

# Solid Carbide 3 Flutes with our 3100 Series Short Cross Drills & 3200 Series Long Reamer Drills

These high performance solid carbide drills include 3-flutes for drilling and reaming in one operation. They are designed for soft and medium tensile strength materials such as Titanium, Aluminium and Stainless Steel. They are manufactured for transversal drilling with no burrs, inside cut, and strong web with no deviation.

\*Special, custom specification items are available

## Features:

- 3-Flutes Drills have great performance in Titanium, and Stainless steel applications. They have best geometry for Aluminium drilling.

## Benefits:

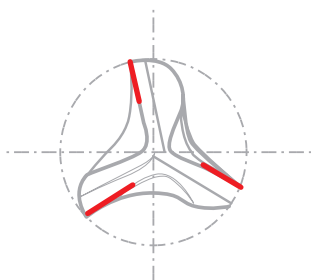
- Direct drilling, self-centering point geometry, no prior centering or pilot drilling required
- High Accuracy of hole which helps avoid reaming operation
- More manageable chips due to shorter cutting lip and an extra flute
- Geometry fits no-burr strategy process
- 50% faster feed rates
- Longer tool life
- Minimal burr strategy



Aerospace

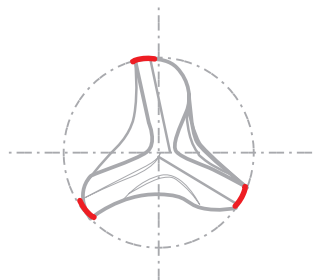


Medical/Dental



### 3 SHORT LIPS

Heat of cutting is absorbed by 3 short lips so perfect for hightense materials. 3 lips make thinner chips. Good for less burrs outside hole.



### 3 MARGINS

Drill is guided by 3 margins which make the drilling through hole straight. Circularity of hole is perfect with no ovalization.



## Feed & Speed indications for Titanium, Stainless, and Aluminum

*\*Feeds & Speeds are indications only and may vary depending on the process*

|           |          | Cutting Speed<br>Vc (m/min) / (SFM) | Feed per Revolution (mm) / (inch) |                              |                              |                              |
|-----------|----------|-------------------------------------|-----------------------------------|------------------------------|------------------------------|------------------------------|
|           |          |                                     | Diam 0,50-1,00                    | Diam 1,00-1,50               | Diam 1,50-2,00               | Diam 2,00-3,00               |
| Titanium  | Uncoated | 20-30 / 65-98                       | 0,01-0,02 /<br>0.0004-0.0008      | 0,02-0,04 /<br>0.0008-0.0016 | 0,04-0,08 /<br>0.0016-0.0031 | 0,08-0,12 /<br>0.0031-0.0047 |
|           | Coated   | 30-40 / 98-131                      |                                   |                              |                              |                              |
| Stainless | Uncoated | 30-40 / 98-131                      | 0,02-0,04 /<br>0.0008-0.0016      | 0,04-0,06 /<br>0.0016-0.0024 | 0,06-0,10 /<br>0.0024-0.0039 | 0,10-0,15 /<br>0.0039-0.0059 |
|           | Coated   | 40-60 / 131-197                     |                                   |                              |                              |                              |
| Aluminum  | Uncoated | 100-150 / 328-492                   | 0,03-0,05 /<br>0.0011-0.002       | 0,05-0,10 /<br>0.002-0.0039  | 0,10-0,20 /<br>0.0039-0.0079 | 0,20-0,30 /<br>0.0079-0.0118 |
|           | Coated   | 150-200 / 492-656                   |                                   |                              |                              |                              |



**h5 Tolerance Reinforced Shank d 3.0mm**  
+ 0.000/- 0.005mm (h5)

## Custom specifications such as:

- Only available in right hand cut
- Size range from 0.5mm to 3.00mm in increments of 0.05 or 0.10mm
- Intermediate sizes upon request
- Special sizes and tolerances available
- Minimum special order is 10 Pieces
- **Lead-time on customs 4 weeks ARO 6 weeks with coating**

### 3100 Series Short Solid Carbide 3 Flute Short Cross Drills - Drill Sizes 0.50 – 1.50mm

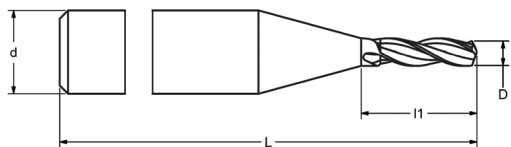
*NOTE: Sold in 10 piece packages only*

| D<br>Flute Dia.<br>(mm) | D<br>Dec. Equiv.<br>Flute Dia.<br>(inch) | Wire #<br>Frac | d<br>Shank<br>Dia.<br>(mm) | l1<br>Flute<br>Length<br>(mm) | L Overall<br>Length<br>OAL (mm) | Uncoated (R)<br>EDP No. |
|-------------------------|------------------------------------------|----------------|----------------------------|-------------------------------|---------------------------------|-------------------------|
| 0.50                    | 0.0197                                   |                | 3.0                        | 3.0                           | 30.0                            | 3100050R                |
| 0.55                    | 0.0217                                   |                |                            |                               |                                 | 3100055R                |
| 0.60                    | 0.0236                                   |                |                            |                               |                                 | 3100060R                |
| 0.65                    | 0.0256                                   |                |                            |                               |                                 | 3100065R                |
| 0.70                    | 0.0276                                   |                |                            |                               |                                 | 3100070R                |
| 0.75                    | 0.0295                                   |                |                            | 3.5                           |                                 | 3100075R                |
| 0.80                    | 0.0315                                   |                |                            |                               |                                 | 3100080R                |
| 0.85                    | 0.0335                                   |                |                            |                               |                                 | 3100085R                |
| 0.90                    | 0.0354                                   |                |                            |                               |                                 | 3100090R                |
| 0.95                    | 0.0374                                   |                |                            |                               |                                 | 3100095R                |
| 1.00                    | 0.0394                                   |                |                            | 4.0                           |                                 | 3100100R                |
| 1.05                    | 0.0413                                   |                |                            |                               |                                 | 3100105R                |
| 1.10                    | 0.0433                                   |                |                            |                               |                                 | 3100110R                |
| 1.15                    | 0.0453                                   |                |                            |                               |                                 | 3100115R                |
| 1.20                    | 0.0472                                   |                |                            | 5.0                           |                                 | 3100120R                |
| 1.25                    | 0.0492                                   |                |                            |                               |                                 | 3100125R                |
| 1.30                    | 0.0512                                   |                |                            |                               |                                 | 3100130R                |
| 1.35                    | 0.0531                                   |                |                            |                               |                                 | 3100135R                |
| 1.40                    | 0.0551                                   | 54             |                            |                               |                                 | 3100140R                |
| 1.45                    | 0.0571                                   |                |                            |                               |                                 | 3100145R                |
| 1.50                    | 0.0591                                   |                |                            |                               |                                 | 3100150R                |

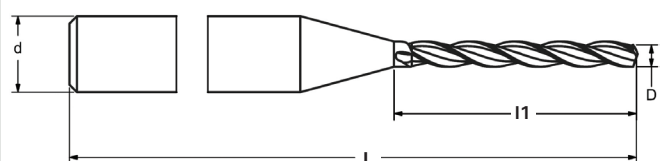
### 3200 Series Long Solid Carbide 3 Flute Long Reamer Drills - Drill Sizes 0.50 – 3.00mm

*NOTE: Sold in 10 piece packages only*

| D<br>Flute Dia.<br>(mm) | D<br>dec. equiv.<br>flute dia.<br>(inch) | Wire #<br>Frac | d<br>Shank<br>Dia. (mm) | l1 Flute<br>Length<br>(mm) | L<br>Overall<br>Length<br>OAL (mm) | Uncoated (R)<br>EDP No. |
|-------------------------|------------------------------------------|----------------|-------------------------|----------------------------|------------------------------------|-------------------------|
| 0.50                    | 0.0197                                   |                | 3.0                     | 6.0                        | 38                                 | 3200050R                |
| 0.55                    | 0.0217                                   |                |                         | 7.0                        |                                    | 3200055R                |
| 0.60                    | 0.0236                                   |                |                         |                            |                                    | 3200060R                |
| 0.65                    | 0.0256                                   |                |                         |                            |                                    | 3200065R                |
| 0.70                    | 0.0276                                   |                |                         |                            |                                    | 3200070R                |
| 0.75                    | 0.0295                                   |                |                         | 9.5                        |                                    | 3200075R                |
| 0.80                    | 0.0315                                   |                |                         |                            |                                    | 3200080R                |
| 0.85                    | 0.0335                                   |                |                         |                            |                                    | 3200085R                |
| 0.90                    | 0.0354                                   |                |                         |                            |                                    | 3200090R                |
| 0.95                    | 0.0374                                   |                |                         |                            |                                    | 3200095R                |
| 1.00                    | 0.0394                                   |                |                         | 10.5                       |                                    | 3200100R                |
| 1.05                    | 0.0413                                   |                |                         |                            |                                    | 3200105R                |
| 1.10                    | 0.0433                                   |                |                         |                            |                                    | 3200110R                |
| 1.15                    | 0.0453                                   |                |                         |                            |                                    | 3200115R                |
| 1.20                    | 0.0472                                   |                |                         | 12.0                       |                                    | 3200120R                |
| 1.25                    | 0.0492                                   |                |                         |                            |                                    | 3200125R                |
| 1.30                    | 0.0512                                   |                |                         |                            |                                    | 3200130R                |
| 1.35                    | 0.0531                                   |                |                         |                            |                                    | 3200135R                |
| 1.40                    | 0.0551                                   | 54             |                         | 14.0                       |                                    | 3200140R                |
| 1.45                    | 0.0571                                   |                |                         |                            |                                    | 3200145R                |
| 1.50                    | 0.0591                                   |                |                         |                            |                                    | 3200150R                |
| 1.60                    | 0.0630                                   |                |                         |                            |                                    | 3200160R                |
| 1.70                    | 0.0669                                   | 51             |                         | 16.0                       |                                    | 3200170R                |
| 1.80                    | 0.0709                                   |                |                         |                            |                                    | 3200180R                |
| 1.90                    | 0.0748                                   |                |                         |                            |                                    | 3200190R                |
| 2.00                    | 0.0787                                   |                |                         |                            |                                    | 3200200R                |
| 2.10                    | 0.0827                                   |                |                         | 36                         |                                    | 3200210R                |
| 2.20                    | 0.0866                                   |                |                         |                            |                                    | 3200220R                |
| 2.30                    | 0.0906                                   |                |                         |                            |                                    | 3200230R                |
| 2.40                    | 0.0945                                   |                |                         |                            |                                    | 3200240R                |
| 2.50                    | 0.0984                                   |                |                         |                            |                                    | 3200250R                |
| 2.60                    | 0.1024                                   |                |                         |                            |                                    | 3200260R                |
| 2.70                    | 0.1063                                   |                |                         |                            |                                    | 3200270R                |
| 2.80                    | 0.1102                                   |                |                         |                            |                                    | 3200280R                |
| 2.90                    | 0.1142                                   |                |                         |                            |                                    | 3200290R                |
| 3.00                    | 0.1181                                   |                |                         |                            |                                    | 3200300R                |



OAL 30mm



OAL 38mm