



# BORING BARS BARRES DE MANDRINAR

Clamping systems **A170**  
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Barres de mandrinar amb fixació Dimple Lock

Wedge clamp boring bars / Double lock boring bars **A178-186**  
Barres de mandrinar amb fixació per brida / Barres de mandrinar amb doble fixació

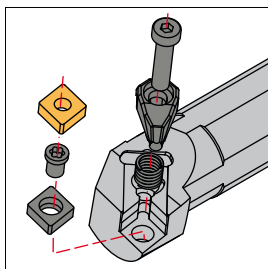
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Barres de mandrinar amb fixació per cargol central

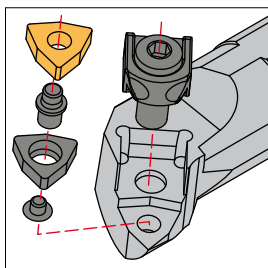
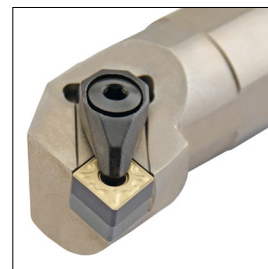
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**(D) Dimple lock**

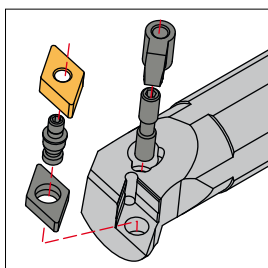
The "D" clamping system avoids insert movement during high feed or heavily interrupted machining, due to its accurate indexing that holds the insert securely clamped.

El sistema de fixació Dimple Lock evita el moviment de la plaqueta en operacions de gran avanç i tall interromput, ja que aquesta robusta fixació manté la plaqueta ben subjecta en tot moment.

**(M) Wedge clamp****(M) Fixació amb brida**

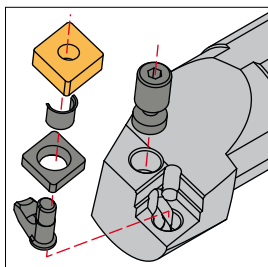
Negative inserts require good clamping force for heavy duty work, for this purpose we have designed our "M" system, one of the strongest and safest available.

Les plaquetes negatives necessiten una bona fixació per als treballs pesats, amb aquesta intenció hem dissenyat el sistema "M", un dels més segurs que existeixen al mercat.

**(M-K) Double lock****(M-K) Fixació doble**

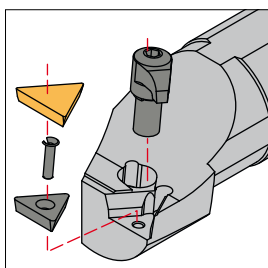
The double lock system offers good rigidity in negative inserts clamping. It is the first choice for center hole negative ceramic and cermet inserts.

El sistema de doble fixació ofereix una bona rigidesa amb plaquetes negatives. És la millor opció per les plaquetes de ceràmica i cermet.

**(P) Lever lock****(P) Fixació per palanca**

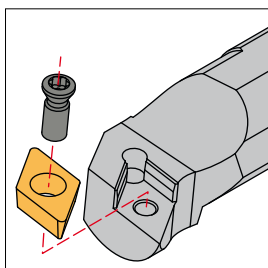
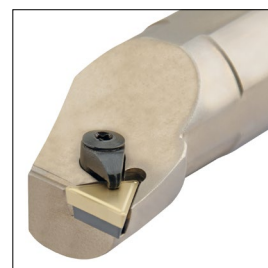
The classic lever lock system allows a wide range of applications. It is the first choice for general purpose turning toolholders.

El sistema clàssic de fixació per palanca permet realitzar un ampli ventall d'operacions. És la millor opció per els portaeines exteriors d'ús general.

**(C) Top clamp****(C) Fixació amb brida superior**

The classic positive insert clamping system is designed to hold flat positive inserts, both with additional or sintered chipbreaker.

Aquest clàssic sistema de fixació està dissenyat per subjectar plaquetes positives, tant si tenen trencaferitges incorporat com addicional.

**(S) Center screw****(S) Fixació per cargol central**

Since the advent of the TORX screw it has been possible to hold with complete safety positive inserts with center hole. Our range covers all the screw fixing permutations.

Des de l'aparició del cargol Torx és possible fixar amb completa seguretat les plaquetes positives amb forat central. La nostra gamma cobreix totes les possibilitats de fixació per cargol.

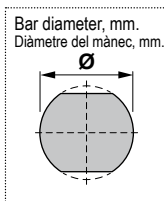


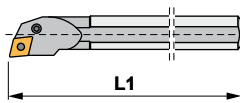
## Code system / Codificació (ISO)

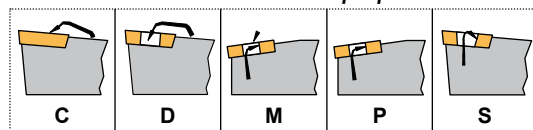
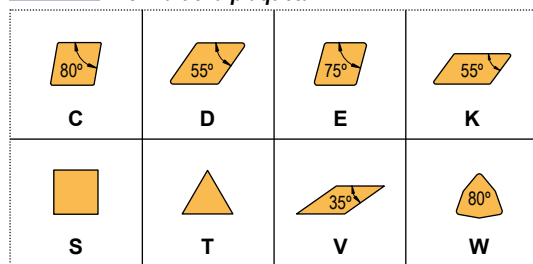
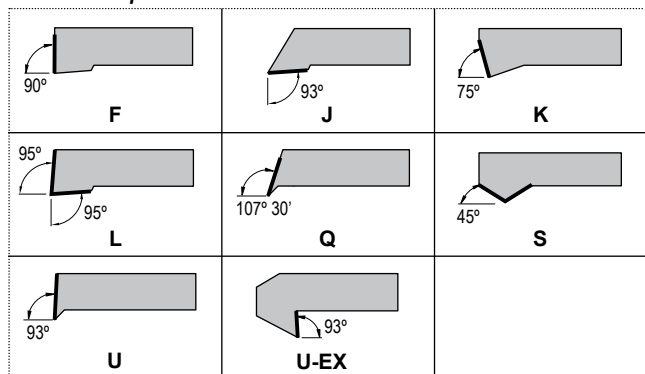
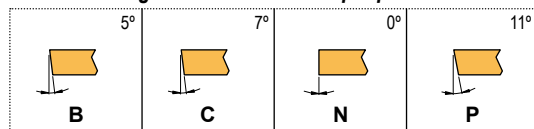
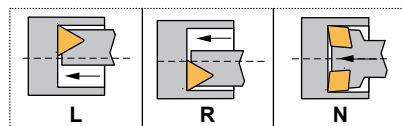
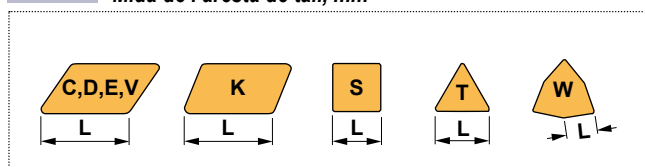
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|----------|-----------|----------|----------|----------|----------|----------|----------|-----------|----------|-----------|
| <b>S</b> | <b>25</b> | <b>T</b> | <b>S</b> | <b>D</b> | <b>U</b> | <b>C</b> | <b>R</b> | <b>11</b> | <b>-</b> | <b>EX</b> |
| <b>1</b> | <b>2</b>  | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b> | <b>9</b>  |          | <b>10</b> |

**1** Type of bar  
Tipus de mànec

|          |                                                                                                                     |                                                                                   |
|----------|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>A</b> | Steel shank with internal coolant.<br>Mànec d'acer amb refrigeració interior.                                       |  |
| <b>E</b> | Anti-vibration shank (carbide) with internal coolant.<br>Mànec antivibratori (metall dur) amb refrigeració interior |  |
| <b>S</b> | Steel shank<br>Mànec d'acer                                                                                         |                                                                                   |

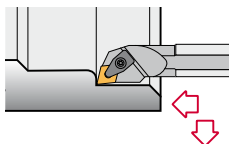
**2****3**Bar length, mm  
Llargada de l'eina, mm

|                                                                                    |              |                           |
|------------------------------------------------------------------------------------|--------------|---------------------------|
|  | <b>H</b> 100 | <b>T</b> 300              |
|                                                                                    | <b>J</b> 110 | <b>U</b> 350              |
|                                                                                    | <b>K</b> 125 | <b>V</b> 400              |
|                                                                                    | <b>L</b> 140 | <b>W</b> 450              |
|                                                                                    | <b>M</b> 150 | <b>Y</b> 600              |
|                                                                                    | <b>Q</b> 180 | <b>X</b> Special Especial |
|                                                                                    | <b>R</b> 200 |                           |
|                                                                                    | <b>S</b> 250 |                           |

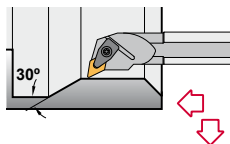
**4**Clamping method of insert  
Sistema de fixació de la plaqueta**5**Insert shape  
Forma de la plaqueta**6**Holder style  
Tipus d'eina**7**Clearance angle of insert  
Angle d'incidència de la plaqueta**8**Hand  
Direcció de tall**9**Cutting edge length, mm  
Mida de l'aresta de tall, mm**10**

Manufacturer's option.  
Variacions del fabricant.

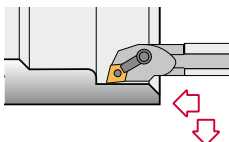
## NEGATIVE BORING BARS / BARRES DE MANDRINAR NEGATIVES

**Dimple lock boring bars**  
**Barres de mandrinar amb fixació Dimple Lock****DCLN 95°-N**

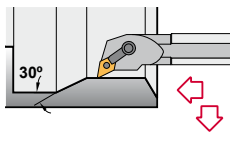
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**DDUN 93°-N**

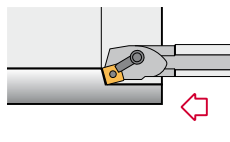
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**Wedge clamp / Double lock boring bars**  
**Barres de mandrinar amb fixació per brida / Barres de mandrinar amb doble fixació****MCLN-K 95°**

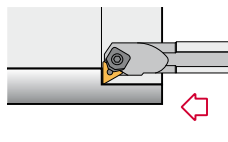
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Pàgina A178

**MDUN-K 93°**

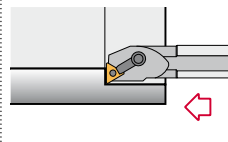
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**MSKN-K 75°**

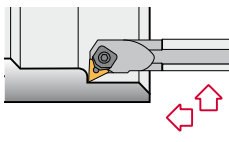
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**MTFN 90°**

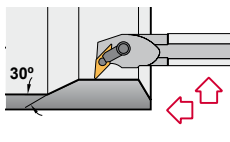
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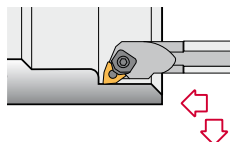
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**MTUN 93°**

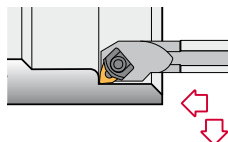
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**MVUN-K 93°**

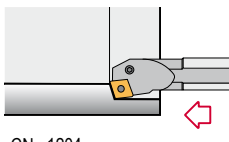
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**MWLN 95°**

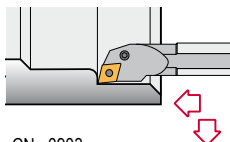
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**MWLN-K 95°**

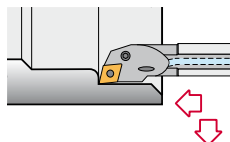
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**Lever lock boring bars**  
**Barres de mandrinar amb fixació per palanca****PCKN 75°**

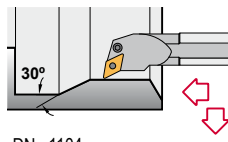
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Page Pàgina A187

**PCLN 95°**

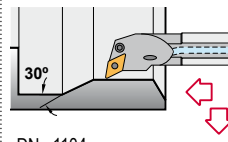
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Page Pàgina A188

**A-PCLN 95°**

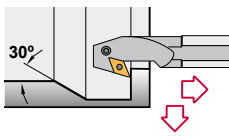
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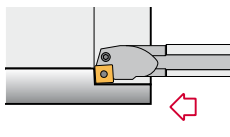
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Page Pàgina A190

**A-PDUN 93°**

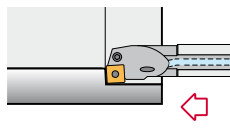
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Page Pàgina A191

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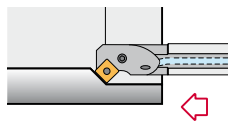
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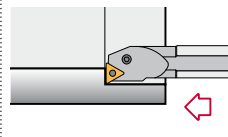
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**A-PSKN 75°**

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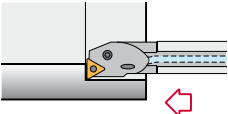
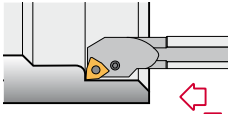
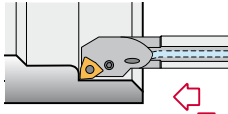
**A-PSSN 45°**

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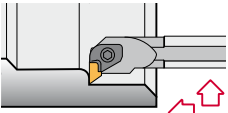
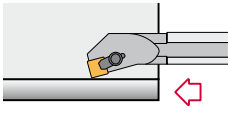
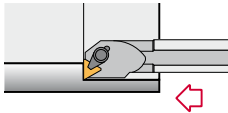
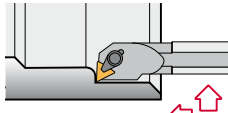
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Pàgina A196 TNM.. 2204..

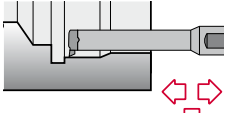
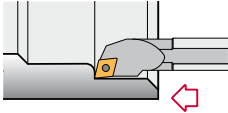
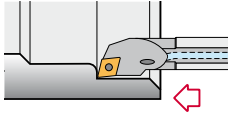
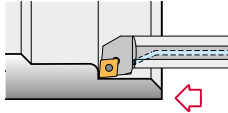
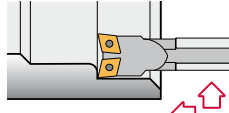
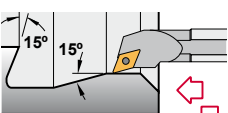
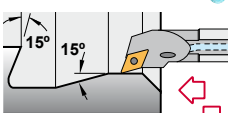
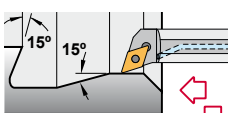
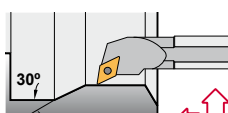
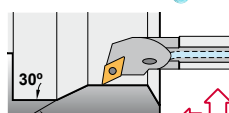
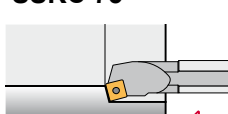
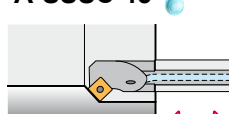
**Lever lock boring bars**  
**Barres de mandrinar amb fixació per palanca**

|                                                                                                                                                         |                                                                                                                                                       |                                                                                                                                                         |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| <b>A-PTFN 90°</b><br><br>Page TNM.. 1604..<br>Pàgina A197 TNM.. 2204.. | <b>PWLN 95°</b><br><br>Page WNM.. 0604..<br>Pàgina A198 WNM.. 0804.. | <b>A-PWLN 95°</b><br><br>Page WNM.. 0604..<br>Pàgina A199 WNM.. 0804.. |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|

**POSITIVE BORING BARS / BARRES DE MANDRINAR POSITIVES****Top clamp boring bars**  
**Barres de mandrinar amb fixació per brida superior**

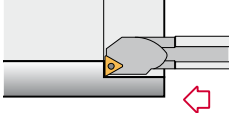
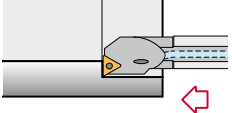
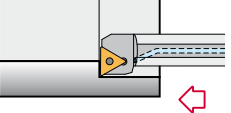
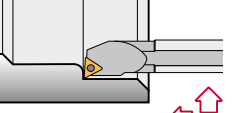
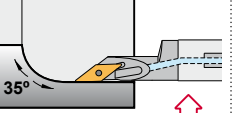
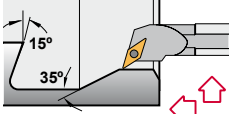
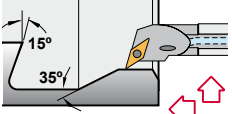
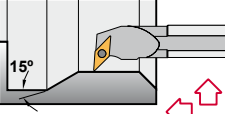
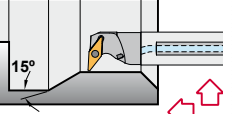
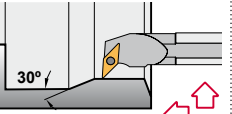
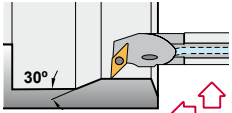
|                                                                                                                                          |                                                                                                                                                                     |                                                                                                                                                      |                                                                                                                                                       |  |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>CKUN 93°</b><br><br>Page KNUX 1604..<br>Pàgina A200 | <b>CSKP 75°</b><br><br>Page SP.. 0903..<br>Pàgina A201 SP.. 1203..<br>SP.. 1904.. | <b>CTFP 90°</b><br><br>Page TP.. 0902..<br>Pàgina A202 TP.. 2204.. | <b>CTUP 93°</b><br><br>Page TP.. 0902..<br>Pàgina A203 TP.. 2204.. |  |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--|

**Center screw boring bars**  
**Barres de mandrinar amb fixació per cargol central**

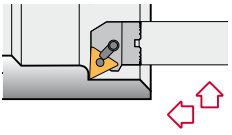
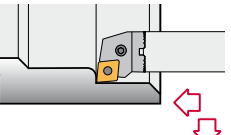
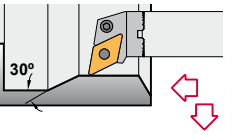
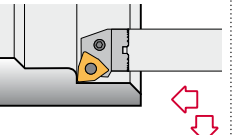
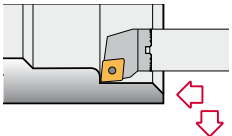
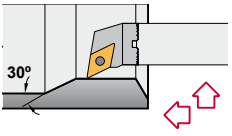
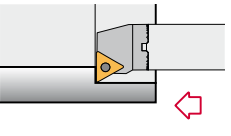
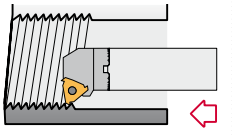
|                                                                                                                                                           |                                                                                                                                                                      |                                                                                                                                                                        |                                                                                                                                                                         |                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>608.00</b><br><br>Page R/LS 08..<br>Pàgina A204 R/LS 16..           | <b>SCLC 95°</b><br><br>Page CC.. 0602..<br>Pàgina A205 CC.. 09T3..<br>CC.. 1204.. | <b>A-SCLC 95°</b><br><br>Page CC.. 0602..<br>Pàgina A206 CC.. 09T3..<br>CC.. 1204.. | <b>E-SCLC 95°</b><br><br>Page CC.. 0301..<br>Pàgina A208 CC.. 09T3..<br>CC.. 1204.. | <b>SCLCN 95°</b><br><br>Page CC.. 0602..<br>Pàgina A210 CC.. 09T3..<br>CC.. 1204.. |
| <b>SDQC 107°30'</b><br><br>Page DC.. 0702..<br>Pàgina A211 DC.. 11T3.. | <b>A-SDQC 107°30'</b><br><br>Page DC.. 0702..<br>Pàgina A212 DC.. 11T3..          | <b>E-SDQC 107°30'</b><br><br>Page DC.. 0702..<br>Pàgina A214 DC.. 11T3..            | <b>SDUC 93°</b><br><br>Page DC.. 0702..<br>Pàgina A215 DC.. 11T3..                  | <b>A-SDUC 93°</b><br><br>Page DC.. 0702..<br>Pàgina A216 DC.. 11T3..               |
| <b>E-SDUC 93°</b><br><br>Page DC.. 0702..<br>Pàgina A218 DC.. 11T3..   | <b>SDUC 93°-EX</b><br><br>Page DC.. 0702..<br>Pàgina A219 DC.. 11T3..             | <b>A-SDUC 93°-EX</b><br><br>Page DC.. 0702..<br>Pàgina A220 DC.. 11T3..             | <b>SSKC 75°</b><br><br>Page SC.. 09T3..<br>Pàgina A221 SC.. 1204..                  | <b>A-SSSC 45°</b><br><br>Page SC.. 09T3..<br>Pàgina A222                           |

## POSITIVE BORING BARS / BARRES DE MANDRINAR POSITIVES

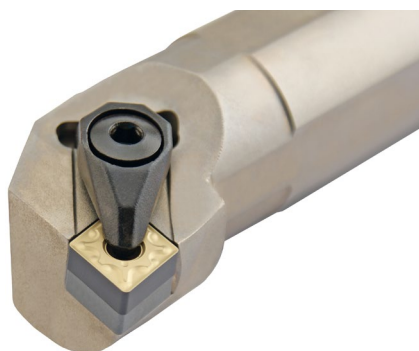
**Center screw boring bars****Barres de mandrinar amb fixació per cargol central**

|                                                                                                                                                                           |                                                                                                                                                                      |                                                                                                                                                       |                                                                                                                                                        |                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STFC 90°</b><br><br>TC.. 0902..<br>Page TC.. 1102..<br>Pàgina A223 TC.. 16T3..        | <b>A-STFC 90°</b><br><br>TC.. 0902..<br>Page TC.. 1102..<br>Pàgina A224 TC.. 16T3.. | <b>E-STFC 90°</b><br><br>Page TC.. 1102..<br>Pàgina A226 TC.. 1102.. | <b>STUC 93°</b><br><br>Page TC.. 1102..<br>Pàgina A227 TC.. 16T3..   | <b>A-SVJC 93°</b><br><br>VC.. 1103..<br>Page VC.. 1604..<br>Pàgina A228 |
| <b>SVQC 107°30'</b><br><br>VC.. 1103..<br>VC.. 1303..<br>VC.. 1604..<br>Page Pàgina A230 | <b>A-SVQC 107°30'</b><br><br>VC.. 1103..<br>VC.. 1604..<br>Page Pàgina A231         | <b>SVUB 93°</b><br><br>Page VC.. 1103..<br>Pàgina A232 VBMT 1604..   | <b>A-SVUB 93°</b><br><br>Page VC.. 1103..<br>Pàgina A233 VBMT 1604.. | <b>SVUC 93°</b><br><br>Page VC.. 1103..<br>Pàgina A234 VC.. 1604..      |
| <b>A-SVUC 93°</b><br><br>VC.. 1103..<br>VC.. 1604..<br>Page Pàgina A235                 |                                                                                                                                                                      |                                                                                                                                                       |                                                                                                                                                        |                                                                                                                                                            |

**Anti-vibration tools****Barres antivibratòries**

|                                                                                                                                                         |                                                                                                                                                           |                                                                                                                                                         |                                                                                                                                                          |                                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>J..</b><br><br>Page<br>Pàgina A238                                | <b>MTUN 93°-N</b><br><br>Page TNM.. 1604..<br>Pàgina A239 TNM.. 2204.. | <b>PCLN 95°-N</b><br><br>Page CN.. 1204..<br>Pàgina A240 CN.. 1606.. | <b>PDUN 93°-N</b><br><br>Page DN.. 1504..<br>Pàgina A241 DN.. 1506.. | <b>PWLN 95°-N</b><br><br>Page WNM.. 0804..<br>Pàgina A242 |
| <b>SCLC 95°-N</b><br><br>Page CC.. 09T3..<br>Pàgina A243 CC.. 1204.. | <b>SDUC 93°-N</b><br><br>Page DC.. 11T3..<br>Pàgina A244               | <b>STFC 90°-N</b><br><br>Page TC.. 16T3..<br>Pàgina A245             | <b>STXN 90°-N</b><br><br>Page 16 NR/L..<br>Pàgina A246 22 NR/L..     | <b>J..-A..</b><br><br>Page<br>Pàgina A247                 |

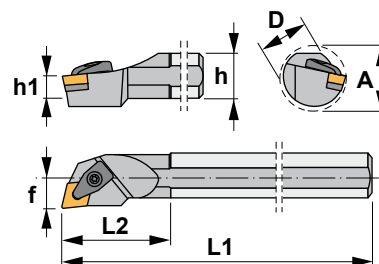


**Characteristics:**

Boring bar for internal turning applications equipped with rhombic negative inserts (angle 80°).

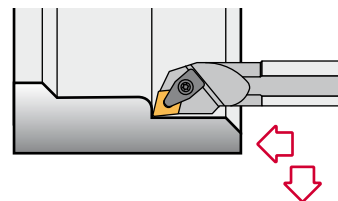
For low powered machines and small pieces choose boring bars Ref. SCLC (Page: A207).

Axial -5°  
Radial -13.5°

**Característiques:**

Barra de mandrinar multifunció equipada amb plaqueta ròmbica negativa (angle 80°).

Per màquines de baixa potència i peces petites, escolliu barres de mandrinar ref. SCLC (Pàgina: A207).



## DCLN 95°-N

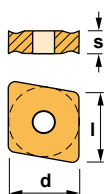
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S25T DCLN R/L 12-N      | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | CN.. 1204..                  | 0,700 |
| S32U DCLN R/L 12-N      | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | CN.. 1204..                  | 2,050 |
| S40V DCLN R/L 12-N      | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | CN.. 1204..                  | 3,750 |
| S40V DCLN R/L 16-N      | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | CN.. 1606..                  | 3,750 |

| Reference<br>Referència |          |      |      |      |      |      | Nm  |
|-------------------------|----------|------|------|------|------|------|-----|
| S25T DCLN R/L 12-N      | ICSN-422 | 1766 | 2712 | 1696 | 4295 | 5004 | 3.5 |
| S32U DCLN R/L 12-N      | ICSN-442 | 1766 | 2712 | 1696 | 4295 | 5004 | 3.5 |
| S40V DCLN R/L 12-N      | ICSN-442 | 1766 | 2712 | 1696 | 4295 | 5004 | 3.5 |
| S40V DCLN R/L 16-N      | ICSN-533 | 1768 | 2716 | 1696 | 4295 | 5004 | 3.5 |

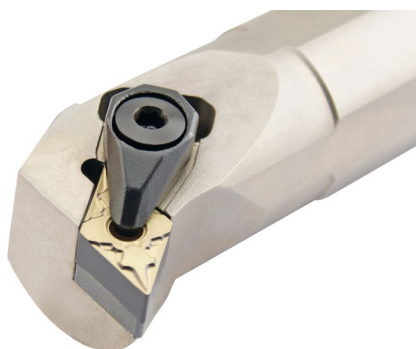
**CN..**

80° rhombic negative inserts. A32-34  
Plaquetes ròmbiques negatives 80°.

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| CN.. 1204..      | 12,90 | 4,76 | 12,70 |
| CN.. 1606..      | 16,10 | 6,35 | 15,88 |


**CNMG-CC CNMG-FC CNMG-FMC CNMG-KC CNMG-MC**

**CNMG-MFC CNMG-MHC CNMG-RC CNMG-TC CNMM**

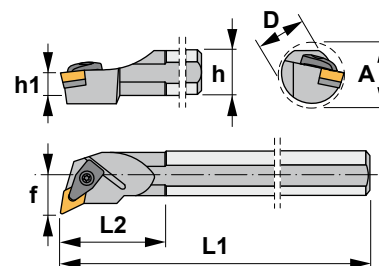



#### Characteristics:

Boring bar for internal turning and profiling applications equipped with rhombic negative inserts (angle 55°).

For low powered machines and small pieces choose boring bars Ref. SDUC (Page: A217).

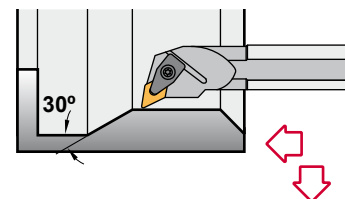
Axial -6°  
Radial -14°



#### Caractéristiques:

Barra de mandrinar per aplicacions de tornejat interior i copiat equipada amb plaqueta ròmbica negativa (angle 55°).

Per màquines de baixa potència i peces petites, escolliu barres de mandrinar ref. SDUC (Pàgina: A217).



## DDUN 93°-N

| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S32U DDUN R/L 15-N      | 32 | 30 | 15,0 | 350 | 45 | 22 | 45 | DN.. 1506..                  | 2,050 |
| S40V DDUN R/L 15-N      | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | DN.. 1506..                  | 3,750 |

| Reference<br>Referència |          |      |      |      |      |      | Nm  |
|-------------------------|----------|------|------|------|------|------|-----|
| S32U DDUN R/L 15-N      | IDSN-422 | 1766 | 2712 | 1696 | 4295 | 5004 | 3.5 |
| S40V DDUN R/L 15-N      | IDSN-432 | 1766 | 2712 | 1696 | 4295 | 5004 | 3.5 |

### DN..

55° rhombic negative inserts.  
Plaquetes ròmbiques negatives 55°. A36-37

Reference / Ref.

l

s

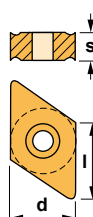
d

DN.. 1506..

15,50

6,35

12,70



DNMA DNMG-FC DNMG-FMC DNMG-KC



DNMG-MC

DNMG-MHC

DNMG-TC

DNMX

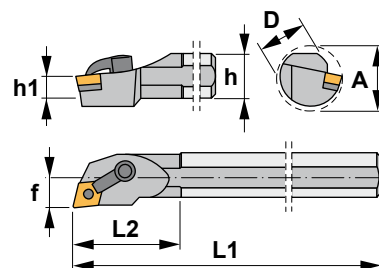


**Characteristics:**

Multipurpose boring bar equipped with rhombic negative double-sided insert (angle 80°).

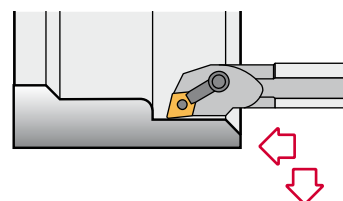
For low powered machines and small pieces choose boring bars Ref. SCLC (Page: A207).

Axial -5°  
Radial -13.5°

**Característiques:**

Barra de mandrinar multifunció equipada amb plaqueta ròmbica negativa de doble cara (angle 80°).

Per màquines de baixa potència i peces petites, escolliu barres de mandrinar ref. SCLC (Pàgina: A207).



## MCLN-K 95°

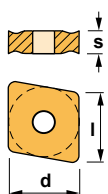
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S25T MCLN R/L 12-K      | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | CN.. 1204..                  | 0,700 |
| S32U MCLN R/L 12-K      | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | CN.. 1204..                  | 2,050 |
| S40V MCLN R/L 12-K      | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | CN.. 1204..                  | 3,750 |

| Reference<br>Referència |      |      |      |          |      |      | Nm  |
|-------------------------|------|------|------|----------|------|------|-----|
| S25T MCLN R/L 12-K      | 2613 | 1186 | 5003 | -        | 1686 | 5025 | 3.0 |
| S32U MCLN R/L 12-K      | 2613 | 1086 | 5003 | ICSN-432 | 1656 | 5025 | 3.0 |
| S40V MCLN R/L 12-K      | 2613 | 1086 | 5003 | ICSN-432 | 1656 | 5025 | 3.0 |

**CN..**

80° rhombic negative inserts.  
Plaquetes ròmbiques negatives 80°. A32-34

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| CN.. 1204..      | 12,90 | 4,76 | 12,70 |


**CNMG-CC CNMG-FC CNMG-FMC CNMG-KC CNMG-MC**

**CNMG-MFC CNMG-MHC CNMG-RC CNMG-TC CNMM**

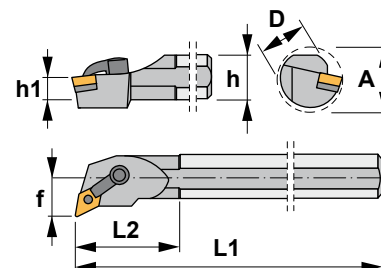



#### Characteristics:

Internal turning and profiling boring bar equipped with rhombic negative double-sided insert (angle 55°).

For low powered machines and small pieces choose boring bars Ref. SDUC (Page: A217).

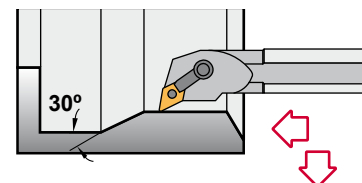
Axial -6°  
Radial -12°



#### Caractéristiques:

Barra de mandrinar per aplicacions de tornejat interior i copiat equipada amb plaqueta ròmbica negativa de doble cara (angle 55°).

Per màquines de poca potència i peces petites, escolliu barres de mandrinar ref. SDUC (Pàgina: A217).



## MDUN-K 93°

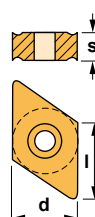
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S25T MDUN R/L 15-K      | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | DN.. 1506..                  | 0,700 |
| S32U MDUN R/L 15-K      | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | DN.. 1506..                  | 2,050 |
| S40V MDUN R/L 15-K      | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | DN.. 1506..                  | 3,750 |

| Reference<br>Referència |      |      |      |          |      |      | Nm  |
|-------------------------|------|------|------|----------|------|------|-----|
| S25T MDUN R/L 15-K      | 2614 | 1186 | 5003 | -        | 1686 | 5025 | 3.0 |
| S32U MDUN R/L 15-K      | 2614 | 1086 | 5003 | IDSN-432 | 1666 | 5025 | 3.0 |
| S40V MDUN R/L 15-K      | 2614 | 1086 | 5003 | IDSN-432 | 1666 | 5025 | 3.0 |

### DN..

55° rhombic negative inserts.  
Plaquetes ròmbiques negatives 55°. A36-37

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| DN.. 1506..      | 15,50 | 6,35 | 12,70 |

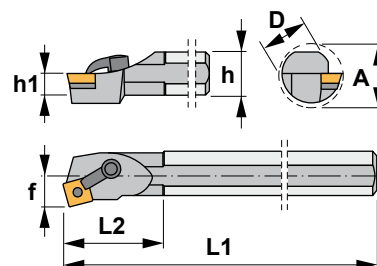


| DNMA    | DNMG-FC  | DNMG-FMC | DNMG-KC |
|---------|----------|----------|---------|
|         |          |          |         |
| DNMG-MC | DNMG-MHC | DNMG-TC  | DNMX    |
|         |          |          |         |

**Characteristics:**

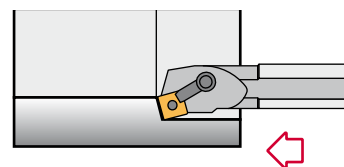
Boring bar for internal turning applications equipped with square negative inserts.  
For low powered machines and small pieces choose boring bars Ref. CSKP (Page: A201) or SSKC (Page: A223).

Axial -3.25°  
Radial -11°

**Característiques:**

Barra de mandrinar equipada amb plaqueta quadrada negativa.

Per màquines de baixa potència i peces petites, escolliu barres de mandrinar ref. CSKP (Pàgina: A201) o SSKC (Pàgina: A223).



## MSKN-K 75°

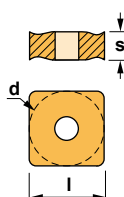
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S32U MSKN R/L 12-K      | 32 | 33 | 15,0 | 350 | 45 | 22 | 39 | SNM.. 1204..                 | 2,050 |
| S40V MSKN R/L 12-K      | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | SNM.. 1204..                 | 3,750 |

| Reference<br>Referència |      |      |      |          |      |      | Nm  |
|-------------------------|------|------|------|----------|------|------|-----|
| S32U MSKN R/L 12-K      | 2613 | 1086 | 5003 | ISSN-432 | 1656 | 5025 | 3.0 |
| S40V MSKN R/L 12-K      | 2613 | 1086 | 5003 | ISSN-432 | 1656 | 5025 | 3.0 |

**SNM..**

Square negative inserts.  
Plaquetes quadrades negatives. A41-42

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| SNM.. 1204..     | 12,70 | 4,76 | 12,70 |

**SNMG-FMC****SNMG-KC****SNMG-MHC****SNMG-RC****SNMG-TC****SNMM**

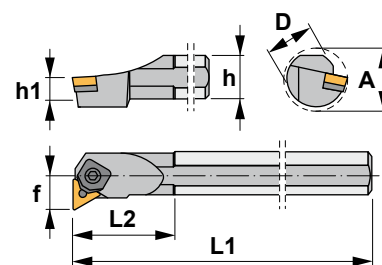


#### Characteristics:

Internal turning and profiling boring bar equipped with triangular negative double-sided insert.

For low powered machines and small pieces choose boring bars Ref. CTFP (Page: A202) or STFC (page: A225).

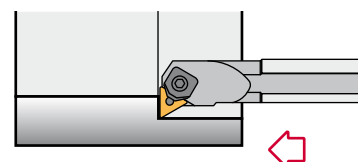
Axial -6°  
Radial -12°



#### Característiques:

Barra de mandrinar per tornejat interior i copiat equipada amb plaqueta triangular negativa de doble cara.

Per màquines de poca potència i peces petites, escolliu barres de mandrinar ref. CTFP (Pàgina: A202) o STFC (Pàgina: A225).



## MTFN 90°

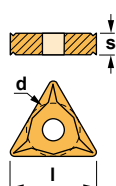
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg     |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|--------|
| S25T MTFN R/L 16        | 25 | 23 | 11,5 | 300 | 40 | 17 | 34 | TNM.. 1604..                 | 0,700  |
| S32U MTFN R/L 16        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | TNM.. 1604..                 | 2,050  |
| S40V MTFN R/L 16        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | TNM.. 1604..                 | 3,750  |
| S50W MTFN R/L 16        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | TNM.. 1604..                 | 6,500  |
| S60Y MTFN R/L 16        | 60 | 57 | 28,5 | 600 | 75 | 43 | 80 | TNM.. 1604..                 | 12,600 |
| S40V MTFN R/L 22        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | TNM.. 2204..                 | 3,750  |
| S50W MTFN R/L 22        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | TNM.. 2204..                 | 6,500  |
| S60Y MTFN R/L 22        | 60 | 57 | 28,5 | 600 | 75 | 43 | 80 | TNM.. 2204..                 | 12,600 |

| Reference<br>Referència |      |      |          |      |      | Nm  |
|-------------------------|------|------|----------|------|------|-----|
| S25T MTFN R/L 16        | 2014 | 5005 | 3414     | 1644 | 1813 | 4.0 |
| S32U MTFN R/L 16        | 2014 | 5005 | 3414     | 1644 | 1393 | 4.0 |
| S40V MTFN R/L 16        | 2014 | 5005 | 3414     | 1644 | 1393 | 4.0 |
| S50W MTFN R/L 16        | 2014 | 5005 | 3414     | 1644 | 1393 | 4.0 |
| S60Y MTFN R/L 16        | 2014 | 5005 | 3414     | 1644 | 1393 | 4.0 |
| S40V MTFN R/L 22        | 2024 | 5005 | ITSN-433 | 1661 | 1394 | 4.0 |
| S50W MTFN R/L 22        | 2024 | 5005 | ITSN-433 | 1661 | 1394 | 4.0 |
| S60Y MTFN R/L 22        | 2024 | 5005 | ITSN-433 | 1661 | 1394 | 4.0 |

### TNM..

Triangular negative inserts.  
Plaquetes triangulars negatives. A45-46

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| TNM.. 1604..     | 16,50 | 4,76 | 9,52  |
| TNM.. 2204..     | 22,00 | 4,76 | 12,70 |



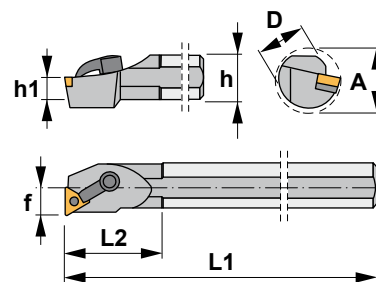
| TNMA    | TNMG-CC  | TNMG-FC  | TNMG-FMC | TNMG-KC  |
|---------|----------|----------|----------|----------|
|         |          |          |          |          |
| TNMG-MC | TNMG-MFC | TNMG-MHC | TNMG-TC  | TNMX-R/L |
|         |          |          |          |          |

**Characteristics:**

Internal turning and profiling boring bar equipped with triangular negative double-sided insert.

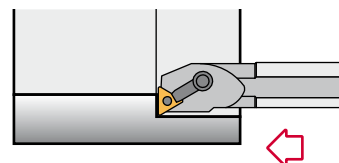
For low powered machines and small pieces choose boring bars Ref. CTFP (Page: A202) or STFC (Page: A225).

Axial -6°  
Radial -11°

**Característiques:**

Barra de mandrinar per tornejat interior i copiat equipada amb plaqueta triangular negativa de doble cara.

Per màquines de poca potència i peces petites, escolliu barres de mandrinar ref. CTFP (Pàgina: A202) o STFC (Pàgina: A225).



## MTFN-K 90°

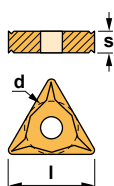
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S25T MTFN R/L 16-K      | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | TNM.. 1604..                 | 0,700 |
| S32U MTFN R/L 16-K      | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | TNM.. 1604..                 | 2,050 |
| S40V MTFN R/L 16-K      | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | TNM.. 1604..                 | 3,750 |

| Reference<br>Referència |      |      |      |          |      |      |  | Nm <sup>1</sup> | Nm <sup>2</sup> |
|-------------------------|------|------|------|----------|------|------|--|-----------------|-----------------|
| S25T MTFN R/L 16-K      | 2613 | 1086 | 5003 | ITSN-322 | 1665 | 5002 |  | 3.0             | 1.4             |
| S32U MTFN R/L 16-K      | 2613 | 1086 | 5003 | ITSN-322 | 1665 | 5002 |  | 3.0             | 1.4             |
| S40V MTFN R/L 16-K      | 2613 | 1086 | 5003 | ITSN-322 | 1665 | 5002 |  | 3.0             | 1.4             |

**TNM..**

Triangular negative inserts.  
Plaquetes triangulars negatives. A45-46

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| TNM.. 1604..     | 16,50 | 4,76 | 9,52  |
| TNM.. 2204..     | 22,00 | 4,76 | 12,70 |



| TNMA    | TNMG-CC  | TNMG-FC  | TNMG-FMC | TNMG-KC  |
|---------|----------|----------|----------|----------|
|         |          |          |          |          |
| TNMG-MC | TNMG-MFC | TNMG-MHC | TNMG-TC  | TNMX-R/L |
|         |          |          |          |          |

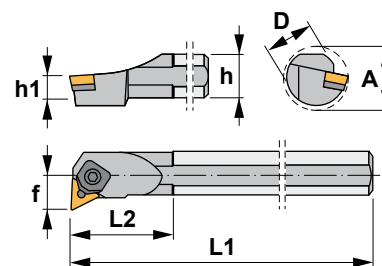


#### Characteristics:

Internal turning and profiling boring bar equipped with triangular negative double-sided insert.

For low powered machines and small pieces choose boring bars Ref. CTUP (Page: A203) or STUC (Page: A229).

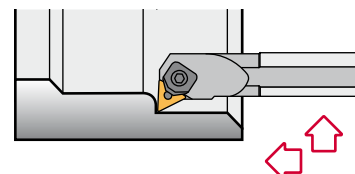
Axial -6°  
Radial -11°



#### Característiques:

Barra de mandrinar per tornejat interior i copiat equipada amb plaqueta triangular negativa de doble cara.

Per màquines de poca potència i peces petites, escolliu barres de mandrinar ref. CTUP (Pàgina: A203) o STUC (Pàgina: A229).



## MTUN 93°

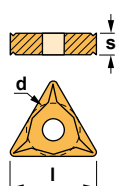
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S25T MTUN R/L 16        | 25 | 23 | 11,5 | 300 | 40 | 17 | 34 | TNM.. 1604..                 | 0,700 |
| S32U MTUN R/L 16        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | TNM.. 1604..                 | 2,050 |
| S40V MTUN R/L 16        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | TNM.. 1604..                 | 3,750 |
| S50W MTUN R/L 16        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | TNM.. 1604..                 | 6,500 |
| S40V MTUN R/L 22        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | TNM.. 2204..                 | 3,750 |
| S50W MTUN R/L 22        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | TNM.. 2204..                 | 6,500 |

| Reference<br>Referència |      |      |          |      |      | Nm  |
|-------------------------|------|------|----------|------|------|-----|
| S25T MTUN R/L 16        | 2014 | 5005 | 3414     | 1644 | 1813 | 4.0 |
| S32U MTUN R/L 16        | 2014 | 5005 | 3414     | 1644 | 1393 | 4.0 |
| S40V MTUN R/L 16        | 2014 | 5005 | 3414     | 1644 | 1393 | 4.0 |
| S50W MTUN R/L 16        | 2014 | 5005 | 3414     | 1644 | 1393 | 4.0 |
| S40V MTUN R/L 22        | 2024 | 5005 | ITSN-433 | 1661 | 1394 | 4.0 |
| S50W MTUN R/L 22        | 2024 | 5005 | ITSN-433 | 1661 | 1394 | 4.0 |

### TNM..

Triangular negative inserts.  
Plaquetes triangulars negatives. **i** A45-46

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| TNM.. 1604..     | 16,50 | 4,76 | 9,52  |
| TNM.. 2204..     | 22,00 | 4,76 | 12,70 |



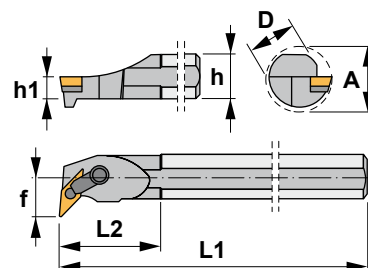
| TNMA    | TNMG-CC  | TNMG-FC  | TNMG-FMC | TNMG-KC  |
|---------|----------|----------|----------|----------|
|         |          |          |          |          |
| TNMG-MC | TNMG-MFC | TNMG-MHC | TNMG-TC  | TNMX-R/L |
|         |          |          |          |          |

**Characteristics:**

Internal turning and profiling boring bar equipped with rhombic negative double-sided insert (angle 35°).

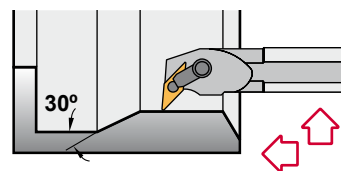
For low powered machines and small pieces choose boring bars Ref. SVUC (Page: A235).

Axial -5°  
Radial -15°

**Característiques:**

Barra de mandrinar per tornejat interior i copiat equipada amb plaqueta ròmbica negativa de doble cara (angle 35°).

Per màquines de poca potència i peces petites, escolliu barres de mandrinar ref. SVUC (Pàgina: A235).



## MVUN-K 93°

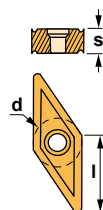
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S25T MVUN R/L 16-K      | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | VN.. 1604..                  | 0,700 |
| S32U MVUN R/L 16-K      | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | VN.. 1604..                  | 2,050 |
| S40V MVUN R/L 16-K      | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | VN.. 1604..                  | 3,750 |

| Reference<br>Referència |      |      |      |          |      |      | Nm <sup>1</sup> | Nm <sup>2</sup> |
|-------------------------|------|------|------|----------|------|------|-----------------|-----------------|
| S25T MVUN R/L 16-K      | 2614 | 1186 | 5003 | IVSN-322 | 1665 | 5002 | 3.0             | 1.4             |
| S32U MVUN R/L 16-K      | 2614 | 1086 | 5003 | IVSN-322 | 1665 | 5002 | 3.0             | 1.4             |
| S40V MVUN R/L 16-K      | 2614 | 1086 | 5003 | IVSN-322 | 1665 | 5002 | 3.0             | 1.4             |

**VN..**

35° rhombic negative inserts.  
Plaquetes ròmbiques negatives 35°. A49

| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| VN.. 1604..      | 16,50 | 4,76 | 9,52 |

**VNGP****VNMG****VNMG-TC**

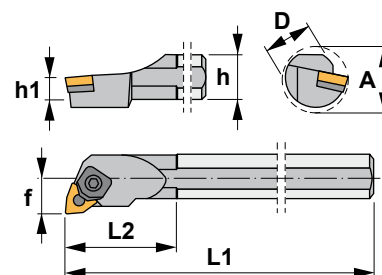


**Characteristics:**

Multipurpose boring bar equipped with trigon negative double-sided insert (angle 80°).

Not suitable for cermet, ceramic or K10, P10 grade inserts.

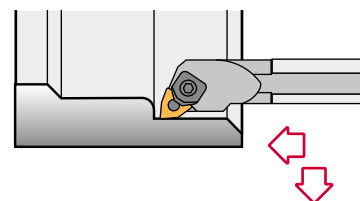
Axial -5°  
Radial -11.5°



**Característiques:**

Barra de mandrinar multifunció equipada amb plaqueta trigona negativa de doble cara (angle 80°).

No és adequada per plaquetes de cermet, de ceràmica o de qualitats K10 i P10.



## MWLN 95°

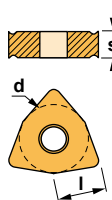
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | ⚖️<br>Kg |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|----------|
| S20S MWLN R/L 06        | 20 | 18 | 9,0  | 250 | 35 | 13 | 27 | WNM.. 0604..                 | 0,550    |
| S25T MWLN R/L 06        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | WNM.. 0604..                 | 0,700    |
| S32U MWLN R/L 06        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | WNM.. 0604..                 | 2,050    |
| S25T MWLN R/L 08        | 25 | 23 | 11,5 | 300 | 40 | 17 | 32 | WNM.. 0804..                 | 0,700    |
| S32U MWLN R/L 08        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | WNM.. 0804..                 | 2,050    |
| S40V MWLN R/L 08        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | WNM.. 0804..                 | 3,750    |
| S50W MWLN R/L 08        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | WNM.. 0804..                 | 6,500    |
| S60Y MWLN R/L 08        | 60 | 57 | 28,5 | 600 | 75 | 43 | 80 | WNM.. 0804..                 | 12,600   |

| Reference<br>Referència |  |  |  |  |  | Nm  |
|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|
| S20S MWLN R/L 06        | 2006                                                                                | 5025                                                                                | -                                                                                   | 1643                                                                                  | 1813                                                                                  | 2.0 |
| S25T MWLN R/L 06        | 2006                                                                                | 5025                                                                                | 3006                                                                                | 1644                                                                                  | 1813                                                                                  | 2.0 |
| S32U MWLN R/L 06        | 2006                                                                                | 5025                                                                                | 3006                                                                                | 1644                                                                                  | 1813                                                                                  | 2.0 |
| S25T MWLN R/L 08        | 2011                                                                                | 5005                                                                                | -                                                                                   | 1647                                                                                  | 1814                                                                                  | 4.0 |
| S32U MWLN R/L 08        | 2011                                                                                | 5005                                                                                | IWSN-433                                                                            | 1661                                                                                  | 1814                                                                                  | 4.0 |
| S40V MWLN R/L 08        | 2011                                                                                | 5005                                                                                | IWSN-433                                                                            | 1661                                                                                  | 1814                                                                                  | 4.0 |
| S50W MWLN R/L 08        | 2011                                                                                | 5005                                                                                | IWSN-433                                                                            | 1661                                                                                  | 1814                                                                                  | 4.0 |
| S60Y MWLN R/L 08        | 2011                                                                                | 5005                                                                                | IWSN-433                                                                            | 1661                                                                                  | 1814                                                                                  | 4.0 |

### WNMG

80° trigon negative inserts.  
Plaquetes trigones negatives 80°. ⓘ A50-51

| Reference / Ref. | l    | s    | d     |
|------------------|------|------|-------|
| WNMG 0604..      | 6,45 | 4,76 | 9,52  |
| WNMG 0804..      | 8,14 | 4,76 | 12,70 |



#### WNMG-FC WNMG-FMC WNMG-KC WNMG-MFC



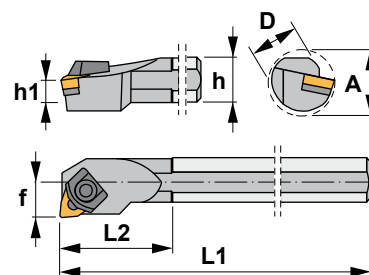
#### WNMG-MC WNMG-MHC WNMG-TC



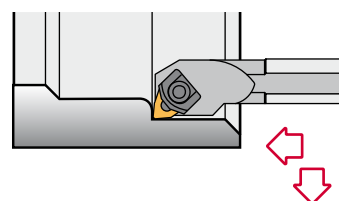
**Characteristics:**

Multipurpose boring bar equipped with trigon negative double-sided insert (angle 80°).  
Especially recommended for cermet, ceramic or K10, P10 grade inserts.

Axial -5°  
Radial -11.5°

**Característiques:**

Barra de mandrinar multifunció equipada amb plaqueta trigona negativa de doble cara (angle 80°).  
Especialment recomanada per plaquetes de cermet, de ceràmica o de qualitats K10 i P10.



## MWLN-K 95°

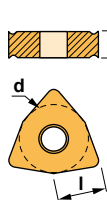
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S25T MWLN R/L 08-K      | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | WNMG 0804..                  | 0,700 |
| S32U MWLN R/L 08-K      | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | WNMG 0804..                  | 2,050 |
| S40V MWLN R/L 08-K      | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | WNMG 0804..                  | 3,750 |
| S50W MWLN R/L 08-K      | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | WNMG 0804..                  | 6,500 |

| Reference<br>Referència |      |          |      |      |      | Nm  |
|-------------------------|------|----------|------|------|------|-----|
| S25T MWLN R/L 08-K      | 2018 | -        | 1647 | 5025 | 1814 | 2.0 |
| S32U MWLN R/L 08-K      | 2018 | IWSN-433 | 1661 | 5025 | 1814 | 2.0 |
| S40V MWLN R/L 08-K      | 2018 | IWSN-433 | 1661 | 5025 | 1814 | 2.0 |
| S50W MWLN R/L 08-K      | 2018 | IWSN-433 | 1661 | 5025 | 1814 | 2.0 |

**WNMG**

80° trigon negative inserts. A50-51  
Plaquetes trigones negatives 80°.

| Reference / Ref. | l    | s    | d     |
|------------------|------|------|-------|
| WNMG 0804..      | 8,14 | 4,76 | 12,70 |

**WNMG-FC****WNMG-FMC****WNMG-KC****WNMG-MFC****WNMG-MC****WNMG-MHC****WNMG-TC**

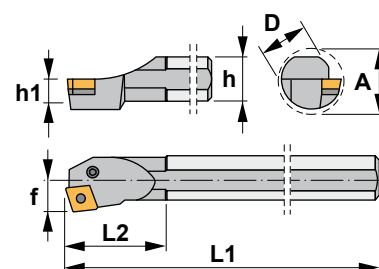


#### Characteristics:

Boring bar for internal turning applications equipped with rhombic negative inserts (angle 80°).

For general applications, roughing, semi-finishing and finishing.

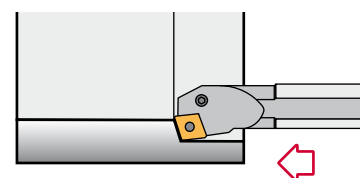
Axial -3°  
Radial -11.5°



#### Característiques:

Barra de mandrinar per aplicacions de tornejat interior provista de plaqueta ròmbica negativa (angle 80°).

Per aplicacions generals, desbast, semiacabat i acabat.



## PCKN 75°

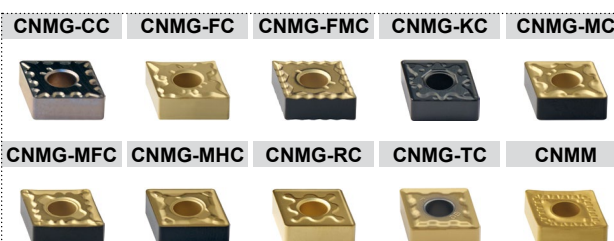
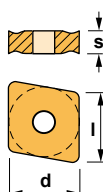
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg     |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|--------|
| S25T PCKN R/L 12        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | CN.. 1204..                  | 0,700  |
| S32U PCKN R/L 12        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | CN.. 1204..                  | 2,050  |
| S40V PCKN R/L 12        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | CN.. 1204..                  | 3,750  |
| S50W PCKN R/L 12        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | CN.. 1204..                  | 6,500  |
| S60Y PCKN R/L 12        | 60 | 57 | 28,5 | 600 | 75 | 43 | 80 | CN.. 1204..                  | 12,600 |
| S40V PCKN R/L 16        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | CN.. 1606..                  | 3,750  |
| S50W PCKN R/L 16        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | CN.. 1606..                  | 6,500  |
| S60Y PCKN R/L 16        | 60 | 57 | 28,5 | 600 | 75 | 43 | 80 | CN.. 1606..                  | 12,600 |
| S50W PCKN R/L 19        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | CN.. 1906..                  | 6,500  |
| S60Y PCKN R/L 19        | 60 | 57 | 28,5 | 600 | 75 | 43 | 80 | CN.. 1906..                  | 12,600 |

| Reference<br>Referència |      |      |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|------|------|-----|
| S25T PCKN R/L 12        | 8212 | 1626 | 5025 | -    | -    | -    | 2.0 |
| S32U PCKN R/L 12        | 8312 | 1648 | 5003 | 3612 | 4112 | 0012 | 3.0 |
| S40V PCKN R/L 12        | 8012 | 1608 | 5003 | 3612 | 4112 | 0012 | 3.0 |
| S50W PCKN R/L 12        | 8012 | 1608 | 5003 | 3612 | 4112 | 0012 | 3.0 |
| S60Y PCKN R/L 12        | 8012 | 1608 | 5003 | 3612 | 4112 | 0012 | 3.0 |
| S40V PCKN R/L 16        | 8016 | 1618 | 5003 | 3616 | 4115 | 0015 | 3.0 |
| S50W PCKN R/L 16        | 8016 | 1618 | 5003 | 3616 | 4115 | 0015 | 3.0 |
| S60Y PCKN R/L 16        | 8016 | 1618 | 5003 | 3616 | 4115 | 0015 | 3.0 |
| S50W PCKN R/L 19        | 8219 | 1610 | 5004 | 3619 | 4119 | 0019 | 3.5 |
| S60Y PCKN R/L 19        | 8219 | 1610 | 5004 | 3619 | 4119 | 0019 | 3.5 |

### CN..

80° rhombic negative inserts.  
Plaquetes ròmbiques negatives 80°. A32-34

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| CN.. 1204..      | 12,90 | 4,76 | 12,70 |
| CN.. 1606..      | 16,10 | 6,35 | 15,88 |
| CN.. 1906..      | 19,30 | 6,35 | 19,05 |

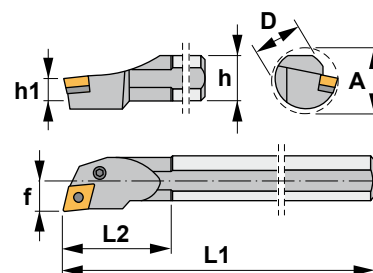


**Characteristics:**

Boring bar for internal turning applications equipped with rhombic negative inserts (angle 80°).

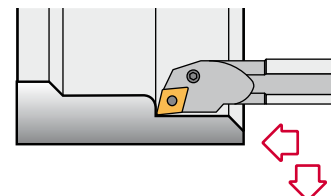
For low powered machines and small pieces choose boring bars Ref. SCLC (Page: A207).

Axial -5°  
Radial -13.5°

**Característiques:**

Barra de mandrinar per aplicacions de tornejat interior equipada amb plaqueta ròmbica negativa (angle 80°).

Per màquines de baixa potència i peces petites, escollíu barres de mandrinar ref. SCLC (Pàgina: A207).



## PCLN 95°

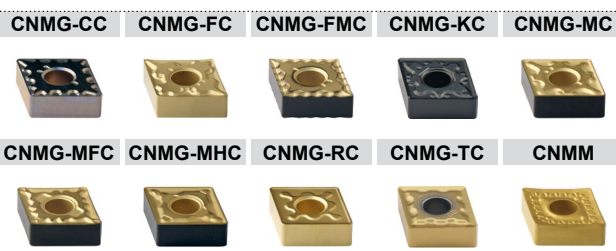
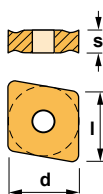
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg     |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|--------|
| S16R PCLN R/L 09        | 16 | 15 | 7,5  | 200 | 30 | 11 | 20 | CN.. 0903..                  | 0,300  |
| S20S PCLN R/L 09        | 20 | 18 | 9,0  | 250 | 35 | 13 | 25 | CN.. 0903..                  | 0,550  |
| S25T PCLN R/L 09        | 25 | 23 | 11,5 | 300 | 40 | 17 | 32 | CN.. 0903..                  | 0,700  |
| S25T PCLN R/L 12        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | CN.. 1204..                  | 0,700  |
| S32U PCLN R/L 12        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | CN.. 1204..                  | 2,050  |
| S40V PCLN R/L 12        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | CN.. 1204..                  | 3,750  |
| S50W PCLN R/L 12        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | CN.. 1204..                  | 6,500  |
| S60Y PCLN R/L 12        | 60 | 57 | 28,5 | 600 | 75 | 43 | 80 | CN.. 1204..                  | 12,600 |
| S40V PCLN R/L 16        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | CN.. 1606..                  | 3,750  |
| S50W PCLN R/L 16        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | CN.. 1606..                  | 6,500  |
| S60Y PCLN R/L 16        | 60 | 57 | 28,5 | 600 | 75 | 43 | 80 | CN.. 1606..                  | 12,600 |
| S50W PCLN R/L 19        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | CN.. 1906..                  | 6,500  |
| S60Y PCLN R/L 19        | 60 | 57 | 28,5 | 600 | 75 | 43 | 80 | CN.. 1906..                  | 12,600 |

| Reference<br>Referència |      |      |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|------|------|-----|
| S16R PCLN R/L 09        | 8005 | 1605 | 5002 | -    | -    | -    | 1.4 |
| S20S PCLN R/L 09        | 8005 | 1605 | 5002 | -    | -    | -    | 1.4 |
| S25T PCLN R/L 09        | 8009 | 1626 | 5025 | 3609 | 4109 | 0009 | 2.0 |
| S25T PCLN R/L 12        | 8212 | 1626 | 5025 | -    | -    | -    | 2.0 |
| S32U PCLN R/L 12        | 8312 | 1648 | 5003 | 3612 | 4112 | 0012 | 3.0 |
| S40V PCLN R/L 12        | 8012 | 1608 | 5003 | 3612 | 4112 | 0012 | 3.0 |
| S50W PCLN R/L 12        | 8012 | 1608 | 5003 | 3612 | 4112 | 0012 | 3.0 |
| S60Y PCLN R/L 12        | 8012 | 1608 | 5003 | 3612 | 4112 | 0012 | 3.0 |
| S40V PCLN R/L 16        | 8016 | 1618 | 5003 | 3616 | 4115 | 0015 | 3.0 |
| S50W PCLN R/L 16        | 8016 | 1618 | 5003 | 3616 | 4115 | 0015 | 3.0 |
| S60Y PCLN R/L 16        | 8016 | 1618 | 5003 | 3616 | 4115 | 0015 | 3.0 |
| S50W PCLN R/L 19        | 8219 | 1610 | 5004 | 3619 | 4129 | 0019 | 3.5 |
| S60Y PCLN R/L 19        | 8219 | 1610 | 5004 | 3619 | 4129 | 0019 | 3.5 |

**CN..**

80° rhombic negative inserts.  
Plaquetes ròmbiques negatives 80°. A32-34

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| CN.. 0903..      | 9,65  | 3,18 | 9,52  |
| CN.. 1204..      | 12,90 | 4,76 | 12,70 |
| CN.. 1606..      | 16,10 | 6,35 | 15,88 |
| CN.. 1906..      | 19,30 | 6,35 | 19,05 |



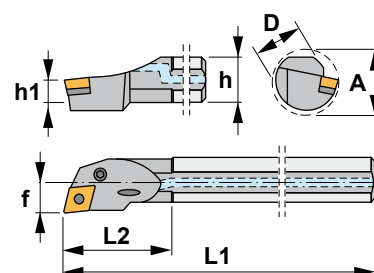


#### Characteristics:

Boring bar for internal turning applications equipped with rhombic negative inserts (angle 80°).

For low powered machines and small pieces choose boring bars Ref. A-SCLC (Page: A208).

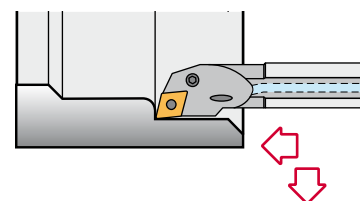
Axial -5°  
Radial -13.5°



#### Característiques:

Barra de mandrinar per aplicacions de tornejat interior equipada amb plaqueta ròmbica negativa (angle 80°).

Per màquines de baixa potència i peces petites, escolliu barres de mandrinar ref. A-SCLC (Pàgina: A208).



## A-PCLN 95°



| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| A16M PCLN R/L 09        | 16 | 15 | 7,5  | 150 | 30 | 11 | 20 | CN.. 0903..                  | 0,200 |
| A20Q PCLN R/L 09        | 20 | 18 | 9,0  | 180 | 35 | 13 | 25 | CN.. 0903..                  | 0,400 |
| A25R PCLN R/L 12        | 25 | 23 | 11,5 | 200 | 40 | 17 | 31 | CN.. 1204..                  | 0,700 |
| A32S PCLN R/L 12        | 32 | 30 | 15,0 | 250 | 45 | 22 | 39 | CN.. 1204..                  | 1,400 |
| A40T PCLN R/L 12        | 40 | 37 | 18,5 | 300 | 50 | 27 | 48 | CN.. 1204..                  | 2,650 |

| Reference<br>Referència |      |      |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|------|------|-----|
| A16M PCLN R/L 09        | 8005 | 1605 | 5002 | -    | -    | -    | 1.4 |
| A20Q PCLN R/L 09        | 8005 | 1605 | 5002 | -    | -    | -    | 1.4 |
| A25R PCLN R/L 12        | 8212 | 1626 | 5025 | -    | -    | -    | 2.0 |
| A32S PCLN R/L 12        | 8312 | 1648 | 5003 | 3612 | 4112 | 0012 | 3.0 |
| A40T PCLN R/L 12        | 8012 | 1608 | 5003 | 3612 | 4112 | 0012 | 3.0 |

CN..

80° rhombic negative inserts.  
Plaquetes ròmbiques negatives 80°. A32-34

Reference / Ref.

l

s

d

CN.. 0903..

9,65

3,18

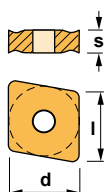
9,52

CN.. 1204..

12,90

4,76

12,70



CNMG-CC

CNMG-FC

CNMG-FMC

CNMG-KC

CNMG-MC



CNMG-MFC

CNMG-MHC

CNMG-RC

CNMG-TC

CNMM

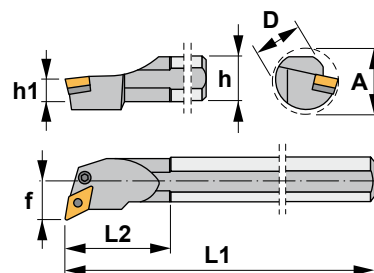


**Characteristics:**

Boring bar for internal turning and profiling applications equipped with rhombic negative inserts (angle 55°).

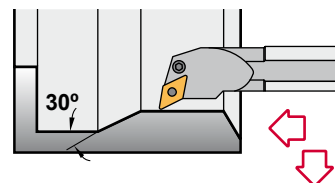
For low powered machines and small pieces choose boring bars Ref. SDUC (Page: A217).

Axial -6°  
Radial -14°

**Característiques:**

Barra de mandrinar per aplicacions de tornejat interior i copiat equipada amb plaqueta ròmbica negativa (angle 55°).

Per màquines de baixa potència i peces petites, escolliu barres de mandrinar ref. SDUC (Pàgina: A217).



## PDUN 93°

| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg     |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|--------|
| S20S PDUN R/L 11        | 20 | 18 | 9,0  | 250 | 35 | 13 | 25 | DN.. 1104..                  | 0,550  |
| S25T PDUN R/L 11        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | DN.. 1104..                  | 0,700  |
| S32U PDUN R/L 11        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | DN.. 1104..                  | 2,050  |
| S32U PDUN R/L 15        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | DN.. 1506..                  | 2,050  |
| S40V PDUN R/L 15        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | DN.. 1506..                  | 3,750  |
| S50W PDUN R/L 15        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | DN.. 1506..                  | 6,500  |
| S60Y PDUN R/L 15        | 60 | 57 | 28,5 | 600 | 75 | 43 | 80 | DN.. 1506..                  | 12,600 |

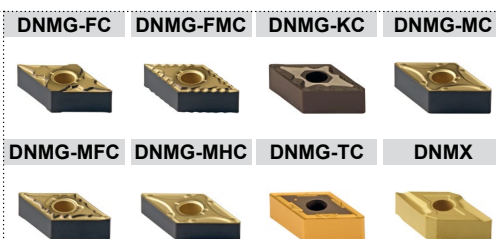
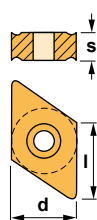
| Reference<br>Referència |      |      |      |      |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|------|------|------|------|-----|
| S20S PDUN R/L 11        | 8216 | 1605 | 5002 | -    | -    | -    | -    | -    | 1.4 |
| S25T PDUN R/L 11        | 8009 | 1606 | 5025 | 3711 | 4109 | 0009 | -    | -    | 2.0 |
| S32U PDUN R/L 11        | 8009 | 1606 | 5025 | 3711 | 4109 | 0009 | -    | -    | 2.0 |
| S32U PDUN R/L 15        | 8415 | 1648 | 5003 | 3715 | 4112 | 0012 | 3725 | 4135 | 3.0 |
| S40V PDUN R/L 15        | 8415 | 1638 | 5003 | 3715 | 4112 | 0012 | 3725 | 4135 | 3.0 |
| S50W PDUN R/L 15        | 8415 | 1638 | 5003 | 3715 | 4112 | 0012 | 3725 | 4135 | 3.0 |
| S60Y PDUN R/L 15        | 8415 | 1638 | 5003 | 3715 | 4112 | 0012 | 3725 | 4135 | 3.0 |

For DNM.. 1504.. inserts  
Per plaquetes DNM.. 1504..

**DN..**

55° rhombic negative inserts.  
Plaquetes ròmbiques negatives 55°. A36-37

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| DN.. 1104..      | 11,60 | 4,76 | 9,52  |
| DN.. 1504..      | 15,50 | 4,76 | 12,70 |
| DN.. 1506..      | 15,50 | 6,35 | 12,70 |



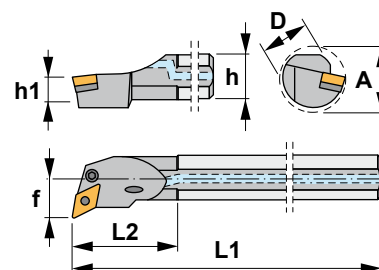


#### Characteristics:

Boring bar for internal turning and profiling applications equipped with rhombic negative inserts (angle 55°).

For low powered machines and small pieces choose boring bars Ref. A-SDUC (Page: A218).

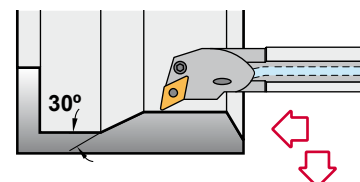
Axial -6°  
Radial -14°



#### Característiques:

Barra de mandrinar per aplicacions de tornejat interior i copiat equipada amb plaqueta ròmbica negativa (angle 55°).

Per màquines de baixa potència i peces petites, escolliu barres de mandrinar ref. A-SDUC (Pàgina: A218).



## A-PDUN 93°

| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| A25R PDUN R/L 11        | 25 | 23 | 11,5 | 200 | 40 | 17 | 31 | DN.. 1104..                  | 0,700 |
| A32S PDUN R/L 15        | 32 | 30 | 15,0 | 250 | 45 | 22 | 39 | DN.. 1506..                  | 1,400 |
| A40T PDUN R/L 15        | 40 | 37 | 18,5 | 300 | 50 | 27 | 48 | DN.. 1506..                  | 2,650 |

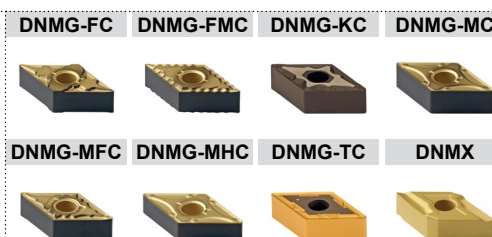
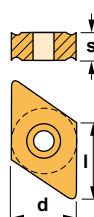
| Reference<br>Referència | 8009 | 1606 | 5025 | 3711 | 4109 | 0009 | 3725 | 4135 | Nm  |
|-------------------------|------|------|------|------|------|------|------|------|-----|
| A25R PDUN R/L 11        | 8009 | 1606 | 5025 | 3711 | 4109 | 0009 | -    | -    | 2.0 |
| A32S PDUN R/L 15        | 8415 | 1648 | 5003 | 3715 | 4112 | 0012 | 3725 | 4135 | 3.0 |
| A40T PDUN R/L 15        | 8415 | 1638 | 5003 | 3715 | 4112 | 0012 | 3725 | 4135 | 3.0 |

For DNM.. 1504.. inserts  
Per plaquetes DNM.. 1504..

### DN..

55° rhombic negative inserts.  
Plaquetes ròmbiques negatives 55°. A36-37

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| DN.. 1104..      | 11,60 | 4,76 | 9,52  |
| DN.. 1504..      | 15,50 | 4,76 | 12,70 |
| DN.. 1506..      | 15,50 | 6,35 | 12,70 |

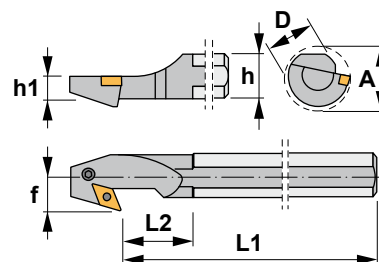


**Characteristics:**

Backwards boring bar for internal turning and profiling applications equipped with rhombic negative inserts (angle 55°).

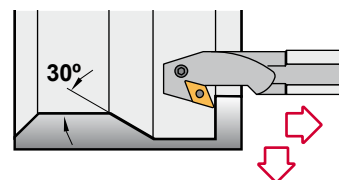
For low powered machines and small pieces choose boring bars Ref. SDUC-EX (Page: A221).

Axial -6°  
Radial -14°

**Característiques:**

Barra de mandrinar en retrocés per aplicacions de tornejat interior, equipada amb plaqueta ròmbica negativa (angle 55°).

Per màquines de baixa potència i peces petites, escolliu barres de mandrinar ref. SDUC-EX (Pàgina: A221).



## PDUN 93°-EX

| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S32U PDUN R/L 15-EX     | 32 | 30 | 15,0 | 350 | 50 | 22 | 39 | DN.. 1506..                  | 2,050 |
| S40V PDUN R/L 15-EX     | 40 | 37 | 18,5 | 400 | 60 | 27 | 48 | DN.. 1506..                  | 3,750 |
| S50W PDUN R/L 15-EX     | 50 | 47 | 23,5 | 450 | 65 | 35 | 61 | DN.. 1506..                  | 6,500 |

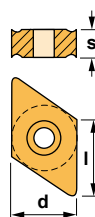
| Reference<br>Referència |      |      |      |      |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|------|------|------|------|-----|
| S32U PDUN R/L 15-EX     | 8415 | 1648 | 5003 | -    | -    | -    | -    | -    | 3.0 |
| S40V PDUN R/L 15-EX     | 8415 | 1638 | 5003 | 3715 | 4112 | 0012 | 3725 | 4135 | 3.0 |
| S50W PDUN R/L 15-EX     | 8415 | 1638 | 5003 | 3715 | 4112 | 0012 | 3725 | 4135 | 3.0 |

For DNM.. 1504.. inserts  
Per plaquetes DNM.. 1504..

**DN..**

55° rhombic negative inserts.  
Plaquetes ròmbiques negatives 55°. A36-37

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| DN.. 1504..      | 15,50 | 4,76 | 12,70 |
| DN.. 1506..      | 15,50 | 6,35 | 12,70 |



| DNMG-FC  | DNMG-FMC | DNMG-KC | DNMG-MC |
|----------|----------|---------|---------|
|          |          |         |         |
| DNMG-MFC | DNMG-MHC | DNMG-TC | DNMX    |
|          |          |         |         |

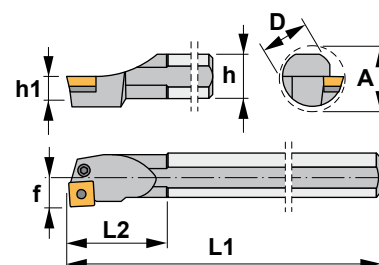


#### Characteristics:

Boring bar for internal turning applications equipped with square negative inserts.

For low powered machines and small pieces choose boring bars Ref. CSKP (Page: A201) or SSKC (Page: A223).

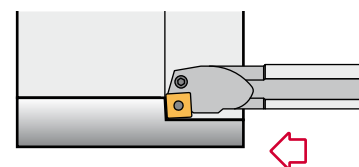
Axial -3°  
Radial -11°



#### Característiques:

Barra de mandrinar per aplicacions de tornejat interior equipada amb plaqueta quadrada negativa.

Per màquines de baixa potència i peces petites, escolliu barres de mandrinar ref. CSKP (Pàgina: A201) o SSKC (Pàgina: A223).



## PSKN 75°

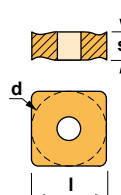
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg     |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|--------|
| S25T PSKN R/L 12        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | SNM.. 1204..                 | 0,700  |
| S32U PSKN R/L 12        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | SNM.. 1204..                 | 2,050  |
| S40V PSKN R/L 12        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | SNM.. 1204..                 | 3,750  |
| S40V PSKN R/L 15        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | SNM.. 1506..                 | 3,750  |
| S50W PSKN R/L 15        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | SNM.. 1506..                 | 6,500  |
| S50W PSKN R/L 19        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | SNM.. 1906..                 | 6,500  |
| S60Y PSKN R/L 19        | 60 | 57 | 28,5 | 600 | 75 | 43 | 80 | SNM.. 1906..                 | 12,600 |

| Reference<br>Referència |      |      |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|------|------|-----|
| S25T PSKN R/L 12        | 8212 | 1626 | 5025 | -    | -    | -    | 2.0 |
| S32U PSKN R/L 12        | 8312 | 1648 | 5003 | 3512 | 4112 | 0012 | 3.0 |
| S40V PSKN R/L 12        | 8012 | 1608 | 5003 | 3512 | 4112 | 0012 | 3.0 |
| S40V PSKN R/L 15        | 8012 | 1608 | 5003 | 3512 | 4112 | 0012 | 3.0 |
| S50W PSKN R/L 15        | 8016 | 1618 | 5003 | 3515 | 4115 | 0015 | 3.0 |
| S50W PSKN R/L 19        | 8219 | 1610 | 5004 | 3519 | 4129 | 0019 | 3.5 |
| S60Y PSKN R/L 19        | 8219 | 1610 | 5004 | 3519 | 4129 | 0019 | 3.5 |

### SNM..

Square negative inserts.  
Plaquetes quadrades negatives. A41-42

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| SNM.. 1204..     | 12,70 | 4,76 | 12,70 |
| SNM.. 1506..     | 15,88 | 6,35 | 15,88 |
| SNM.. 1906..     | 19,05 | 6,35 | 19,05 |



#### SNMG-FMC



#### SNMG-KC



#### SNMG-MHC



#### SNMG-RC



#### SNMG-TC



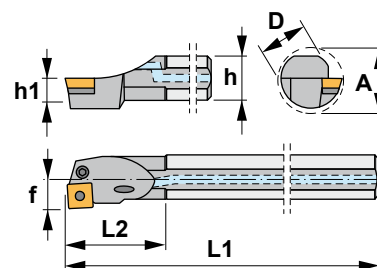
#### SNMM



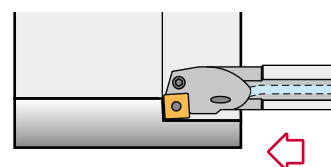
**Characteristics:**

Boring bar for internal turning applications equipped with square negative inserts. For low powered machines and small pieces choose boring bars Ref. CSKP (Page: A201) or SSKC (Page: A223).

Axial -3°  
Radial -11°

**Característiques:**

Barra de mandrinar per aplicacions de tornejat interior equipada amb plaqueta quadrada negativa. Per màquines de baixa potència i peces petites, escolliu barres de mandrinar ref. CSKP (Pàgina: A201) o SSKC (Pàgina: A223).



## A-PSKN 75°



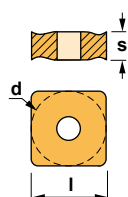
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| A25R PSKN R/L 12        | 25 | 23 | 11,5 | 200 | 40 | 17 | 31 | SNM.. 1204..                 | 0,700 |
| A32S PSKN R/L 12        | 32 | 30 | 15,0 | 250 | 45 | 22 | 39 | SNM.. 1204..                 | 1,400 |
| A40T PSKN R/L 12        | 40 | 37 | 18,5 | 300 | 50 | 27 | 48 | SNM.. 1204..                 | 2,650 |

| Reference<br>Referència |      |      |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|------|------|-----|
| A25R PSKN R/L 12        | 8212 | 1626 | 5025 | -    | -    | -    | 2.0 |
| A32S PSKN R/L 12        | 8312 | 1648 | 5003 | 3512 | 4112 | 0012 | 3.0 |
| A40T PSKN R/L 12        | 8012 | 1608 | 5003 | 3512 | 4112 | 0012 | 3.0 |

**SNM..**

Square negative inserts. A41-42  
Plaquetes quadrades negatives.

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| SNM.. 1204..     | 12,70 | 4,76 | 12,70 |

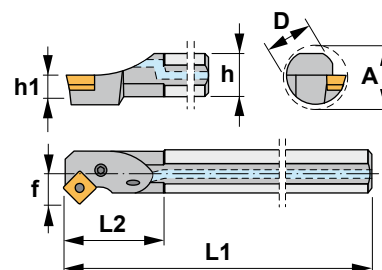
**SNMG-FMC****SNMG-KC****SNMG-MHC****SNMG-RC****SNMG-TC****SNMM**



#### Characteristics:

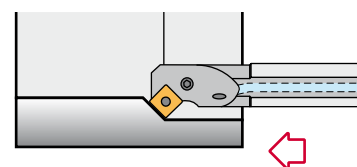
Boring bar for internal turning applications equipped with square negative inserts. For low powered machines and small pieces choose boring bars Ref. A-SSSC (Page: A224).

Axial -3°  
Radial -11°



#### Característiques:

Barra de mandrinar per aplicacions de tornejat interior equipada amb plaqueta quadrada negativa. Per màquines de baixa potència i peces petites, escolliu barres de mandrinar ref. A-SSSC (Pàgina: A224).



## A-PSSN 45°



| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| A25R PSSN R/L 12        | 25 | 23 | 11,5 | 200 | 40 | 17 | 31 | SNM.. 1204..                 | 0,700 |
| A32S PSSN R/L 12        | 32 | 30 | 15,0 | 250 | 45 | 22 | 39 | SNM.. 1204..                 | 2,050 |

| Reference<br>Referència |      |      |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|------|------|-----|
| A25R PSSN R/L 12        | 8212 | 1626 | 5025 | -    | -    | -    | 2.0 |
| A32S PSSN R/L 12        | 8312 | 1648 | 5003 | 3512 | 4112 | 0012 | 3.0 |

### SNM..

Square negative inserts.  
Plaquetes quadrades negatives. A41-42

Reference / Ref.

l

s

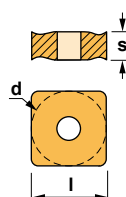
d

SNM.. 1204..

12,70

4,76

12,70



SNMG-FMC



SNMG-KC



SNMG-MHC



SNMG-RC



SNMG-TC



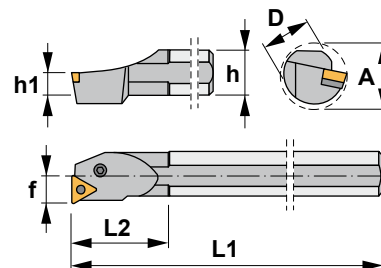
SNMM



**Characteristics:**

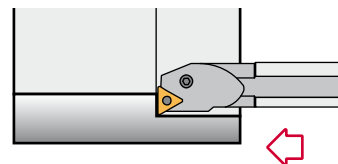
Boring bar for internal turning applications equipped with triangular negative inserts. For low powered machines and small pieces choose boring bars Ref. CTFP (Page: A202) or STFC (Page: A225).

Axial -6°  
Radial -11°

**Característiques:**

Barra de mandrinar equipada amb plaqueta triangular negativa.

Per màquines de baixa potència i peces petites, escolliu barres de mandrinar ref. CTFP (Pàgina: A202) o STFC (Pàgina: A225).



## PTFN 90°

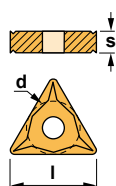
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta |  Kg |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|----------------------------------------------------------------------------------------|
| S25T PTFN R/L 16        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | TNM.. 1604..                 | 0,700                                                                                  |
| S32U PTFN R/L 16        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | TNM.. 1604..                 | 2,050                                                                                  |
| S40V PTFN R/L 16        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | TNM.. 1604..                 | 3,750                                                                                  |
| S50W PTFN R/L 16        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | TNM.. 1604..                 | 6,500                                                                                  |
| S40V PTFN R/L 22        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | TNM.. 2204..                 | 3,750                                                                                  |
| S50W PTFN R/L 22        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | TNM.. 2204..                 | 6,500                                                                                  |

| Reference<br>Referència |  |  |  |  |  |  | Nm  |
|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|
| S25T PTFN R/L 16        | 8216                                                                                | 1605                                                                                | 5002                                                                                | -                                                                                    | -                                                                                     | -                                                                                     | 1.4 |
| S32U PTFN R/L 16        | 8009                                                                                | 1606                                                                                | 5025                                                                                | 3416                                                                                 | 4109                                                                                  | 0009                                                                                  | 2.0 |
| S40V PTFN R/L 16        | 8009                                                                                | 1606                                                                                | 5025                                                                                | 3416                                                                                 | 4109                                                                                  | 0009                                                                                  | 2.0 |
| S50W PTFN R/L 16        | 8009                                                                                | 1606                                                                                | 5025                                                                                | 3416                                                                                 | 4109                                                                                  | 0009                                                                                  | 2.0 |
| S40V PTFN R/L 22        | 8012                                                                                | 1608                                                                                | 5003                                                                                | 3422                                                                                 | 4112                                                                                  | 0012                                                                                  | 3.0 |
| S50W PTFN R/L 22        | 8012                                                                                | 1608                                                                                | 5003                                                                                | 3422                                                                                 | 4112                                                                                  | 0012                                                                                  | 3.0 |

**TNM..**

Triangular negative inserts.  A45-46  
Plaquetes triangulars negatives.

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| TNM.. 1604..     | 16,50 | 4,76 | 9,52  |
| TNM.. 2204..     | 22,00 | 4,76 | 12,70 |



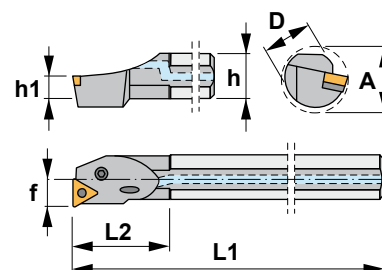
| TNMA                                                                                | TNMG-CC                                                                              | TNMG-FC                                                                               | TNMG-FMC                                                                              | TNMG-KC                                                                               |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |
| TNMG-MC                                                                             | TNMG-MFC                                                                             | TNMG-MHC                                                                              | TNMG-TC                                                                               | TNMX-R/L                                                                              |
|  |  |  |  |  |



#### Characteristics:

Boring bar for internal turning applications equipped with triangular negative inserts. For low powered machines and small pieces choose boring bars Ref. CTFP (Page: A202) or A-STFC (Page: A226).

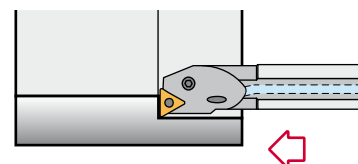
Axial -6°  
Radial -11°



#### Característiques:

Barra de mandrinar equipada amb plaqueta triangular negativa.

Per màquines de baixa potència i peces petites, escolliu barres de mandrinar ref. CTFP (Pàgina: A202) o A-STFC (Pàgina: A226).



## A-PTFN 90°



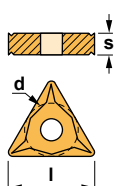
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| A25R PTFN R/L 16        | 25 | 23 | 11,5 | 200 | 40 | 17 | 31 | TNM.. 1604..                 | 0,700 |
| A32S PTFN R/L 16        | 32 | 30 | 15,0 | 250 | 45 | 22 | 39 | TNM.. 1604..                 | 1,400 |
| A40T PTFN R/L 22        | 40 | 37 | 18,5 | 300 | 50 | 27 | 48 | TNM.. 2204..                 | 2,650 |

| Reference<br>Referència |      |      |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|------|------|-----|
| A25R PTFN R/L 16        | 8216 | 1605 | 5002 | -    | -    | -    | 1.4 |
| A32S PTFN R/L 16        | 8009 | 1606 | 5025 | 3416 | 4109 | 0009 | 2.0 |
| A40T PTFN R/L 22        | 8012 | 1608 | 5003 | 3422 | 4112 | 0012 | 3.0 |

### TNM..

Triangular negative inserts. A45-46  
Plaquetes triangulars negatives.

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| TNM.. 1604..     | 16,50 | 4,76 | 9,52  |
| TNM.. 2204..     | 22,00 | 4,76 | 12,70 |



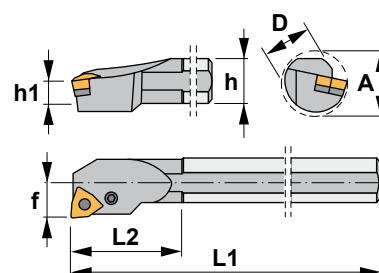
| TNMA    | TNMG-CC  | TNMG-FC  | TNMG-FMC | TNMG-KC  |
|---------|----------|----------|----------|----------|
|         |          |          |          |          |
| TNMG-MC | TNMG-MFC | TNMG-MHC | TNMG-TC  | TNMX-R/L |
|         |          |          |          |          |

**Characteristics:**

Boring bar for internal turning applications equipped with trigon negative inserts (angle 80°).

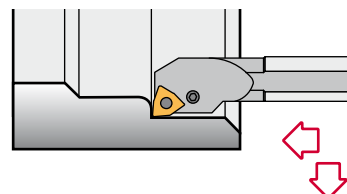
For general applications, roughing, semi-finishing and finishing.

Axial -6°  
Radial -13.5°

**Característiques:**

Barra de mandrinar equipada amb plaqueta trigona negativa (angle 80°).

Per aplicacions generals, desbast, semiacabat i acabat.



## PWLN 95°

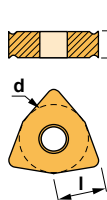
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S16R PWLN R/L 06        | 16 | 15 | 7,5  | 200 | 30 | 11 | 20 | WNM.. 0604..                 | 0,300 |
| S20S PWLN R/L 06        | 20 | 18 | 9,0  | 250 | 35 | 13 | 27 | WNM.. 0604..                 | 0,550 |
| S25T PWLN R/L 06        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | WNM.. 0604..                 | 0,700 |
| S25T PWLN R/L 08        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | WNM.. 0804..                 | 0,700 |
| S32U PWLN R/L 08        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | WNM.. 0804..                 | 2,050 |
| S40V PWLN R/L 08        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | WNM.. 0804..                 | 3,750 |

| Reference<br>Referència |      |      |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|------|------|-----|
| S16R PWLN R/L 06        | 8216 | 1605 | 5002 | -    | -    | -    | 1.4 |
| S20S PWLN R/L 06        | 8216 | 1605 | 5002 | -    | -    | -    | 1.4 |
| S25T PWLN R/L 06        | 8009 | 1606 | 5025 | 3007 | 4109 | 0009 | 2.0 |
| S25T PWLN R/L 08        | 8212 | 1626 | 5025 | -    | -    | -    | 2.0 |
| S32U PWLN R/L 08        | 8012 | 1608 | 5003 | 3008 | 4112 | 0012 | 3.0 |
| S40V PWLN R/L 08        | 8012 | 1608 | 5003 | 3008 | 4112 | 0012 | 3.0 |

**WNMG**

80° trigon negative inserts.  
Plaquetes trigones negatives 80°. A50-51

| Reference / Ref. | l    | s    | d     |
|------------------|------|------|-------|
| WNMG 0604..      | 6,45 | 4,76 | 9,52  |
| WNMG 0804..      | 8,14 | 4,76 | 12,70 |



| WNMG-FC | WNMG-FMC | WNMG-KC | WNMG-MFC |
|---------|----------|---------|----------|
|         |          |         |          |
| WNMG-MC | WNMG-MHC | WNMG-TC |          |
|         |          |         |          |

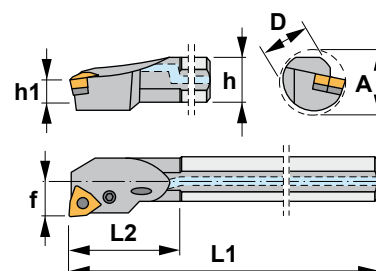


#### Characteristics:

Boring bar for internal turning applications equipped with trigon negative inserts (angle 80°).

For general applications, roughing, semi-finishing and finishing.

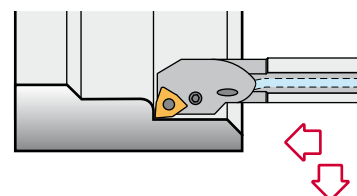
Axial -6°  
Radial -13.5°



#### Característiques:

Barra de mandrinar equipada amb plaqueta trigona negativa (angle 80°).

Per aplicacions generals, desbast, semiacabat i acabat.



## A-PWLN 95°

| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| A16M PWLN R/L 06        | 16 | 15 | 7,5  | 150 | 30 | 11 | 20 | WNM.. 0604..                 | 0,200 |
| A20Q PWLN R/L 06        | 20 | 18 | 9,0  | 180 | 35 | 13 | 27 | WNM.. 0604..                 | 0,400 |
| A25R PWLN R/L 06        | 25 | 23 | 11,5 | 200 | 40 | 17 | 31 | WNM.. 0604..                 | 0,700 |
| A32S PWLN R/L 06        | 32 | 30 | 15,0 | 250 | 45 | 22 | 39 | WNM.. 0604..                 | 1,400 |
| A25R PWLN R/L 08        | 25 | 23 | 11,5 | 200 | 40 | 17 | 31 | WNM.. 0804..                 | 0,700 |
| A32S PWLN R/L 08        | 32 | 30 | 15,0 | 250 | 45 | 22 | 39 | WNM.. 0804..                 | 1,400 |
| A40T PWLN R/L 08        | 40 | 37 | 18,5 | 300 | 50 | 27 | 48 | WNM.. 0804..                 | 2,650 |

| Reference<br>Referència |  |  |  |  |  |  | Nm  |
|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|
| A16M PWLN R/L 06        | 8216                                                                                | 1605                                                                                | 5002                                                                                | -                                                                                    | -                                                                                     | -                                                                                     | 1.4 |
| A20Q PWLN R/L 06        | 8216                                                                                | 1605                                                                                | 5002                                                                                | -                                                                                    | -                                                                                     | -                                                                                     | 1.4 |
| A25R PWLN R/L 06        | 8009                                                                                | 1606                                                                                | 5025                                                                                | 3007                                                                                 | 4109                                                                                  | 0009                                                                                  | 2.0 |
| A32S PWLN R/L 06        | 8009                                                                                | 1606                                                                                | 5025                                                                                | 3007                                                                                 | 4109                                                                                  | 0009                                                                                  | 2.0 |
| A25R PWLN R/L 08        | 8212                                                                                | 1626                                                                                | 5025                                                                                | -                                                                                    | -                                                                                     | -                                                                                     | 2.0 |
| A32S PWLN R/L 08        | 8012                                                                                | 1608                                                                                | 5003                                                                                | 3008                                                                                 | 4112                                                                                  | 0012                                                                                  | 3.0 |
| A40T PWLN R/L 08        | 8012                                                                                | 1608                                                                                | 5003                                                                                | 3008                                                                                 | 4112                                                                                  | 0012                                                                                  | 3.0 |

### WNMG

80° trigon negative inserts.  
Plaquetes trigones negatives 80°.  A50-51

Reference / Ref.

l

s

d

WNMG 0604..

6,45

4,76

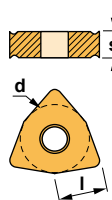
9,52

WNMG 0804..

8,14

4,76

12,70



WNMG-FC

WNMG-FMC

WNMG-KC

WNMG-MFC



WNMG-MC

WNMG-MHC

WNMG-TC

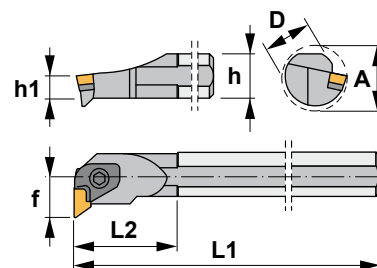


**Characteristics:**

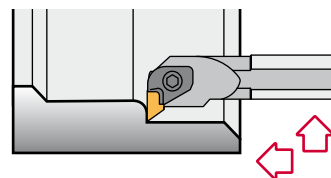
Boring bar for internal turning and profiling operations equipped with KNUX negative insert.

For semi-finishing and finishing operations.

Axial -6°  
Radial -10°

**Caractéristiques:**

Barra de mandrinar per operacions de tornejat i copiat equipada amb plaqueta KNUX negativa.  
Per operacions de semiacabat i acabat.



## CKUN 93°

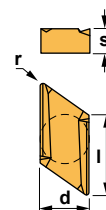
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f    | A  | Insert size<br>Mida plaqueta |       |
|-------------------------|----|----|------|-----|----|------|----|------------------------------|-------|
| S25T CKUN R/L 16        | 25 | 23 | 11,5 | 300 | 40 | 20,5 | 37 | KNUX 1604..                  | 0,700 |
| S32U CKUN R/L 16        | 32 | 30 | 15,0 | 350 | 45 | 22,0 | 39 | KNUX 1604..                  | 2,050 |
| S40V CKUN R/L 16        | 40 | 37 | 18,5 | 400 | 50 | 27,0 | 48 | KNUX 1604..                  | 3,750 |
| S50W CKUN R/L 16        | 50 | 47 | 23,5 | 450 | 60 | 35,0 | 61 | KNUX 1604..                  | 6,500 |

| Reference<br>Referència |      |      |      |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|------|------|------|-----|
| S25T CKUN L 16          | 2316 | 1614 | 5004 | 4295 | 4201 | -    | -    | 3.5 |
| S32U CKUN L 16          | 2316 | 1614 | 5004 | 4295 | 4202 | 3226 | 4012 | 3.5 |
| S40V CKUN L 16          | 2316 | 1614 | 5004 | 4295 | 4204 | 3226 | 4012 | 3.5 |
| S50W CKUN L 16          | 2316 | 1614 | 5004 | 4295 | 4204 | 3226 | 4012 | 3.5 |
| S25T CKUN R 16          | 2326 | 1614 | 5004 | 4295 | 4201 | -    | -    | 3.5 |
| S32U CKUN R 16          | 2326 | 1614 | 5004 | 4295 | 4202 | 3236 | 4012 | 3.5 |
| S40V CKUN R 16          | 2326 | 1614 | 5004 | 4295 | 4204 | 3236 | 4012 | 3.5 |
| S50W CKUN R 16          | 2326 | 1614 | 5004 | 4295 | 4204 | 3236 | 4012 | 3.5 |

### KNUX

KNUX negative insert.  
Plaqueta KNUX negativa. A38

| Reference / Referència | l     | s    | d    |
|------------------------|-------|------|------|
| KNUX 1604..            | 16,00 | 4,76 | 9,52 |



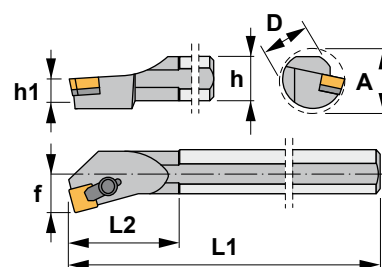
### KNUX



**Characteristics:**

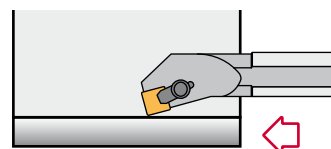
Boring bar for internal turning applications equipped with square positive inserts.  
For interrupted cut choose boring bars Ref. PSKN (Page: A193).

Axial 6.5°  
Radial -1.25°

**Característiques:**

Barra de mandrinar equipada amb plaqueta quadrada positiva.

Per operacions amb tall interromput, veieu ref. PSKN (Pàgina: A193).



## CSKP 75°

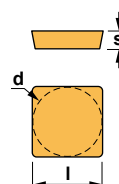
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S16R CSKP R/L 09        | 16 | 15 | 7,5  | 200 | 30 | 11 | 20 | SP.. 0903..                  | 0,300 |
| S20S CSKP R/L 09        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | SP.. 0903..                  | 0,550 |
| S25T CSKP R/L 12        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | SP.. 1203..                  | 1,050 |
| S32U CSKP R/L 12        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | SP.. 1203..                  | 2,050 |
| S40V CSKP R/L 12        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | SP.. 1203..                  | 3,750 |
| S50W CSKP R/L 12        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | SP.. 1203..                  | 6,500 |
| S50W CSKP R/L 19        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | SP.. 1904..                  | 6,500 |

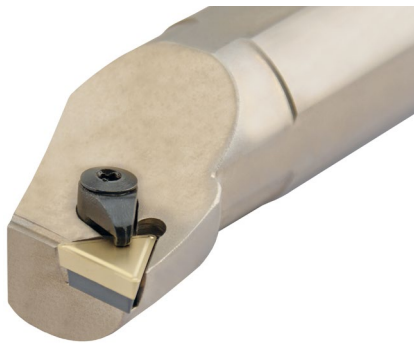
| Reference<br>Referència |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|-----|
| S16R CSKP R/L 09        | 2107 | 5025 | -    | -    | 2.0 |
| S20S CSKP R/L 09        | 2107 | 5025 | -    | -    | 2.0 |
| S25T CSKP R/L 12        | 2109 | 5003 | -    | -    | 3.0 |
| S32U CSKP R/L 12        | 2209 | 5003 | 3112 | 4002 | 3.0 |
| S40V CSKP R/L 12        | 2209 | 5003 | 3112 | 4002 | 3.0 |
| S50W CSKP R/L 12        | 2209 | 5003 | 3112 | 4002 | 3.0 |
| S50W CSKP R/L 19        | 2211 | 5004 | 3119 | 4012 | 3.5 |

**SP..**

Square positive inserts with 11° clearance. A43  
Plaquetes quadrades positives amb 11° incidència.

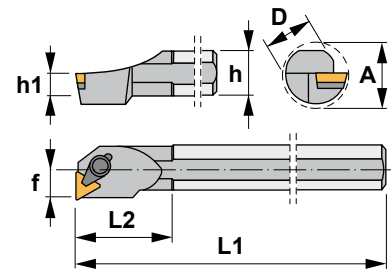
| Reference / Referència | l     | s    | d     |
|------------------------|-------|------|-------|
| SP.. 0903..            | 9,52  | 3,18 | 9,52  |
| SP.. 1203..            | 12,70 | 3,18 | 12,70 |
| SP.. 1904..            | 19,05 | 4,76 | 19,05 |

**SPMR****SPUN**

**Characteristics:**

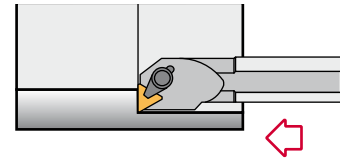
Boring bar for internal turning applications equipped with triangular positive inserts. For interrupted cut choose boring bars Ref. MTFN (Page: A181) or PTFN (Page: A196).

Axial 6°  
Radial 0°

**Característiques:**

Barra de mandrinar equipada amb plaqueta triangular positiva.

Per operacions amb tall interromput, veieu ref. MTFN (Pàgina: A181) o PTFN (Pàgina: A196).

**CTFP 90°**

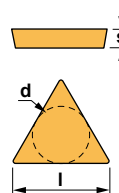
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta |       |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S10M CTFP R/L 09        | 10 | 9  | 4,5  | 150 | 22 | 7  | 13 | TP.. 0902..                  | 0,060 |
| S12M CTFP R/L 09        | 12 | 11 | 5,5  | 150 | 25 | 9  | 16 | TP.. 0902..                  | 0,150 |
| S12M CTFP R/L 11        | 12 | 11 | 5,5  | 150 | 25 | 9  | 16 | TP.. 1103..                  | 0,150 |
| S16R CTFP R/L 11        | 16 | 15 | 7,5  | 200 | 30 | 11 | 20 | TP.. 1103..                  | 0,300 |
| S20S CTFP R/L 11        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | TP.. 1103..                  | 0,550 |
| S16R CTFP R/L 16        | 16 | 15 | 7,5  | 200 | 30 | 11 | 20 | TP.. 1603..                  | 0,300 |
| S20S CTFP R/L 16        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | TP.. 1603..                  | 0,550 |
| S25T CTFP R/L 16        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | TP.. 1603..                  | 0,700 |
| S32U CTFP R/L 16        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | TP.. 1603..                  | 2,050 |
| S40V CTFP R/L 16        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | TP.. 1603..                  | 3,750 |
| S50W CTFP R/L 16        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | TP.. 1603..                  | 6,500 |
| S40V CTFP R/L 22        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | TP.. 2204..                  | 3,750 |
| S50W CTFP R/L 22        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | TP.. 2204..                  | 6,500 |

| Reference<br>Referència |      |      |      |      |   | Nm  |
|-------------------------|------|------|------|------|---|-----|
| S10M CTFP R/L 09        | 2000 | 5015 | -    | -    | - | 0.6 |
| S12M CTFP R/L 09        | 2000 | 5015 | -    | -    | - | 0.6 |
| S12M CTFP R/L 11        | 2304 | 5025 | -    | -    | - | 2.0 |
| S16R CTFP R/L 11        | 2107 | 5025 | -    | -    | - | 2.0 |
| S20S CTFP R/L 11        | 2107 | 5025 | -    | -    | - | 2.0 |
| S16R CTFP R/L 16        | 2119 | 5003 | -    | -    | - | 3.0 |
| S20S CTFP R/L 16        | 2119 | 5003 | -    | -    | - | 3.0 |
| S25T CTFP R/L 16        | 2109 | 5003 | -    | -    | - | 3.0 |
| S32U CTFP R/L 16        | 2209 | 5003 | 3116 | 4002 | - | 3.0 |
| S40V CTFP R/L 16        | 2209 | 5003 | 3116 | 4002 | - | 3.0 |
| S50W CTFP R/L 16        | 2209 | 5003 | 3116 | 4002 | - | 3.0 |
| S40V CTFP R/L 22        | 2211 | 5004 | 3122 | 4012 | - | 3.5 |
| S50W CTFP R/L 22        | 2211 | 5004 | 3122 | 4012 | - | 3.5 |

**TP..**

Triangular positive inserts with 11° clearance.  
Plaquetes triangulars positives amb 11° incidència. A47

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| TP.. 0902..      | 9,62  | 2,38 | 5,55  |
| TP.. 1103..      | 11,00 | 3,18 | 6,35  |
| TP.. 1603..      | 16,50 | 3,18 | 9,52  |
| TP.. 2204..      | 22,00 | 4,76 | 12,70 |

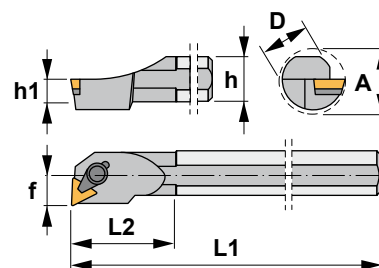
**TPMN****TPMR****TPUN****TPUX-R****TPUX-L**



**Characteristics:**

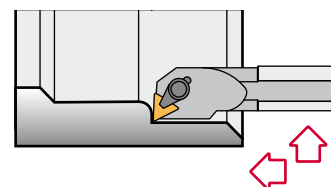
Boring bar for internal turning applications equipped with triangular positive inserts. For interrupted cut choose boring bars Ref. MTUN (Page: A183).

Axial 0°  
Radial -6°



**Caractéristiques:**

Barra de mandrinar equipada amb plaqueta triangular positiva. Per operacions amb tall interromput, veieu ref. MTUN (Pàgina: A183).



## CTUP 93°

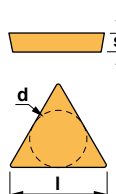
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S10M CTUP R/L 09        | 10 | 9  | 4,5  | 150 | 22 | 7  | 13 | TP.. 0902..                  | 0,060 |
| S12M CTUP R/L 09        | 12 | 11 | 5,5  | 150 | 25 | 9  | 16 | TP.. 0902..                  | 0,150 |
| S12M CTUP R/L 11        | 12 | 11 | 5,5  | 150 | 25 | 9  | 16 | TP.. 1103..                  | 0,150 |
| S16R CTUP R/L 11        | 16 | 15 | 7,5  | 200 | 30 | 11 | 20 | TP.. 1103..                  | 0,300 |
| S20S CTUP R/L 11        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | TP.. 1103..                  | 0,550 |
| S16R CTUP R/L 16        | 16 | 15 | 7,5  | 200 | 30 | 11 | 20 | TP.. 1603..                  | 0,300 |
| S20S CTUP R/L 16        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | TP.. 1603..                  | 0,550 |
| S25T CTUP R/L 16        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | TP.. 1603..                  | 0,700 |
| S32U CTUP R/L 16        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | TP.. 1603..                  | 2,050 |
| S40V CTUP R/L 16        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | TP.. 1603..                  | 3,750 |
| S50W CTUP R/L 16        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | TP.. 1603..                  | 6,500 |
| S40V CTUP R/L 22        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | TP.. 2204..                  | 3,750 |
| S50W CTUP R/L 22        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | TP.. 2204..                  | 6,500 |

| Reference<br>Referència |      |      |           | Nm  |
|-------------------------|------|------|-----------|-----|
| S10M CTUP R/L 09        | 2000 | 5015 | -         | 0.6 |
| S12M CTUP R/L 09        | 2000 | 5015 | -         | 0.6 |
| S12M CTUP R/L 11        | 2304 | 5025 | -         | 2.0 |
| S16R CTUP R/L 11        | 2107 | 5025 | -         | 2.0 |
| S20S CTUP R/L 11        | 2107 | 5025 | -         | 2.0 |
| S16R CTUP R/L 16        | 2119 | 5003 | -         | 3.0 |
| S20S CTUP R/L 16        | 2119 | 5003 | -         | 3.0 |
| S25T CTUP R/L 16        | 2109 | 5003 | -         | 3.0 |
| S32U CTUP R/L 16        | 2209 | 5003 | 3116 4002 | 3.0 |
| S40V CTUP R/L 16        | 2209 | 5003 | 3116 4002 | 3.0 |
| S50W CTUP R/L 16        | 2209 | 5003 | 3116 4002 | 3.0 |
| S40V CTUP R/L 22        | 2211 | 5004 | 3122 4012 | 3.5 |
| S50W CTUP R/L 22        | 2211 | 5004 | 3122 4012 | 3.5 |

### TP..

Triangular positive inserts with 11° clearance.  
Plaquetes triangulars positives amb 11° incidència. A47

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| TP.. 0902..      | 9,62  | 2,38 | 5,55  |
| TP.. 1103..      | 11,00 | 3,18 | 6,35  |
| TP.. 1603..      | 16,50 | 3,18 | 9,52  |
| TP.. 2204..      | 22,00 | 4,76 | 12,70 |



#### TPMN



TPUX-R



#### TPMR



TPUX-L



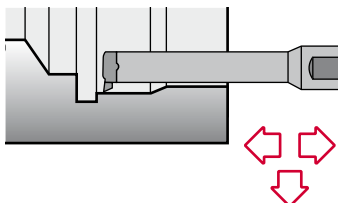
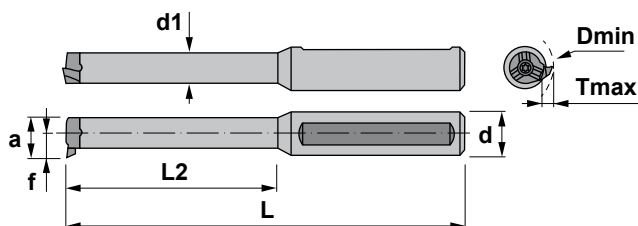
#### TPUN





**Characteristics:** Multipurpose boring bar for grooving, threading and turning. For smaller diameters from 8 mm.

**Característiques:** Barra de mandrinar multifunció sistema "mini" per ranurar, roscar i tornejar. Per diàmetres petits a partir de 8 mm.



## 608.00

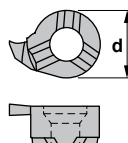
| Reference<br>Referència | Dmin | d  | d1 | L   | L2 | a    | f    | Tmax | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|------|----|----|-----|----|------|------|------|------------------------------|-------|
| 608.0012.2 HM           | 8    | 12 | 6  | 90  | 30 | 7,8  | 4,8  | 1,0  | R/LS08                       | 0,090 |
| 611.0012.2 HM           | 11   | 12 | 8  | 110 | 42 | 10,7 | 6,7  | 2,3  | R/LS11                       | 0,090 |
| 614.0012.2 HM           | 14   | 12 | 11 | 110 | 45 | 13,8 | 9,0  | 4,0  | R/LS14                       | 0,130 |
| 616.0012.2 HM           | 16   | 12 | 11 | 130 | 56 | 15,7 | 10,2 | 4,3  | R/LS16                       | 0,265 |

| Reference<br>Referència |      |      | Nm  |
|-------------------------|------|------|-----|
| 608.0012.2 HM           | 1226 | 5508 | 1.2 |
| 611.0012.2 HM           | 1535 | 5510 | 2.0 |
| 614.0012.2 HM           | 1244 | 5515 | 3.0 |
| 616.0012.2 HM           | 1255 | 5520 | 4.0 |

### R/LS..

B11-15

| Reference / Ref. | d    |
|------------------|------|
| R/LS.. 08..      | 6,0  |
| R/LS.. 11..      | 8,0  |
| R/LS.. 14..      | 9,0  |
| R/LS.. 16..      | 11,0 |

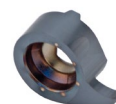


R/LS



Insert for turning  
Plaqueta de tornejar

R/LS



Insert for grooving with radius  
Plaqueta de ranurar amb radi

R/LS



Insert for threading  
Plaqueta de roscar

R/LS



Insert for grooving  
Plaqueta de ranurar



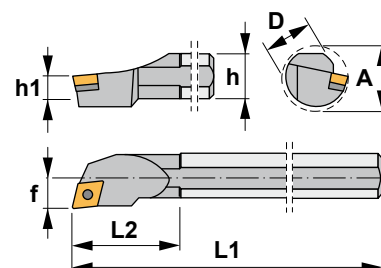
#### Characteristics:

Multipurpose boring bar equipped with rhombic positive insert (angle 80°).

For boring bars with negative inserts see Ref. MCLN-K (Page: A178) or PCLN (Page: A188).

Axial 0°

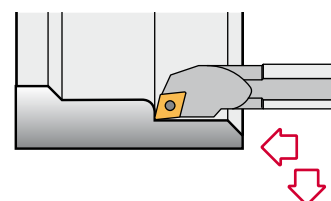
Radial -6°



#### Característiques:

Barra de mandrinar multifunció equipada amb plaqueta ròmbica positiva (angle 80°).

Per barres de mandrinar amb plaqueta negativa, veieu ref. MCLN-K (Pàgina: A178) o PCLN (Pàgina: A188).



## SCLC 95°

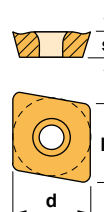
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S08K SCLC R/L 06        | 8  | 7  | 3,5  | 125 | 16 | 5  | 11 | CC.. 0602..                  | 0,040 |
| S10M SCLC R/L 06        | 10 | 9  | 4,5  | 150 | 22 | 7  | 13 | CC.. 0602..                  | 0,060 |
| S12M SCLC R/L 06        | 12 | 11 | 5,5  | 150 | 25 | 9  | 16 | CC.. 0602..                  | 0,150 |
| S12M SCLC R/L 09        | 12 | 11 | 5,5  | 150 | 25 | 9  | 16 | CC.. 09T3..                  | 0,150 |
| S12Q SCLC R/L 09        | 12 | 11 | 5,5  | 180 | 25 | 9  | 16 | CC.. 09T3..                  | 0,150 |
| S16R SCLC R/L 09        | 16 | 15 | 7,5  | 200 | 30 | 11 | 20 | CC.. 09T3..                  | 0,300 |
| S20S SCLC R/L 09        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | CC.. 09T3..                  | 0,550 |
| S25T SCLC R/L 09        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | CC.. 09T3..                  | 0,550 |
| S20S SCLC R/L 12        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | CC.. 1204..                  | 0,550 |
| S25T SCLC R/L 12        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | CC.. 1204..                  | 0,700 |
| S32U SCLC R/L 12        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | CC.. 1204..                  | 2,050 |
| S40V SCLC R/L 12        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | CC.. 1204..                  | 3,750 |
| S50W SCLC R/L 12        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | CC.. 1204..                  | 6,500 |

| Reference<br>Referència |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|-----|
| S08K SCLC R/L 06        | 1425 | 5507 | -    | -    | 0.9 |
| S10M SCLC R/L 06        | 1425 | 5507 | -    | -    | 0.9 |
| S12M SCLC R/L 06        | 1425 | 5507 | -    | -    | 0.9 |
| S12M SCLC R/L 09        | 1440 | 5515 | -    | -    | 3.0 |
| S12Q SCLC R/L 09        | 1440 | 5515 | -    | -    | 3.0 |
| S16R SCLC R/L 09        | 1440 | 5515 | -    | -    | 3.0 |
| S20S SCLC R/L 09        | 1440 | 5515 | -    | -    | 3.0 |
| S25T SCLC R/L 09        | 1240 | 5515 | -    | -    | 3.0 |
| S20S SCLC R/L 12        | 1250 | 5520 | -    | -    | 4.0 |
| S25T SCLC R/L 12        | 1250 | 5520 | -    | -    | 4.0 |
| S32U SCLC R/L 12        | 1540 | 5517 | 3614 | 1760 | 3.0 |
| S40V SCLC R/L 12        | 1540 | 5517 | 3614 | 1760 | 3.0 |
| S50W SCLC R/L 12        | 1540 | 5517 | 3614 | 1760 | 3.0 |

### CC..

80° rhombic positive inserts with 7° clearance. A30-31  
Plaquetes ròmbiques positives 80° amb 7° incidència.

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| CC.. 0602..      | 6,45  | 2,38 | 6,35  |
| CC.. 09T3..      | 9,65  | 3,97 | 9,52  |
| CC.. 1204..      | 12,90 | 4,76 | 12,70 |



#### CCGT-AL



#### CCGT-AP



#### CCMT



#### CCMW

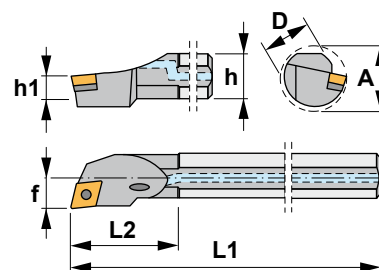


**Characteristics:**

Multipurpose boring bar equipped with rhombic positive insert (angle 80°).

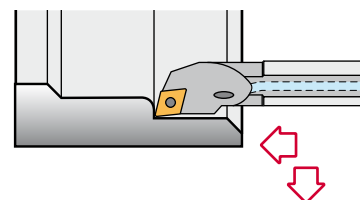
For boring bars with negative inserts see Ref. MCLN-K (Page: A178) or A-PCLN (Page: A189).

Axial 0°  
Radial -6°

**Característiques:**

Barra de mandrinar multifunció equipada amb plaqueta ròmbica positiva (angle 80°).

Per barres de mandrinar amb plaqueta negativa, veieu ref. MCLN-K (Pàgina: A178) o A-PCLN (Pàgina: A189).



## A-SCLC 95°

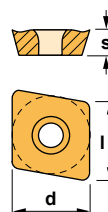
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| A08F SCLC R/L 06        | 8  | 7  | 3,5  | 80  | 20 | 5  | 11 | CC.. 0602..                  | 0,030 |
| A10H SCLC R/L 06        | 10 | 9  | 4,5  | 100 | 20 | 7  | 13 | CC.. 0602..                  | 0,040 |
| A12K SCLC R/L 06        | 12 | 11 | 5,5  | 125 | 25 | 9  | 16 | CC.. 0602..                  | 0,100 |
| A16M SCLC R/L 09        | 16 | 15 | 7,5  | 150 | 30 | 11 | 20 | CC.. 09T3..                  | 0,200 |
| A20Q SCLC R/L 09        | 20 | 18 | 9,0  | 180 | 35 | 13 | 24 | CC.. 09T3..                  | 0,400 |
| A25R SCLC R/L 09        | 25 | 23 | 11,5 | 200 | 40 | 17 | 31 | CC.. 09T3..                  | 0,700 |
| A32S SCLC R/L 12        | 32 | 30 | 15,0 | 250 | 45 | 22 | 39 | CC.. 1204..                  | 1,400 |
| A40T SCLC R/L 12        | 40 | 37 | 18,5 | 300 | 50 | 27 | 48 | CC.. 1204..                  | 2,650 |

| Reference<br>Referència |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|-----|
| A08F SCLC R/L 06        | 1425 | 5507 | -    | -    | 0.9 |
| A10H SCLC R/L 06        | 1425 | 5507 | -    | -    | 0.9 |
| A12K SCLC R/L 06        | 1425 | 5507 | -    | -    | 0.9 |
| A16M SCLC R/L 09        | 1440 | 5515 | -    | -    | 3.0 |
| A20Q SCLC R/L 09        | 1440 | 5515 | -    | -    | 3.0 |
| A25R SCLC R/L 09        | 1440 | 5515 | -    | -    | 3.0 |
| A32S SCLC R/L 12        | 1540 | 5517 | 3614 | 1760 | 3.0 |
| A40T SCLC R/L 12        | 1540 | 5517 | 3614 | 1760 | 3.0 |

**CC..**

80° rhombic positive inserts with 7° clearance. A30-31  
Plaquetes ròmbiques positives 80° amb 7° incidència.

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| CC.. 0602..      | 6,45  | 2,38 | 6,35  |
| CC.. 09T3..      | 9,65  | 3,97 | 9,52  |
| CC.. 1204..      | 12,90 | 4,76 | 12,70 |

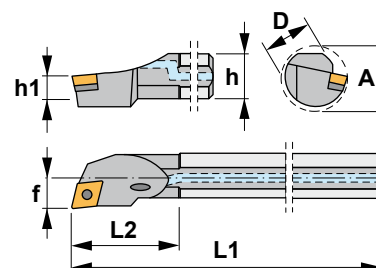
**CCGT-AL****CCGT-AP****CCMT****CCMW**



#### Characteristics:

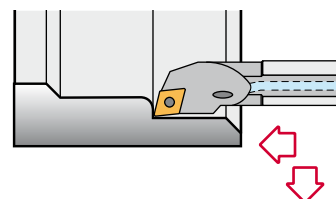
Set of multipurpose boring bars equipped with rhombic positive insert (angle 80°). For boring bars with negative inserts see Ref. A-PCLN (Page: A189).

Axial 0°  
Radial -6°



#### Característiques:

Set de barres de mandrinar multifunció equipades amb plaqueta ròmbica positiva (angle 80°). Per eines amb plaqueta negativa veieu ref. A-PCLN (Pàgina: A189).



## SET SCLC 95°

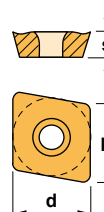
| Reference<br>Referència | D  | d  | L1  | L2 | f | A  | h  | Insert size<br>Mida plaqueta |  |
|-------------------------|----|----|-----|----|---|----|----|------------------------------|-------------------------------------------------------------------------------------|
| A0608H SCLC R/L 06      | 8  | 6  | 100 | 25 | 4 | 10 | 7  | CC.. 0602..                  | 0,400                                                                               |
| A0810J SCLC R/L 06      | 10 | 8  | 110 | 32 | 6 | 12 | 9  | CC.. 0602..                  |                                                                                     |
| A1012K SCLC R/L 06      | 12 | 10 | 125 | 38 | 7 | 14 | 11 | CC.. 0602..                  |                                                                                     |
| A1216M SCLC R/L 06      | 16 | 12 | 150 | 50 | 9 | 18 | 15 | CC.. 0602..                  |                                                                                     |

| Reference<br>Referència |  |  | Nm  |
|-------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|
| A0608H SCLC R/L 06      | 1425                                                                                | 5507                                                                                  | 0.9 |
| A0810J SCLC R/L 06      | 1425                                                                                | 5507                                                                                  | 0.9 |
| A1012K SCLC R/L 06      | 1225                                                                                | 5507                                                                                  | 0.9 |
| A1216M SCLC R/L 06      | 1225                                                                                | 5507                                                                                  | 0.9 |

### CC..

80° rhombic positive inserts with 7° clearance.  A30-31  
Plaquetes ròmbiques positives 80° amb 7° incidència.

| Reference / Ref. | l    | s    | d    |
|------------------|------|------|------|
| CC.. 0602..      | 6,45 | 2,38 | 6,35 |



#### CCGT-AL



#### CCGT-AP



#### CCMT



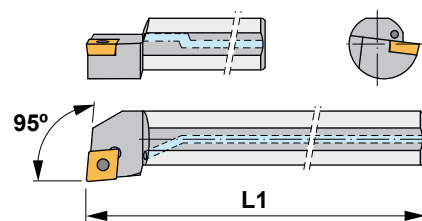
#### CCMW



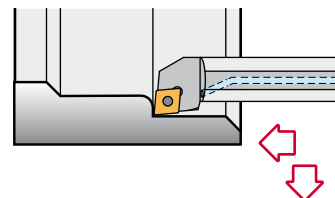
**Characteristics:**

Carbide boring bar equipped with rhombic positive insert (angle 80°).  
Range starting at Ø4 mm and minimum bore diameter of 5 mm.

Axial 0°  
Radial -6°

**Característiques:**

Barra de mandrinar amb mànec de metall dur equipada amb plaqueta ròmbica positiva (angle 80°).  
Eines a partir de Ø4 mm i forat mínim de 5 mm.

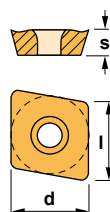
**E-SCLC 95°**

| Reference<br>Referència | L1 Total length (mm)<br>L1 Llargada total (mm)                                      | Ø min. (mm) | Insert size<br>Mida plaqueta                                                          |  |
|-------------------------|-------------------------------------------------------------------------------------|-------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| E04G SCLCR 0305         | 90                                                                                  | 5           | CC.. 0301..                                                                           | 0,035                                                                               |
| E05H SCLCR 0306         | 100                                                                                 | 6           | CC.. 0301..                                                                           | 0,040                                                                               |
| E06J SCLCR 0307         | 110                                                                                 | 7           | CC.. 0301..                                                                           | 0,050                                                                               |
| E07K SCLCR 0408         | 125                                                                                 | 8           | CC.. 0401..                                                                           | 0,070                                                                               |
| E08K SCLCL 06           | 125                                                                                 | 11          | CC.. 0602..                                                                           | 0,085                                                                               |
| E08K SCLCR 06           | 125                                                                                 | 11          | CC.. 0602..                                                                           | 0,085                                                                               |
| E10M SCLCL 06           | 150                                                                                 | 14          | CC.. 0602..                                                                           | 0,160                                                                               |
| E10M SCLCR 06           | 150                                                                                 | 14          | CC.. 0602..                                                                           | 0,160                                                                               |
| E12Q SCLCL 06           | 180                                                                                 | 17          | CC.. 0602..                                                                           | 0,270                                                                               |
| E12Q SCLCR 06           | 180                                                                                 | 17          | CC.. 0602..                                                                           | 0,270                                                                               |
| E16R SCLCL 09           | 200                                                                                 | 21          | CC.. 09T3..                                                                           | 0,520                                                                               |
| E16R SCLCR 09           | 200                                                                                 | 21          | CC.. 09T3..                                                                           | 0,520                                                                               |
| E20S SCLCL 09           | 250                                                                                 | 25          | CC.. 09T3..                                                                           | 0,990                                                                               |
| E20S SCLCR 09           | 250                                                                                 | 25          | CC.. 09T3..                                                                           | 0,990                                                                               |
| Reference<br>Referència |  |             |  | Nm                                                                                  |
| E04G SCLCR 0305         | 1415                                                                                |             | 5506                                                                                  | 0.6                                                                                 |
| E05H SCLCR 0306         | 1415                                                                                |             | 5506                                                                                  | 0.6                                                                                 |
| E06J SCLCR 0307         | 1415                                                                                |             | 5506                                                                                  | 0.6                                                                                 |
| E07K SCLCR 0408         | 1420                                                                                |             | 5506                                                                                  | 0.6                                                                                 |
| E08K SCLCL 06           | 1425                                                                                |             | 5507                                                                                  | 0.9                                                                                 |
| E08K SCLCR 06           | 1425                                                                                |             | 5507                                                                                  | 0.9                                                                                 |
| E10M SCLCL 06           | 1425                                                                                |             | 5507                                                                                  | 0.9                                                                                 |
| E10M SCLCR 06           | 1425                                                                                |             | 5507                                                                                  | 0.9                                                                                 |
| E12Q SCLCL 06           | 1425                                                                                |             | 5507                                                                                  | 0.9                                                                                 |
| E12Q SCLCR 06           | 1425                                                                                |             | 5507                                                                                  | 0.9                                                                                 |
| E16R SCLCL 09           | 1440                                                                                |             | 5515                                                                                  | 3.0                                                                                 |
| E16R SCLCR 09           | 1440                                                                                |             | 5515                                                                                  | 3.0                                                                                 |
| E20S SCLCL 09           | 1440                                                                                |             | 5515                                                                                  | 3.0                                                                                 |
| E20S SCLCR 09           | 1440                                                                                |             | 5515                                                                                  | 3.0                                                                                 |

**CC..**

80° rhombic positive inserts with 7° clearance. A30-31  
Plaquetes ròmbiques positives 80° amb 7° incidència.

| Reference / Ref. | l    | s    | d    |
|------------------|------|------|------|
| CC.. 0301..      | 3,60 | 1,39 | 3,50 |
| CC.. 0401..      | 4,40 | 1,79 | 4,30 |
| CC.. 0602..      | 6,45 | 2,38 | 6,35 |
| CC.. 09T3..      | 9,65 | 3,97 | 9,52 |



| CCET | CCGT-AL | CCGT-AP |
|------|---------|---------|
|      |         |         |
| CCMT | CCMW    |         |
|      |         |         |



## E-SCLC 95°

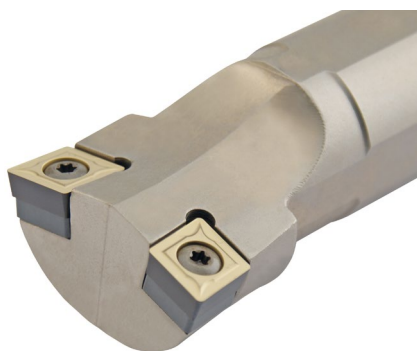
### Features

- Better rigidity than steel bars.
- Excellent cutting performance in a wide range of boring sizes even at vibration cutting condition.
- Longer tool life and excellent surface finish.
- Range starting at Ø 4 mm. and minimum bore diameter of 5 mm.

### Característiques

- Millor rigidesa que les barres d'acer.
- Excel·lent rendiment de tall en una àmplia gamma de diàmetres de mandrinat, fins i tot en condicions de tall subjectes a vibracions.
- Durada de vida de l'eina més elevada i excel·lent acabat de superfície.
- La gamma comença a Ø 4 mm per un diàmetre mínim de mandrinat de 5 mm.

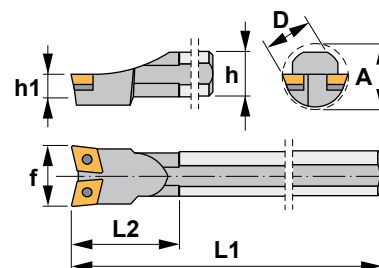


**Characteristics:**

Multipurpose internal and external boring bar equipped with rhombic positive insert (angle 80°).

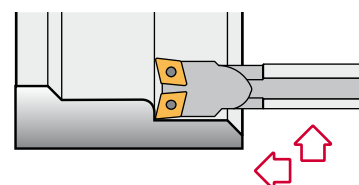
For general applications, roughing, semi-finishing and finishing.

Axial 0°  
Radial -9°

**Característiques:**

Barra de mandrinar interior i exterior equipada amb plaquetes ròmbiques positives (angle 80°).

Per aplicacions generals, desbast, semiacabat i acabat.



## SCLCN 95°

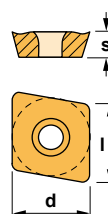
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta |  |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------------------------------------------------------------------------------------|
| S12M SCLC N 06          | 12 | 11 | 5,5  | 150 | 25 | 18 | 20 | CC.. 0602..                  | 0,150                                                                               |
| S16R SCLC N 06          | 16 | 15 | 7,5  | 200 | 30 | 22 | 25 | CC.. 0602..                  | 0,300                                                                               |
| S20S SCLC N 06          | 20 | 18 | 9,0  | 250 | 35 | 26 | 30 | CC.. 0602..                  | 0,550                                                                               |
| S25T SCLC N 09          | 25 | 23 | 11,5 | 300 | 40 | 34 | 40 | CC.. 09T3..                  | 0,700                                                                               |
| S32U SCLC N 12          | 32 | 30 | 15,0 | 350 | 45 | 44 | 50 | CC.. 1204..                  | 2,050                                                                               |
| S40V SCLC N 12          | 40 | 37 | 18,5 | 400 | 50 | 54 | 60 | CC.. 1204..                  | 3,750                                                                               |
| S50W SCLC N 12          | 50 | 47 | 23,5 | 450 | 60 | 62 | 68 | CC.. 1204..                  | 6,500                                                                               |

| Reference<br>Referència |  |  |  |  | Nm  |
|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|
| S12M SCLC N 06          | 1425                                                                                | 5507                                                                                | -                                                                                    | -                                                                                     | 0.9 |
| S16R SCLC N 06          | 1225                                                                                | 5507                                                                                | -                                                                                    | -                                                                                     | 0.9 |
| S20S SCLC N 06          | 1225                                                                                | 5507                                                                                | -                                                                                    | -                                                                                     | 0.9 |
| S25T SCLC N 09          | 1440                                                                                | 5515                                                                                | -                                                                                    | -                                                                                     | 3.0 |
| S32U SCLC N 12          | 1540                                                                                | 5517                                                                                | 3614                                                                                 | 1760                                                                                  | 3.0 |
| S40V SCLC N 12          | 1540                                                                                | 5517                                                                                | 3614                                                                                 | 1760                                                                                  | 3.0 |
| S50W SCLC N 12          | 1540                                                                                | 5517                                                                                | 3614                                                                                 | 1760                                                                                  | 3.0 |

**CC..**

80° rhombic positive inserts with 7° clearance.  A30-31  
Plaquetes ròmbiques positives 80° amb 7° incidència.

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| CC.. 0602..      | 6,45  | 2,38 | 6,35  |
| CC.. 09T3..      | 9,65  | 3,97 | 9,52  |
| CC.. 1204..      | 12,90 | 4,76 | 12,70 |

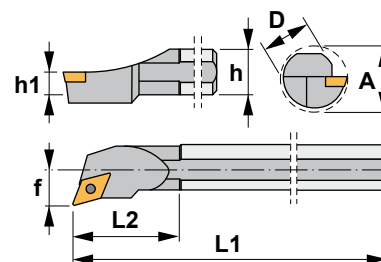
**CCGT-AL****CCGT-AP****CCMT****CCMW**



**Characteristics:**

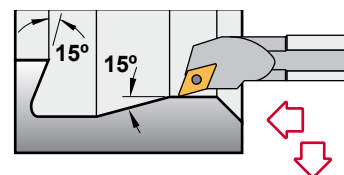
Multipurpose profiling boring bar equipped with rhombic positive insert (angle 55°). For general applications, roughing, semi-finishing and finishing.

Axial 0°  
Radial -6°



**Característiques:**

Barra de mandrinar multifunció de copiat equipada amb plaqueta ròmbica positiva (angle 55°). Per aplicacions generals, desbast, semiacabat i acabat.



## SDQC 107°30'

| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S10M SDQC R/L 07        | 10 | 9  | 4,5  | 150 | 22 | 7  | 13 | DC.. 0702..                  | 0,060 |
| S12M SDQC R/L 07        | 12 | 11 | 5,5  | 150 | 25 | 9  | 16 | DC.. 0702..                  | 0,150 |
| S16R SDQC R/L 07        | 16 | 15 | 7,5  | 200 | 30 | 11 | 20 | DC.. 0702..                  | 0,300 |
| S20S SDQC R/L 07        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | DC.. 0702..                  | 0,550 |
| S20S SDQC R/L 11        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | DC.. 11T3..                  | 0,550 |
| S25T SDQC R/L 11        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | DC.. 11T3..                  | 0,700 |
| S32U SDQC R/L 11        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | DC.. 11T3..                  | 2,050 |
| S40V SDQC R/L 11        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | DC.. 11T3..                  | 3,750 |

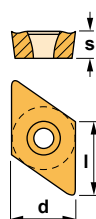
| Reference<br>Referència |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|-----|
| S10M SDQC R/L 07        | 1425 | 5507 | -    | -    | 0.9 |
| S12M SDQC R/L 07        | 1225 | 5507 | -    | -    | 0.9 |
| S16R SDQC R/L 07        | 1225 | 5507 | -    | -    | 0.9 |
| S20S SDQC R/L 07        | 1225 | 5507 | -    | -    | 0.9 |
| S20S SDQC R/L 11        | 1240 | 5515 | -    | -    | 3.0 |
| S25T SDQC R/L 11        | 1240 | 5515 | -    | -    | 3.0 |
| S32U SDQC R/L 11        | 1335 | 5516 | 3714 | 1750 | 3.0 |
| S40V SDQC R/L 11        | 1335 | 5516 | 3714 | 1750 | 3.0 |

### DC..

55° rhombic positive inserts with 7° clearance. A35  
Plaquetes ròmbiques positives 55° amb 7° incidència.

Reference / Ref.

|             | l     | s    | d    |
|-------------|-------|------|------|
| DC.. 0702.. | 7,75  | 2,38 | 6,35 |
| DC.. 11T3.. | 11,60 | 3,97 | 9,52 |



#### DCGT-AL



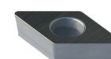
#### DCGT-AP



#### DCMT



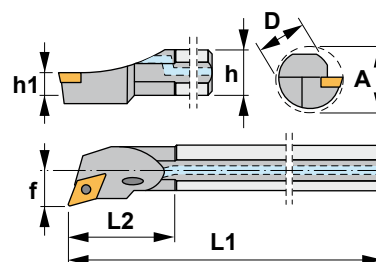
#### DCMW



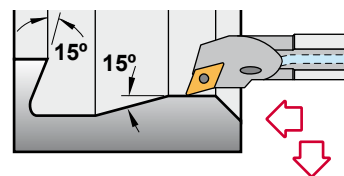
**Characteristics:**

Multipurpose profiling boring bar equipped with rhombic positive insert (angle 55°). For general applications, roughing, semi-finishing and finishing.

Axial 0°  
Radial -6°

**Característiques:**

Barra de mandrinar multifunció de copiat equipada amb plaqueta ròmbica positiva (angle 55°). Per aplicacions generals, desbast, semiacabat i acabat.



## A-SDQC 107°30'

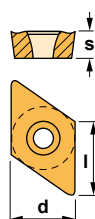
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta |       |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| A12K SDQC R/L 07        | 12 | 11 | 5,5  | 125 | 25 | 9  | 16 | DC.. 0702..                  | 0,100 |
| A16M SDQC R/L 07        | 16 | 15 | 7,5  | 150 | 30 | 11 | 20 | DC.. 0702..                  | 0,200 |
| A20Q SDQC R/L 11        | 20 | 18 | 9,0  | 180 | 35 | 13 | 24 | DC.. 11T3..                  | 0,400 |
| A25R SDQC R/L 11        | 25 | 23 | 11,5 | 200 | 40 | 17 | 31 | DC.. 11T3..                  | 0,700 |
| A32S SDQC R/L 11        | 32 | 30 | 15,0 | 250 | 45 | 22 | 39 | DC.. 11T3..                  | 1,400 |
| A40T SDQC R/L 11        | 40 | 37 | 18,5 | 300 | 50 | 27 | 48 | DC.. 11T3..                  | 2,650 |

| Reference<br>Referència |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|-----|
| A12K SDQC R/L 07        | 1225 | 5507 | -    | -    | 0.9 |
| A16M SDQC R/L 07        | 1225 | 5507 | -    | -    | 0.9 |
| A20Q SDQC R/L 11        | 1240 | 5515 | -    | -    | 3.0 |
| A25R SDQC R/L 11        | 1240 | 5515 | -    | -    | 3.0 |
| A32S SDQC R/L 11        | 1335 | 5516 | 3714 | 1750 | 3.0 |
| A40T SDQC R/L 11        | 1335 | 5516 | 3714 | 1750 | 3.0 |

**DC..**

55° rhombic positive inserts with 7° clearance. A35  
Plaquetes ròmbiques positives 55° amb 7° incidència.

| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| DC.. 0702..      | 7,75  | 2,38 | 6,35 |
| DC.. 11T3..      | 11,60 | 3,97 | 9,52 |

**DCGT-AL****DCGT-AP****DCMT****DCMW**



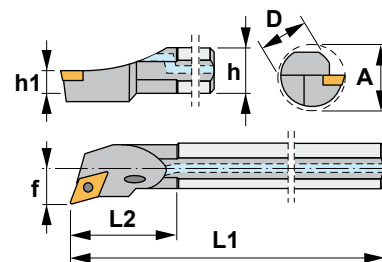
**Characteristics:**

Set of multipurpose profiling boring bars equipped with rhombic positive insert (angle 55°).

For general applications, roughing, semi-finishing and finishing.

Axial 0°

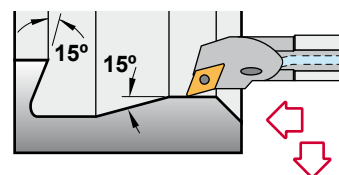
Radial -6°



**Característiques:**

Set de barres de mandrinar multifunció de copiat equipades amb plaqueta ròmbica positiva (angle 55°).

Per aplicacions generals, desbast, semiacabat i acabat.



## SET SDQC 107°30'

| Reference<br>Referència | D  | d  | L1  | L2 | f  | A    | h  | Insert size<br>Mida plaqueta |  Kg |
|-------------------------|----|----|-----|----|----|------|----|------------------------------|----------------------------------------------------------------------------------------|
| A0810J SDQC R/L 07      | 10 | 8  | 110 | 32 | 7  | 12,5 | 9  | DC.. 0702..                  | 0,350                                                                                  |
| A1012K SDQC R/L 07      | 12 | 10 | 125 | 38 | 9  | 15,5 | 11 | DC.. 0702..                  |                                                                                        |
| A1216M SDQC R/L 07      | 16 | 12 | 150 | 50 | 11 | 19,5 | 15 | DC.. 0702..                  |                                                                                        |

| Reference<br>Referència |  |  | Nm  |
|-------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|
| A0810J SDQC R/L 07      | 1225                                                                                | 5507                                                                                  | 0.9 |
| A1012K SDQC R/L 07      | 1225                                                                                | 5507                                                                                  | 0.9 |
| A1216M SDQC R/L 07      | 1225                                                                                | 5507                                                                                  | 0.9 |

### DC..

55° rhombic positive inserts with 7° clearance.  A35  
Plaquetes ròmbiques positives 55° amb 7° incidència.

Reference / Ref.

l

s

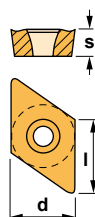
d

DC.. 0702..

7,75

2,38

6,35



DCGT-AL



DCGT-AP



DCMT



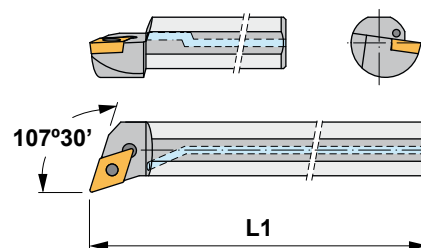
DCMW



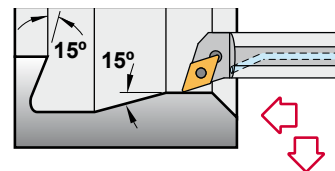
**Characteristics:**

Carbide boring bar equipped with rhombic positive insert (angle 55°).  
Range starting at Ø10 mm and minimum bore diameter of 14 mm.

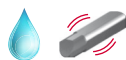
Axial 0°  
Radial -6°

**Característiques:**

Barra de mandrinar amb mànec de metall dur equipada amb plaqueta ròmbica positiva (angle 55°).  
Eines a partir de Ø10 mm i un forat mínim de 14 mm.



## E-SDQC 107°30'



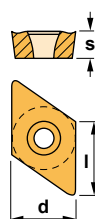
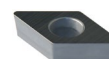
| Reference<br>Referència | L1 Total length (mm)<br>L1 Llargada total (mm) | Ø min. (mm) | Insert size<br>Mida plaqueta | kg    |
|-------------------------|------------------------------------------------|-------------|------------------------------|-------|
| E10M SDQCL 07           | 150                                            | 14          | DC.. 0702..                  | 0,165 |
| E10M SDQCR 07           | 150                                            | 14          | DC.. 0702..                  | 0,165 |
| E12Q SDQCL 07           | 180                                            | 17          | DC.. 0702..                  | 0,270 |
| E12Q SDQCR 07           | 180                                            | 17          | DC.. 0702..                  | 0,270 |
| E16R SDQCL 07           | 200                                            | 21          | DC.. 0702..                  | 0,520 |
| E16R SDQCR 07           | 200                                            | 21          | DC.. 0702..                  | 0,520 |
| E20S SDQCR 07           | 250                                            | 25          | DC.. 0702..                  | 0,800 |
| E25T SDQCR 11           | 300                                            | 32          | DC.. 11T3..                  | 1,000 |

| Reference<br>Referència |      |      | Nm  |
|-------------------------|------|------|-----|
| E10M SDQCL 07           | 1425 | 5507 | 0.9 |
| E10M SDQCR 07           | 1425 | 5507 | 0.9 |
| E12Q SDQCL 07           | 1225 | 5507 | 0.9 |
| E12Q SDQCR 07           | 1225 | 5507 | 0.9 |
| E16R SDQCL 07           | 1225 | 5507 | 0.9 |
| E16R SDQCR 07           | 1225 | 5507 | 0.9 |
| E20S SDQCR 07           | 1225 | 5507 | 0.9 |
| E25T SDQCR 11           | 1240 | 5515 | 3.0 |

**DC..**

55° rhombic positive inserts with 7° clearance. A35  
Plaquetes ròmbiques positives 55° amb 7° incidència.

| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| DC.. 0702..      | 7,75  | 2,38 | 6,35 |
| DC.. 11T3..      | 11,60 | 3,97 | 9,52 |

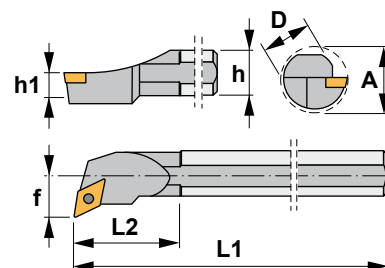
**DCGT-AL****DCGT-AP****DCMT****DCMW**



#### Characteristics:

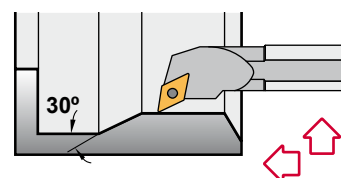
Multipurpose profiling boring bar equipped with rhombic positive insert (angle 55°).  
For boring bars with negative inserts see Ref. MDUN-K (Page: A179) or PDUN (Page: A190).

Axial 0°  
Radial -6°



#### Característiques:

Barra de mandrinar de copiat multifunció equipada amb plaqueta ròmbica positiva (angle 55°).  
Per barres de mandrinar de plaqueta negativa, veieu ref. MDUN-K (Pàgina: A179) o PDUN (Pàgina: A190).



## SDUC 93°

| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S10M SDUC R/L 07        | 10 | 9  | 4,5  | 150 | 22 | 7  | 13 | DC.. 0702..                  | 0,060 |
| S12M SDUC R/L 07        | 12 | 11 | 5,5  | 150 | 25 | 9  | 16 | DC.. 0702..                  | 0,150 |
| S12Q SDUC R/L 07        | 12 | 11 | 5,5  | 180 | 25 | 9  | 16 | DC.. 0702..                  | 0,150 |
| S16R SDUC R/L 07        | 16 | 15 | 7,5  | 200 | 30 | 11 | 20 | DC.. 0702..                  | 0,300 |
| S20S SDUC R/L 07        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | DC.. 0702..                  | 0,550 |
| S20S SDUC R/L 11        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | DC.. 11T3..                  | 0,550 |
| S25T SDUC R/L 11        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | DC.. 11T3..                  | 0,700 |
| S32U SDUC R/L 11        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | DC.. 11T3..                  | 2,050 |
| S40V SDUC R/L 11        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | DC.. 11T3..                  | 3,750 |

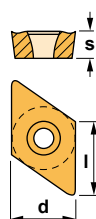
| Reference<br>Referència |  |  |  |  | Nm  |
|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|
| S10M SDUC R/L 07        | 1425                                                                                | 5507                                                                                | -                                                                                    | -                                                                                     | 0.9 |
| S12M SDUC R/L 07        | 1225                                                                                | 5507                                                                                | -                                                                                    | -                                                                                     | 0.9 |
| S12Q SDUC R/L 07        | 1225                                                                                | 5507                                                                                | -                                                                                    | -                                                                                     | 0.9 |
| S16R SDUC R/L 07        | 1225                                                                                | 5507                                                                                | -                                                                                    | -                                                                                     | 0.9 |
| S20S SDUC R/L 07        | 1225                                                                                | 5507                                                                                | -                                                                                    | -                                                                                     | 0.9 |
| S20S SDUC R/L 11        | 1240                                                                                | 5515                                                                                | -                                                                                    | -                                                                                     | 3.0 |
| S25T SDUC R/L 11        | 1240                                                                                | 5515                                                                                | -                                                                                    | -                                                                                     | 3.0 |
| S32U SDUC R/L 11        | 1335                                                                                | 5516                                                                                | 3714                                                                                 | 1750                                                                                  | 3.0 |
| S40V SDUC R/L 11        | 1335                                                                                | 5516                                                                                | 3714                                                                                 | 1750                                                                                  | 3.0 |

### DC..

55° rhombic positive inserts with 7° clearance.  A35  
Plaquetes ròmbiques positives 55° amb 7° incidència.

#### Reference / Ref.

|             | l     | s    | d    |
|-------------|-------|------|------|
| DC.. 0702.. | 7,75  | 2,38 | 6,35 |
| DC.. 11T3.. | 11,60 | 3,97 | 9,52 |



#### DCGT-AL



#### DCGT-AP



#### DCMT



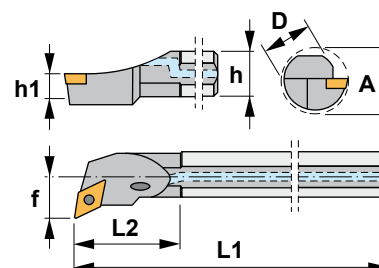
#### DCMW



**Characteristics:**

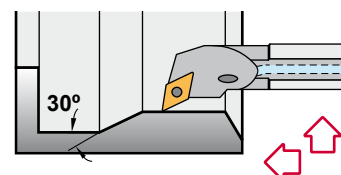
Multipurpose profiling boring bar equipped with rhombic positive insert (angle 55°).  
For boring bars with negative inserts see Ref. MDUN-K (Page: A179) or A-PDUN (Page: A191).

Axial 0°  
Radial -6°

**Característiques:**

Barra de mandrinar de copiat multifunció equipada amb plaqueta ròmbica positiva (angle 55°).

Per eines de mandrinar de plaqueta negativa, veieu ref. MDUN-K (Pàgina: A179) o A-PDUN (Pàgina: A191).



## A-SDUC 93°

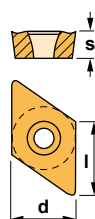
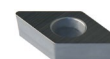
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| A12K SDUC R/L 07        | 12 | 11 | 5,5  | 125 | 25 | 9  | 16 | DC.. 0702..                  | 0,100 |
| A16M SDUC R/L 07        | 16 | 15 | 7,5  | 150 | 30 | 11 | 20 | DC.. 0702..                  | 0,200 |
| A20Q SDUC R/L 11        | 20 | 18 | 9,0  | 180 | 35 | 13 | 24 | DC.. 11T3..                  | 0,400 |
| A25R SDUC R/L 11        | 25 | 23 | 11,5 | 200 | 40 | 17 | 31 | DC.. 11T3..                  | 0,700 |
| A32S SDUC R/L 11        | 32 | 30 | 15,0 | 250 | 45 | 22 | 39 | DC.. 11T3..                  | 1,400 |
| A40T SDUC R/L 11        | 40 | 37 | 18,5 | 300 | 50 | 27 | 48 | DC.. 11T3..                  | 2,650 |

| Reference<br>Referència |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|-----|
| A12K SDUC R/L 07        | 1225 | 5507 | -    | -    | 0.9 |
| A16M SDUC R/L 07        | 1225 | 5507 | -    | -    | 0.9 |
| A20Q SDUC R/L 11        | 1440 | 5515 | -    | -    | 3.0 |
| A25R SDUC R/L 11        | 1240 | 5515 | -    | -    | 3.0 |
| A32S SDUC R/L 11        | 1335 | 5516 | 3714 | 1750 | 3.0 |
| A40T SDUC R/L 11        | 1335 | 5516 | 3714 | 1750 | 3.0 |

**DC..**

55° rhombic positive inserts with 7° clearance. A35  
Plaquetes ròmbiques positives 55° amb 7° incidència.

| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| DC.. 0702..      | 7,75  | 2,38 | 6,35 |
| DC.. 11T3..      | 11,60 | 3,97 | 9,52 |

**DCGT-AL****DCGT-AP****DCMT****DCMW**

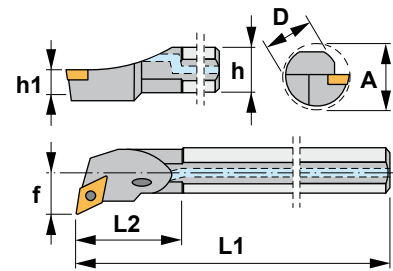


**Characteristics:**

Set of multipurpose profiling boring bars equipped with rhombic positive insert (angle 55°).

For boring bars with negative inserts see Ref. A-PDUN (Page: A191).

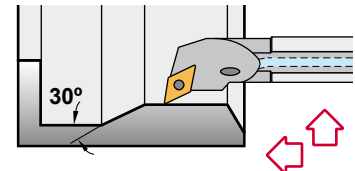
Axial 0°  
Radial -6°



**Característiques:**

Set de barres de mandrinar multifunció equipades amb plaqueta ròmbica positiva (angle 55°).

Per eines de mandrinar de plaqueta negativa, veieu ref. A-PDUN (Pàgina: A191).



## SET SDUC 93°

| Reference<br>Referència | D  | d  | L1  | L2 | f  | A    | h  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|-----|----|----|------|----|------------------------------|-------|
| A0810J SDUC R/L 07      | 10 | 8  | 110 | 32 | 7  | 12,5 | 9  | DC.. 0702..                  | 0,350 |
| A1012K SDUC R/L 07      | 12 | 10 | 125 | 38 | 9  | 15,5 | 11 | DC.. 0702..                  |       |
| A1216M SDUC R/L 07      | 16 | 12 | 150 | 50 | 11 | 19,5 | 15 | DC.. 0702..                  |       |

| Reference<br>Referència |      |      | Nm  |
|-------------------------|------|------|-----|
| A0810J SDUC R/L 07      | 1225 | 5507 | 0.9 |
| A1012K SDUC R/L 07      | 1225 | 5507 | 0.9 |
| A1216M SDUC R/L 07      | 1225 | 5507 | 0.9 |

### DC..

55° rhombic positive inserts with 7° clearance. A35  
Plaquetes ròmbiques positives 55° amb 7° incidència.

Reference / Ref.

DC.. 0702..

l

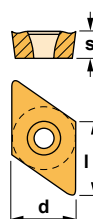
7,75

s

2,38

d

6,35



DCGT-AL



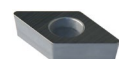
DCGT-AP



DCMT



DCMW



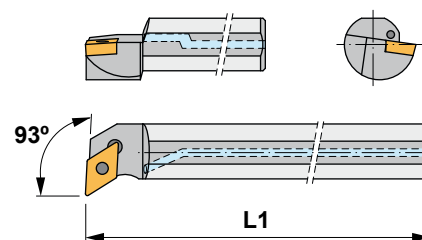
**Characteristics:**

Carbide boring bar equipped with rhombic positive insert (angle 55°).

Range starting at Ø10 mm and minimum bore diameter of 14 mm.

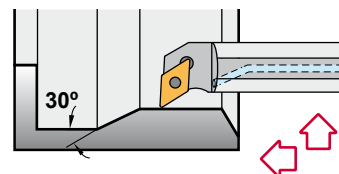
Axial 0°

Radial -6°

**Característiques:**

Barra de mandrinar amb mànec de metall dur equipada amb plaqueta ròmbica positiva (angle 55°).

Eines a partir de Ø10 mm i un forat mínim de 14 mm.



## E-SDUC 93°



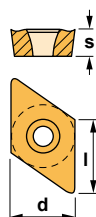
| Reference<br>Referència | L1 Total length (mm)<br>L1 Llargada total (mm) | Ø min. (mm) | Insert size<br>Mida plaqueta | kg    |
|-------------------------|------------------------------------------------|-------------|------------------------------|-------|
| E10M SDUCL 07           | 150                                            | 14          | DC.. 0702..                  | 0,165 |
| E10M SDUCR 07           | 150                                            | 14          | DC.. 0702..                  | 0,165 |
| E12Q SDUCL 07           | 180                                            | 17          | DC.. 0702..                  | 0,265 |
| E12Q SDUCR 07           | 180                                            | 17          | DC.. 0702..                  | 0,265 |
| E16R SDUCL 07           | 200                                            | 21          | DC.. 0702..                  | 0,525 |
| E16R SDUCR 07           | 200                                            | 21          | DC.. 0702..                  | 0,525 |
| E20S SDUCL 11           | 250                                            | 25          | DC.. 11T3..                  | 1,000 |
| E20S SDUCR 11           | 250                                            | 25          | DC.. 11T3..                  | 1,000 |
| E25T SDUCR 11           | 300                                            | 32          | DC.. 11T3..                  | 1,250 |

| Reference<br>Referència |  |  | Nm  |
|-------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|
| E10M SDUCL 07           | 1425                                                                                | 5507                                                                                  | 0.9 |
| E10M SDUCR 07           | 1425                                                                                | 5507                                                                                  | 0.9 |
| E12Q SDUCL 07           | 1225                                                                                | 5507                                                                                  | 0.9 |
| E12Q SDUCR 07           | 1225                                                                                | 5507                                                                                  | 0.9 |
| E16R SDUCL 07           | 1225                                                                                | 5507                                                                                  | 0.9 |
| E16R SDUCR 07           | 1225                                                                                | 5507                                                                                  | 0.9 |
| E20S SDUCL 11           | 1240                                                                                | 5515                                                                                  | 3.0 |
| E20S SDUCR 11           | 1240                                                                                | 5515                                                                                  | 3.0 |
| E25T SDUCR 11           | 1240                                                                                | 5515                                                                                  | 3.0 |

**DC..**

55° rhombic positive inserts with 7° clearance.  A35  
Plaquetes ròmbiques positives 55° amb 7° incidència.

| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| DC.. 0702..      | 7,75  | 2,38 | 6,35 |
| DC.. 11T3..      | 11,60 | 3,97 | 9,52 |

**DCGT-AL****DCGT-AP****DCMT****DCMW**

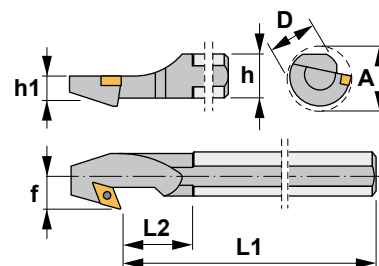


#### Characteristics:

Backwards multipurpose profiling boring bar equipped with rhombic positive insert (angle 55°).

For boring bars with negative inserts see Ref. PDUN-EX (Page: A192).

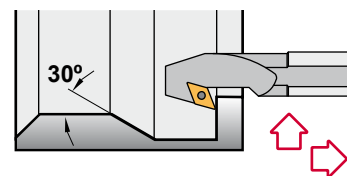
Axial 0°  
Radial -6°



#### Característiques:

Barra de mandrinar de copiat en retrocés, equipada amb plaqueta ròmbica positiva (angle 55°).

Per barres de mandrinar amb plaqueta negativa, veieu ref. PDUN-EX (Pàgina: A192).



## SDUC 93°-EX

| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S12MSDUCR/L07-EX        | 12 | 11 | 5,5  | 150 | 25 | 12 | 16 | DC.. 0702..                  | 0,150 |
| S16R SDUC R/L 07-EX     | 16 | 15 | 7,5  | 200 | 30 | 14 | 20 | DC.. 0702..                  | 0,300 |
| S20S SDUC R/L 07-EX     | 20 | 18 | 9,0  | 250 | 35 | 16 | 24 | DC.. 0702..                  | 0,550 |
| S20S SDUC R/L 11-EX     | 20 | 18 | 9,0  | 250 | 35 | 16 | 24 | DC.. 11T3..                  | 0,550 |
| S25T SDUC R/L 11-EX     | 25 | 23 | 11,5 | 300 | 40 | 23 | 31 | DC.. 11T3..                  | 0,700 |
| S32U SDUC R/L 11-EX     | 32 | 30 | 15,0 | 350 | 50 | 27 | 39 | DC.. 11T3..                  | 2,050 |
| S40V SDUC R/L 11-EX     | 40 | 37 | 18,5 | 400 | 60 | 31 | 48 | DC.. 11T3..                  | 3,750 |

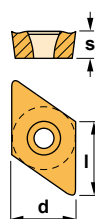
| Reference<br>Referència |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|-----|
| S12MSDUCR/L07-EX        | 1225 | 5507 | -    | -    | 0.9 |
| S16R SDUC R/L 07-EX     | 1225 | 5507 | -    | -    | 0.9 |
| S20S SDUC R/L 07-EX     | 1225 | 5507 | -    | -    | 0.9 |
| S20S SDUC R/L 11-EX     | 1240 | 5515 | -    | -    | 3.0 |
| S25T SDUC R/L 11-EX     | 1240 | 5515 | -    | -    | 3.0 |
| S32U SDUC R/L 11-EX     | 1335 | 5516 | 3714 | 1750 | 3.0 |
| S40V SDUC R/L 11-EX     | 1335 | 5516 | 3714 | 1750 | 3.0 |

### DC..

55° rhombic positive inserts with 7° clearance. A35  
Plaquetes ròmbiques positives 55° amb 7° incidència.

#### Reference / Ref.

|             | l     | s    | d    |
|-------------|-------|------|------|
| DC.. 0702.. | 7,75  | 2,38 | 6,35 |
| DC.. 11T3.. | 11,60 | 3,97 | 9,52 |



#### DCGT-AL



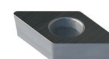
#### DCGT-AP



#### DCMT



#### DCMW

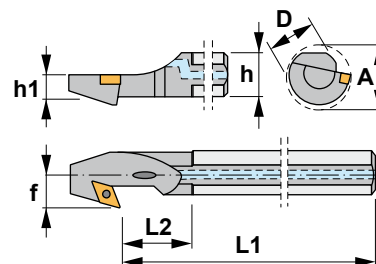


**Characteristics:**

Backwards multipurpose profiling boring bar equipped with rhombic positive insert (angle 55°).

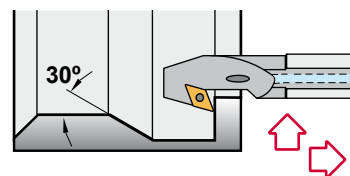
For boring bars with negative inserts see Ref. PDUN-EX (Page: A192).

Axial 0°  
Radial -6°

**Característiques:**

Barres de mandrinar de copiat en retrocés, equipada amb plaqueta ròmbica positiva (angle 55°).

Per barres de mandrinar amb plaqueta negativa, veieu ref. PDUN-EX (Pàgina: A192).



## A-SDUC 93°-EX

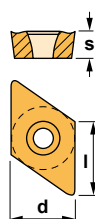
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta |  Kg |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|----------------------------------------------------------------------------------------|
| A12K SDUC R/L 07-EX     | 12 | 11 | 5,5  | 125 | 25 | 12 | 16 | DC.. 0702..                  | 0,100                                                                                  |
| A16M SDUC R/L 07-EX     | 16 | 15 | 7,5  | 150 | 30 | 14 | 20 | DC.. 0702..                  | 0,200                                                                                  |
| A20Q SDUC R/L 11-EX     | 20 | 18 | 9,0  | 180 | 35 | 16 | 24 | DC.. 11T3..                  | 0,400                                                                                  |
| A25R SDUC R/L 11-EX     | 25 | 23 | 11,5 | 200 | 40 | 23 | 31 | DC.. 11T3..                  | 0,700                                                                                  |

| Reference<br>Referència |  |  | Nm  |
|-------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|
| A12K SDUC R/L 07-EX     | 1225                                                                                | 5507                                                                                  | 0.9 |
| A16M SDUC R/L 07-EX     | 1225                                                                                | 5507                                                                                  | 0.9 |
| A20Q SDUC R/L 11-EX     | 1240                                                                                | 5515                                                                                  | 3.0 |
| A25R SDUC R/L 11-EX     | 1240                                                                                | 5515                                                                                  | 3.0 |

**DC..**

55° rhombic positive inserts with 7° clearance.  A35  
Plaquetes ròmbiques positives 55° amb 7° incidència.

| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| DC.. 0702..      | 7,75  | 2,38 | 6,35 |
| DC.. 11T3..      | 11,60 | 3,97 | 9,52 |

**DCGT-AL****DCGT-AP****DCMT****DCMW**



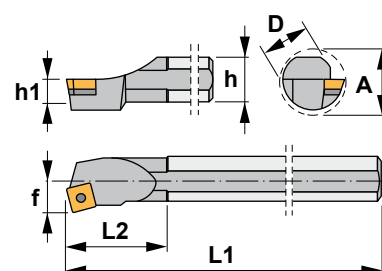
#### Characteristics:

Multipurpose boring bar equipped with square positive insert.

For boring bars with negative inserts see Ref. MSKN-K (Page: A180) or PSKN (Page: A193).

Axial 0°

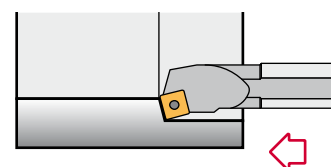
Radial -8°



#### Característiques:

Barra de mandrinar multifunció equipada amb plaqueta quadrada positiva.

Per barres de mandrinar amb plaqueta negativa, veieu ref. MSKN-K (Pàgina: A180) o PSKN (Pàgina: A193).



## SSKC 75°

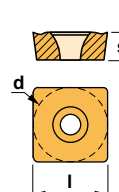
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta |  |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------------------------------------------------------------------------------------|
| S16R SSKC R/L 09        | 16 | 15 | 7,5  | 200 | 30 | 11 | 20 | SC.. 09T3..                  | 0,300                                                                               |
| S20S SSKC R/L 09        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | SC.. 09T3..                  | 0,550                                                                               |
| S25T SSKC R/L 09        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | SC.. 09T3..                  | 0,700                                                                               |
| S32U SSKC R/L 12        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | SC.. 1204..                  | 2,050                                                                               |
| S40V SSKC R/L 12        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | SC.. 1204..                  | 3,750                                                                               |
| S50W SSKC R/L 12        | 50 | 47 | 23,5 | 450 | 60 | 35 | 61 | SC.. 1204..                  | 6,500                                                                               |

| Reference<br>Referència |  |  |  |  | Nm  |
|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|
| S16R SSKC R/L 09        | 1440                                                                                | 5515                                                                                | -                                                                                    | -                                                                                     | 3.0 |
| S20S SSKC R/L 09        | 1240                                                                                | 5515                                                                                | -                                                                                    | -                                                                                     | 3.0 |
| S25T SSKC R/L 09        | 1240                                                                                | 5515                                                                                | -                                                                                    | -                                                                                     | 3.0 |
| S32U SSKC R/L 12        | 1540                                                                                | 5517                                                                                | 3514                                                                                 | 1760                                                                                  | 3.0 |
| S40V SSKC R/L 12        | 1540                                                                                | 5517                                                                                | 3514                                                                                 | 1760                                                                                  | 3.0 |
| S50W SSKC R/L 12        | 1540                                                                                | 5517                                                                                | 3514                                                                                 | 1760                                                                                  | 3.0 |

### SC..

Square positive inserts with 7° clearance.  A40  
Plaquetes quadrades positives amb 7° incidència.

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| SC.. 09T3..      | 9,52  | 3,97 | 9,52  |
| SC.. 1204..      | 12,70 | 4,76 | 12,70 |



#### SCGT-AL



#### SCMT



#### SCMT-39



#### SCMW

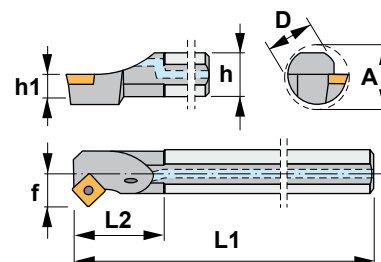


**Characteristics:**

Multipurpose boring bar equipped with square positive insert.

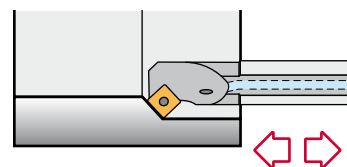
For boring bars with negative inserts see Ref. A-PSSN (Page: A195).

Axial 0°  
Radial -8°

**Característiques:**

Barra de mandrinar multifunció equipada amb plaqueta quadrada positiva.

Per barres de mandrinar amb plaqueta negativa, veieu ref. A-PSSN (Pàgina: A195).



## A-SSSC 45°

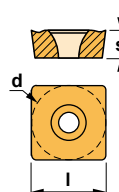
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| A16M SSSC R/L 09        | 16 | 15 | 7,5  | 150 | 30 | 11 | 20 | SC.. 09T3..                  | 0,300 |
| A20Q SSSC R/L 09        | 20 | 18 | 9,0  | 180 | 35 | 13 | 24 | SC.. 09T3..                  | 0,550 |
| A25R SSSC R/L 09        | 25 | 23 | 11,5 | 200 | 40 | 17 | 31 | SC.. 09T3..                  | 0,700 |

| Reference<br>Referència |      |      | Nm  |
|-------------------------|------|------|-----|
| A16M SSSC R/L 09        | 1440 | 5515 | 3.0 |
| A20Q SSSC R/L 09        | 1440 | 5515 | 3.0 |
| A25R SSSC R/L 09        | 1240 | 5515 | 3.0 |

**SC..**

Square positive inserts with 7° clearance. A40  
Plaquetes quadrades positives amb 7° incidència.

| Reference / Ref. | l    | s    | d    |
|------------------|------|------|------|
| SC.. 09T3..      | 9,52 | 3,97 | 9,52 |

**SCGT-AL****SCMT****SCMT-39****SCMW**

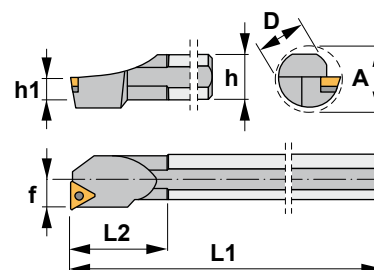


#### Characteristics:

Multipurpose boring bar equipped with triangular positive insert.

For boring bars with negative inserts see Ref. MTFN (Page: A181), MTFN-K (Page: A182) or PTFN (Page: A196).

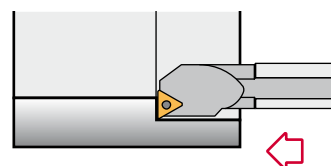
Axial 0°  
Radial -6°



#### Característiques:

Barra de mandrinar multifunció equipada amb plaqueta triangular positiva.

Per barres de mandrinar amb plaqueta negativa, veieu ref. MTFN (Pàgina: A181), MTFN-K (Pàgina: A182) o PTFN (Pàgina: A196).



## STFC 90°

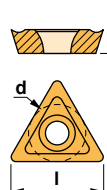
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S10M STFC R/L 09        | 10 | 9  | 4,5  | 150 | 22 | 7  | 13 | TC.. 0902..                  | 0,060 |
| S12M STFC R/L 09        | 12 | 11 | 5,5  | 150 | 25 | 9  | 16 | TC.. 0902..                  | 0,150 |
| S12M STFC R/L 11        | 12 | 11 | 5,5  | 150 | 25 | 9  | 16 | TC.. 1102..                  | 0,150 |
| S12Q STFC R/L 11        | 12 | 11 | 5,5  | 180 | 25 | 9  | 16 | TC.. 1102..                  | 0,050 |
| S16R STFC R/L 11        | 16 | 15 | 7,5  | 200 | 30 | 11 | 20 | TC.. 1102..                  | 0,300 |
| S20S STFC R/L 11        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | TC.. 1102..                  | 0,550 |
| S16R STFC R/L 16        | 16 | 15 | 7,5  | 200 | 30 | 11 | 20 | TC.. 16T3..                  | 0,300 |
| S20S STFC R/L 16        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | TC.. 16T3..                  | 0,550 |
| S25T STFC R/L 16        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | TC.. 16T3..                  | 0,700 |
| S32U STFC R/L 16        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | TC.. 16T3..                  | 2,050 |
| S40V STFC R/L 16        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | TC.. 16T3..                  | 3,750 |

| Reference<br>Referència |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|-----|
| S10M STFC R/L 09        | 1222 | 5506 | -    | -    | 0.6 |
| S12M STFC R/L 09        | 1222 | 5506 | -    | -    | 0.6 |
| S12M STFC R/L 11        | 1225 | 5507 | -    | -    | 0.9 |
| S12Q STFC R/L 11        | 1225 | 5507 | -    | -    | 0.9 |
| S16R STFC R/L 11        | 1225 | 5507 | -    | -    | 0.9 |
| S20S STFC R/L 11        | 1225 | 5507 | -    | -    | 0.9 |
| S16R STFC R/L 16        | 1240 | 5515 | -    | -    | 3.0 |
| S20S STFC R/L 16        | 1240 | 5515 | -    | -    | 3.0 |
| S25T STFC R/L 16        | 1240 | 5515 | -    | -    | 3.0 |
| S32U STFC R/L 16        | 1335 | 5516 | 3414 | 1750 | 3.0 |
| S40V STFC R/L 16        | 1335 | 5516 | 3414 | 1750 | 3.0 |

### TC..

Triangular positive inserts with 7° clearance. A44  
Plaquetes triangulars positives amb 7° incidència.

| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| TC.. 0902..      | 9,62  | 2,38 | 5,55 |
| TC.. 1102..      | 11,00 | 2,38 | 6,35 |
| TC.. 16T3..      | 16,50 | 3,97 | 9,52 |



#### TCGT-AL



#### TCMT



#### TCMW

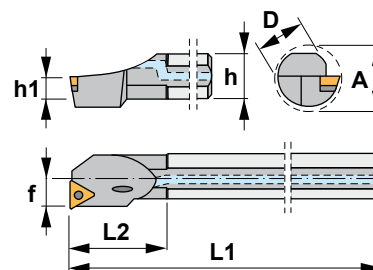


**Characteristics:**

Multipurpose boring bar equipped with triangular positive insert.

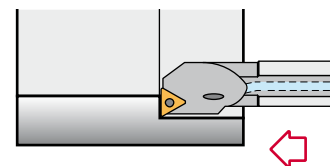
For boring bars with negative inserts see Ref. MTFN (Page: A181), MTFN-K (Page: A182) or A-PTFN (Page: A197).

Axial 0°  
Radial -6°

**Característiques:**

Barra de mandrinar multifunció equipada amb plaqueta triangular positiva.

Per barres de mandrinar de plaqueta negativa, veieu ref. MTFN (Pàgina: A181), MTFN-K (Pàgina: A182) o A-PTFN (Pàgina: A197).



## A-STFC 90°



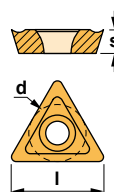
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| A10H STFC R/L 09        | 10 | 9  | 4,5  | 100 | 20 | 7  | 13 | TC.. 0902..                  | 0,040 |
| A12K STFC R/L 11        | 12 | 11 | 5,5  | 125 | 25 | 9  | 16 | TC.. 1102..                  | 0,100 |
| A16M STFC R/L 11        | 16 | 15 | 7,5  | 150 | 30 | 11 | 20 | TC.. 1102..                  | 0,200 |
| A20Q STFC R/L 11        | 20 | 18 | 9,0  | 180 | 35 | 13 | 24 | TC.. 1102..                  | 0,400 |
| A20Q STFC R/L 16        | 20 | 18 | 7,5  | 180 | 35 | 11 | 20 | TC.. 16T3..                  | 0,400 |
| A25R STFC R/L 16        | 25 | 23 | 11,5 | 200 | 40 | 17 | 31 | TC.. 16T3..                  | 0,700 |
| A32S STFC R/L 16        | 32 | 30 | 15,0 | 250 | 45 | 22 | 39 | TC.. 16T3..                  | 1,400 |
| A40T STFC R/L 16        | 40 | 37 | 18,5 | 300 | 50 | 27 | 48 | TC.. 16T3..                  | 2,650 |

| Reference<br>Referència |  |  |  |  | Nm  |
|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|
| A10H STFC R/L 09        | 1222                                                                                | 5506                                                                                | -                                                                                    | -                                                                                     | 0.6 |
| A12K STFC R/L 11        | 1225                                                                                | 5507                                                                                | -                                                                                    | -                                                                                     | 0.9 |
| A16M STFC R/L 11        | 1225                                                                                | 5507                                                                                | -                                                                                    | -                                                                                     | 0.9 |
| A20Q STFC R/L 11        | 1225                                                                                | 5507                                                                                | -                                                                                    | -                                                                                     | 0.9 |
| A20Q STFC R/L 16        | 1240                                                                                | 5515                                                                                | -                                                                                    | -                                                                                     | 3.0 |
| A25R STFC R/L 16        | 1240                                                                                | 5515                                                                                | -                                                                                    | -                                                                                     | 3.0 |
| A32S STFC R/L 16        | 1335                                                                                | 5516                                                                                | 3414                                                                                 | 1750                                                                                  | 3.0 |
| A40T STFC R/L 16        | 1335                                                                                | 5516                                                                                | 3414                                                                                 | 1750                                                                                  | 3.0 |

**TC..**

Triangular positive inserts with 7° clearance.  A44  
Plaquetes triangulars positives amb 7° incidència.

| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| TC.. 0902..      | 9,62  | 2,38 | 5,55 |
| TC.. 1102..      | 11,00 | 2,38 | 6,35 |
| TC.. 16T3..      | 16,50 | 3,97 | 9,52 |

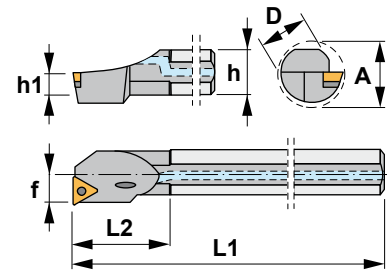
**TCGT-AL****TCMT****TCMW**



**Characteristics:**

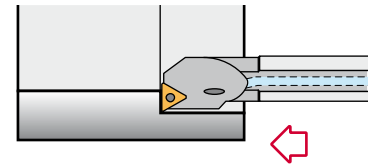
Set of multipurpose boring bars equipped with triangular positive insert.  
For boring bars with negative inserts see Ref. A-PTFN (Page: A197).

Axial 0°  
Radial -6°



**Característiques:**

Set de barres de mandrinar equipades amb plaqueta triangular positiva.  
Per barres de mandrinar de plaqueta negativa, veieu ref. A-PTFN (Pàgina: A197).



## SET STFC 90°

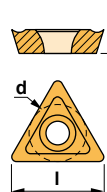
| Reference<br>Referència | D  | d  | L1  | L2 | f  | A    | h  | Insert size<br>Mida plaqueta |  |
|-------------------------|----|----|-----|----|----|------|----|------------------------------|-------------------------------------------------------------------------------------|
| A0810J STFC R/L 11      | 10 | 8  | 110 | 32 | 7  | 12,5 | 9  | TC.. 1102..                  | 0,350                                                                               |
| A1012K STFC R/L 11      | 12 | 10 | 125 | 38 | 9  | 15,5 | 11 | TC.. 1102..                  |                                                                                     |
| A1216M STFC R/L 11      | 16 | 12 | 150 | 50 | 11 | 19,5 | 15 | TC.. 1102..                  |                                                                                     |

| Reference<br>Referència |  |  | Nm  |
|-------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|
| A0810J STFC R/L 11      | 1425                                                                                | 5507                                                                                  | 0.9 |
| A1012K STFC R/L 11      | 1225                                                                                | 5507                                                                                  | 0.9 |
| A1216M STFC R/L 11      | 1225                                                                                | 5507                                                                                  | 0.9 |

### TC..

Triangular positive inserts with 7° clearance.  A44  
Plaquetes triangulars positives amb 7° incidència.

| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| TC.. 1102..      | 11,00 | 2,38 | 6,35 |



#### TCGT-AL

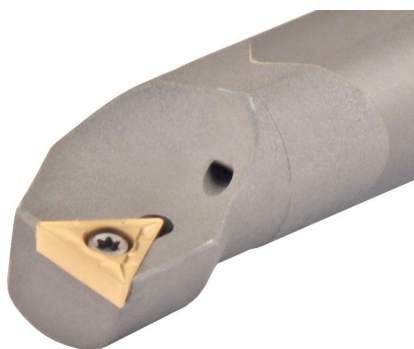


#### TCMT



#### TCMW



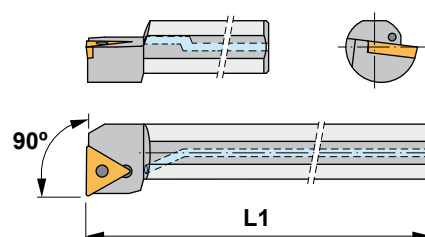
**Characteristics:**

Carbide boring bar equipped with triangular positive insert.

Range starting at Ø12 mm and minimum bore diameter of 17 mm.

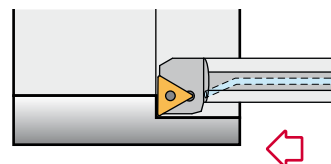
Axial 0°

Radial -6°

**Característiques:**

Barra de mandrinar amb mànec de metall dur equipada amb plaqueta triangular positiva.

Barres de mandrinar a partir de Ø12 mm i un forat mínim de 17 mm.

**E-STFC 90°**

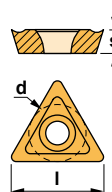
| Reference<br>Referència | L1 Total length (mm)<br>L1 Llargada total (mm) | Ø min. (mm) | Insert size<br>Mida plaqueta |       |
|-------------------------|------------------------------------------------|-------------|------------------------------|-------|
| E12Q STFCL 11           | 180                                            | 17          | TC.. 1102..                  | 0,270 |
| E12Q STFCR 11           | 180                                            | 17          | TC.. 1102..                  | 0,270 |
| E16R STFCL 11           | 200                                            | 21          | TC.. 1102..                  | 0,510 |
| E16R STFCR 11           | 200                                            | 21          | TC.. 1102..                  | 0,510 |
| E20S STFCL 11           | 250                                            | 25          | TC.. 1102..                  | 1,000 |
| E20S STFCR 11           | 250                                            | 25          | TC.. 1102..                  | 1,000 |

| Reference<br>Referència |      |      | Nm  |
|-------------------------|------|------|-----|
| E12Q STFCL 11           | 1225 | 5507 | 0.9 |
| E12Q STFCR 11           | 1225 | 5507 | 0.9 |
| E16R STFCL 11           | 1225 | 5507 | 0.9 |
| E16R STFCR 11           | 1225 | 5507 | 0.9 |
| E20S STFCL 11           | 1225 | 5507 | 0.9 |
| E20S STFCR 11           | 1225 | 5507 | 0.9 |

**TC..**

Triangular positive inserts with 7° clearance. A44  
Plaquetes triangulars positives amb 7° incidència.

| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| TC.. 1102..      | 11,00 | 2,38 | 6,35 |

**TCGT-AL****TCMT****TCMW**



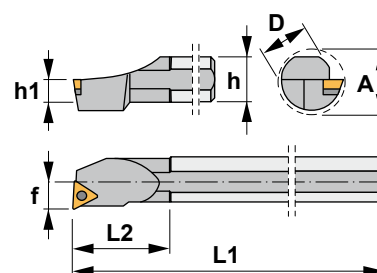
#### Characteristics:

Multipurpose boring bar equipped with triangular positive insert.

For boring bars with negative inserts see Ref. MTUN (Page: A183).

Axial 0°

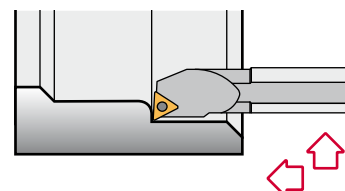
Radial -4°



#### Característiques:

Barra de mandrinar multifunció equipada amb plaqueta triangular positiva.

Per barres de mandrinar de plaqueta negativa veieu ref. MTUN (Pàgina: A183).



## STUC 93°

| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S12M STUC R/L 11        | 12 | 11 | 5,5  | 150 | 25 | 9  | 16 | TC.. 1102..                  | 0,150 |
| S16R STUC R/L 16        | 16 | 15 | 7,5  | 200 | 30 | 11 | 20 | TC.. 16T3..                  | 0,300 |
| S20S STUC R/L 16        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | TC.. 16T3..                  | 0,550 |
| S25T STUC R/L 16        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | TC.. 16T3..                  | 0,700 |
| S32U STUC R/L 16        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | TC.. 16T3..                  | 2,050 |

| Reference<br>Referència |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|-----|
| S12M STUC R/L 11        | 1225 | 5507 | -    | -    | 0.9 |
| S16R STUC R/L 16        | 1240 | 5515 | -    | -    | 3.0 |
| S20S STUC R/L 16        | 1240 | 5515 | -    | -    | 3.0 |
| S25T STUC R/L 16        | 1240 | 5515 | -    | -    | 3.0 |
| S32U STUC R/L 16        | 1335 | 5516 | 3414 | 1750 | 3.0 |

### TC..

Triangular positive inserts with 7° clearance. A44  
Plaquetes triangulars positives amb 7° incidència.

Reference / Ref.

l

s

d

TC.. 1102..

11,00

2,38

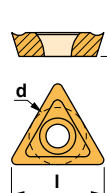
6,35

TC.. 16T3..

16,50

3,97

9,52



TCGT-AL



TCMT



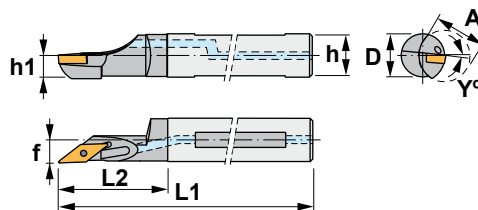
TCMW



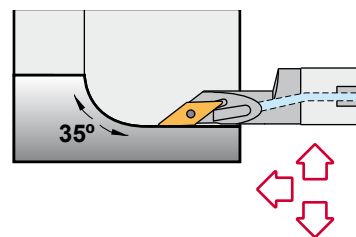
**Characteristics:**

Multipurpose profiling boring bar equipped with rhombic positive insert (angle 35°). For general applications, roughing, semi-finishing and finishing.

Axial 0°  
Radial -6°

**Característiques:**

Barra de mandrinar multifunció per copiat equipada amb plaqueta ròmbica positiva (angle 35°). Per aplicacions generals, desbast, semiacabat i acabat.



## A-SVJC 93°

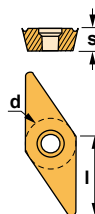
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f    | A  | Y° | Insert size<br>Mida plaqueta |  |
|-------------------------|----|----|------|-----|----|------|----|----|------------------------------|-------------------------------------------------------------------------------------|
| A16M SVJC R/L 11        | 16 | 15 | 7,5  | 150 | 30 | 8,5  | 22 | 22 | VC.. 1103..                  | 0,190                                                                               |
| A20Q SVJC R/L 11        | 20 | 18 | 9,0  | 180 | 35 | 10,5 | 25 | 25 | VC.. 1103..                  | 0,350                                                                               |
| A25R SVJC R/L 16        | 25 | 23 | 11,5 | 200 | 40 | 13,0 | 28 | 28 | VC.. 1604..                  | 0,590                                                                               |

| Reference<br>Referència |  |  | Nm  |
|-------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|
| A16M SVJC R/L 11        | 1225                                                                                | 5507                                                                                  | 0.9 |
| A20Q SVJC R/L 11        | 1225                                                                                | 5507                                                                                  | 0.9 |
| A25R SVJC R/L 16        | 1240                                                                                | 5515                                                                                  | 3.0 |

**VC..**

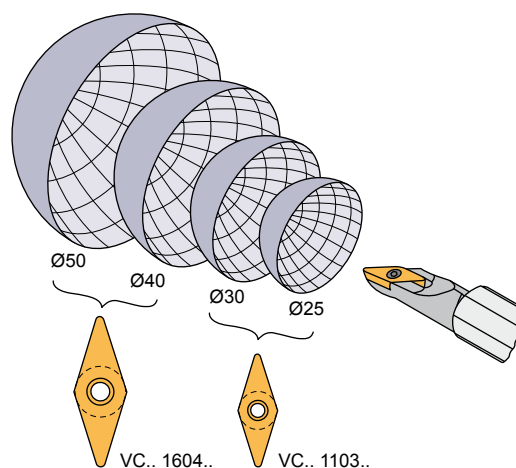
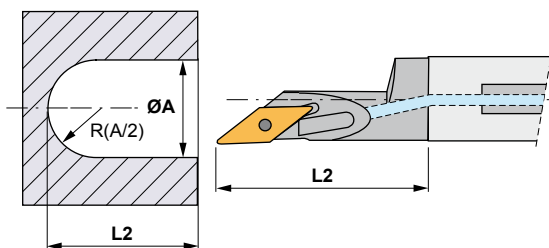
35° rhombic positive inserts with 7° clearance.  A48  
Plaquetes ròmbiques positives de 35° amb 7° incidència.

| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| VC.. 1103..      | 11,00 | 3,18 | 6,35 |
| VC.. 1604..      | 16,50 | 4,76 | 9,52 |

**VC GT-AL****VC GT-AP****VCMT**

## Application of A-SVJC 93° Aplicació de l'eina A-SVJC 93°

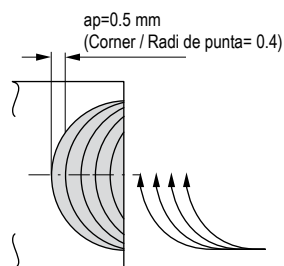
### Application range / Gamma d'aplicacions



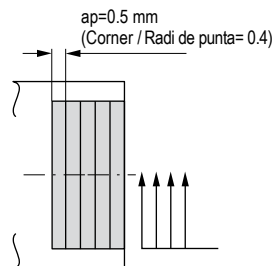
### Machining method / Mètode de mecanitzat

#### Case with no existing hole / Ex. sense forat preexistent

##### Spherical machining Mecanitzat esfèric



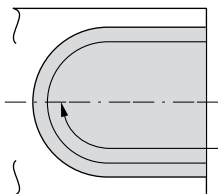
##### Internal facing Refrentat interior



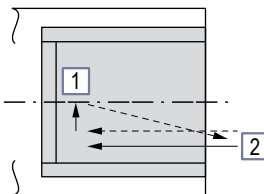
\*Note: Feed rate shall be under 0.05 mm/rev at internal facing.  
\*Nota: L'avanc (f) ha de ser inferior a 0.05 mm/rev en el refrentat interior.

#### Finishing / Acabat

##### Spherical machining Mecanitzat esfèric



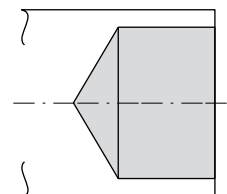
##### Internal facing Refrentat interior



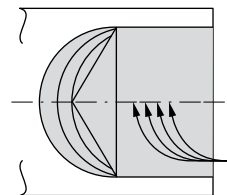
\*Machining process / \*Procés de mecanitzat  
1 Finish the internal face first / Acabeu primer el refrentat interior.  
2 Next, finish the internal diameter / A continuació, acabeu el diàmetre interior.

#### Case with drilled hole / Ex. amb forat preexistent

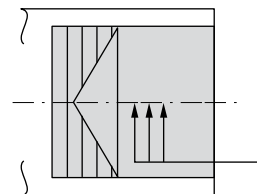
##### Drilled hole / Forat preexistent



##### Spherical machining / Mecanitzat esfèric

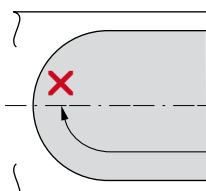


##### Internal facing / Refrentat interior

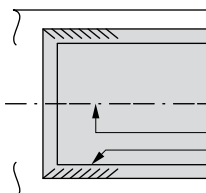


\*Note: Feed rate shall be under 0.05 mm/rev at internal facing.  
\*Nota: L'avanc (f) ha de ser inferior a 0.05 mm/rev en el refrentat interior.

### Caution / Atenció

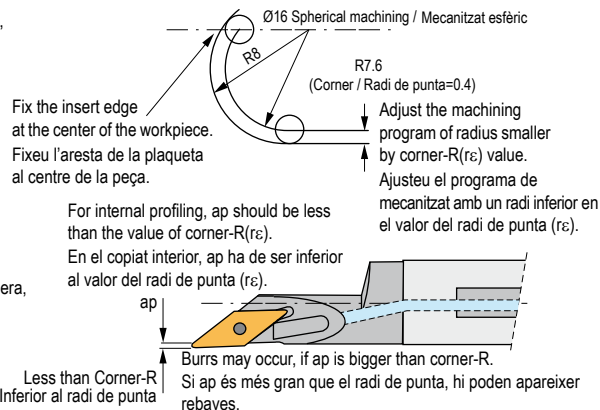


When machining past the center of the workpiece, insert breakage may occur.  
Al mecanitzar més enllà del centre de la peça, es pot trencar la plaqueta.



Machining of this kind is possible, but the oblique part may be scratched by chips.  
És possible realitzar el mecanitzat d'aquesta manera, però les ferritges poden ratllar la part obliqua.

Poor finish  
Mal acabat



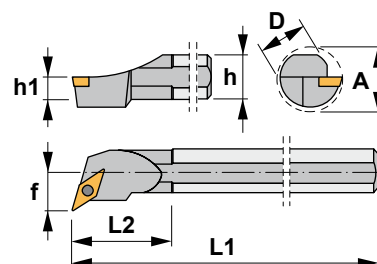
**Characteristics:**

Multipurpose profiling boring bar equipped with rhombic positive insert (angle 35°).

For general applications, roughing, semi-finishing and finishing.

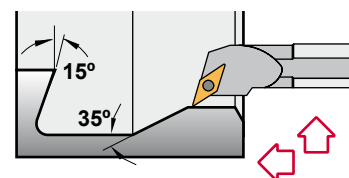
Axial 0°

Radial -6°

**Característiques:**

Barra de mandrinar multifunció de copiat equipada amb plaqueta ròmbica positiva (angle 35°).

Per aplicacions generals, desbast, semiacabat i acabat.



## SVQC 107°30'

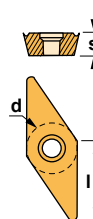
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S16R SVQC R/L 11        | 16 | 15 | 7,5  | 200 | 30 | 11 | 20 | VC.. 1103..                  | 0,300 |
| S20S SVQC R/L 11        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | VC.. 1103..                  | 0,550 |
| S16R SVQC R/L 13        | 16 | 15 | 7,5  | 200 | 30 | 13 | 22 | VC.. 1303..                  | 0,300 |
| S20S SVQC R/L 13        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | VC.. 1303..                  | 0,550 |
| S25T SVQC R/L 16        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | VC.. 1604..                  | 0,700 |

| Reference<br>Referència |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|-----|
| S16R SVQC R/L 11        | 1225 | 5507 | -    | -    | 0.9 |
| S20S SVQC R/L 11        | 1225 | 5507 | -    | -    | 0.9 |
| S16R SVQC R/L 13        | 1230 | 5508 | -    | -    | 1.2 |
| S20S SVQC R/L 13        | 1230 | 5508 | -    | -    | 1.2 |
| S25T SVQC R/L 16        | 1335 | 5516 | 3718 | 1750 | 3.0 |

**VC..**

35° rhombic positive inserts with 7° clearance. A48  
Plaquetes ròmbiques positives de 35° amb 7° incidència.

| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| VC.. 1103..      | 11,00 | 3,18 | 6,35 |
| VC.. 1303..      | 13,00 | 3,18 | 7,94 |
| VC.. 1604..      | 16,50 | 4,76 | 9,52 |

**VCGT-AL****VCGT-AP****VCMT**



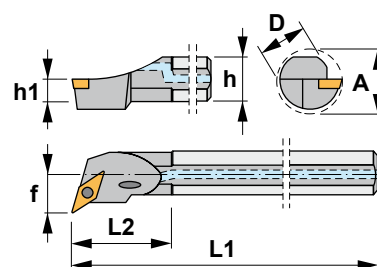
#### Characteristics:

Multipurpose profiling boring bar equipped with rhombic positive insert (angle 35°).

For general applications, roughing, semi-finishing and finishing.

Axial 0°

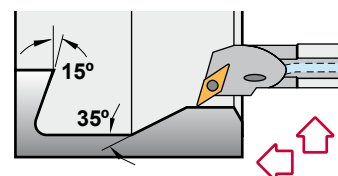
Radial -6°



#### Característiques:

Barra de mandrinar multifunció de copiat equipada amb plaqueta ròmbica positiva (angle 35°).

Per aplicacions generals, desbast, semiacabat i acabat.



## A-SVQC 107°30'

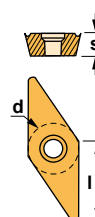
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta |  |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------------------------------------------------------------------------------------|
| A16M SVQC R/L 11        | 16 | 15 | 7,5  | 150 | 30 | 11 | 20 | VC.. 1103..                  | 0,200                                                                               |
| A20Q SVQC R/L 11        | 20 | 18 | 9,0  | 180 | 35 | 13 | 24 | VC.. 1103..                  | 0,400                                                                               |
| A25R SVQC R/L 16        | 25 | 23 | 11,5 | 200 | 40 | 17 | 31 | VC.. 1604..                  | 0,700                                                                               |
| A32S SVQC R/L 16        | 32 | 30 | 15,0 | 250 | 45 | 22 | 39 | VC.. 1604..                  | 1,400                                                                               |
| A40T SVQC R/L 16        | 40 | 37 | 18,5 | 300 | 50 | 27 | 48 | VC.. 1604..                  | 2,650                                                                               |

| Reference<br>Referència |  |  |  |  | Nm  |
|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|
| A16M SVQC R/L 11        | 1225                                                                                | 5507                                                                                | -                                                                                    | -                                                                                     | 0.9 |
| A20Q SVQC R/L 11        | 1225                                                                                | 5507                                                                                | -                                                                                    | -                                                                                     | 0.9 |
| A25R SVQC R/L 16        | 1335                                                                                | 5516                                                                                | 3718                                                                                 | 1750                                                                                  | 3.0 |
| A32S SVQC R/L 16        | 1335                                                                                | 5516                                                                                | 3718                                                                                 | 1750                                                                                  | 3.0 |
| A40T SVQC R/L 16        | 1335                                                                                | 5516                                                                                | 3718                                                                                 | 1750                                                                                  | 3.0 |

### VC..

35° rhombic positive inserts with 7° clearance.  A48  
Plaquetes ròmbiques positives de 35° amb 7° incidència.

| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| VC.. 1103..      | 11,00 | 3,18 | 6,35 |
| VC.. 1604..      | 16,50 | 4,76 | 9,52 |



#### VC GT-AL

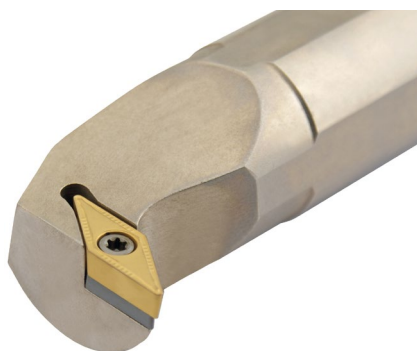


#### VC GT-AP



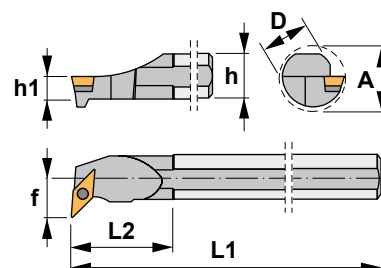
#### VCMT



**Characteristics:**

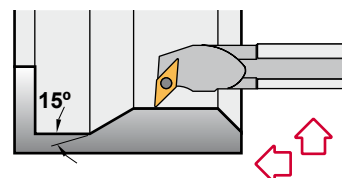
Multipurpose profiling boring bar equipped with rhombic positive insert (angle 35°).  
For boring bars with negative inserts see Ref. MVUN-K (Page: A184).

Axial 0°  
Radial -5°

**Característiques:**

Barra de mandrinar multifunció de copiat equipada amb plaqueta ròmbica positiva (angle 35°).

Per barres de mandrinar amb plaqueta negativa, veieu ref. MVUN-K (Pàgina: A184).



## SVUB 93°

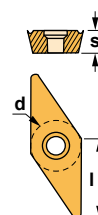
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S25T SVUB R/L 16        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | VBMT 1604..                  | 0,700 |
| S32U SVUB R/L 16        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | VBMT 1604..                  | 2,050 |
| S40V SVUB R/L 16        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | VBMT 1604..                  | 3,750 |

| Reference<br>Referència |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|-----|
| S25T SVUB R/L 16        | 1334 | 5516 | 3718 | 1750 | 3.0 |
| S32U SVUB R/L 16        | 1335 | 5516 | 3718 | 1750 | 3.0 |
| S40V SVUB R/L 16        | 1335 | 5516 | 3718 | 1750 | 3.0 |

**VBMT**

35° rhombic positive insert with 5° clearance. A48  
Plaqueta ròmbica positiva de 35° amb 5° incidència.

| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| VBMT 1604..      | 16,50 | 4,76 | 9,52 |

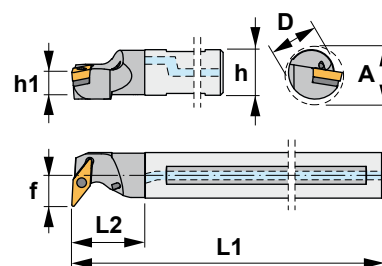
**VBMT**



**Characteristics:**

Multipurpose profiling boring bar equipped with rhombic positive insert (angle 35°).  
For boring bars with negative inserts see Ref. MVUN-K (Page: A184).

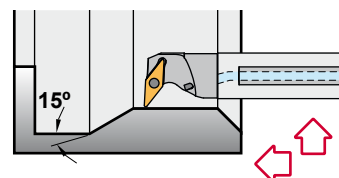
Axial 0°  
Radial -5°



**Característiques:**

Barra de mandrinar multifunció de copiat equipada amb plaqueta ròmbica positiva (angle 35°).

Per barres de mandrinar amb plaqueta negativa, veieu ref. MVUN-K (Pàgina: A184).



## A-SVUB 93°

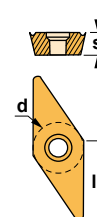
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| A25R SVUB R/L 16        | 25 | 23 | 11,5 | 200 | 40 | 17 | 31 | VBMT 1604..                  | 0,700 |
| A32S SVUB R/L 16        | 32 | 30 | 15,0 | 250 | 45 | 22 | 39 | VBMT 1604..                  | 1,400 |

| Reference<br>Referència |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|-----|
| A25R SVUB R/L 16        | 1334 | 5516 | 3718 | 1750 | 3.0 |
| A32S SVUB R/L 16        | 1335 | 5516 | 3718 | 1750 | 3.0 |

### VBMT

35° rhombic positive insert with 5° clearance.  
Plaqueta ròmbica positiva de 35° amb 5° incidència. A48

| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| VBMT 1604..      | 16,50 | 4,76 | 9,52 |



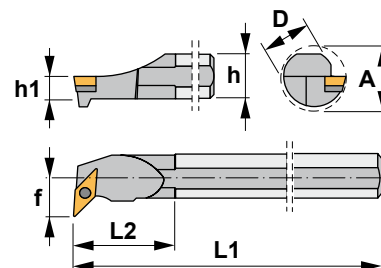
### VBMT



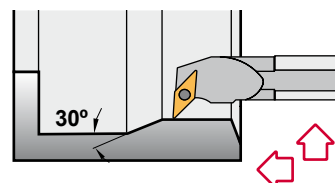
**Characteristics:**

Multipurpose profiling boring bar equipped with rhombic positive insert (angle 35°).  
For boring bars with negative inserts see Ref. MVUN-K (Page: A184).

Axial 0°  
Radial -5°

**Característiques:**

Barra de mandrinar multifunció de copiat equipada amb plaqueta ròmbica positiva (angle 35°).  
Per barres de mandrinar amb plaqueta negativa, veieu ref. MVUN-K (Pàgina: A184).



## SVUC 93°

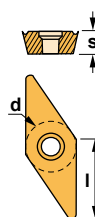
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| S16R SVUC R/L 11        | 16 | 15 | 7,5  | 200 | 30 | 11 | 20 | VC.. 1103..                  | 0,300 |
| S20S SVUC R/L 11        | 20 | 18 | 9,0  | 250 | 35 | 13 | 24 | VC.. 1103..                  | 0,550 |
| S25T SVUC R/L 16        | 25 | 23 | 11,5 | 300 | 40 | 17 | 31 | VC.. 1604..                  | 0,700 |
| S32U SVUC R/L 16        | 32 | 30 | 15,0 | 350 | 45 | 22 | 39 | VC.. 1604..                  | 2,050 |
| S40V SVUC R/L 16        | 40 | 37 | 18,5 | 400 | 50 | 27 | 48 | VC.. 1604..                  | 3,750 |

| Reference<br>Referència |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|-----|
| S16R SVUC R/L 11        | 1225 | 5507 | -    | -    | 0.9 |
| S20S SVUC R/L 11        | 1225 | 5507 | -    | -    | 0.9 |
| S25T SVUC R/L 16        | 1334 | 5516 | 3718 | 1750 | 3.0 |
| S32U SVUC R/L 16        | 1335 | 5516 | 3718 | 1750 | 3.0 |
| S40V SVUC R/L 16        | 1335 | 5516 | 3718 | 1750 | 3.0 |

**VC..**

35° rhombic positive inserts with 7° clearance. A48  
Plaquetes ròmbiques positives de 35° amb 7° incidència.

| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| VC.. 1103..      | 11,00 | 3,18 | 6,35 |
| VC.. 1604..      | 16,50 | 4,76 | 9,52 |

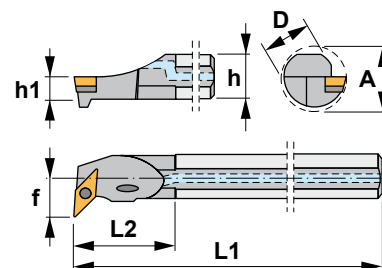
**VC GT-AL****VC GT-AP****VCMT**



**Characteristics:**

Multipurpose profiling boring bar equipped with rhombic positive insert (angle 35°). For boring bars with negative inserts see Ref. MVUN-K (Page: A184).

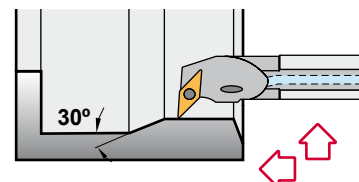
Axial 0°  
Radial -5°



**Característiques:**

Barra de mandrinar multifunció de copiat equipada amb plaqueta ròmbica positiva (angle 35°).

Per barres de mandrinar amb plaqueta negativa, veieu ref. MVUN-K (Pàgina: A184).



## A-SVUC 93°

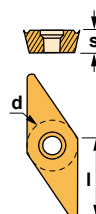
| Reference<br>Referència | D  | h  | h1   | L1  | L2 | f  | A  | Insert size<br>Mida plaqueta | kg    |
|-------------------------|----|----|------|-----|----|----|----|------------------------------|-------|
| A16M SVUC R/L 11        | 16 | 15 | 7,5  | 150 | 30 | 11 | 20 | VC.. 1103..                  | 0,200 |
| A20Q SVUC R/L 11        | 20 | 18 | 9,0  | 180 | 35 | 13 | 24 | VC.. 1103..                  | 0,400 |
| A25R SVUC R/L 16        | 25 | 23 | 11,5 | 200 | 40 | 17 | 31 | VC.. 1604..                  | 0,700 |
| A32S SVUC R/L 16        | 32 | 30 | 15,0 | 250 | 45 | 22 | 39 | VC.. 1604..                  | 1,400 |
| A40T SVUC R/L 16        | 40 | 37 | 18,5 | 300 | 50 | 27 | 48 | VC.. 1604..                  | 2,650 |

| Reference<br>Referència |  |  |  |  | Nm  |
|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|
| A16M SVUC R/L 11        | 1225                                                                                | 5507                                                                                | -                                                                                    | -                                                                                     | 0.9 |
| A20Q SVUC R/L 11        | 1225                                                                                | 5507                                                                                | -                                                                                    | -                                                                                     | 0.9 |
| A25R SVUC R/L 16        | 1334                                                                                | 5516                                                                                | 3718                                                                                 | 1750                                                                                  | 3.0 |
| A32S SVUC R/L 16        | 1335                                                                                | 5516                                                                                | 3718                                                                                 | 1750                                                                                  | 3.0 |
| A40T SVUC R/L 16        | 1335                                                                                | 5516                                                                                | 3718                                                                                 | 1750                                                                                  | 3.0 |

### VC..

35° rhombic positive inserts with 7° clearance.  A48  
Plaquetes ròmbiques positives de 35° amb 7° incidència.

| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| VC.. 1103..      | 11,00 | 3,18 | 6,35 |
| VC.. 1604..      | 16,50 | 4,76 | 9,52 |



#### VCGT-AL



#### VCGT-AP



#### VCMT



**Machining recommendations**  
**Recomanacions per mecanitzat****Notes for anti-vibration shank**  
**Notes per mànec antivibratori****Centering line**  
**Línia de centratge**

The anti-vibration bar is centered by taking as a reference the plane indicated by the arrow.  
La barra antivibratòria es centra prenent com a referència el pla indicat per la fletxa.

**Calibration procedure**

The bars are supplied pre-calibrated, but a new, different calibration may be necessary, depending on the type of application.

The variables to consider are many:

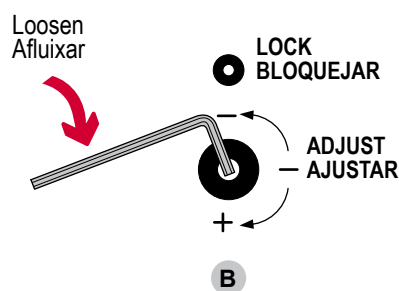
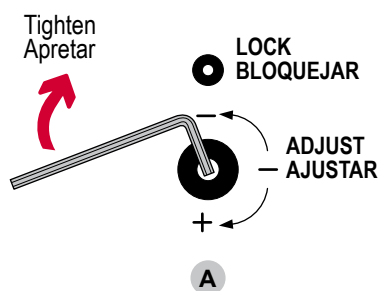
- Head type
- Insert type
- Material to be machined
- Cutting depth
- Speeds and feeds, etc.

**Procediment de calibratge**

Les barres s'entreguen calibrades, però pot ser que un nou calibratge sigui necessari depenent del tipus d'aplicació.

Les variables a considerar són diverses:

- Tipus de cap
- Tipus de plaqueta
- El material a mecanitzar
- Profunditat de tall
- Velocitats de tall i avanços, etc.



## Machining recommendations Recomanacions per mecanitzar

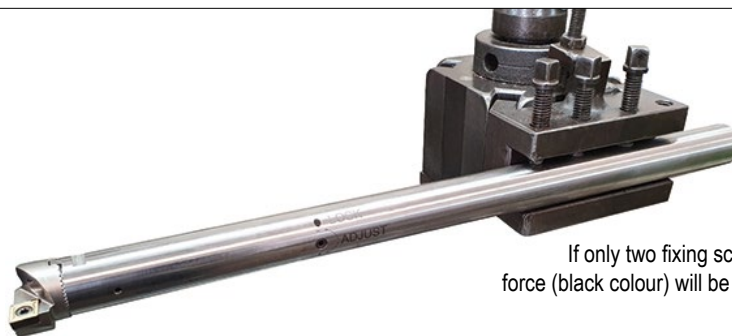
### Notes for anti-vibration shank Notes per mànecs antivibratoris

#### Calibration procedure Procediment de calibratge



- 1 - Make sure that the LOCKING screw is loose.
  - 2 - Calibrate by turning the ADJUSTING screw by tightening or loosening.  
A - If the frequency of the vibration produces a high sound, tighten the adjustment.  
B - If the frequency of the vibration produces a low sound, loosen the adjustment.
  - 3 - Make sure that the LOCKING screw is tightened.
  - 4 - Try the tool and, if necessary, repeat the adjustments until you obtain satisfactory results.
- Use a **suitable sleeve** in order to have a vibration-free tool.

- 1 - Assegurar-se que el cargol de BLOQUEIG estigui fluix.
  - 2 - Calibrar girant el cargol de REGULACIÓ estrenyent-lo o afloixant-lo.  
A - Si la freqüència de la vibració produeix un so alt, estrenyer el regulador.  
B - Si la freqüència de la vibració produeix un so baix, afloixar el regulador.
  - 3 - Assegureu-vos que el cargol de BLOQUEIG està apretat.
  - 4 - Proveu l'eina, en cas necessari, repetir els ajustaments fins a obtenir resultats satisfactoris.
- Fer servir **un suport adequat** per tal de tenir una eina lliure de vibracions.



#### Weak tightening

If only two fixing screws are used, the clamping force (black colour) will be weak and the bar damaged.

#### Fixació defectuosa

Si només es fan servir dos dels cargols de fixació, la força de subjecció serà feble i la barra es farà malbé.



#### Strong tightening

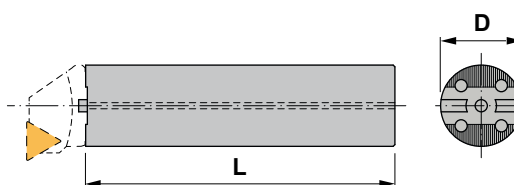
With the use of "split" sleeves the clamping force (black colour) will be as high as possible and the bar will work optimally.

#### Fixació correcta

Utilitzant un suport ranurat la força de subjecció serà tan alta com sigui possible i la barra treballarà de forma òptima.



**Characteristics:**  
Anti-vibration shank with internal coolant.  
Max. cutting depth: 7 x Diameter

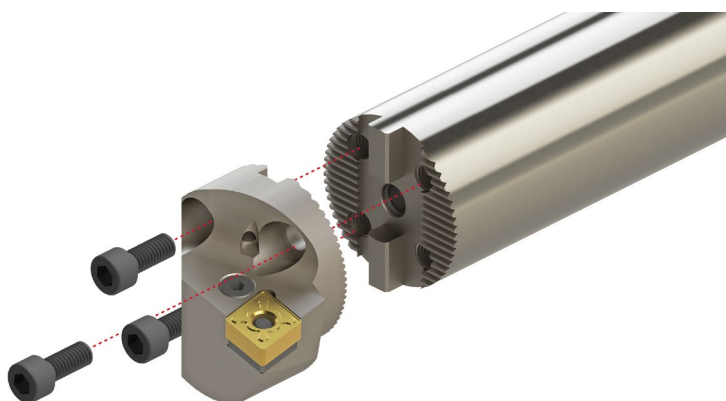


**Característiques:**  
Màneg antivibratori amb refrigeració interior.  
Profunditat màxima de tall: 7 x Diàmetre

**J..** 

| Reference<br>Referència |  | D   | L    | Thread<br>Rosca |  |
|-------------------------|-----------------------------------------------------------------------------------|-----|------|-----------------|-------------------------------------------------------------------------------------|
| J25/300                 | 25                                                                                | 25  | 300  | 1/4 GAS         | 1,200                                                                               |
| J32/350                 | 32                                                                                | 32  | 350  | 3/8 GAS         | 2,200                                                                               |
| J40/400                 | 40                                                                                | 40  | 400  | 1/2 GAS         | 4,000                                                                               |
| J50/550                 | 50                                                                                | 50  | 550  | 1/2 GAS         | 8,500                                                                               |
| J60/650                 | 60                                                                                | 60  | 650  | 3/4 GAS         | 14,400                                                                              |
| J80/1000                | 60                                                                                | 80  | 1000 | 3/4 GAS         | 39,500                                                                              |
| J100/1200               | 60                                                                                | 100 | 1200 | 3/4 GAS         | 74,000                                                                              |

| Reference<br>Referència |  |  | Nm  |
|-------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|
| J25/300                 | 1924                                                                                | 5025                                                                                  | 2.0 |
| J32/350                 | 1925                                                                                | 5003                                                                                  | 3.0 |
| J40/400                 | 1926                                                                                | 5004                                                                                  | 3.5 |
| J50/550                 | 1928                                                                                | 5005                                                                                  | 4.0 |
| J60/650                 | 1928                                                                                | 5005                                                                                  | 4.0 |
| J80/1000                | 1928                                                                                | 5005                                                                                  | 4.0 |
| J100/1200               | 1928                                                                                | 5005                                                                                  | 4.0 |



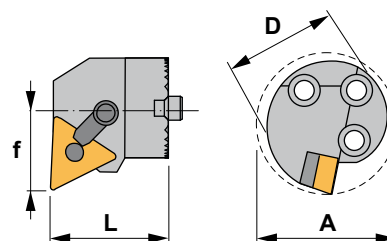
| MTUN 93°-N                                                                          | PCLN 95°-N                                                                          | PDUN 93°-N                                                                           | PWLN 95°-N                                                                            |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |
| SCLC 95°-N                                                                          | SDUC 93°-N                                                                          | STFC 90°-N                                                                           | SXTN 90°-N                                                                            |
|  |  |  |  |



**Characteristics:**

Internal turning and profiling boring head equipped with triangular negative double-sided insert.

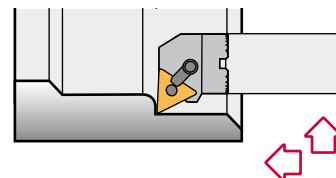
For general applications, roughing, semi-finishing and finishing.



**Característiques:**

Capçal modular per tornejat interior i copiat equipat amb plaqueta triangular negativa de dues cares.

Per aplicacions generals, desbast, semiacabat i acabat.



## MTUN 93°-N

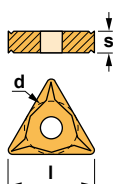
| Reference<br>Referència | D  | L  | f  | A  | Insert size<br>Mida plaqueta | ⚖️<br>Kg |
|-------------------------|----|----|----|----|------------------------------|----------|
| A32X MTUN R/L 16-N      | 32 | 30 | 22 | 40 | TNM.. 1604..                 | 0,150    |
| A40X MTUN R/L 16-N      | 40 | 30 | 27 | 50 | TNM.. 1604..                 | 0,300    |
| A50X MTUN R/L 16-N      | 50 | 30 | 35 | 63 | TNM.. 1604..                 | 0,650    |
| A50X MTUN R/L 22-N      | 50 | 40 | 35 | 63 | TNM.. 2204..                 | 0,650    |
| A60X MTUN R/L 22-N      | 60 | 40 | 43 | 80 | TNM.. 2204..                 | 0,850    |

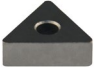
| Reference<br>Referència |  |  |  |  |  |  |  |  | Nm <sup>1</sup> | Nm <sup>2</sup> |
|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------|-----------------|
| A32X MTUN R/L 16-N      | 2613                                                                                | -                                                                                   | 5003                                                                                | ITSN-322                                                                            | 1086                                                                                 | 1665                                                                                  | -                                                                                     | 5002                                                                                  | 3.0             | 1.4             |
| A40X MTUN R/L 16-N      | 2613                                                                                | -                                                                                   | 5003                                                                                | ITSN-322                                                                            | 1086                                                                                 | 1665                                                                                  | -                                                                                     | 5002                                                                                  | 3.0             | 1.4             |
| A50X MTUN R/L 16-N      | 2613                                                                                | -                                                                                   | 5003                                                                                | ITSN-322                                                                            | 1086                                                                                 | 1665                                                                                  | -                                                                                     | 5002                                                                                  | 3.0             | 1.4             |
| A50X MTUN R/L 22-N      | -                                                                                   | 2024                                                                                | 5005                                                                                | ITSN-433                                                                            | 1394                                                                                 | -                                                                                     | 1661                                                                                  | -                                                                                     | 4.0             | -               |
| A60X MTUN R/L 22-N      | -                                                                                   | 2024                                                                                | 5005                                                                                | ITSN-433                                                                            | 1394                                                                                 | -                                                                                     | 1661                                                                                  | -                                                                                     | 4.0             | -               |

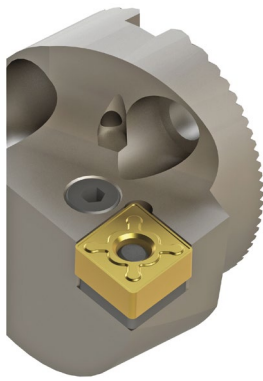
### TNM..

Triangular negative inserts.  
Plaquetes triangulars negatives. ⓘ A45-46

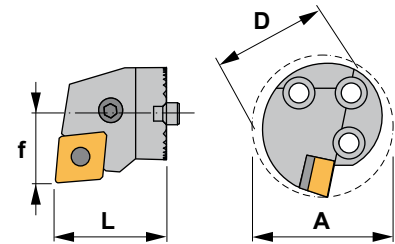
| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| TNM.. 1604..     | 16,50 | 4,76 | 9,52  |
| TNM.. 2204..     | 22,00 | 4,76 | 12,70 |



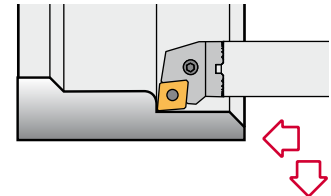
| TNMA                                                                                | TNMG-CC                                                                              | TNMG-FC                                                                               | TNMG-FMC                                                                              | TNMG-KC                                                                               |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |
| TNMG-MC                                                                             | TNMG-MFC                                                                             | TNMG-MHC                                                                              | TNMG-TC                                                                               | TNMX-R/L                                                                              |
|  |  |  |  |  |

**Characteristics:**

Boring head for internal turning applications equipped with rhombic negative inserts (angle 80°). For low powered machines and small pieces choose boring bars Ref. A-SCLC (Page: A208).

**Característiques:**

Capçal modular per aplicacions de tornejat interior equipat amb plaqueta ròmbica negativa (angle 80°). Per màquines de baixa potència i peces petites, escolliu barres de mandrinar ref. A-SCLC (Pàgina: A208).



## PCLN 95°-N



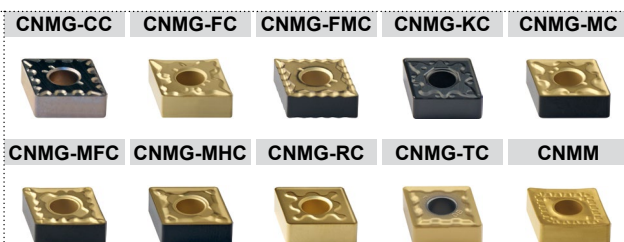
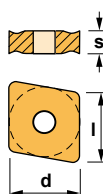
| Reference<br>Referència | D  | L  | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|----|----|------------------------------|-------|
| A25X PCLN R/L 12-N      | 25 | 30 | 17 | 32 | CN.. 1204..                  | 0,050 |
| A32X PCLN R/L 12-N      | 32 | 30 | 22 | 40 | CN.. 1204..                  | 0,150 |
| A40X PCLN R/L 12-N      | 40 | 30 | 27 | 50 | CN.. 1204..                  | 0,300 |
| A50X PCLN R/L 12-N      | 50 | 30 | 35 | 63 | CN.. 1204..                  | 0,600 |
| A60X PCLN R/L 12-N      | 60 | 40 | 43 | 80 | CN.. 1204..                  | 0,800 |
| A50X PCLN R/L 16-N      | 50 | 40 | 35 | 63 | CN.. 1606..                  | 0,600 |
| A60X PCLN R/L 16-N      | 60 | 40 | 43 | 80 | CN.. 1606..                  | 0,800 |

| Reference<br>Referència |      |      |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|------|------|-----|
| A25X PCLN R/L 12-N      | 8212 | 1626 | 5025 | -    | -    | -    | 2.0 |
| A32X PCLN R/L 12-N      | 8312 | 1648 | 5003 | 3612 | 4112 | 0012 | 3.0 |
| A40X PCLN R/L 12-N      | 8012 | 1608 | 5003 | 3612 | 4112 | 0012 | 3.0 |
| A50X PCLN R/L 12-N      | 8012 | 1608 | 5003 | 3612 | 4112 | 0012 | 3.0 |
| A60X PCLN R/L 12-N      | 8012 | 1608 | 5003 | 3612 | 4112 | 0012 | 3.0 |
| A50X PCLN R/L 16-N      | 8016 | 1618 | 5003 | 3616 | 4115 | 0015 | 3.0 |
| A60X PCLN R/L 16-N      | 8016 | 1618 | 5003 | 3616 | 4115 | 0015 | 3.0 |

**CN..**

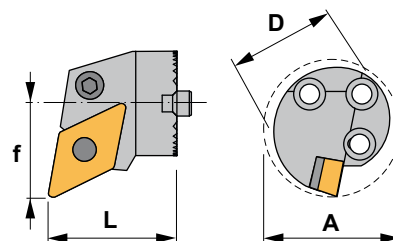
80° rhombic negative inserts. A32-34  
Plaquetes ròmbiques negatives 80°.

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| CN.. 1204..      | 12,90 | 4,76 | 12,70 |
| CN.. 1606..      | 16,10 | 6,35 | 15,88 |



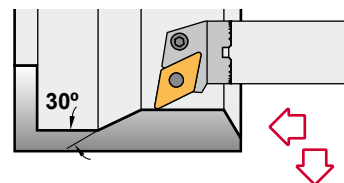
**Characteristics:**

Boring head for internal turning and profiling applications equipped with rhombic negative inserts (angle 55°). For low powered machines and small pieces choose boring bars Ref. A-SDUC (Page: A218).

**Característiques:**

Capçal modular per aplicacions de tornejat interior i copiat equipat amb plaqueta ròmbica negativa (angle 55°).

Per màquines de baixa potència i peces petites, escolliu barres de mandrinar ref. A-SDUC (Pàgina: A218).



## PDUN 93°-N



| Reference<br>Referència | D  | L  | f    | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|------|----|------------------------------|-------|
| A32X PDUN R/L 15-N      | 32 | 35 | 23,5 | 40 | DN.. 1506..                  | 0,150 |
| A40X PDUN R/L 15-N      | 40 | 30 | 27,0 | 50 | DN.. 1506..                  | 0,300 |
| A50X PDUN R/L 15-N      | 50 | 40 | 35,0 | 63 | DN.. 1506..                  | 0,600 |
| A60X PDUN R/L 15-N      | 60 | 40 | 43,0 | 80 | DN.. 1506..                  | 0,800 |

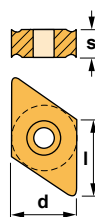
| Reference<br>Referència |      |      |      |      |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|------|------|------|------|-----|
| A32X PDUN R/L 15-N      | 8415 | 1648 | 5003 | 3715 | 4112 | 0012 | 3725 | 4135 | 3.0 |
| A40X PDUN R/L 15-N      | 8415 | 1638 | 5003 | 3715 | 4112 | 0012 | 3725 | 4135 | 3.0 |
| A50X PDUN R/L 15-N      | 8415 | 1638 | 5003 | 3715 | 4112 | 0012 | 3725 | 4135 | 3.0 |
| A60X PDUN R/L 15-N      | 8415 | 1638 | 5003 | 3715 | 4112 | 0012 | 3725 | 4135 | 3.0 |

For DNM.. 1504.. inserts  
Per plaquetes DNM.. 1504..

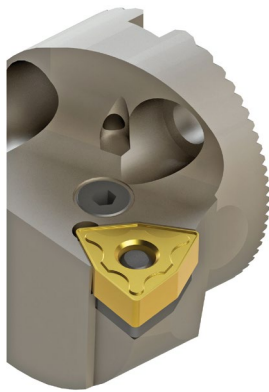
**DN..**

55° rhombic negative inserts.  
Plaquetes ròmbiques negatives 55°. A36-37

| Reference / Ref. | l     | s    | d     |
|------------------|-------|------|-------|
| DN.. 1504..      | 15,50 | 4,76 | 12,70 |
| DN.. 1506..      | 15,50 | 6,35 | 12,70 |

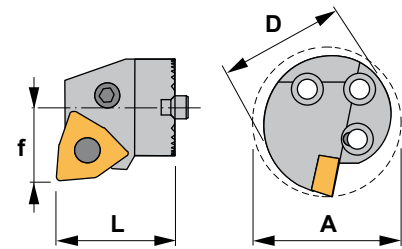


| DNMG-FC  | DNMG-FMC | DNMG-KC | DNMG-MC |
|----------|----------|---------|---------|
|          |          |         |         |
| DNMG-MFC | DNMG-MHC | DNMG-TC | DNMX    |
|          |          |         |         |



## Characteristics:

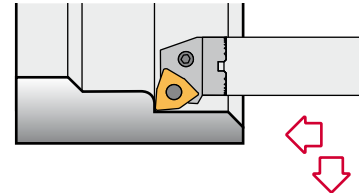
Boring head for internal turning applications equipped with trigon negative inserts (angle 80°). For general applications, roughing, semi-finishing and finishing.



## Característiques:

Capçal modular per aplicacions de tornejat interior equipat amb plaqueta trigona negativa (angle 80°).

Per aplicacions generals, desbast, semiacabat i acabat.



## PWLN 95°-N

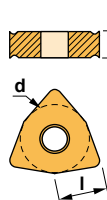
| Reference<br>Referència | D  | L  | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|----|----|------------------------------|-------|
| A32X PWLN R/L 08-N      | 32 | 30 | 22 | 40 | WNM.. 0804..                 | 0,150 |
| A40X PWLN R/L 08-N      | 40 | 30 | 27 | 50 | WNM.. 0804..                 | 0,300 |
| A50X PWLN R/L 08-N      | 50 | 40 | 35 | 63 | WNM.. 0804..                 | 0,600 |
| A60X PWLN R/L 08-N      | 60 | 40 | 43 | 80 | WNM.. 0804..                 | 0,800 |

| Reference<br>Referència |      |      |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|------|------|-----|
| A32X PWLN R/L 08-N      | 8012 | 1608 | 5003 | 3008 | 4112 | 0012 | 3.0 |
| A40X PWLN R/L 08-N      | 8012 | 1608 | 5003 | 3008 | 4112 | 0012 | 3.0 |
| A50X PWLN R/L 08-N      | 8012 | 1608 | 5003 | 3008 | 4112 | 0012 | 3.0 |
| A60X PWLN R/L 08-N      | 8012 | 1608 | 5003 | 3008 | 4112 | 0012 | 3.0 |

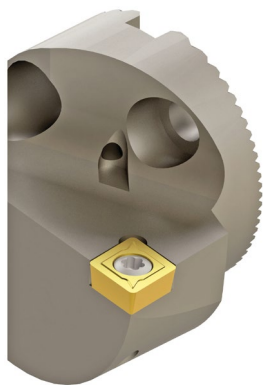
## WNMG

80° trigon negative inserts. A50-51  
Plaquetes trigones negatives 80°.

| Reference / Ref. | l    | s    | d     |
|------------------|------|------|-------|
| WNMG 0804..      | 8,14 | 4,76 | 12,70 |

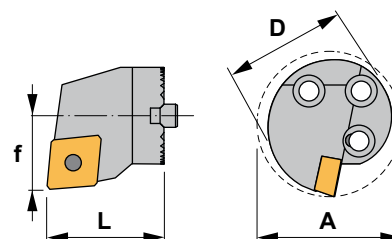


| WNMG-FC | WNMG-FMC | WNMG-KC | WNMG-MFC |
|---------|----------|---------|----------|
|         |          |         |          |
| WNMG-MC | WNMG-MHC | WNMG-TC |          |
|         |          |         |          |

**Characteristics:**

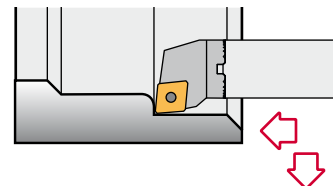
Multipurpose boring head equipped with rhombic positive insert (angle 80°).

For boring bars with negative inserts see Ref. A-PCLN (Page: A189).

**Característiques:**

Capçal modular multifunció equipat amb plaqueta ròmbica positiva (angle 80°).

Per barres de mandrinar de plaqueta negativa veieu ref. A-PCLN (Pàgina: A189).



## SCLC 95°-N



| Reference<br>Referència | D  | L  | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|----|----|------------------------------|-------|
| A25X SCLC R/L 09-N      | 25 | 25 | 17 | 32 | CC.. 09T3..                  | 0,070 |
| A32X SCLC R/L 12-N      | 32 | 30 | 22 | 40 | CC.. 1204..                  | 0,150 |
| A40X SCLC R/L 12-N      | 40 | 30 | 27 | 50 | CC.. 1204..                  | 0,250 |
| A50X SCLC R/L 12-N      | 50 | 40 | 35 | 63 | CC.. 1204..                  | 0,650 |
| A60X SCLC R/L 12-N      | 60 | 40 | 43 | 80 | CC.. 1204..                  | 0,850 |

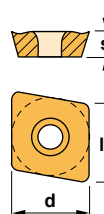
| Reference<br>Referència |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|-----|
| A25X SCLC R/L 09-N      | 1440 | 5515 | -    | -    | 3.0 |
| A32X SCLC R/L 12-N      | 1540 | 5517 | 3614 | 1760 | 3.0 |
| A40X SCLC R/L 12-N      | 1540 | 5517 | 3614 | 1760 | 3.0 |
| A50X SCLC R/L 12-N      | 1540 | 5517 | 3614 | 1760 | 3.0 |
| A60X SCLC R/L 12-N      | 1540 | 5517 | 3614 | 1760 | 3.0 |

**CC..**

80° rhombic positive inserts with 7° clearance. A30-31  
Plaquetes ròmbiques positives 80° amb 7° incidència.

**Reference / Ref.**

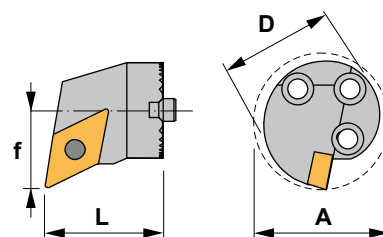
|             | l     | s    | d     |
|-------------|-------|------|-------|
| CC.. 09T3.. | 9,65  | 3,97 | 9,52  |
| CC.. 1204.. | 12,90 | 4,76 | 12,70 |

**CCGT-AL****CCGT-AP****CCMT****CCMW**

**Characteristics:**

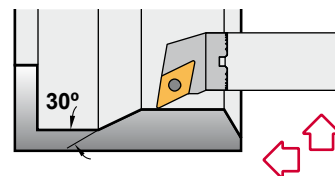
Multipurpose profiling boring head equipped with rhombic positive insert (angle 55°).

For boring bars with negative inserts see Ref. A-PDUN (Page: A191).

**Característiques:**

Capçal modular multifunció de copiat equipat amb plaqueta ròmbica positiva (angle 55°).

Per barres de mandrinar de plaqueta negativa veieu ref. A-PDUN (Pàgina: A191).



## SDUC 93°-N



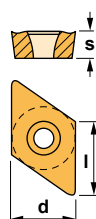
| Reference<br>Referència | D  | L  | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|----|----|------------------------------|-------|
| A25X SDUC R/L 11-N      | 25 | 25 | 17 | 32 | DC.. 11T3..                  | 0,070 |
| A32X SDUC R/L 11-N      | 32 | 30 | 22 | 40 | DC.. 11T3..                  | 0,150 |
| A40X SDUC R/L 11-N      | 40 | 30 | 27 | 50 | DC.. 11T3..                  | 0,250 |
| A50X SDUC R/L 11-N      | 50 | 40 | 35 | 63 | DC.. 11T3..                  | 0,650 |
| A60X SDUC R/L 11-N      | 60 | 40 | 43 | 80 | DC.. 11T3..                  | 0,850 |

| Reference<br>Referència |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|-----|
| A25X SDUC R/L 11-N      | 1240 | 5515 | -    | -    | 3.0 |
| A32X SDUC R/L 11-N      | 1335 | 5516 | 3714 | 1750 | 3.0 |
| A40X SDUC R/L 11-N      | 1335 | 5516 | 3714 | 1750 | 3.0 |
| A50X SDUC R/L 11-N      | 1335 | 5516 | 3714 | 1750 | 3.0 |
| A60X SDUC R/L 11-N      | 1335 | 5516 | 3714 | 1750 | 3.0 |

**DC..**

55° rhombic positive inserts with 7° clearance. A35  
Plaquetes ròmbiques positives 55° amb 7° incidència.

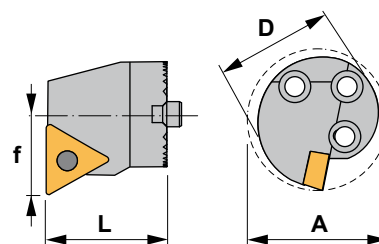
| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| DC.. 11T3..      | 11,60 | 3,97 | 9,52 |

**DCGT-AL****DCGT-AP****DCMT****DCMW**

**Characteristics:**

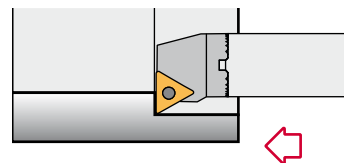
Multipurpose boring head equipped with triangular positive insert.

For general applications, roughing, semi-finishing and finishing.

**Característiques:**

Capçal modular multifunció equipat amb plaqueta triangular positiva.

Per aplicacions generals, desbast, semiacabat i acabat.



## STFC 90°-N



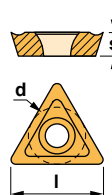
| Reference<br>Referència | D  | L  | f  | A  | Insert size<br>Mida plaqueta | Kg    |
|-------------------------|----|----|----|----|------------------------------|-------|
| A25X STFC R/L 16-N      | 25 | 25 | 17 | 32 | TC.. 16T3..                  | 0,070 |
| A32X STFC R/L 16-N      | 32 | 30 | 22 | 40 | TC.. 16T3..                  | 0,150 |
| A40X STFC R/L 16-N      | 40 | 30 | 27 | 50 | TC.. 16T3..                  | 0,250 |
| A50X STFC R/L 16-N      | 50 | 40 | 35 | 63 | TC.. 16T3..                  | 0,650 |
| A60X STFC R/L 16-N      | 60 | 40 | 43 | 80 | TC.. 16T3..                  | 0,850 |

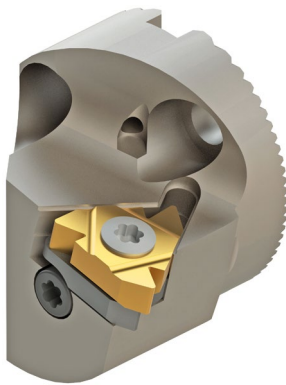
| Reference<br>Referència |      |      |      |      | Nm  |
|-------------------------|------|------|------|------|-----|
| A25X STFC R/L 16-N      | 1240 | 5515 | -    | -    | 3.0 |
| A32X STFC R/L 16-N      | 1335 | 5516 | 3414 | 1750 | 3.0 |
| A40X STFC R/L 16-N      | 1335 | 5516 | 3414 | 1750 | 3.0 |
| A50X STFC R/L 16-N      | 1335 | 5516 | 3414 | 1750 | 3.0 |
| A60X STFC R/L 16-N      | 1335 | 5516 | 3414 | 1750 | 3.0 |

**TC..**

Triangular positive inserts with 7° clearance. A44  
Plaquetes triangulars positives amb 7° incidència.

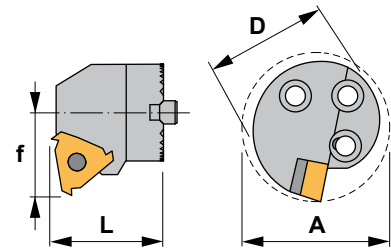
| Reference / Ref. | l     | s    | d    |
|------------------|-------|------|------|
| TC.. 16T3..      | 16,50 | 3,97 | 9,52 |

**TCGT-AL****TCMT****TCMW**



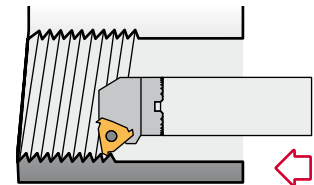
### Characteristics:

Boring head for internal threading equipped with triangular negative insert.



### Característiques:

Capçal modular de roscat interior equipat amb plaqueta triangular negativa.



## STXN 90°-N



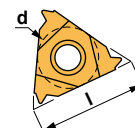
| Reference<br>Referència | D  | L  | f     | A  | Insert size<br>Mida plaqueta |  Kg |
|-------------------------|----|----|-------|----|------------------------------|----------------------------------------------------------------------------------------|
| A25X STXN R/L 16-N      | 25 | 25 | 16,30 | 32 | 16 NR/L..                    | 0,070                                                                                  |
| A32X STXN R/L 16-N      | 32 | 30 | 19,60 | 40 | 16 NR/L..                    | 0,150                                                                                  |
| A32X STXN R/L 22-N      | 32 | 32 | 21,50 | 40 | 22 NR/L..                    | 0,150                                                                                  |
| A40X STXN R/L 22-N      | 40 | 32 | 25,80 | 50 | 22 NR/L..                    | 0,250                                                                                  |
| A50X STXN R/L 22-N      | 50 | 40 | 31,40 | 63 | 22 NR/L..                    | 0,650                                                                                  |
| A60X STXN R/L 22-N      | 60 | 40 | 36,40 | 80 | 22 NR/L..                    | 0,850                                                                                  |

| Reference<br>Referència |  |  |  |  |  | Nm  |
|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|
| A25X STXN R/L 16-N      | SA3                                                                                 | 5510                                                                                | YE3                                                                                 | YI3                                                                                   | SY3                                                                                   | 2.0 |
| A32X STXN R/L 16-N      | SA3                                                                                 | 5510                                                                                | YE3                                                                                 | YI3                                                                                   | SY3                                                                                   | 2.0 |
| A32X STXN R/L 22-N      | SA4                                                                                 | 5520                                                                                | YE4                                                                                 | YI4                                                                                   | SY4                                                                                   | 4.0 |
| A40X STXN R/L 22-N      | SA4                                                                                 | 5520                                                                                | YE4                                                                                 | YI4                                                                                   | SY4                                                                                   | 4.0 |
| A50X STXN R/L 22-N      | SA4                                                                                 | 5520                                                                                | YE4                                                                                 | YI4                                                                                   | SY4                                                                                   | 4.0 |
| A60X STXN R/L 22-N      | SA4                                                                                 | 5520                                                                                | YE4                                                                                 | YI4                                                                                   | SY4                                                                                   | 4.0 |

### N R/L

Triangular negative inserts for internal threading.  
Plaquetes triangulars negatives per rosques interiors.  C04, C06-07, C09-10

| Reference / Ref. | l     | d     |
|------------------|-------|-------|
| 16 NR/L..        | 16,00 | 9,52  |
| 22 NR/L..        | 22,00 | 12,70 |



### N R/L



### N R/L TD

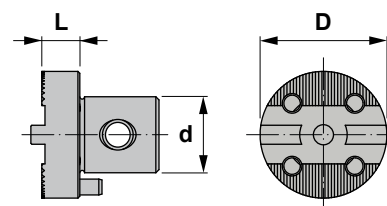




**Characteristics:**

Adaptor for anti-vibration shank with internal coolant.

To adapt the new boring heads to the old model of anti-vibration shanks.



**Característiques:**

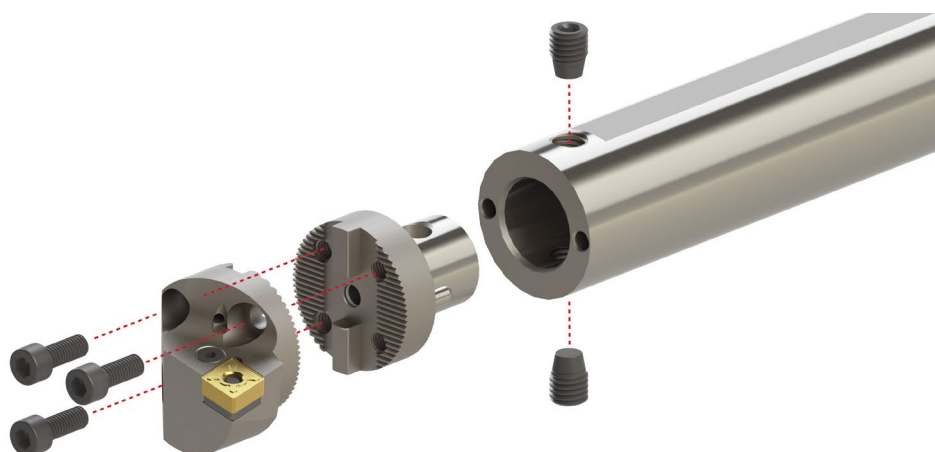
Adaptador per barres de mandrinar amb refrigeració interior.

Per muntar els nous capçals modulars a l'antic model de barres de mandrinar antivibratòries.

**J..-A..**  

| Reference<br>Referència | D  | L  | d  |  |
|-------------------------|----|----|----|-------------------------------------------------------------------------------------|
| J25-A25                 | 25 | 12 | 15 | 0,060                                                                               |
| J32-A32                 | 32 | 12 | 20 | 0,100                                                                               |
| J40-A40                 | 40 | 12 | 24 | 0,180                                                                               |
| J50-A50                 | 54 | 16 | 28 | 0,350                                                                               |
| J60-A60                 | 60 | 16 | 28 | 0,460                                                                               |

| Reference<br>Referència |  |  | Nm  |
|-------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----|
| J25-A25                 | 1924                                                                               | 5025                                                                                 | 2.0 |
| J32-A32                 | 1925                                                                               | 5003                                                                                 | 3.0 |
| J40-A40                 | 1926                                                                               | 5004                                                                                 | 3.5 |
| J50-A50                 | 1928                                                                               | 5005                                                                                 | 4.0 |
| J60-A60                 | 1928                                                                               | 5005                                                                                 | 4.0 |



| MTUN 93°-N                                                                          | PCLN 95°-N                                                                          | PDUN 93°-N                                                                          | PWLN 95°-N                                                                            |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |
| SCLC 95°-N                                                                          | SDUC 93°-N                                                                          | STFC 90°-N                                                                          | STXN 90°-N                                                                            |
|  |  |  |  |

**Nominal cutting speed and feed values for boring bars**

| Material           | P | HB                       | Condition                                    | Cutting speed m/min.                         |      |                                          |                                                          |                                                         |                                                     | Specific cutting force<br>Kc 0,4 |
|--------------------|---|--------------------------|----------------------------------------------|----------------------------------------------|------|------------------------------------------|----------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------|----------------------------------|
|                    |   |                          |                                              | PM25                                         | PM40 | NC25                                     | TN15                                                     | TN20                                                    | TN30                                                |                                  |
|                    |   |                          |                                              | 0.3-0.6-1.2                                  |      | 0.1-0.3                                  | 0.1-0.4-0.8                                              | 0.1-0.4-0.8                                             | 0.2-0.5-1.2                                         |                                  |
| Unalloyed steel    |   | 125<br>150<br>200        | C=0.15%<br>C=0.35%<br>C=0.60%                | 150 115 80<br>145 105 70<br>115 90 65        |      | 350 280<br>270 230<br>240 190            | 480 345 250<br>440 315 230<br>385 275 200                | 440 300 205<br>400 275 190<br>350 240 165               | 330 230 110<br>300 210 150<br>260 185 130           | 1900<br>2100<br>2250             |
| Low alloyed steel  |   | 180<br>275<br>300<br>350 | Annealed<br>Hardened<br>Hardened<br>Hardened | 90 70 45<br>65 45 30<br>60 40 25<br>50 35 20 |      | 300 260<br>220 140<br>230 180<br>220 140 | 380 265 195<br>260 180 130<br>240 165 120<br>210 145 105 | 320 220 170<br>215 150 115<br>200 135 105<br>170 120 90 | 200 140 100<br>140 100 70<br>125 90 60<br>110 75 55 | 2100<br>2600<br>2700<br>2850     |
| High alloyed steel |   | 200<br>325               | Annealed<br>Hardened                         | 80 60 45<br>40 25 20                         |      | 200 160<br>200 160                       | 350 230 170<br>170 110                                   | 280 185 135<br>120 80 60                                | 175 115 80<br>85 55 40                              | 2600<br>3900                     |
| Stainless steel    |   | 200                      | Martensitic / ferritic                       | 110 95 75                                    |      | 270 130                                  | 295 240 190                                              | 275 210 165                                             | 225 180 145                                         | 2300                             |
| Steel castings     |   | 180<br>200<br>225        | Unalloyed<br>Low alloyed<br>High alloyed     | 60 50 35<br>50 45 30<br>40 30 20             |      | 300 260<br>230 180<br>220 140            | 260 185 145<br>230 160 120<br>190 130 95                 | 230 160 120<br>190 125 85<br>170 115 80                 | 135 105 75<br>120 90 60<br>95 70 55                 | 2000<br>2500<br>2700             |

| Material                    | M | HB  | Condition                                                                                | Cutting speed m/min. |                               |                                           |      |                                       |                                           |                               | Specific cutting force<br>Kc 0,4 |      |
|-----------------------------|---|-----|------------------------------------------------------------------------------------------|----------------------|-------------------------------|-------------------------------------------|------|---------------------------------------|-------------------------------------------|-------------------------------|----------------------------------|------|
|                             |   |     |                                                                                          | PM25                 | NC25                          | TN15                                      | TN20 | TN30                                  | TN35                                      | TS15                          |                                  | TS20 |
|                             |   |     |                                                                                          | 0.1-0.3              | 0.1-0.3                       | 0.1-0.4-0.8                               |      | 0.2-0.4-0.6                           | 0.2-0.4-0.6                               | 0.1-0.3                       |                                  |      |
| Stainless steel<br>annealed |   | 180 | Austenitic Ni > 8%,<br>Cr 12-25% austenitic/<br>ferritic, austenitic/<br>ferritic, low S |                      | 240 200<br>160 130<br>160 130 | 180 150 120<br>180 150 120<br>180 150 120 |      | 190 160 130<br>190 160 100<br>140 110 | 190 160 130<br>190 160 130<br>160 130 100 | 240 200<br>160 130<br>160 130 | 120 180<br>130 220<br>120 180    | 2450 |

| Material            | K | HB         | Condition                                     | Cutting speed m/min.  |                    |                          |      |                           |             | Specific cutting force<br>Kc 0,4 |
|---------------------|---|------------|-----------------------------------------------|-----------------------|--------------------|--------------------------|------|---------------------------|-------------|----------------------------------|
|                     |   |            |                                               | KM15                  | NC25               | TN15                     | TN20 | TK15                      | ZR10        |                                  |
|                     |   |            |                                               | 0.2-0.5-1.0           | 0.2-0.5            | 0.2-0.5-1.0              |      | 0.2-0.5-1.0               | 0.2-0.5-1.0 |                                  |
| Hardened steel      |   | 350<br>250 | Hardened steel<br>Manganese steel 12%         | 27 16 10<br>65 40 16  |                    | 175 145 100<br>120 85 50 |      | 180 150 110<br>120 90 60  |             | 4500<br>3600                     |
| Malleable cast iron |   | 130<br>230 | Ferritic<br>Pearlitic                         | 105 75 45<br>80 60 30 |                    | 225 150 90<br>155 95 55  |      | 250 180 100<br>160 100 60 |             | 1100<br>1100                     |
| Cast iron           |   | 180<br>260 | Low tensile strength<br>High tensile strength | 135 95 60<br>95 65 40 | 300 200<br>250 180 | 165 110 70<br>120 90 55  |      | 180 120 80<br>140 105 60  |             | 1100<br>1500                     |
| Nodular SG iron     |   | 160<br>250 | Ferritic<br>Pearlitic                         | 115 80 45<br>80 50 30 | 250 180<br>180 120 |                          |      | 220 180 100<br>150 100 50 |             | 1100<br>1800                     |
| Chilled cast iron   |   | 400        |                                               | 17 11                 |                    |                          |      | 17 11                     |             | 3000                             |

| Material                | N | HB               | Condition                                                          | Cutting speed m/min.                      |             |         |             |      |                                           | Specific cutting force<br>Kc 0,4 |
|-------------------------|---|------------------|--------------------------------------------------------------------|-------------------------------------------|-------------|---------|-------------|------|-------------------------------------------|----------------------------------|
|                         |   |                  |                                                                    | KM15                                      | TK15        | NC25    | TN15        | TN20 | ZR10                                      |                                  |
|                         |   |                  |                                                                    | 0.2-0.5-1.0                               | 0.2-0.5-1.0 | 0.2-0.5 | 0.2-0.5-1.0 |      | 0.2-0.5-1.0                               |                                  |
| Aluminium alloys        |   | 60<br>100        | Non heat treatable<br>Heat treatable                               | 1750 1280 800<br>510 370 250              |             |         |             |      | 1750 1280 800<br>510 370 250              | 500<br>800                       |
| Aluminium alloys (cast) |   | 75<br>90         | Non heat treatable<br>Heat treatable                               | 460 285 175<br>300 180 110                |             |         |             |      | 460 285 175<br>300 180 110                | 750<br>900                       |
| Bronze-brass alloys     |   | 110<br>90<br>100 | Lead alloys, Pb>1%<br>Brass and bronze<br>Inc. electrolytic copper | 610 430 295<br>310 250 195<br>225 160 115 |             |         |             |      | 610 430 295<br>310 250 195<br>225 160 115 | 700<br>750<br>1750               |
| Other materials         |   |                  | Hard plastics<br>Fibre<br>Hard rubber                              | 380 240<br>190 120<br>225 160             |             |         |             |      | 380 240<br>190 120<br>225 160             |                                  |

| Material              | S | HB | Condition                                                                          | Cutting speed m/min. |         |             |      |                                    |             | Specific cutting force<br>Kc 0,4 |
|-----------------------|---|----|------------------------------------------------------------------------------------|----------------------|---------|-------------|------|------------------------------------|-------------|----------------------------------|
|                       |   |    |                                                                                    | KM15                 | NC25    | TN15        | TS15 | TS20                               | ZR10        |                                  |
|                       |   |    |                                                                                    | 0.2-0.5-1.0          | 0.2-0.5 | 0.2-0.5-1.0 |      |                                    | 0.2-0.5-1.0 |                                  |
| Heat-resistant alloys |   |    | Fe-base<br>Nickel or cobalt base<br>Nickel or cobalt base<br>Nickel or cobalt base |                      |         |             |      | 80 120<br>60 100<br>35 90<br>30 50 |             |                                  |
| Titanium alloys       |   |    | Titanium                                                                           |                      |         |             |      | 70 120                             |             |                                  |

## Valors nominals de velocitat de tall per tornejat interior

| Material             | P | HB                       | Condicció                                    | Velocitat de tall m/min.                     |      |                                          |                                                          |                                                         |                                                     | Força de tall específica<br>Kc 0,4 |
|----------------------|---|--------------------------|----------------------------------------------|----------------------------------------------|------|------------------------------------------|----------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------|------------------------------------|
|                      |   |                          |                                              | PM25                                         | PM40 | NC25                                     | TN15                                                     | TN20                                                    | TN30                                                |                                    |
|                      |   |                          |                                              | 0.3-0.6-1.2                                  |      | 0.1-0.3                                  | 0.1-0.4-0.8                                              | 0.1-0.4-0.8                                             | 0.2-0.5-1.2                                         |                                    |
| Acer no aliat        |   | 125<br>150<br>200        | C=0.15%<br>C=0.35%<br>C=0.60%                | 150 115 80<br>145 105 70<br>115 90 65        |      | 350 280<br>270 230<br>240 190            | 480 345 250<br>440 315 230<br>385 275 200                | 440 300 205<br>400 275 190<br>350 240 165               | 330 230 110<br>300 210 150<br>260 185 130           | 1900<br>2100<br>2250               |
| Acer de baix aliatge |   | 180<br>275<br>300<br>350 | Recuit<br>Trempat<br>Trempat<br>Trempat      | 90 70 45<br>65 45 30<br>60 40 25<br>50 35 20 |      | 300 260<br>220 140<br>230 180<br>220 140 | 380 265 195<br>260 180 130<br>240 165 120<br>210 145 105 | 320 220 170<br>215 150 115<br>200 135 105<br>170 120 90 | 200 140 100<br>140 100 70<br>125 90 60<br>110 75 55 | 2100<br>2600<br>2700<br>2850       |
| Acer d'alt aliatge   |   | 200<br>325               | Recuit<br>Trempat                            | 80 60 45<br>40 25 20                         |      | 200 160<br>200 160                       | 350 230 170<br>170 110                                   | 280 185 135<br>120 80 60                                | 175 115 80<br>85 55 40                              | 2600<br>3900                       |
| Acer inoxidable      |   | 200                      | Martensitic/Ferrític                         | 110 95 75                                    |      | 270 130                                  | 295 240 190                                              | 275 210 165                                             | 225 180 145                                         | 2300                               |
| Acer fos             |   | 180<br>200<br>225        | No aliat<br>De baix aliatge<br>D'alt aliatge | 60 50 35<br>50 45 30<br>40 30 20             |      | 300 260<br>230 180<br>220 140            | 260 185 145<br>230 160 120<br>190 130 95                 | 230 160 120<br>190 125 85<br>170 115 80                 | 135 105 75<br>120 90 60<br>95 70 55                 | 2000<br>2500<br>2700               |

| Material               | M | HB  | Condicció                                                                                 | Velocitat de tall m/min. |                               |                                           |      |                                       |                                       | Força de tall específica<br>Kc 0,4 |                               |      |
|------------------------|---|-----|-------------------------------------------------------------------------------------------|--------------------------|-------------------------------|-------------------------------------------|------|---------------------------------------|---------------------------------------|------------------------------------|-------------------------------|------|
|                        |   |     |                                                                                           | PM25                     | NC25                          | TN15                                      | TN20 | TN30                                  | TS15                                  |                                    | TS20                          |      |
|                        |   |     |                                                                                           | 0.1-0.3                  | 0.1-0.3                       | 0.1-0.4-0.8                               |      | 0.2-0.4-0.6                           | 0.2-0.4-0.6                           |                                    | 0.1-0.3                       |      |
| Acer inoxidable recuit |   | 180 | Austenític Ni > 8%,<br>Cr 12-25% Austenític/<br>Ferrític, Austenític/<br>Ferrític, baix S |                          | 240 200<br>160 130<br>160 130 | 180 150 120<br>180 150 120<br>180 150 120 |      | 190 160 130<br>190 160 100<br>140 110 | 190 160 130<br>160 130 100<br>160 130 | 240 200<br>160 130<br>120 180      | 120 180<br>130 220<br>120 180 | 2450 |

| Material          | K | HB         | Condicció                                                       | Velocitat de tall m/min. |                    |                          |      |                           |             | Força de tall específica<br>Kc 0,4 |
|-------------------|---|------------|-----------------------------------------------------------------|--------------------------|--------------------|--------------------------|------|---------------------------|-------------|------------------------------------|
|                   |   |            |                                                                 | KM15                     | NC25               | TN15                     | TN20 | TK15                      | ZR10        |                                    |
|                   |   |            |                                                                 | 0.2-0.5-1.0              | 0.2-0.5            | 0.2-0.5-1.0              |      | 0.2-0.5-1.0               | 0.2-0.5-1.0 |                                    |
| Acer trempat      |   | 350<br>250 | Acer trempat<br>Acer al manganès 12%                            | 27 16 10<br>65 40 16     |                    | 175 145 100<br>120 85 50 |      | 180 150 110<br>120 90 60  |             | 4500<br>3600                       |
| Fosa mal-leable   |   | 130<br>230 | Ferrítica<br>Perlítica                                          | 105 75 45<br>80 60 30    |                    | 225 150 90<br>155 95 55  |      | 250 180 100<br>160 100 60 |             | 1100<br>1100                       |
| Ferro fos         |   | 180<br>260 | Baixa resistència a la tracció<br>Alta resistència a la tracció | 135 95 60<br>95 65 40    | 300 200<br>250 180 | 165 110 70<br>120 90 55  |      | 180 120 80<br>140 105 60  |             | 1100<br>1500                       |
| Ferro nodular SG  |   | 160<br>250 | Ferrític<br>Perlític                                            | 115 80 45<br>80 50 30    | 250 180<br>180 120 |                          |      | 220 180 100<br>150 100 50 |             | 1100<br>1800                       |
| Fosa en conquilla |   | 400        |                                                                 | 17 11                    |                    |                          |      | 17 11                     |             | 3000                               |

| Material                    | N | HB               | Condicció                                                       | Velocitat de tall m/min.                  |             |         |             |      |                                           | Força de tall específica<br>Kc 0,4 |
|-----------------------------|---|------------------|-----------------------------------------------------------------|-------------------------------------------|-------------|---------|-------------|------|-------------------------------------------|------------------------------------|
|                             |   |                  |                                                                 | KM15                                      | TK15        | NC25    | TN15        | TN20 | ZR10                                      |                                    |
|                             |   |                  |                                                                 | 0.2-0.5-1.0                               | 0.2-0.5-1.0 | 0.2-0.5 | 0.2-0.5-1.0 |      | 0.2-0.5-1.0                               |                                    |
| Aliatges d'alumini          |   | 60<br>100        | No tractable a la calor<br>Tractable a la calor                 | 1750 1280 800<br>510 370 250              |             |         |             |      | 1750 1280 800<br>510 370 250              | 500<br>800                         |
| Aliatges d'alumini (fosos)  |   | 75<br>90         | No tractable a la calor<br>Tractable a la calor                 | 460 285 175<br>300 180 110                |             |         |             |      | 460 285 175<br>300 180 110                | 750<br>900                         |
| Aliatges de bronze i llautó |   | 110<br>90<br>100 | Aliatge de plom, Pb>1%<br>Llautó i bronze<br>Coure electrolític | 610 430 295<br>310 250 195<br>225 160 115 |             |         |             |      | 610 430 295<br>310 250 195<br>225 160 115 | 700<br>750<br>1750                 |
| Altres materials            |   |                  | Plàstics durs<br>Fibra<br>Cautxú dur                            | 380 240<br>190 120<br>225 160             |             |         |             |      | 380 240<br>190 120<br>225 160             |                                    |

| Material                  | S | HB | Condicció                                                                       | Velocitat de tall m/min. |         |             |      |                                    |             | Força de tall específica<br>Kc 0,4 |
|---------------------------|---|----|---------------------------------------------------------------------------------|--------------------------|---------|-------------|------|------------------------------------|-------------|------------------------------------|
|                           |   |    |                                                                                 | KM15                     | NC25    | TN15        | TS15 | TS20                               | ZR10        |                                    |
|                           |   |    |                                                                                 | 0.2-0.5-1.0              | 0.2-0.5 | 0.2-0.5-1.0 |      |                                    | 0.2-0.5-1.0 |                                    |
| Aliatges termorresistents |   |    | Base Fe<br>Base níquel o cobalt<br>Base níquel o cobalt<br>Base níquel o cobalt |                          |         |             |      | 80 120<br>60 100<br>35 90<br>30 50 |             |                                    |
| Aliatges de titani        |   |    | Titani                                                                          |                          |         |             |      | 70 120                             |             |                                    |

