

## M311



G

**Fraises à Fileter par  
interpolation circ.**

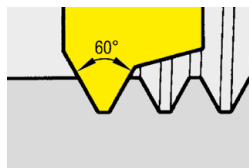
de Diamètre de coupe 17,7 mm

**Fresa Integrale per  
interpolazione circolare**

da Diametro 17,7 mm

### Profil partiel, métrique type 311, 611

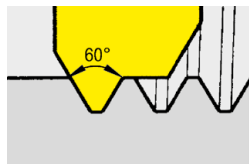
Profilo parziale, metrico tipo 311, 611



| Pas / Passo P                    | 0,5  | 0,75 | 1,0  | 1,25 | 1,5  | 1,75 | 2,0  | 2,5  | 3,0  | 3,5  |
|----------------------------------|------|------|------|------|------|------|------|------|------|------|
| Nom.-Ø / Ø nomin.                |      |      |      |      |      |      |      |      |      |      |
| Type / tipo <b>311</b> / Ds 17,7 |      |      |      |      |      |      |      |      |      |      |
| 311.0515.01                      | ≥ 20 | ≥ 20 | ≥ 20 | ≥ 20 | ≥ 22 |      |      |      |      |      |
| 311.0510.01                      |      |      | ≥ 22 |      |      |      |      |      |      |      |
| 311.0720.01                      |      |      | ≥ 22 | ≥ 22 | ≥ 22 | ≥ 22 | ≥ 22 |      |      |      |
| 311.0815.01                      |      |      |      |      | ≥ 24 |      |      |      |      |      |
| 311.1020.01                      |      |      |      |      |      |      | ≥ 28 |      |      |      |
| 311.1325.01                      |      |      |      |      |      |      |      | ≥ 34 |      |      |
| 311.1630.01                      |      |      |      |      |      |      |      |      | ≥ 34 |      |
| 311.1835.01                      |      |      |      |      |      |      |      |      |      | ≥ 34 |
| 311.2535.01                      |      |      |      |      |      |      |      | ≥ 28 | ≥ 24 | ≥ 26 |
| Type / tipo <b>611</b> / Ds 17,7 |      |      |      |      |      |      |      |      |      |      |
| 611.0515.01                      | ≥ 20 | ≥ 20 | ≥ 20 | ≥ 20 | ≥ 22 |      |      |      |      |      |
| 611.0720.01                      |      |      | ≥ 22 | ≥ 22 | ≥ 22 | ≥ 22 | ≥ 22 |      |      |      |
| 611.2535.01                      |      |      |      |      |      |      |      | ≥ 28 | ≥ 24 | ≥ 26 |

### Profil plein, métrique type 311, 611

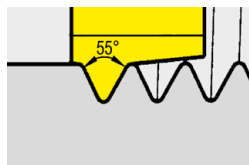
Profilo completo, metrico tipo 311, 611



| Pas / Passo P                         | 1,5  | 1,75   | 2,0    | 2,5    | 3,0  | 3,5  |
|---------------------------------------|------|--------|--------|--------|------|------|
| Nom.-Ø / Ø nomin.                     |      |        |        |        |      |      |
| Type / tipo <b>311, 611</b> / Ds 17,7 |      |        |        |        |      |      |
| 311.0815.02                           | ≥ 23 |        |        |        |      |      |
| 311.0917.02                           |      | ≥ 24,5 |        |        |      |      |
| 311.1020.02                           |      |        | ≥ 25,5 |        |      |      |
| 311.1325.02                           |      |        |        | ≥ 28,5 |      |      |
| 311.1630.02                           |      |        |        |        | ≥ 32 |      |
| 311.1835.02                           |      |        |        |        |      | ≥ 35 |
| Type / tipo <b>611</b> / Ds 17,7      |      |        |        |        |      |      |
| 611.0815                              | ≥ 23 |        |        |        |      |      |

### Profil plein, Whitworth type 311

Profilo completo, Whitworth tipo 311



| fil./pouce<br>fil./pollici       | 14                | 11  |
|----------------------------------|-------------------|-----|
| Filetage / Filettatura           |                   |     |
| Type / tipo <b>311</b> / Ds 17,7 |                   |     |
| 311.5514.02                      | G $\frac{3}{4}$ " |     |
| 311.5511.02                      |                   | G1" |

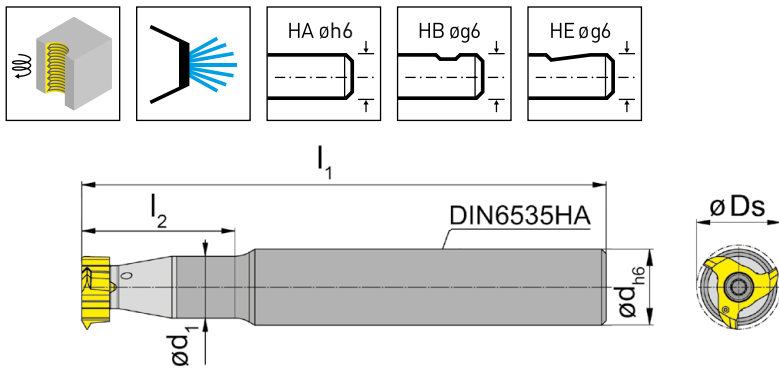


Illustration de coupe à droite représentée

Figura = taglio destro

| N° de commande<br>Codice prodotto | d  | L <sub>1</sub> | L <sub>2</sub> | d <sub>1</sub> | Forme<br>Forma | HWS     |
|-----------------------------------|----|----------------|----------------|----------------|----------------|---------|
| <b>M311.0012.05A</b>              | 12 | 130            | 20             | 9              | A              | 311090R |
| <b>M311.1316.01A</b>              | 16 | 110            | 32             | 13             | A              | 311090R |
| <b>M311.1316.02A</b>              | 16 | 130            | 45             | 13             | A              | 311090R |
| <b>M311.1316.03A</b>              | 16 | 145            | 64             | 13             | A              | 311090R |
| <b>M311.1316.01B</b>              | 16 | 110            | 32             | 13             | B              | 311090R |
| <b>M311.1316.02B</b>              | 16 | 130            | 45             | 13             | B              | 311090R |
| <b>M311.1316.03B</b>              | 16 | 145            | 64             | 13             | B              | 311090R |
| <b>M311.1316.01E</b>              | 16 | 110            | 32             | 13             | E              | 311090R |
| <b>M311.1316.02E</b>              | 16 | 130            | 45             | 13             | E              | 311090R |
| <b>M311.1316.03E</b>              | 16 | 145            | 64             | 13             | E              | 311090R |

Ds voir plaquettes

Ds vd. inserti

## Pièces Détachées

Ricambi

| Corps de fraise<br>Corpo fresa | Vis de serrage<br>Vite di serraggio | Tournevis TORX PLUS®<br>Cacciavite TORX PLUS® |
|--------------------------------|-------------------------------------|-----------------------------------------------|
| M311...                        | <b>4.14T15P</b>                     | <b>T15PQ</b>                                  |

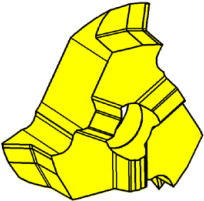
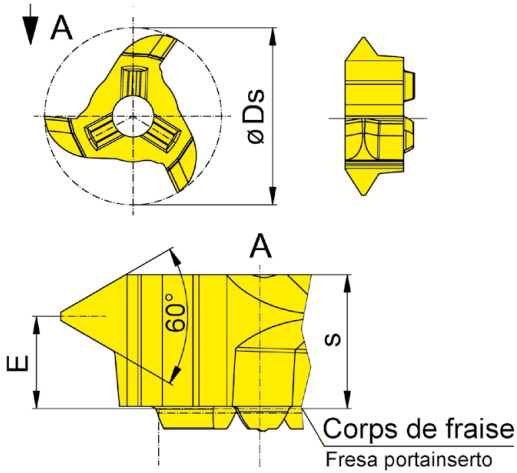
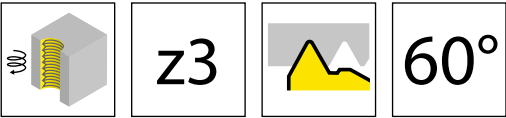


Illustration de coupe à droite représentée  
Figura = taglio destro

▲ en stock  
a stock

Δ 4 semaines  
4 settimane

Nuance  
Leghe

| N° de commande<br>Codice prodotto | P   | P <sub>max</sub> | E   | s    | Ds   | HIS     | AS45 | TA45 | TN35 |
|-----------------------------------|-----|------------------|-----|------|------|---------|------|------|------|
| 311.0515.01                       | 0,5 | 1,5              | 4,8 | 5,95 | 17,7 | 311090R | ▲    | ▲    |      |
| 311.0510.01                       | 1   | 1                | 5   | 5,95 | 17,7 | 311090R | ▲    |      | ▲    |
| 311.0720.01                       | 1   | 2                | 4,6 | 5,95 | 17,7 | 311090R | ▲    |      | ▲    |
| 311.0815.01                       | 1,5 | 1,5              | 4,8 | 5,95 | 17,7 | 311090R | ▲    |      | ▲    |
| 311.1020.01                       | 2   | 2                | 4,6 | 5,95 | 17,7 | 311090R | ▲    |      | ▲    |
| 311.1325.01                       | 2,5 | 2,5              | 4,4 | 5,95 | 17,7 | 311090R | ▲    |      | ▲    |
| 311.2535.01                       | 2,5 | 3,5              | 3,7 | 5,95 | 17,7 | 311090R | ▲    |      | ▲    |
| 311.1630.01                       | 3   | 3                | 4,3 | 5,95 | 17,7 | 311090R | ▲    |      | ▲    |
| 311.1835.01                       | 3,5 | 3,5              | 4,1 | 5,95 | 17,7 | 311090R | ▲    |      | ▲    |
| P                                 | ●   | ●                | ●   |      |      |         | ●    | ●    | ●    |
| M                                 | ●   | ●                | ●   |      |      |         | ●    | ●    | ●    |
| K                                 | ●   | ●                | ●   |      |      |         | ●    | ●    | ●    |
| N                                 | ○   | ●                | ●   |      |      |         | ●    | ●    | ●    |
| S                                 | ●   | ●                | ●   |      |      |         | ●    | ●    | ●    |
| H                                 | -   | -                | -   |      |      |         | -    | -    | -    |

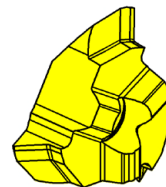
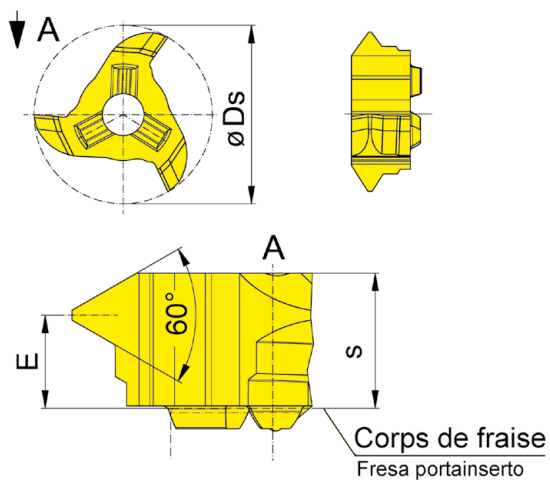
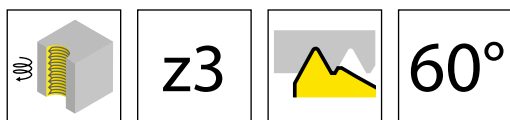


Illustration de coupe à droite représentée  
Figura = taglio destro

▲ en stock  
a stock

Nuance  
Leghe  
Δ 4 semaines  
4 settimane

| N° de commande<br>Codice prodotto | P   | E   | s    | Ds   | HIS     | AS45 | TN35 |
|-----------------------------------|-----|-----|------|------|---------|------|------|
| 311.0815.02                       | 1,5 | 4,8 | 5,95 | 17,7 | 311090R | ▲    | ▲    |
| 311.1020.02                       | 2   | 4,6 | 5,95 | 17,7 | 311090R | ▲    | ▲    |
| 311.1325.02                       | 2,5 | 4,4 | 5,95 | 17,7 | 311090R | ▲    | Δ    |
| 311.1630.02                       | 3   | 4,3 | 5,95 | 17,7 | 311090R | ▲    | ▲    |
| 311.1835.02                       | 3,5 | 4,1 | 5,95 | 17,7 | 311090R | ▲    | ▲    |
|                                   |     |     |      |      |         | P    | ●    |
|                                   |     |     |      |      |         | M    | ●    |
|                                   |     |     |      |      |         | K    | ●    |
|                                   |     |     |      |      |         | N    | ○    |
|                                   |     |     |      |      |         | S    | ●    |
|                                   |     |     |      |      |         | H    | -    |

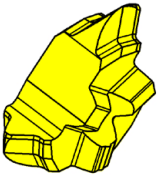
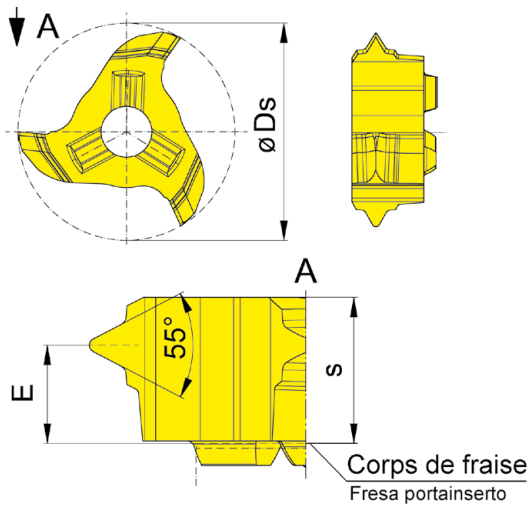
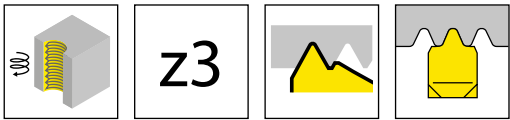
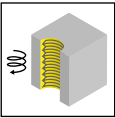


Illustration de coupe à droite représentée  
Figura = taglio destro

▲ en stock      Δ 4 semaines  
a stock      4 settimane

| N° de commande<br>Codice prodotto | TPI | E    | s    | Ds   | HIS     | Nuance<br>Leghe |      |      |      |  |
|-----------------------------------|-----|------|------|------|---------|-----------------|------|------|------|--|
|                                   |     |      |      |      |         | AS45            | TA45 | Ti25 | TN35 |  |
| 311.5511.02                       | 11  | 4    | 5,95 | 17,7 | 311090R | ▲               | Δ    | Δ    | ▲    |  |
| 311.5514.02                       | 14  | 4,35 | 5,95 | 17,7 | 311090R | ▲               | Δ    | ▲    | ▲    |  |
| P                                 | ●   | ●    | ●    | ●    | ●       |                 |      |      |      |  |
| M                                 | ●   | ●    | ●    | ●    | ●       |                 |      |      |      |  |
| K                                 | ●   | ●    | ●    | ●    | ●       |                 |      |      |      |  |
| N                                 | ○   | ●    | ●    | ●    | ●       |                 |      |      |      |  |
| S                                 | ●   | ●    | ●    | ●    | ●       |                 |      |      |      |  |
| H                                 | -   | -    | -    | -    | -       |                 |      |      |      |  |



z6



60°

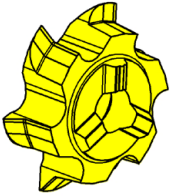
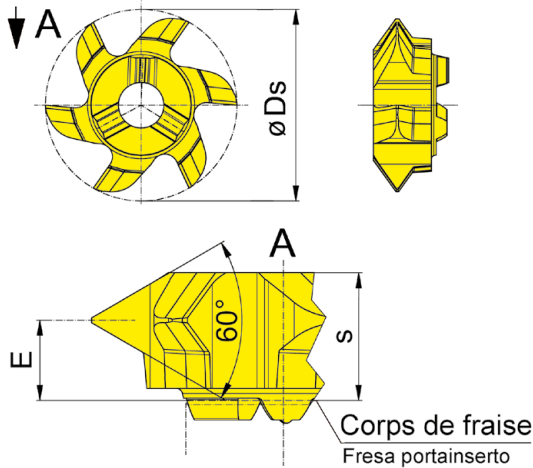


Illustration de coupe à droite représentée  
Figura = taglio destro

▲ en stock  
a stock

Δ 4 semaines  
4 settimane

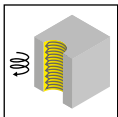
Nuance  
Leghe

| N° de commande<br>Codice prodotto | P   | P <sub>max</sub> | E   | s    | Ds   | HIS     |
|-----------------------------------|-----|------------------|-----|------|------|---------|
| 611.0515.01                       | 0,5 | 1,5              | 4,8 | 5,75 | 17,7 | 311090R |
| 611.0720.01                       | 1   | 2                | 4,6 | 5,75 | 17,7 | 311090R |
| 611.2535.01                       | 2,5 | 3,5              | 3,7 | 5,75 | 17,7 | 311090R |

**Note:**  
611.2535.01 convient également pour la fabrication de filetages UNF 1 1/4"-12, 1 1/8"-12, 1 5/8"-12  
**Nota:**  
611.2535.01 è adatto anche per la produzione di filettature UNF 1 1/4"-12, 1 1/8"-12, 1 5/8"-12

|   | AS45 | TA45 | TI25 |
|---|------|------|------|
| P | ▲    | ▲    | ▲    |
| M | ●    | ●    | ●    |
| K | ●    | ●    | ●    |
| N | ○    | ●    | ●    |
| S | ●    | ●    | ●    |
| H | -    | -    | -    |





z6



60°

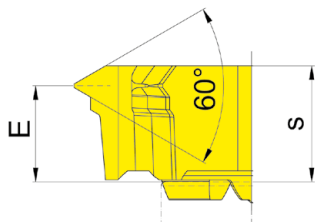
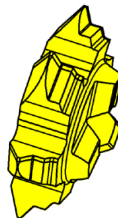
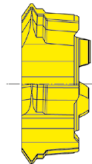
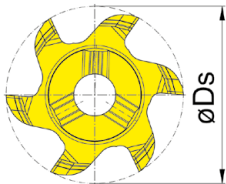
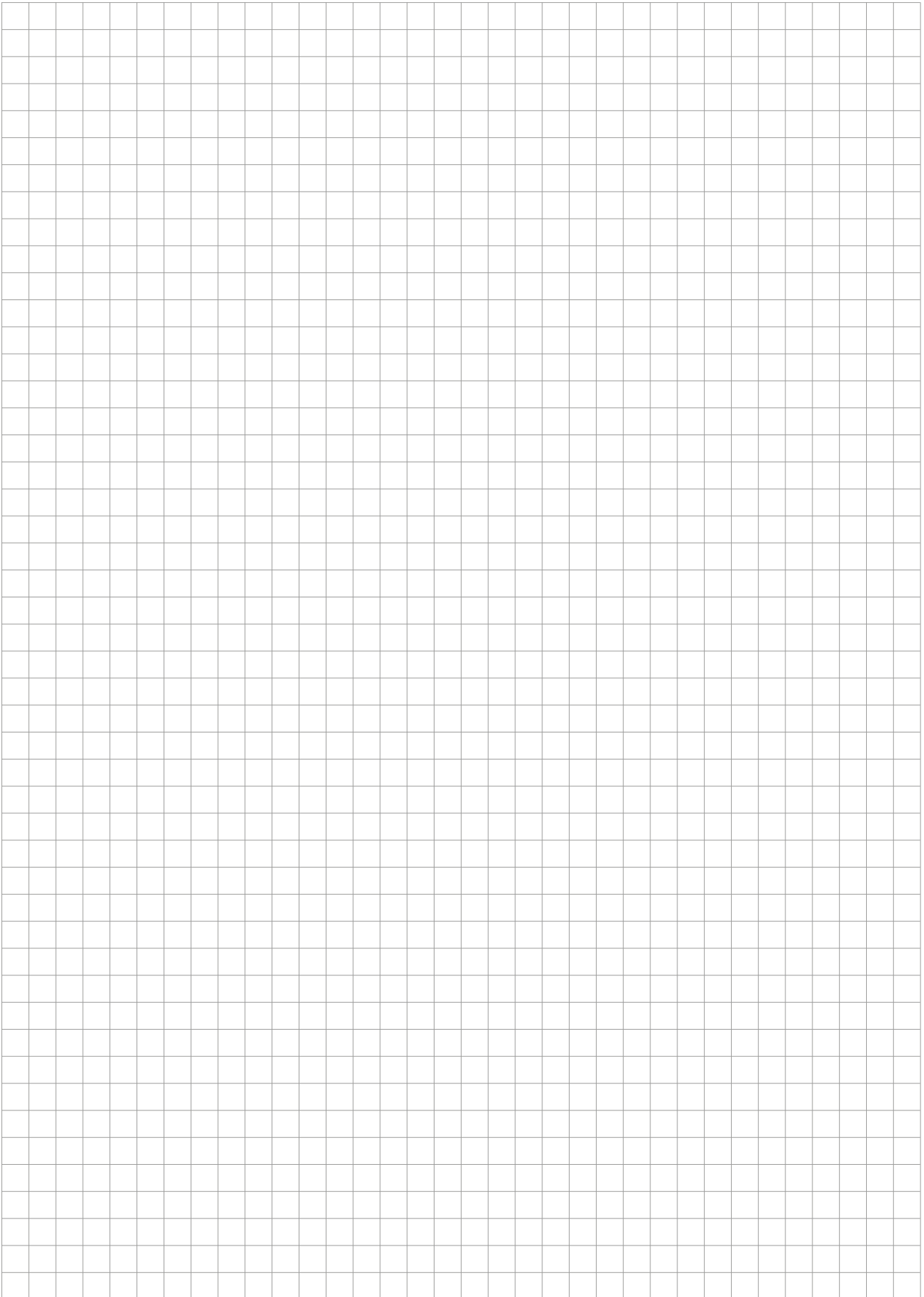


Illustration de coupe à droite représentée  
Figura = taglio destro

Nuance  
Leghe  
▲ en stock  
a stock  
Δ 4 semaines  
4 settimane

| N° de commande<br>Codice prodotto | P   | E   | s    | Ds   | HIS     | AS45 |
|-----------------------------------|-----|-----|------|------|---------|------|
| 611.0815.02                       | 1,5 | 4,8 | 5,95 | 17,7 | 311090R | ▲    |
|                                   | P   | ●   |      |      |         |      |
|                                   | M   | ●   |      |      |         |      |
|                                   | K   | ●   |      |      |         |      |
|                                   | N   | o   |      |      |         |      |
|                                   | S   | ●   |      |      |         |      |
|                                   | H   | -   |      |      |         |      |

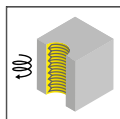
G



Vue d'ensemble  
Vista d'insieme

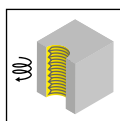
Page/Pag.  
318

Corps de fraise  
Corpo fresa  
M313



Page/Pag.  
319-320

Plaquette  
Inserto  
313/613



Page/Pag.  
321-325

G

### Attention:

Le diamètre nominal est toujours le plus grand  $\emptyset$  du filetage.  
En règle générale, la désignation dépend de la taille du filetage.  
Exemple : M12 x 1 -> diamètre nominal 12

Il peut y avoir un phénomène de recoupe, si le diamètre d'alésage est plus petit que celui recommandé.

### Attenzione:

Il diametro nominale è sempre il  $\emptyset$  maggiore della filettatura. Di norma, la designazione si basa sulle dimensioni del filetto.  
Esempio: M12 x 1 -> diametro nominale 12

L'effetto recutting dell'utensile in fresatura può creare degli errori sul profilo se il diametro minimo del componente è minore di quello consigliato.