

NEW



# ELIMINATOR

Barrel Tools



**On target**  
to revolutionise  
your throughput



INFINITE POSSIBILITIES.®

**QUICKGRIND®**  
carbide tooling



## INFINITE POSSIBILITIES.®

What if you could have the optimum tool, with the marginal cost increase more than covered by improved production throughput and efficiency? With Quickgrind, you can. Welcome to a world of Infinite Possibilities.®

At Quickgrind we do not limit ourselves to standard ranges, and we do not limit you to tools we happen to have in stock and want to sell you. Instead, our mission is to provide you with solution-based tooling, to give you the right tool, for the right job, at the right price.

Eliminator barrel tools can be designed specifically for your application and are available in virtually any size, diameter, radius, neck relief, coating or reach. Through-coolant and other options are also available.

End the compromise of standard tooling. Contact our team today to discuss your applications, aims and requirements – there are no limits, only Infinite Possibilities.®

Call +44 (0) 1684 294090  
or visit [quickgrind.com](http://quickgrind.com)

## Ordering is as easy as **one, two, three**

### 1. Choose your shank spec

- Length • Diameter
- Tolerance • Type HA/HB/HC
- Through-coolant
- Coolant grooves... and more

### 2. Choose your neck spec

- Length • Relieved
- Diameter
- Coolant grooves... and more

### 3. Choose your head spec

- Full selection process assistance • Diameter
- Tolerance • Flute radius/length
- Ballnose diameter
- Form F end radius
- Number of flutes • Helix angle
- Radial/axial through-coolant
- MX, XRed or TX coating
- Chip breakers... and more



That's it. No catalogues to trawl through, no complicated product codes, no lengthy tables... just tell us what you need for your job and we will make it for you. Even specials can be designed, proved and delivered in days, at a cost you could recoup on your first job. That's Infinite Possibilities.®

## Remember, just ask we will make it for you



# Transforming finishing strategies

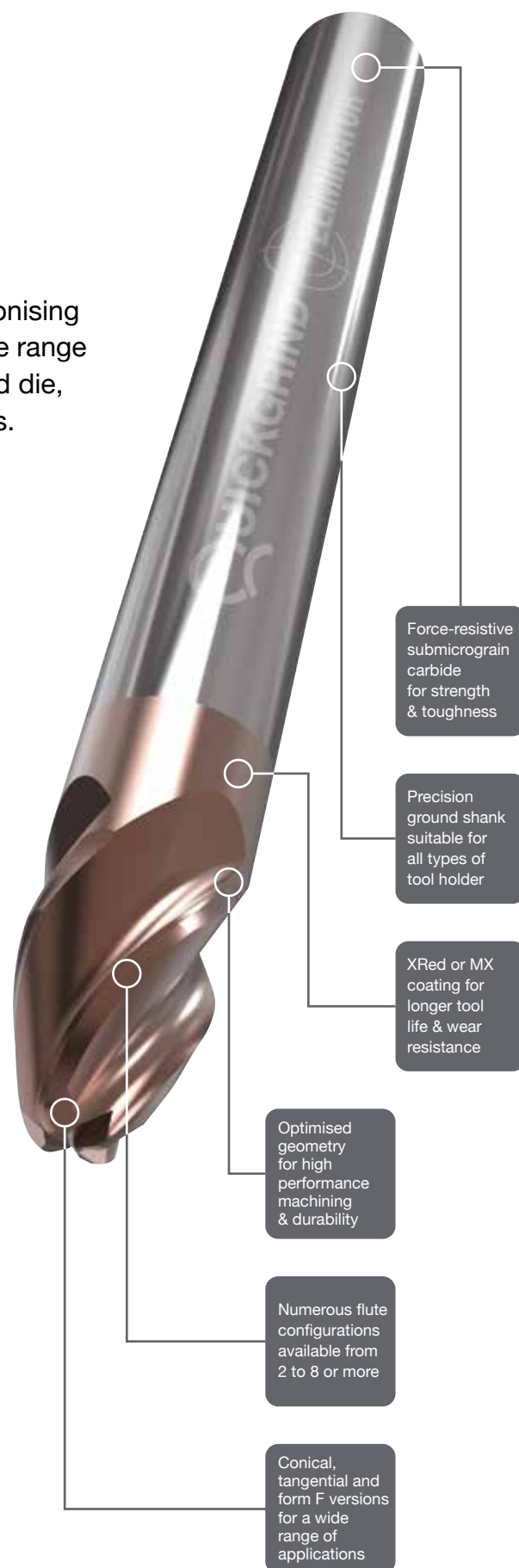
Quickgrind's Eliminator barrel tools are revolutionising finishing and semi-finishing strategies on a wide range of components, for motor racing and mould and die, aerospace to medical, turbine blades and blisks.

## Applications

- Replaces scanning with ballnose and corner radius endmills
- Highly efficient finishing and semi-finishing
- Profiling, flanks and steep walls
- Pocket milling, especially deep, hard to access surfaces
- Mill faces and blends with one tool
- Hard to reach areas without using expensive long reach tools
- Machining steep or flat planes
- Faces with minimal curvature

## Benefits

- Up to 90% cycle time reduction achievable
- Increased ap (step down) – greatly reduced machining time
- Smaller cusp (scallop) height
- Tool path distance greatly reduced – better for your machine
- Two-in-one tool – side cutting and ballnose cutting
- High Ra finish
- Reduced effects of thermal deformation (heat transfer)
- Long tool life
- Suitable for sharpening and recoating multiple times with our QuickEdge programme





# Innovating for unlimited potential

Eliminator is an exciting range of barrel tools that takes the arc segment of a circle to form the radius of the flute, enabling improved step down strategies when compared to ballnose endmills and reducing cycle times by up to 90%.

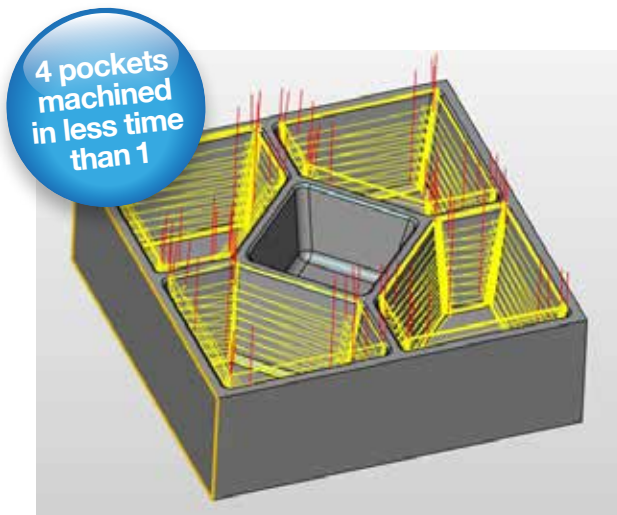
Until now the conventional way to produce a required finish was to use a ballnose. This limits the step down, generally calculated as  $ap = 0.02 \times D1$ . For example, a 10.00mm diameter ballnose can achieve an ap of 0.20mm.

Increasing the step down would normally require a much larger diameter cutter which would not be practical – the Eliminator barrel tool does not have such limitations. The contact area is much greater because the flute radius is adapted from the segment of a much larger circle. If you wanted to increase the step down from 0.2mm to 5.0mm you would need a 250mm diameter ballnose. However, by taking a segment of a 250mm diameter circle to form the flute of your tool, and applying this to any diameter tool, you can achieve a 5.00mm step down.

Available in conical, tangential and form F versions with geometries, number of flutes and dimensions to suit your individual applications, Eliminator significantly reduces finishing cycle times on deep pockets, shallow pockets with small radii, hard to reach faces, radial and tangential faces, gear cutting, blisks, vanes and moulds which would all normally require a ballnose.

The full Eliminator range is available to you now, with custom-made tools on a short delivery.

**Start your cycle time  
and finishing revolution today –  
call +44 (0) 1684 294090  
or visit [quickgrind.com](http://quickgrind.com)**



## Eliminator

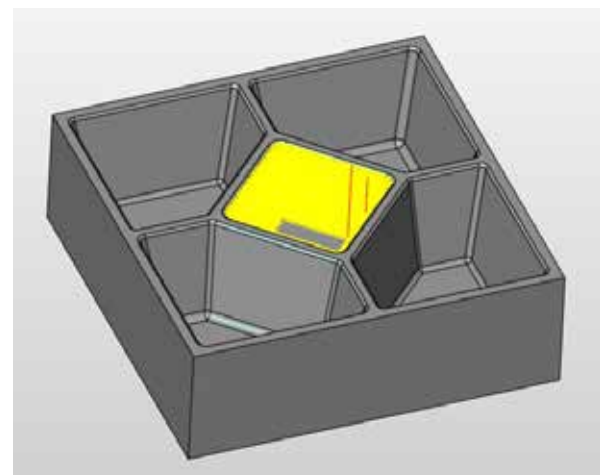
12mm Ø R3 conical barrel tool with 250mm flute radius

Spindle speed – 7,958 rpm

Feedrate – 2,984 mm/min

2 minutes 11 seconds for each pocket

**4 pockets machined in 8 minutes 46 seconds**



## Ballnose

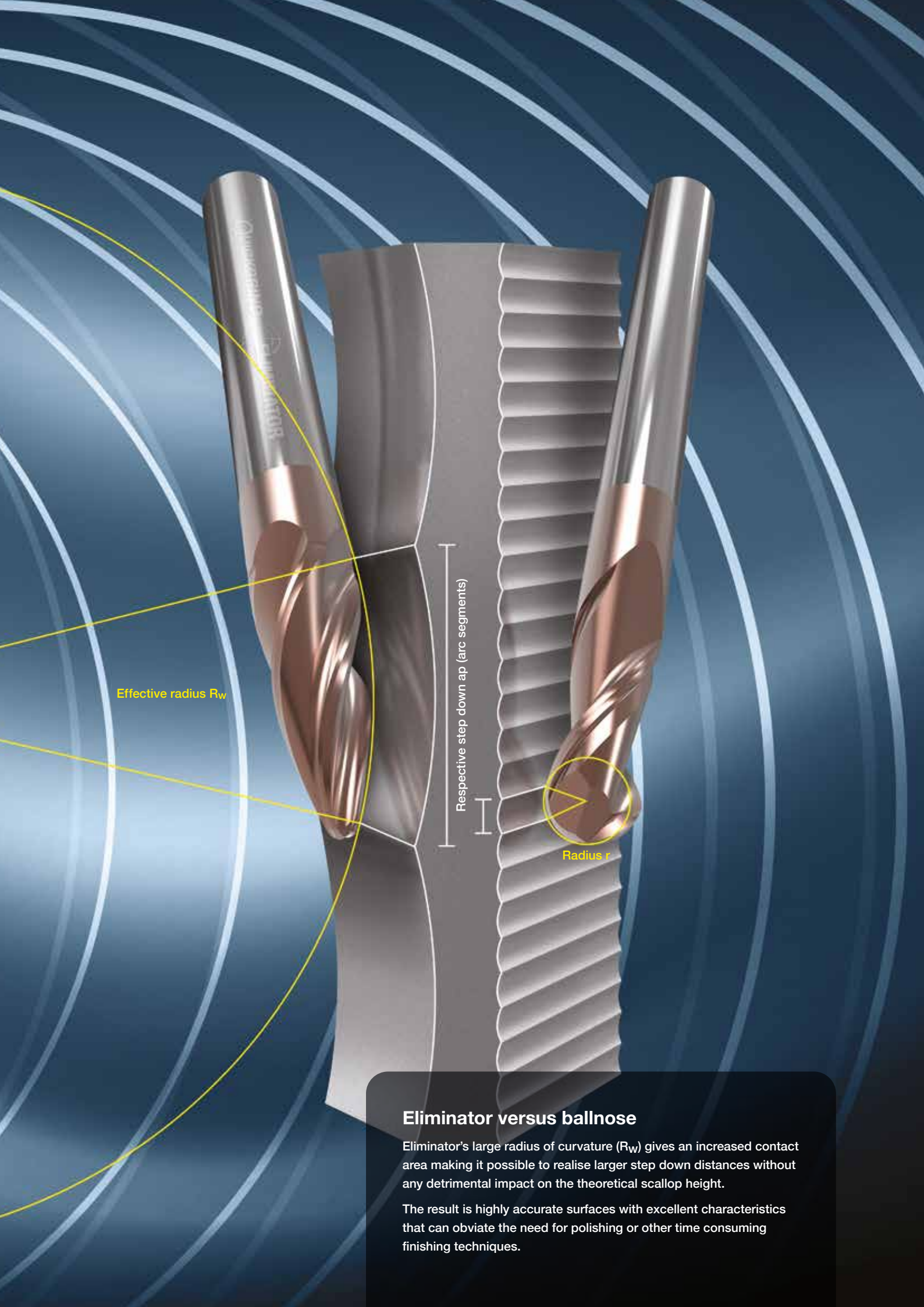
6mm Ø ballnose

Spindle speed – 10,610 rpm

Feedrate – 2,122 mm/min

1 x middle pocket only

**1 pocket machined in 9 minutes 24 seconds**



Effective radius  $R_w$

Respective step down  $a_p$  (arc segments)

Radius  $r$

### Eliminator versus ballnose

Eliminator's large radius of curvature ( $R_w$ ) gives an increased contact area making it possible to realise larger step down distances without any detrimental impact on the theoretical scallop height.

The result is highly accurate surfaces with excellent characteristics that can obviate the need for polishing or other time consuming finishing techniques.

# Finishing

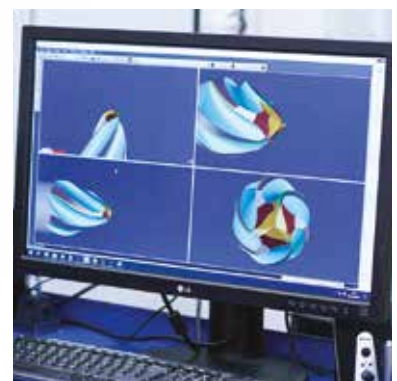
in record time

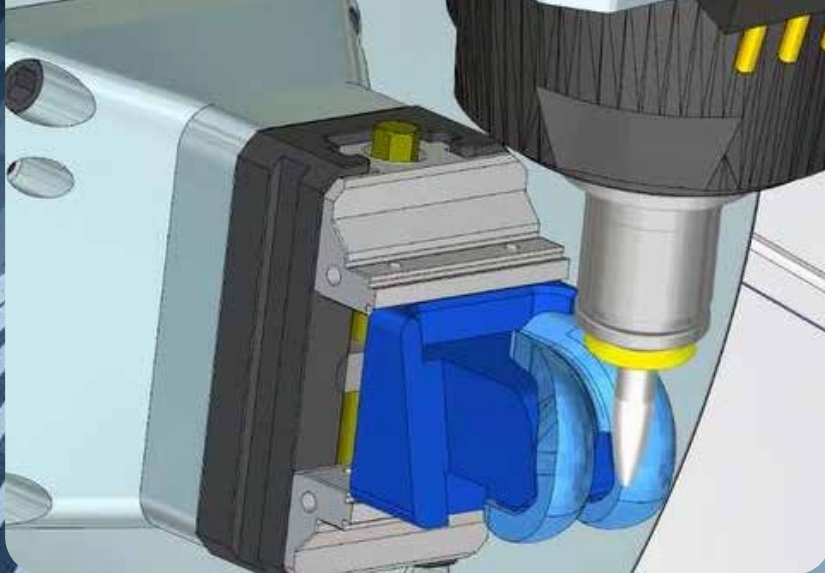
Use of Quickgrind's Eliminator barrel tools demands a suitable CAM solution that fully exploits the potential of their geometry. Combined with our QuickCam programming and machining strategies, your profitability and competitiveness will be transformed.

QuickCam promises performance enhancing strategies to suit the parts you make and the machines you use, initially via an on-site visit to help us better understand your requirements. The service offers the very latest cutting-edge carbide tools and by using hyperMILL® MAXX Machining cycles, as well as those provided by other CAM providers, we can offer a very competitive and professional service by ensuring that we always use the most up-to-date machining

tool paths. We are an application partner with Open Mind and work with many other CAM providers.

You may only require a section of code to aid your machining processes. In this case we will provide an NC program in the format of your choice – this can simply be inserted into your existing program either by adding it to the original or by use of a sub-program.





Condyle  
surface target  
Ra value 0.2  
(0.08µm)

Free-form  
condyle  
surfaces

Multi-axis  
machining  
strategies

Medical grade  
321 titanium  
stabilised  
stainless steel

Cycle  
time down  
**60%**

### Comparative performance

Eliminator R80 4 flute barrel tool		R4 2 flute ballnose end mill
Vc	103 m/min	68 m/min
Step down	0.58mm	0.103mm
Cycle time	19 mins	47 mins

### Force-resistive submicrograin carbide

Quickgrind's substrate offers the perfect mix of durability, hardness and performance. Precision shanks ensure high concentricity for precision toolholders, whilst the structure provides a durable cutting edge.

### Your choice of coatings

Coatings are available for a wide range of materials and applications, for both wet and dry machining. The coatings' outstanding adhesion delivers extended tool life and improves performance, with excellent reliability resulting from high mechanical and thermal resistance.

#### Type A | Uncoated



##### Non-ferrous N

Aluminium  
6061/6082

Die-cast aluminium  
10% Si

#### Type D | MX coated



##### Steels P

Low alloy  
1000/1100/1300

Medium alloy  
200/252/300

Tool steels  
H13/P20/D2

High strength  
420/5120

##### Cast iron K

Grey  
cast iron

SG iron

##### Hardened materials H

Hardened  
steels  
45-55 Hrc

#### Type S | Xred coated



##### Stainless M

Precipitation  
13-8/15-5  
17-4PH

Austenitic  
303/304/316L

Martensitic  
403/410/416

##### High temp alloys S

Inconel  
Hastelloy  
Incoloy

Titanium alloys  
Ti6AL4V  
Ti5Al-5V-5Mo

## A selection of available geometries



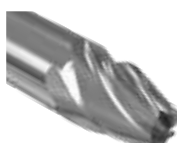
#### 2 flute

For aluminium



#### 3 flute

For aluminium



#### 5 flute

For steels  
& super alloys



#### 6 flute

For steels  
& super alloys



#### 10 flute

For steels  
& super alloys



#### Tangential barrel tool

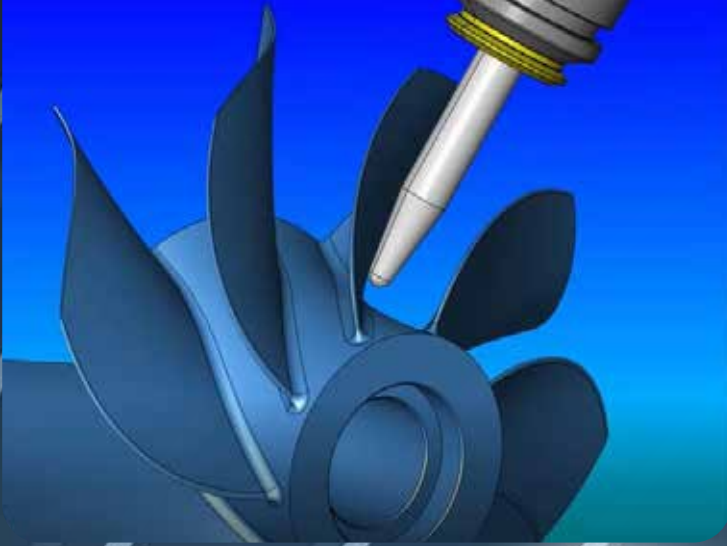
For ease of access



#### Form F

For flat surfaces

Other  
geometries  
available –  
please ask



Aluminium alloy

Vc 850 m/min



3mm  
step down\*

80% cycle  
time reduction  
compared to  
ballnose

Cycle  
time down  
**80%**

### Key benefits

- Far better cutting conditions for the tool
- Cutting on the flank rather than the ballend
- Cutting speed maintained over feature
- Longer tool life

\*Step down is relevant to the Ra finish required  
and is assessed by our strategic technicians

# Adding value to your tooling investment

Eliminator barrel tools are suitable for remanufacture. Our unique QuickEdge process can give you up to seven times extra usage out of your tooling, and with material costs continuing to increase you can't afford to ignore the benefits of remanufacture.

- Tools controlled by size, number of reissues and remanufactures
- Reduced logistics costs
- Extremely attractive price and performance over the life of the tool

Remanufacture doesn't mean compromising on quality. It has always been our policy to produce tools of such high quality that they can be used more than once. Which means that even after seven remanufactures you will continue to enjoy new tool performance.

Ask  
about our  
introductory  
offer today



*Tools shown not Eliminator*



*To produce a precision made product is the norm  
but to produce it consistently is precise*

# 24/7 control

## of your tooling inventory

Is your tooling inventory reduced to a minimum? Is it secure?  
Are your re-stocking orders generated automatically and on time?  
Do you want to reduce your tool purchase administration costs?

Quickgrind's robust, proven tool vending solutions are the answer to all these issues and more. Once we have audited your tooling requirements and consumption levels, we will supply you with a fully stocked machine (our machines can hold from 300 to 1,680+ individual tools). Usage and stock levels are then automatically monitored and replacement tools sent before your stock runs out.

And because your tooling inventory and usage levels are pre-determined, you regain complete control of your purchase administration time, and costs – to as little as one purchase order and one invoice per month.

Save time, save money... take control of your tooling with a vending solution from Quickgrind.



### Benefits

- 24/7 secure access
- Allows minimum stock holding
- Automatic re-ordering
- User-friendly operation
- Tailor access to specific users and times
- Easy access to stock information and statistics
- Audit your tooling stock at the push of a button
- Suitable for new and remanufactured tools
- Stocks a wide range of tools types and sizes, and for high or low stock turnover
- Reduces purchase administration costs

# Improving your machining performance

Quickgrind's state-of-the-art Technical Centre offers a comfortable and technologically advanced environment to discuss all of your cutting tool requirements, challenges and ambitions.

Our experts will work with you to conduct trials whilst generating and running tool paths and machining strategies. Our investment in the centre enables us to demonstrate what is possible with our ground-breaking tooling and tool management solutions.

The centre is fully equipped with a seminar theatre and training room, meeting rooms and machining centres. Visitors can take a guided tour of our production facility, undergo technical training and discuss their specific requirements.



Call us  
today to  
arrange  
your visit

