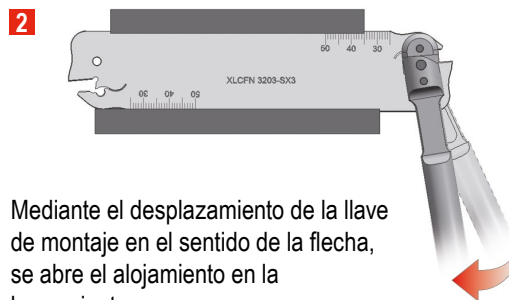
Sistema preciso para colocar y quitar las plaquitas de corte.

La llave ha sido concebida para no sobrecargar al material más allá del llamado "límite elástico".

Desplazar la llave en el sentido de la flecha, hasta sentir el tope.



1 Insertar la llave colocando los tetones en los espacios reservados para ellos, según muestra dibujo.



2 Mediante el desplazamiento de la llave de montaje en el sentido de la flecha, se abre el alojamiento en la herramienta.



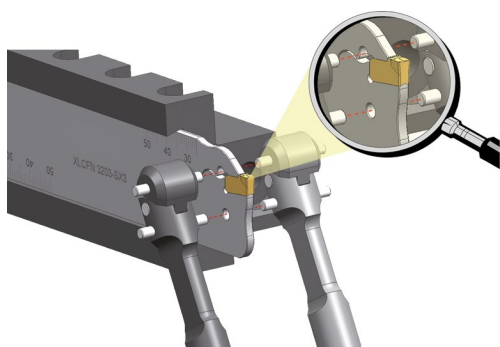
3 Colocar la placa de ranurado y posicionarla apretando.



4 Desplazar la llave de montaje hacia delante. El alojamiento se cierra de nuevo y la placa se fija.



Al cambiar las plaquitas mantener la llave siempre sujeta.



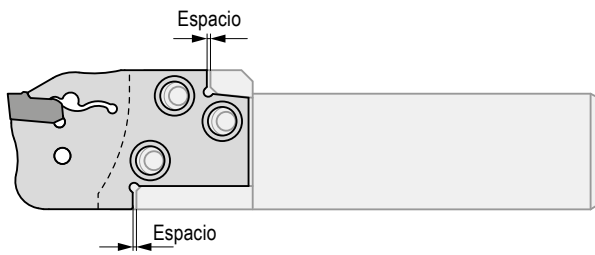
La llave está concebida de tal manera, que se puede acceder a la lama por ambos lados de esta.



Voladizo máximo de las lamas en el torneado longitudinal

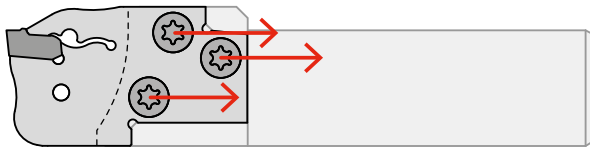
| Punta       | voladizo máx. (mm) |
|-------------|--------------------|
| SX 2 – SX 3 | 25                 |
| SX 4 – SX 5 | 30                 |
| SX 6        | 35                 |

## Función de amarre – Módulo ModularClamp



### Módulo sin amarrar

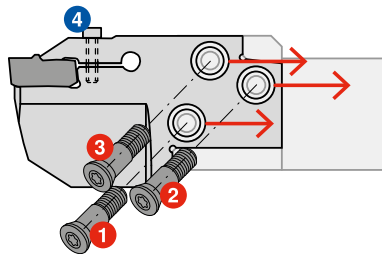
- ▲ Espacio entre el módulo y la superficie de apoyo para sujeción axial



### Módulo amarrado

- ▲ Sujeción axial con superficie de apoyo
- ▲ Unión sin juego, de ahí máxima estabilidad

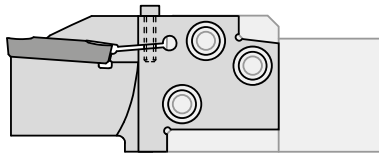
Sistema  
LX



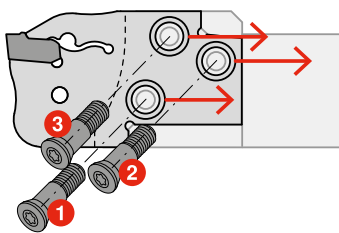
### Sujeción activa de la plaquita

Los tornillos de sujeción 1, 2 y 3 sirven para sujetar el módulo. La plaquita de tronzado y ranurado se sujeta con la pieza elástica del módulo mediante el tornillo adicional 4.

GX 24



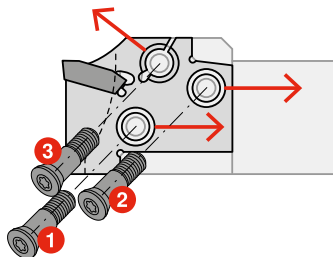
Sistema  
SX



### Autosujeción elástica de la plaquita

Los tornillos de sujeción 1, 2 y 3 sirven para sujetar el módulo. La plaquita tiene autosujeción elástica.

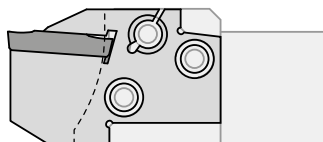
Sistema  
GX 09 / GX 16



### Sujeción activa de la plaquita

Los tornillos de sujeción 1 y 2 sirven para sujetar el módulo. **Importante:** Apretar primero los tornillos 1 y 2. Después sujetar la plaquita con el tornillo 3.

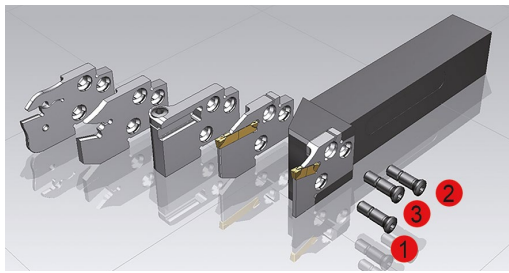
GX 24






## Par de apriete de tornillos para ModularClamp

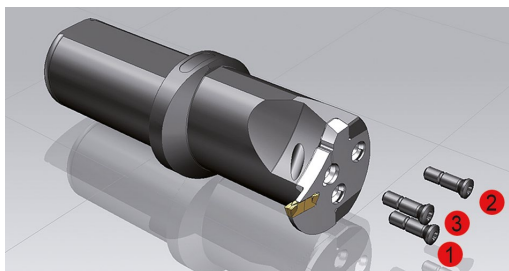
### ModularClamp – Portaherramientas




| ModularClamp – Portaherramientas | Tornillo  | Torx | Par de apriete |        |
|----------------------------------|-----------|------|----------------|--------|
|                                  |           |      | Nm             | in.lbs |
| E12..                            | M2,5x10   | T08  | 1,2            | 10,6   |
| E16..                            | M3,5x12,5 | T15  | 3,2            | 28,3   |
| E20..                            | M4x14     | T15  | 4,0            | 35,4   |
| E25..                            | M5x18     | T20  | 5,0            | 44,3   |
| E32..                            | M6x20     | T25  | 6,0            | 53,1   |

 Prestar atención al orden para pretensar y volver a apretar los tornillos.

### ModularClamp – Porta de torneado interior



| ModularClamp – Porta de torneado interior | Tornillo  | Torx | Par de apriete |        |
|---|-----------|------|----------------|--------|
|   |           |      | Nm             | in.lbs |
| I16..                                     | M2,5x10   | T08  | 1,2            | 10,6   |
| I20..                                     | M3x11     | T10  | 2,0            | 17,7   |
| I25..                                     | M3,5x12,5 | T15  | 3,2            | 28,3   |
| I32..                                     | M4,5x17   | T20  | 4,0            | 35,4   |
| I40..                                     | M5x18     | T20  | 5,0            | 44,3   |

 Prestar atención al orden para pretensar y volver a apretar los tornillos.

### Par de apriete para la sujeción de placas

Par de apriete recomendado

| Sistemas de ranurado | Tornillo | Torx    | Par de apriete |        |
|----------------------|----------|---------|----------------|--------|
|                      |          |         | Nm             | in.lbs |
| GX / AX / LX         | M3,5     | T15     | 3,2            | 28,3   |
|                      | M4,0     | T15/T20 | 4,0            | 35,4   |
|                      | M5,0     | T20     | 5,0            | 44,3   |

## Ventajas de DirectCooling

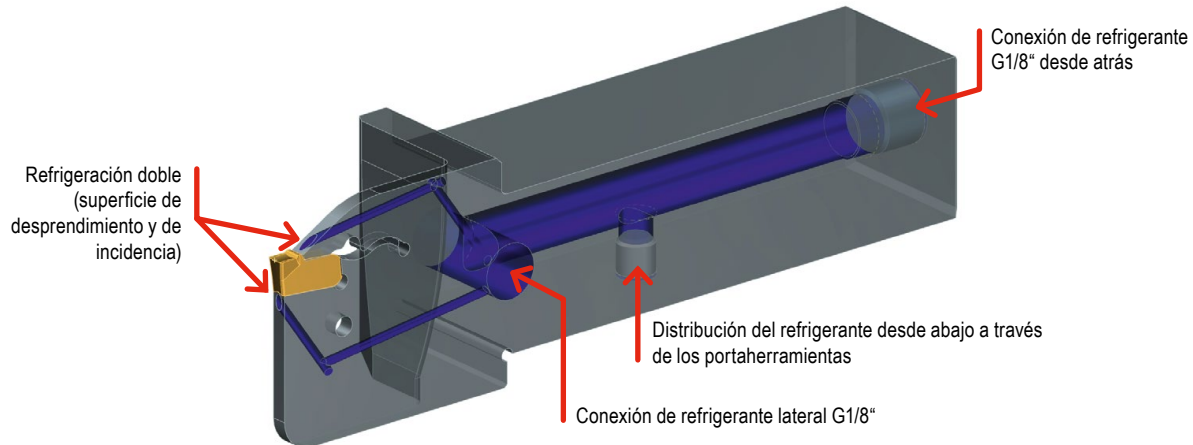
La refrigeración interna durante el ranurado influye considerablemente de forma positiva en el proceso de torneado.

En nuestro programa de tronzado CERATIZIT, los siguientes sistemas de ranurado cuentan con refrigeración interna:

- ▲ SX Porta de tronzado (sistema monobloc)
- ▲ GX Porta de tronzado (sistema monobloc)

### Ventajas de DirectCooling

- ▲ Mejor control de viruta
- ▲ Vida útil prolongada de las plaquitas
- ▲ Más fiabilidad de los procesos
- ▲ Uso de datos de corte más altos



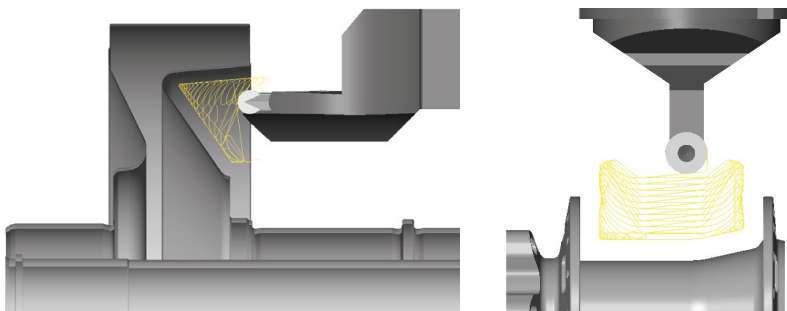
## Ventajas de la estrategia de torneado trocoidal

- ▲ Desgaste reducido y vidas útiles prolongadas gracias a una entrada y salida suaves.
- ▲ Ángulo de contacto reducido = menor vibración.
- ▲ Valores de avance hasta un 40 % superiores.
- ▲ Amplio campo de aplicación en aceros inoxidables austeníticos, aleaciones resistentes al calor, Inconel y aleaciones de base níquel, así como materiales dúctiles de viruta larga.
- ▲ Ahorro de herramientas.

### Torneado trocoidal compatible con los siguientes sistemas CAM:

- ▲ hyperMill – Torneado de alto rendimiento
- ▲ Esprit CAM – ProfitTurning
- ▲ SolidCAM – Torneado
- ▲ EdgeCAM – Torneado waveform
- ▲ MasterCAM – Torneado dinámico

11

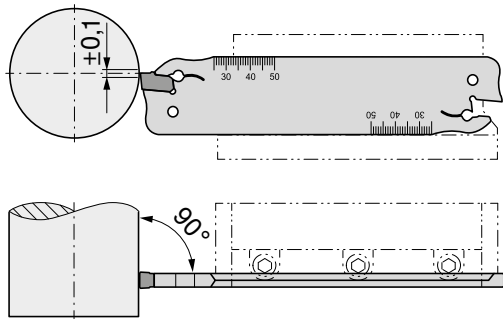


### Posibilidades de aplicación

- ▲ Tronzado y ranurado radial y axial
- ▲ Mecanizado de desbaste – Torneado de alto avance con plaquitas redondas

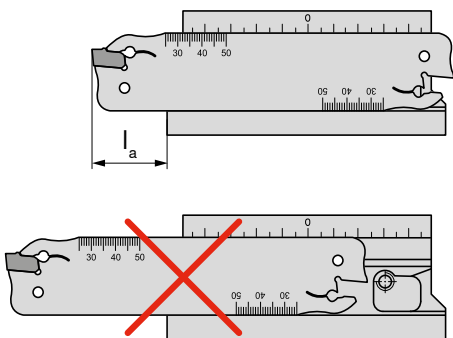
## Notas generales

### Ajuste de la herramienta

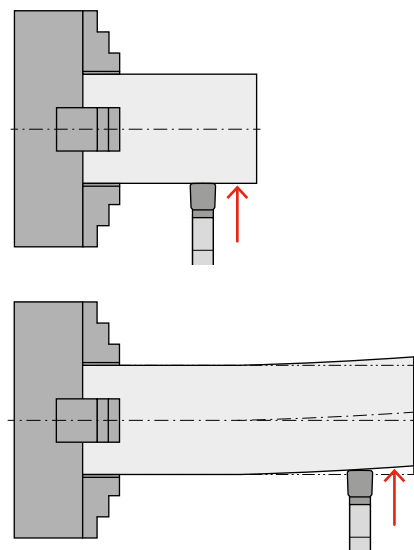


### Voladizo de la herramienta

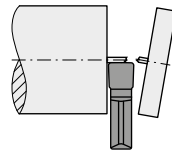
**1** Como regla práctica: el voladizo  $l_a$  no debe ser mayor que  $8 \times CW$  (ancho de corte).



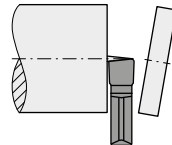
### Voladizo de la pieza



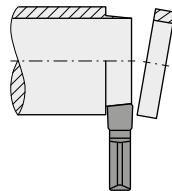
### Nota sobre el tronzado



Reducir aprox. un 50% la velocidad de avance "f" desde  $\varnothing 5$  mm. No tronzar sobre el centro (peligro de rotura).

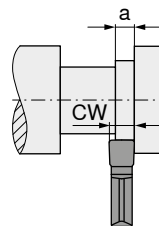


Para un tronzado sin punto, usar placas D o I. Para reducir la desviación lateral, reducir el avance en aprox. 20% – 50%.

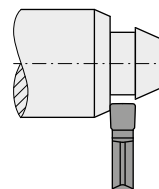


Para evitar la formación de anillos, usar placas D o I. Reducir el avance "f" aprox. 20% – 50% por la desviación lateral.

### Nota sobre el ranurado



Al ranurar con desplazamiento lateral, el ancho "a" debe comprender al menos el 70% del ancho de corte.



Al ranurar en superficies oblicuas, la velocidad de avance en el chafán debe reducirse aprox. un 20% – 50%.

## Medidas en caso de problemas de tronzado FX/SX/GX/LX

| Tipo de problema |                |                                      |                               |             |                                  |                                     |                     |  |   |                                  |                        |
|------------------|----------------|--------------------------------------|-------------------------------|-------------|----------------------------------|-------------------------------------|---------------------|--|---|----------------------------------|------------------------|
| Tipo de desgaste |                |                                      | Problemas en pieza de trabajo |             |                                  |                                     | Control de viruta   |  |   |                                  |                        |
| Rotura de filo   | Filo recrecido | Desgaste en superficie de incidencia | Deformaciones plásticas       | Vibraciones | Formación de marcas y quemaduras | Superficie con huellas de vibración | Calidad superficial | Viruta demasiado larga (viruta rizada) | Viruta demasiado corta (viruta fragmentada) |                                  |                        |
|                  | ↑              | ↓                                    | ↓                             | ↓           |                                  |                                     | ↑                   | ↓                                      |   | Velocidad de corte               | Datos de corte         |
| ↓                |                |                                      | ↓                             | ↑           |                                  | ↓                                   | ↓                   | ↑                                      | ↓   | Avance                           |                        |
| ↓                |                | ↓                                    | ↓                             |             | ↓                                | ↓                                   | ↓                   |  |   | Velocidad de avance en el centro |                        |
| ↑                | ↓              |                                      | ~                             | ~           | ↓                                | ↓                                   | ↓                   | ↓                                      | ↑   | Rompevirutas                     | Selección de plaquitas |
|                  |                |                                      |                               |             | ●                                |                                     |                     |  |   | Versión D / I                    |                        |
| ↑                | ↑              | ↑                                    | ↑                             | ↓           | ↓                                | ↓                                   | ↑                   |  |   | Radio de esquina                 |                        |
| ↓                | ↑              | ↑                                    |                               |             |                                  |                                     |                     |  |   | Material de corte                | Ayuda, Soluciones      |
|                  |                |                                      |                               | ↓           | ↑                                | ↑                                   |                     |  |   | Ancho de corte                   |                        |
| ~                |                |                                      |                               | ~           |                                  | ~                                   | ~                   |  |   | Sujeción de herramienta          |                        |
| ~                |                |                                      |                               | ~           |                                  | ~                                   | ~                   |  |   | Sujeción de pieza de trabajo     | Criterios generales    |
| ~                |                |                                      |                               | ~           |                                  |                                     | ↓                   |  |   | Voladizo                         |                        |
| ~                |                | ~                                    |                               | ~           | ~                                |                                     | ~                   |  |   | Altura de punta                  |                        |
|                  | ●              | ●                                    | ●                             |             | ●                                |                                     | ●                   | ●                                      |   | Lubricante de refrigeración      |                        |

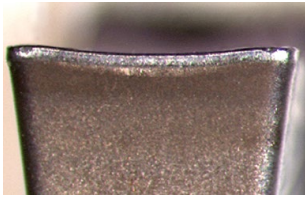
↑ aumentar, agrandar gran influencia  
↑ aumentar, agrandar poca influencia

↓ evitar, disminuir gran influencia  
↓ evitar, disminuir poca influencia

~ controlar, optimizar  
● utilizar

## Causas del desgaste

### Desgaste en superficie de incidencia



Abrasión en la superficie de incidencia, desgaste normal tras cierto tiempo de mecanizado

#### Causa

- ▲ Velocidad de corte demasiado alta
- ▲ Tipo de metal duro con resistencia al desgaste demasiado baja
- ▲ Refrigerante insuficiente

#### Ayuda

- ▲ Disminuir velocidad de corte
- ▲ Seleccionar la calidad de metal duro más resistente al desgaste
- ▲ Mejorar el suministro de refrigerante

### Astillamiento



Un esfuerzo excesivo sobre el filo de corte puede hacer que se desprendan partículas de metal duro.

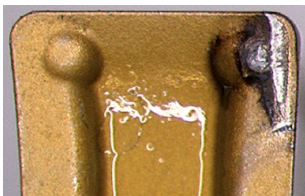
#### Causa

- ▲ Calidad con resistencia al desgaste demasiado alta
- ▲ Vibraciones
- ▲ Profundidad de corte o avance demasiado elevado
- ▲ Daño por viruta

#### Ayuda

- ▲ Usar una calidad más tenaz
- ▲ Usar geometría de filo de corte negativo
- ▲ Reducir el voladizo; comprobar la altura respecto al centro
- ▲ Estabilización de los filos de corte

### Craterización



La viruta caliente causa craterización en la superficie de desprendimiento del filo de corte.

#### Causa

- ▲ Velocidad de corte o velocidad de avance demasiado alta, o ambas
- ▲ Ángulo de desprendimiento demasiado bajo
- ▲ Calidad con resistencia al desgaste demasiado baja
- ▲ Suministro insuficiente de refrigerante

#### Ayuda

- ▲ Disminuir velocidad de corte y/o avance
- ▲ Aumentar cantidad y/o presión del refrigerante; controlar suministro
- ▲ Usar calidad más resistente a la craterización

### Deformaciones plásticas



Una alta temperatura de corte, con esfuerzo mecánico simultáneo puede causar deformación plástica.

#### Causa

- ▲ Temperatura de trabajo demasiado alta que produce reblandecimiento del metal base
- ▲ Calidad no apta
- ▲ Suministro insuficiente de refrigerante

#### Ayuda

- ▲ Disminuir velocidad de corte
- ▲ Seleccionar la calidad de metal duro más resistente al desgaste
- ▲ Proporcionar refrigerante

### Filo recrecido



El material acumulado en el filo de corte (filo recrecido) se produce cuando las virutas no se eliminan correctamente debido a una temperatura de corte demasiado baja.

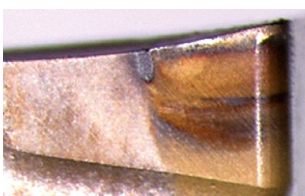
#### Causa

- ▲ Velocidad de corte demasiado baja
- ▲ Ángulo de desprendimiento demasiado pequeño
- ▲ Material de corte incorrecto
- ▲ Falta de refrigeración/lubricación

#### Ayuda

- ▲ Aumentar la velocidad de corte
- ▲ Aumentar el ángulo de desprendimiento
- ▲ Aplicar el recubrimiento de TiN
- ▲ Usar emulsiones con mayor concentración

### Desgaste por entalladura



Contracción en las profundidades de corte máximas.

#### Causa

- ▲ Oxidación en los filos de corte
- ▲ Temperatura demasiado alta en los filos

#### Ayuda

- ▲ Emplear diferentes profundidades de corte
- ▲ Disminuir la velocidad de corte
- ▲ Mejorar el suministro de refrigerante




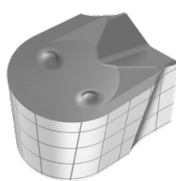
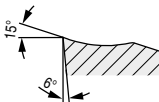
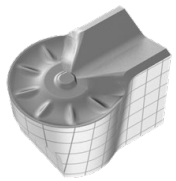
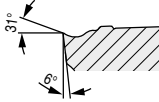
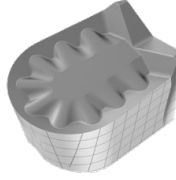
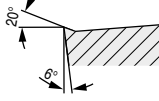
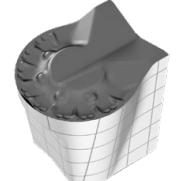
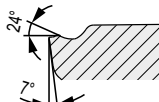
## Rompevirutas / Aplicación




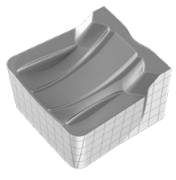
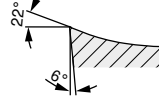
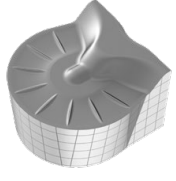
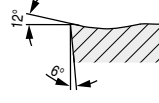
| Sistema GX   |  | Corte continuo | Corte irregular | Corte interrumpido | Modelo | f en mm/rev. |
|--|--|----------------|-----------------|--------------------|--------|--------------|
|  |  |                |                 |                    |        |              |
| <b>-F2</b><br>▲ Geometría muy positiva<br>▲ Filo de corte rectificad<br>▲ Avances bajos<br>▲ Fuerzas de corte bajas<br>▲ La primera opción para aceros inoxidables                           |  | CTCP325        | CTP1340         | CTPP345            |        | 0,05–0,15    |
|  |  | CTP1340        | CTP1340/CTPP345 | CTPP345            |        |              |
|  |  | CTCP325        | CTP1340         |                    |        |              |
|  |  | CTP1340        | CTP1340         | CTPP345            |        |              |
|  |  | CTCP325        |                 |                    |        |              |
|  |  | CTP1340        | CTP1340         |                    |        |              |
| <b>-Estándar / -E</b><br>▲ Geometría positiva<br>▲ Filo de corte rectificad<br>▲ Fuerzas de corte bajas<br>▲ Uso universal<br>▲ La primera opción para el ranurado axial                     |  | CTCP325        | CTCP335/CTP1340 | CTPP345            |        | 0,05–0,17    |
|  |  | CTP1340        | CTP1340/CTPP345 | CTPP345            |        |              |
|  |  | CTCP325        | CTCP335/CTP1340 | CTP1340            |        |              |
|  |  | CTP1340        | CTP1340         | CTPP345            |        |              |
|  |  | CTCP325        |                 |                    |        |              |
|  |  | CTP1340        | CTP1340         |                    |        |              |
| <b>-M40</b><br>▲ Geometría estable<br>▲ Avances medios<br>▲ Uso universal<br>▲ Buen control de viruta  |  | CTCP325        | CTP1340         | CTPP345            |        | 0,075–0,20   |
|  |  | CTP1340        | CTP1340/CTPP345 | CTPP345            |        |              |
|  |  | CTCP325        | CTCP325/CTP1340 | CTP1340            |        |              |
|  |  | CTP1340        | CTP1340         | CTPP345            |        |              |
|  |  | CTCP325        |                 |                    |        |              |
|  |  | CTP1340        | CTP1340         |                    |        |              |
| <b>-M1</b><br>▲ Filo de corte muy estable<br>▲ Avances de medios a altos<br>▲ Para cortes interrumpidos<br>▲ Para materiales de alta resistencia<br>▲ La primera opción para tronzado        |  | CTCP325        | CTP1340         | CTPP345            |        | 0,1–0,20     |
|  |  | CTP1340        | CTP1340/CTPP345 | CTPP345            |        |              |
|  |  | CTCP325        | CTCP325/CTP1340 | CTP1340            |        |              |
|  |  | CTP1340        | CTP1340         | CTPP345            |        |              |
|  |  | CTCP325        |                 |                    |        |              |
|  |  | CTP1340        | CTP1340         |                    |        |              |
| <b>-27P</b><br>▲ Geometría muy positiva<br>▲ Con periferia rectificad<br>▲ Filo de corte afilad<br>▲ Superficie de desprendimiento pulida<br>▲ La primera opción para materiales no férricos |  |                |                 |                    |        | 0,05–0,25    |
|  |  | H216T          | H216T           | H216T              |        |              |
|  |  | H216T          | H216T           | H216T              |        |              |
|  |  | H216T          | H216T           |                    |        |              |
|  |  | H216T          |                 |                    |        |              |
|  |  | H216T          |                 |                    |        |              |

## Ranuras de circlips





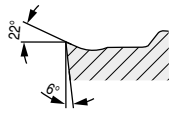

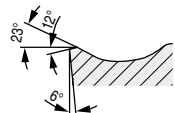

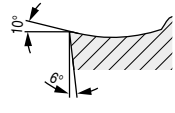
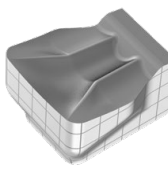
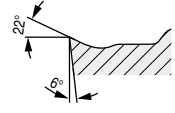
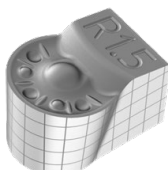
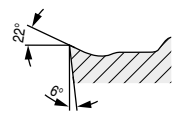
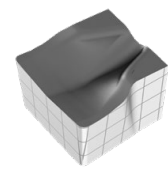
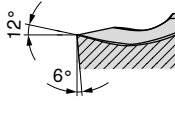
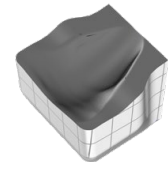
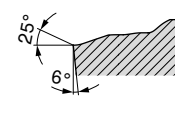
|   |  |         |         |         |  |           |
|---|--|---------|---------|---------|--|-----------|
| <b>Estándar</b><br>▲ Geometría positiva<br>▲ Filo de corte rectificad<br>▲ Avances bajos<br>▲ Radios de esquina pequeños<br>▲ Ranuras de circlips |  | CTP1340 | CTP1340 | CTP1340 |  | 0,05–0,30 |
|   |  | CTP1340 | CTP1340 | CTP1340 |  |           |
|   |  | CTP1340 | CTP1340 | CTP1340 |  |           |
|   |  | CTP1340 | CTP1340 | CTP1340 |  |           |
|   |  | CTP1340 | CTP1340 | CTP1340 |  |           |
|   |  | CTP1340 |         |         |  |           |
|   |  | CTP1340 | CTP1340 |         |  |           |

## Rompevirutas / Aplicación

| Sistema GX  |   | Corte continuo  | Corte irregular   | Corte interrumpido  | Modelo  | f en mm/rev. |
|---|---|---|---|---|---|--------------|
|   |   |  |  |  |   |              |
| <b>Estándar Sistema Radio</b><br>▲ Geometría positiva<br>▲ Filo de corte rectificadado<br>▲ Avances de medios a altos<br>▲ Fuerzas de corte reducidas<br>▲ Ranuras radiales/copiado                               |    | CTCP325   | CTCP325/CTP1340   | CTP1340   |    | 0,05-0,20    |
|   |   | CTP1340   | CTP1340   | CTP1340   |   |              |
|   |   | CTCP325   | CTCP325/CTP1340   | CTP1340   |   |              |
|   |   | CTCP325   |   |   |   |              |
|   |   | CTP1340   | CTP1340   |   |   |              |
|   |   | CTCP325   | CTP1340   |   |   |              |
| <b>-M3 – Radio</b><br>▲ Geometría estable<br>▲ Avances de medios a altos<br>▲ Acabados superficiales excelentes<br>▲ Ranuras radiales/copiado   |    | CTCP325   | CTCP325/CTCP335   | CTCP335   |    | 0,07-0,20    |
|   |   | CTCP335   | CTCP335   |   |   |              |
|   |   | CTCP325   | CTCP325/CTCP335   | CTCP335   |   |              |
|   |   | CTCP325   |   |   |   |              |
|   |   | CTCP325   |   |   |   |              |
|   |   | CTCP325   |   |   |   |              |
| <b>-27P – Radio</b><br>▲ Geometría muy positiva<br>▲ Con periferia rectificadada<br>▲ Filo de corte afilado<br>▲ Superficie de desprendimiento pulida<br>▲ La primera opción para materiales no férricos          |   |   |   |   |    | 0,05-0,30    |
|   |   | H216T   | H216T   | H216T   |   |              |
|   |   | H216T   | H216T   | H216T   |   |              |
|   |   | H216T   | H216T   |   |   |              |
|   |   | H216T   |   |   |   |              |
|   |   | H216T   |   |   |   |              |
| <b>-M33</b><br>▲ Ranurado radial y torneado de copia<br>▲ Geometría para el acabado<br>▲ Especialmente para materiales de acero tenaces y dúctiles<br>▲ Avances bajos - medios<br>▲ Excelente acabado superficial |  | CTCP325   | CTCP325   | CTCP325   |  | 0,05-0,20    |
|   |   | CTCP325   | CTCP325   | CTCP325   |   |              |
|   |   | CTCP325   | CTCP325   | CTCP325   |   |              |
|   |   |   |   |   |   |              |
|   |   |   |   |   |   |              |
|   |   |   |   |   |   |              |

| Sistema LX  |   | Corte continuo  | Corte irregular   | Corte interrumpido  | Modelo  | f en mm/rev. |
|---|---|---|---|---|---|--------------|
|   |   |  |  |  |   |              |
| <b>-M2</b><br>▲ Geometría estable<br>▲ Avances medios<br>▲ Uso universal<br>▲ Buen control de viruta  |  | CTCP325   | CTCP335/CTP1340   | CTCP335   |  | 0,20-0,50    |
|   |   | CTCP335   | CTP1340   | CTP1340   |   |              |
|   |   | CTCP325   | CTCP325   | CTCP335   |   |              |
|   |   | CTCP325   |   |   |   |              |
|   |   | CTP1340   | CTP1340   | CTP1340   |   |              |
|   |   | CTCP325   | CTP1340   |   |   |              |
| <b>-M3 – Radio</b><br>▲ Geometría estable<br>▲ Avances de medios a altos<br>▲ Acabados superficiales excelentes<br>▲ Ranuras radiales/copiado |  | CTCP325   | CTCP335/CTP1340   | CTCP335   |  | 0,15-0,35    |
|   |   | CTCP335   | CTCP335/CTP1340   | CTP1340   |   |              |
|   |   | CTCP325   | CTCP325/CTCP335   | CTCP335   |   |              |
|   |   | CTCP325   |   |   |   |              |
|   |   | CTP1340   | CTP1340   | CTP1340   |   |              |
|   |   | CTCP325   | CTP1340   |   |   |              |

# Rompevirutas / Aplicación

| Sistema SX   |   | Corte continuo  | Corte irregular   | Corte interrumpido  | Modelo  | f en mm/rev. |
|--|---|---|---|---|---|--------------|
|  |   |  |  |  |   |              |
| <p><b>-F2</b></p> <ul style="list-style-type: none"> <li>▲ Geometría muy positiva</li> <li>▲ Filo de corte rectificad</li> <li>▲ Avances bajos</li> <li>▲ Fuerzas de corte bajas</li> <li>▲ La primera opción para aceros inoxidables</li> </ul>                             |    | CTCP325   | CTCP325/CTP1340   | CTPP345   |    | 0,05-0,15    |
|  |   | CTP1340   | CTP1340/CTPP345   | CTPP345   |   |              |
|  |   | CTCP325   | CTCP325/CTP1340   | CTP1340   |   |              |
|  |   | CTP1340   | CTP1340   | CTPP345   |   |              |
|  |   | CTCP325   |   |   |   |              |
|  |   | CTP1340   | CTP1340   |   |   |              |
| <p><b>-M1</b></p> <ul style="list-style-type: none"> <li>▲ Filo de corte muy estable</li> <li>▲ Avances de medios a altos</li> <li>▲ Para cortes interrumpidos</li> <li>▲ Para materiales de alta resistencia</li> <li>▲ La primera opción para tronzado</li> </ul>          |    | CTCP325   | CTCP335/CTP1340   | CTPP345   |    | 0,10-0,20    |
|  |   | CTP1340   | CTP1340   | CTPP345   |   |              |
|  |   | CTCP325   | CTCP325/CTP1340   | CTP1340   |   |              |
|  |   | CTP1340   | CTP1340   | CTPP345   |   |              |
|  |   | CTCP325   |   |   |   |              |
|  |   | CTP1340   | CTP1340   |   |   |              |
| <p><b>-M2</b></p> <ul style="list-style-type: none"> <li>▲ Geometría estable</li> <li>▲ Avances medios</li> <li>▲ Uso universal</li> <li>▲ Buen control de viruta</li> </ul>   |   | CTCP325   | CTCP335/CTP1340   | CTPP345   |    | 0,075-0,20   |
|  |   | CTP1340   | CTP1340   | CTPP345   |   |              |
|  |   | CTCP325   | CTCP325/CTP1340   | CTP1340   |   |              |
|  |   | CTP1340   | CTP1340   | CTPP345   |   |              |
|  |   | CTCP325   |   |   |   |              |
|  |   | CTP1340   | CTP1340   |   |   |              |
| <p><b>-27P</b></p> <ul style="list-style-type: none"> <li>▲ Geometría muy positiva</li> <li>▲ Con periferia rectificada</li> <li>▲ Filo de corte afilado</li> <li>▲ Superficie de desprendimiento pulida</li> <li>▲ La primera opción para materiales no férricos</li> </ul> |  |   |   |   |  | 0,05-0,25    |
|  |   | H216T   | H216T   | H216T   |   |              |
|  |   | H216T   | H216T   | H216T   |   |              |
|  |   | H216T   | H216T   |   |   |              |
|  |   |   |   |   |   |              |
|  |   | H216T   |   |   |   |              |
| <p><b>-M3 - Radio</b></p> <ul style="list-style-type: none"> <li>▲ Geometría estable</li> <li>▲ Avances de medios a altos</li> <li>▲ Acabados superficiales excelentes</li> <li>▲ Ranuras radiales/copiado</li> </ul>  |  | CTCP335   | CTCP335/CTP1340   | CTP1340   |  | 0,05-0,20    |
|  |   | CTP1340   | CTP1340   | CTP1340   |   |              |
|  |   | CTCP335   | CTCP335/CTP1340   | CTP1340   |   |              |
|  |   | CTP1340   | CTP1340   | CTP1340   |   |              |
|  |   | CTP1340   |   |   |   |              |
|  |   | CTP1340   | CTP1340   |   |   |              |
| <p><b>-M7</b></p> <ul style="list-style-type: none"> <li>▲ Ranurado y tronzado</li> <li>▲ Primera opción para aceros</li> <li>▲ Avances medios - altos</li> <li>▲ Buen control de viruta</li> <li>▲ Geometría positiva</li> </ul>  |  | CTP1340   | CTP1340   |   |  | 0,10-0,20    |
|  |   | CTP1340   | CTP1340   |   |   |              |
|  |   | CTP1340   | CTP1340   |   |   |              |
|  |   | CTP1340   | CTP1340   |   |   |              |
|  |   | CTP1340   | CTP1340   |   |   |              |
|  |   | CTP1340   | CTP1340   |   |   |              |
| <p><b>-M8</b></p> <ul style="list-style-type: none"> <li>▲ Ranurado y tronzado</li> <li>▲ Filo de corte rectificad</li> <li>▲ Buen control de viruta</li> <li>▲ Primera opción para aceros inoxidables</li> <li>▲ Avances bajos</li> </ul>                                   |  | CTP1340   | CTP1340   |   |  | 0,03-0,15    |
|  |   | CTP1340   | CTP1340   |   |   |              |
|  |   | CTP1340   | CTP1340   |   |   |              |
|  |   | CTP1340   | CTP1340   |   |   |              |
|  |   | CTP1340   | CTP1340   |   |   |              |
|  |   | CTP1340   | CTP1340   |   |   |              |



## Códigos para herramientas de ranurado y tronzado

### Plaquetas de tronzado y ranurado

| <b>GX</b>                | <b>16</b>                         | <b>2</b>   | <b>E</b>                      | <b>3.00</b>              | <b>N</b>   | <b>0.50</b>                          |
|--------------------------|-----------------------------------|--|-------------------------------|--------------------------|--|--------------------------------------|
| Sistema de ranurado (GX) | Longitud de las plaquetas (16 mm) | Ancho del módulo/portaherramientas o de la superficie de contacto (2 mm) | Forma de la placa, Aplicación | Ancho de corte (3,00 mm) | Asiento de los filos de corte<br>N = neutral<br>L = izquierda<br>R = derecha | Tamaño del radio de esquina (0,5 mm) |

### Módulos

| <b>E</b>                                   | <b>25</b>      | <b>R</b>   | <b>12</b>                              | <b>GX</b>                | <b>16</b>                       | <b>2</b> |
|--|----------------|--|--|--------------------------|---------------------------------|----------|
| Mecanizado<br>E = Exterior<br>I = Interior | Tamaño (25 mm) | Versión del módulo<br>R = derecha<br>L = izquierda | Profundidad de ranurado máxima (12 mm) | Sistema de ranurado (GX) | Tamaño de las plaquetas (16 mm) | Ancho 2  |

### Portas base

| <b>E</b>                                   | <b>25</b>      | <b>R</b>  | <b>00</b>               | <b>2525</b>               | <b>L</b>                         |
|--|----------------|---|-------------------------|---------------------------|----------------------------------|
| Mecanizado<br>E = Exterior<br>I = Interior | Tamaño (25 mm) | Versión del portaherramientas<br>R = derecha<br>L = izquierda | Ángulo de incidencia 0° | Versión de mango 25x25 mm | Longitud del mango L = (ver ISO) |

### Portaherramientas monobloc

| <b>E</b>                                   | <b>25</b>      | <b>R</b>  | <b>00</b>               | <b>13</b>                       | <b>S3</b>                | <b>2525</b>               | <b>X</b>                            | <b>S</b>                       | <b>DC</b>                                      | <b>GX16</b>                        |
|--|----------------|---|-------------------------|---------------------------------|--------------------------|---------------------------|-------------------------------------|--------------------------------|--|------------------------------------|
| Mecanizado<br>E = Exterior<br>I = Interior | Tamaño (25 mm) | Versión del portaherramientas<br>R = derecha<br>L = izquierda | Ángulo de incidencia 0° | Profundidad de ranurado (13 mm) | Ancho de corte (3,00 mm) | Versión de mango 25x25 mm | Longitud del eje<br>X = (mango ISO) | Placa de sujeción<br>S = Llave | Sistema de refrigeración<br>DC = DirectCooling | Sistema de ranurado / ancho (3 mm) |

## » Resumen

Plaquetas de tronzado y ranurado

**GX 16-2 E3.00 N 0.50**

Módulos

**E25 R 12- GX 16-2**

Portas base

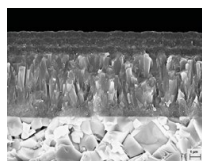
**E25 R 00 - 2525L**

Portaherramientas monobloc

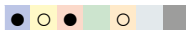
**E25 R 0013S3-2525X-S-DC- GX16**

## Descripción de calidades

### CTCP325



ISO | P25 | M20 | K30 | S25



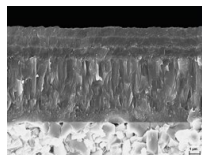
**Especificación:**

Composición: Co 7,0%; Carburos mixtos 8,1%; Resto WC | Tamaño de grano: 1-2 µm | Dureza: HV<sub>30</sub> 1470 | Recubrimiento: CVD TiCN-Al<sub>2</sub>O<sub>3</sub> Multicapa

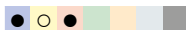
**Uso recomendado:**

La solución resistente al desgaste para acero y fundiciones en el rango de altas velocidades de corte.

### CTCP335



ISO | P35 | M30 | K35



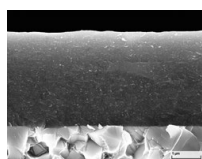
**Especificación:**

Composición: Co 10,5%; Carburos mixtos 1,9%; Resto WC | Tamaño de grano: 1 µm | Dureza: HV<sub>30</sub> 1370 | Recubrimiento: CVD TiCN-Al<sub>2</sub>O<sub>3</sub> Multicapa

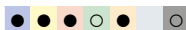
**Uso recomendado:**

La opción fiable para el mecanizado de acero y hierro fundido.

### CTP1340



ISO | P30 | M35 | K30 | N30 | S30 | O30



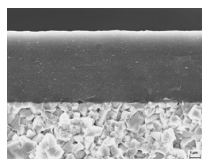
**Especificación:**

Composición: Co 9,0%; Carburos mixtos 0,75%; Resto WC | Tamaño de grano: 0,7-1 µm | Dureza: HV<sub>30</sub> 1590 | Recubrimiento: PVD TiAlTaN

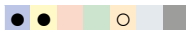
**Uso recomendado:**

La calidad universal de alto rendimiento para aceros, aceros austeníticos, fundiciones y aleaciones resistentes al calor.

### CTPP345



ISO | P45 | M40 | S40



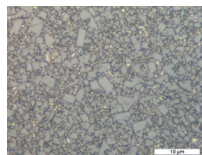
**Especificación:**

Composición: Co 12,5%; Carburos mixtos 2,0%; Resto WC | Tamaño de grano: 1-1,5 µm | Dureza: HV<sub>30</sub> 1350 | Recubrimiento: PVD TiAlTaN

**Uso recomendado:**

La solución fiable para aceros y aceros austeníticos en condiciones inestables.

### H216T



ISO | K15 | N15 | S15 | O10



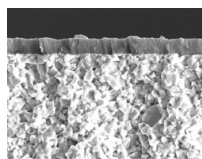
**Especificación:**

Composición: Co 6,0 %; WC resto | Tamaño de grano: 1 µm | Dureza: HV<sub>30</sub> 1630

**Uso recomendado:**

Calidad de metal duro sin recubrir para el mecanizado de aluminio y otros metales no ferrosos.

### CWX500



ISO | P30 | M30 | K35 | N35 | S15 | H05 | O10



**Especificación:**

Composición: Co 10,0%; Otros 0,7 %, WC resto | Tamaño de grano: 1 µm | Dureza: HV<sub>30</sub> 1660

**Aplicación recomendada:**

La calidad de metal duro universal para casi todos los materiales

### Aplicación referida a materiales

