Super alloys range brochure

Solid carbide tooling, modular tooling and drills

Tough tools
for tough materials

INFINITE POSSIBILITIES.®

QUICKGRIND® carbide tooling

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Icons key

Standard – available ex-stock

Infinite Possibilities® – customisable

ModX® compatible – modular heads and shanks

Remanufacture compatible – regrind, recoat, reuse

Centre cutting

Helix angle

VHM

Coating type

Variable helix

Variable index

Number of teeth

Coated barrel tool

Coated ball nose

Coated corner radius

Orbis 270°

Chip breaker

Through-coolant

3D milling

Chamfer milling

Helical milling

Pocket milling

Profile milling

Ramping

Side finishing

Side roughing

Slot milling

Trochoidal milling

Chamfer drilling

Drilling

When the going **gets tough**

Super alloys like Inconel are tough on tools, with high wear, heat generation and increased cutting forces all taking their toll.

Our range of solid carbide tooling for super alloys has been designed to meet these challenges head on.

In this brochure you will find a selection of standard super alloys tools, identifiable by the ‘S’ icon and available ex-stock…

Our standard super alloys tools are available ex-stock

For non-standard tooling there is our Infinite Possibilities® programme. See the next couple of pages to find out more about the future of tool purchasing today…

Look out for this icon to see which of our tools are Infinite Possibilities® compatible

Of course, our standard tools can also be tailored to suit your particular requirements, so if you don’t see what you need please ask – we will be able to make it for you.

We even have our ModX® range of flexible, modular tooling with a choice of interchangeable shanks and heads. Wherever you see this symbol, that tool is available in modular design…

This icon tells you which of our tools are ModX® compatible

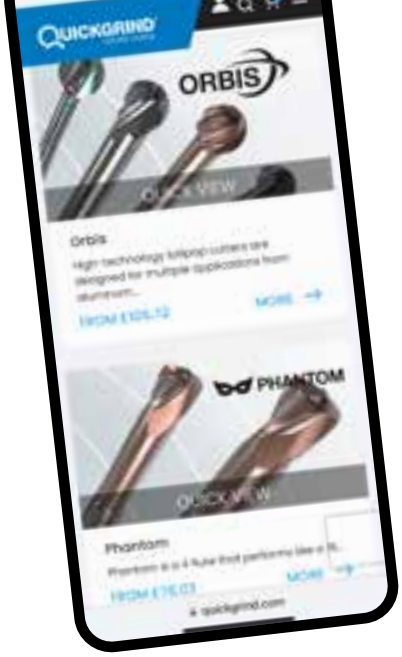
Operating in some 40 countries we have an international reputation for solid carbide cutting tools for every industry sector and our ‘total solutions engineering’ approach is so successful it has been expanded to include a range of compatible services including CAM strategies, remanufacture and tool vending. Our state-of-the-art Technical Centre is a purpose-built space for you to discover all of these services, to meet and talk to our specialists and to test our tools on your components – see pages 37 to 43 to find out more.

Welcome to Quickgrind. We look forward to partnering with you and helping you to transform your efficiency, productivity and bottom line.

Call +44 (0) 1684 294090
or visit quickgrind.com

Online shop

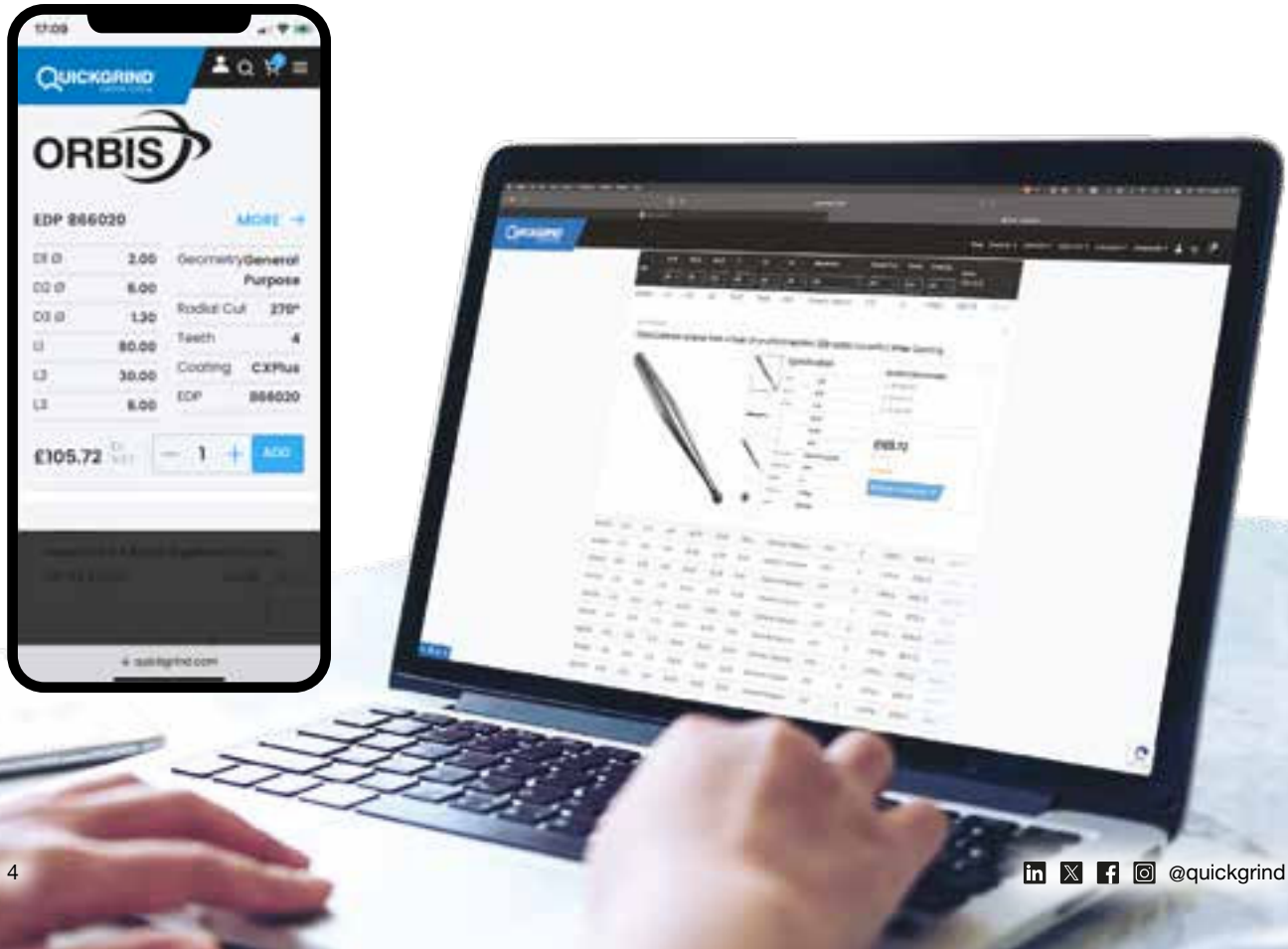
24/7 purchasing
when and where you need



Check out our website complete with ecommerce facility for the convenience of tool purchasing any time, anywhere.

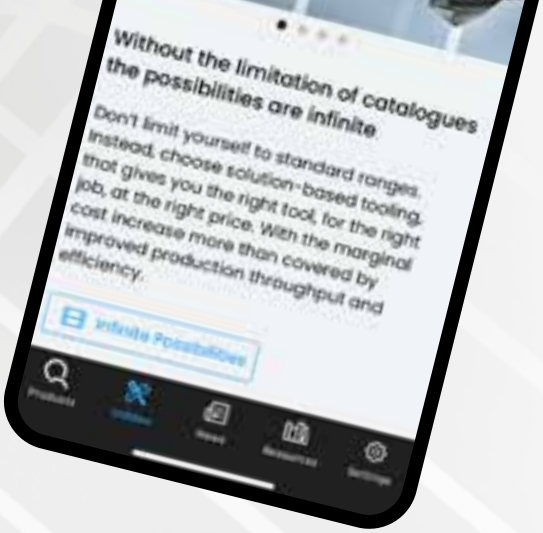
- **Ease of comparison:** You can easily compare prices, features and information on products across different ranges, helping you to make informed purchasing decisions. All of our current brochures are also available online.
- **Convenient payment options:** Our website offers various payment options including credit and debit cards, digital wallets and online payment gateways and, on approval, trade credit, providing you with flexibility, choice and convenience.
- **Efficient order management:** Streamline your order processing and fulfilment, reducing the time and resources required to manage your inventory and shipments.
- **24/7 accessibility:** Allows you to browse and shop at any time of the day or night, increasing convenience and accessibility.
- **Mobile enabled:** Accessible on mobile phone, tablet and computer, whatever your preference.
- **Areas covered:** Our ecommerce facility is currently available to all our UK customers with plans to expand internationally.
- **Convenience:** You can shop from wherever you want without the hassle of emails and telephone calls.
- **Promotions:** Be the first to hear about new products, promotions and offers.
- **Custom tooling quote:** Can't find what you need? Simply complete the online form to receive a custom tooling quote.

Be smart, buy smart. Visit quickgrind.com now and click on the Shop link.



Mobile app

Knowledge
is power



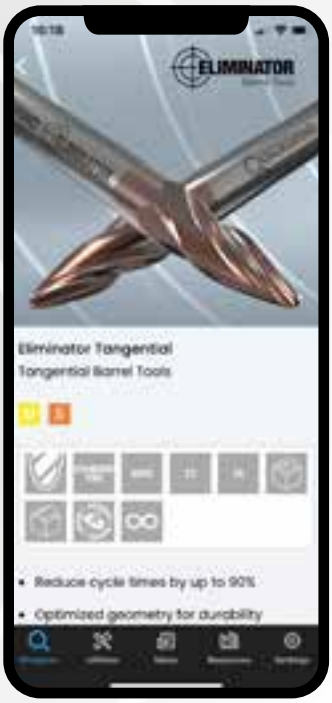
It's never been easier to tap into Quickgrind's 50+ years of tooling expertise and gain a competitive advantage in the fast moving world of machining.

By downloading the Quickgrind app you can enjoy…

- **Milling and Drilling information at your fingertips**
- **Tool selection - the best tool for the job; find out more about our ranges**
- **Tool feed and speed calculator**
- **Ability to order standard range tooling direct from the app**
- **Easy access to videos**
- **Continual improvements to keep you ahead of the competition**

Get the knowledge. Download the Quickgrind app today.*

Download on the App Store



*Currently available on the App Store. Google Play release to be announced.

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.®

Our mission is to provide you with solution-based tooling, to give you the right tool, for the right job, at the right price.

Our super alloys cutters 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.

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

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

1. Choose your shank spec

- Length • Diameter • Tolerance
- DIN or other shank standards

2. Choose your neck spec

- Length • Diameter • Relief

3. Choose your head spec

- Length • Diameter
- Tolerance • Number of flutes
- Helix angle • Anti-vibration
- Radius • Chamfer
- Radial/axial through-coolant
- Ball nose • Coating
- Chip breakers

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.®

t +44 (0) 1684 294090 | **e** contact@quickgrind.com | **w** quickgrind.com

Because one size **doesn't always fit all**

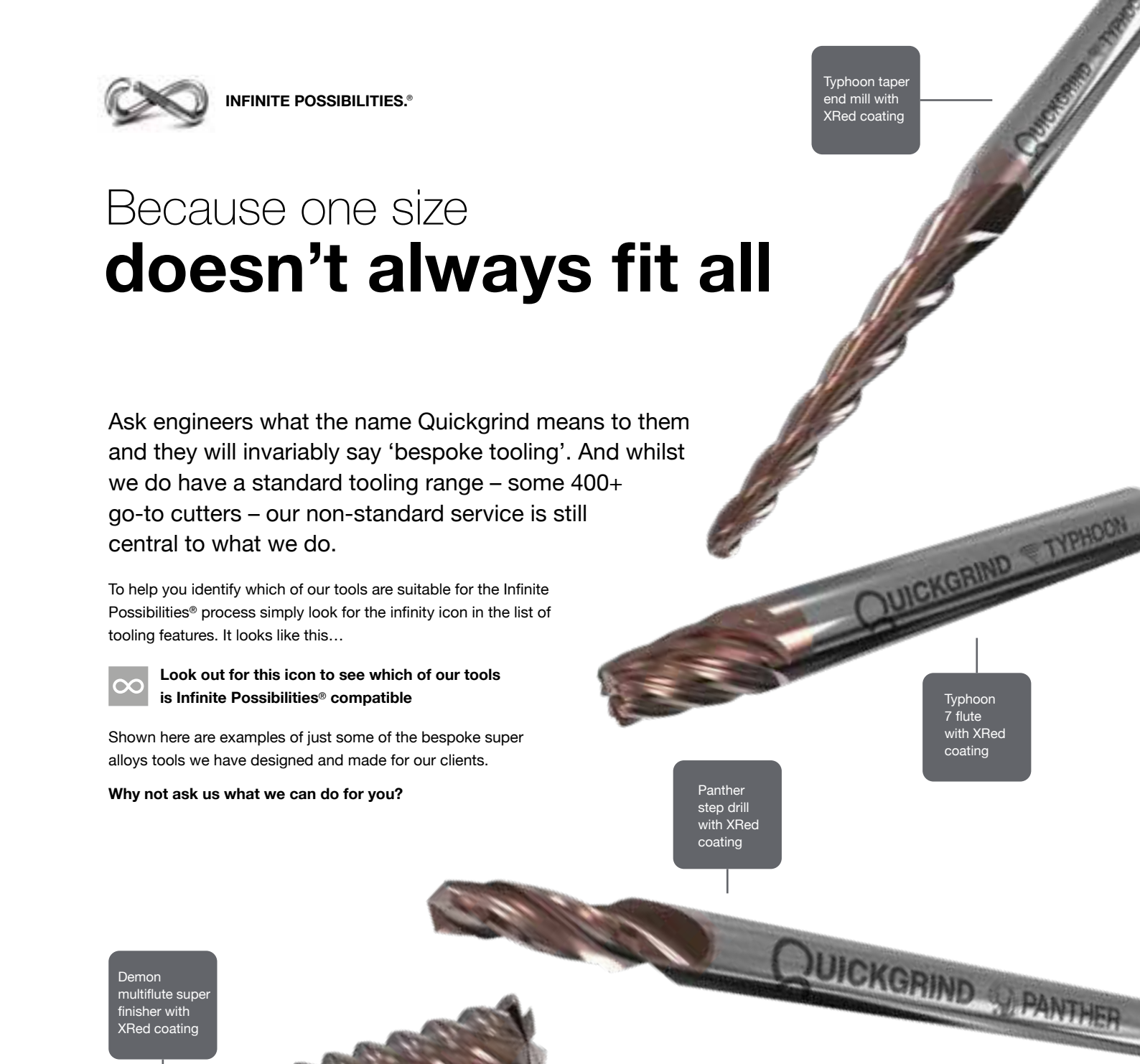
Ask engineers what the name Quickgrind means to them and they will invariably say 'bespoke tooling'. And whilst we do have a standard tooling range – some 400+ go-to cutters – our non-standard service is still central to what we do.

To help you identify which of our tools are suitable for the Infinite Possibilities® process simply look for the infinity icon in the list of tooling features. It looks like this…

Look out for this icon to see which of our tools is Infinite Possibilities® compatible

Shown here are examples of just some of the bespoke super alloys tools we have designed and made for our clients.

Why not ask us what we can do for you?

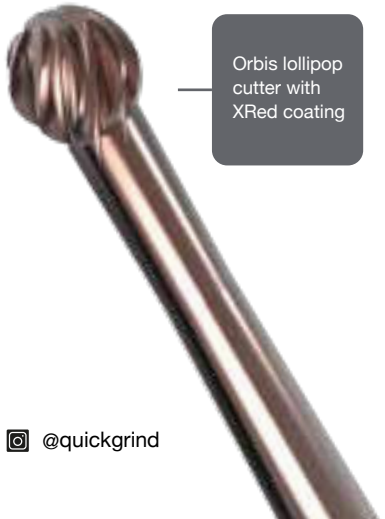


Typhoon taper end mill with XRed coating

Typhoon 7 flute with XRed coating

Panther step drill with XRed coating

Demon multiflute super finisher with XRed coating



Orbis lollipop cutter with XRed coating

Quality and inspection

Our Quality Management System defines the strategic organisational objectives, policies and procedures associated with all quality-related activities.

We have established, documented, implemented and maintain a Quality Management System that is designed to comply with the requirements of ISO 9001:2015. Quickgrind is committed to both satisfying all applicable requirements and to continually improving their effectiveness.

Our inspection processes form a key part of the Quality Management System with all tools, both new and remanufactured, undergoing stringent pre- and post-production calibration and measurement checks using the very latest equipment and technology, including Bruker Alicona optical metrology machines and Walter Helicheck measuring machines.

A cut above
the rest

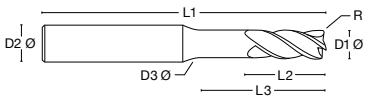
Tool shown 195615

Designed for multiple applications in a wide range of materials especially titanium and super alloys, our Mirage 4 flute end mill provides unrivalled high performance.

Inconel's abrasive nature significantly increases wear on cutting tools, leading to frequent replacements and higher costs. This is due to its high hardness and strength at elevated temperatures, which challenges tool longevity. Like the rest of our super alloys range, Mirage has been designed to combat these issues using its superior composition, geometries and coatings.

Suitable for trochoidal milling, Mirage allows for full flute engagement with step overs (a_e) of anything from ≥ 5% to ≤15% in super alloys depending on the CAM software and machine parameters.

Contact our technical team for assistance – please call +44 (0) 1684 294090 or email contact@quickgrind.com



Tool shown 195609

Tool shown 195614

Tooling images are for illustrative purposes only and are not actual size

Mirage 4 flute variable end mill

D1 Ø mm	D2 Ø mm	D3 Ø mm	L1 mm	L2 mm	L3 mm	R mm	Teeth Z	Stock code
3.00	6.00	2.80	58.00	10.00	20.00	-	4	195605
3.00	6.00	2.80	58.00	10.00	20.00	0.25	4	195606
4.00	6.00	3.80	58.00	11.00	20.00	-	4	195608
4.00	6.00	3.80	58.00	11.00	20.00	0.25	4	195609
5.00	6.00	4.80	58.00	14.00	22.00	-	4	195611
5.00	6.00	4.80	58.00	14.00	22.00	0.25	4	195612
6.00	6.00	-	58.00	13.00	-	-	4	195614
6.00	6.00	-	58.00	13.00	-	0.25	4	195615
6.00	6.00	-	58.00	13.00	-	1.00	4	195618
8.00	8.00	-	64.00	18.00	-	-	4	195621
8.00	8.00	-	64.00	18.00	-	0.50	4	195622
8.00	8.00	-	64.00	18.00	-	1.00	4	195624
10.00	10.00	-	73.00	22.00	-	-	4	195628
10.00	10.00	-	73.00	22.00	-	0.50	4	195629
10.00	10.00	-	73.00	22.00	-	1.00	4	195631
12.00	12.00	-	84.00	26.00	-	-	4	195635
12.00	12.00	-	84.00	26.00	-	0.50	4	195636
12.00	12.00	-	84.00	26.00	-	1.00	4	195638
12.00	12.00	-	84.00	26.00	-	2.00	4	195640
12.00	12.00	-	84.00	26.00	-	3.00	4	195641
16.00	16.00	-	93.00	32.00	-	-	4	195644
16.00	16.00	-	93.00	32.00	-	0.50	4	195645
16.00	16.00	-	93.00	32.00	-	1.00	4	195647
16.00	16.00	-	93.00	32.00	-	1.50	4	195648
16.00	16.00	-	93.00	32.00	-	2.00	4	195649
16.00	16.00	-	93.00	32.00	-	3.00	4	195650
20.00	20.00	-	105.00	38.00	-	-	4	195652
20.00	20.00	-	105.00	38.00	-	1.00	4	195655

See pages 35 and 36 for cutting data

Designed for multiple applications

Tool shown 195652

MIRAGE SUPER
High Performance End Mills

Super
by design

Introducing the Mirage Super, for when your applications demand something out of the ordinary.

At Quickgrind we never stand still, we're always looking to offer more to our clients. Through clever design, experience and by using the latest grade of carbide and coating this tool takes our Mirage to new heights of performance, helping you to achieve your aims for critical parts in super alloys.

With our Mirage Super we have used the toughest substrate with a high wear resistant coating and polished flutes, together with a balancing option.

Don't forget, as part of our Infinite Possibilities® programme we will work with you to develop the right tools for your applications.

Super Alloys Challenge #1

HSM in HRSA causes wear due to micro chipping at the cutting edge – a radius end mill, due to increased strength is always better compared to a chamfer or sharp corner

Tooling images are for illustrative purposes only and are not actual size

NEW Quantum
High Performance End Mills

A quantum leap
in MRR and tool life

Tool shown 681060

CXPlus coating for wet and dry machining at medium to high speeds

Quantum is a new HPC solid carbide end mill designed for a wide range of applications and materials including HRSA.

It can be used for both conventional machining or more modern machining methods such as dynamic or trochoidal milling.

With the aid of modern CAD/CAM software Quantum will perform under all types of cutting conditions. Its unique carbide recipe makes it the go-to tool for all types of machine shop, while Quickgrind's new coating technology is delivering hugely improved results in both MRR and tool life.

Shown here with the general purpose CXPlus coating, but also available with coatings for high speed applications.

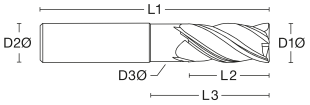
Neck relieved to overcome reach issues

Tool shown 681050

QuickTip #1

Use dynamic machining strategies to reduce heat generation and tool wear

S | ∞ | M | 35-38° | VHM | CXPlus | VARIABLE HELIX | VARIABLE INDEX
Z4



NEW **Quantum** 4 flute general purpose end mill

D1 Ø mm	D2 Ø mm	D3 Ø mm	L1 mm	L2 mm	L3 mm	Chamfer mm	Teeth Z	Stock code
3.00	6.00	2.80	58.00	6.50	9.00	0.10	4	681030
4.00	6.00	3.80	58.00	8.00	12.00	0.10	4	681040
5.00	6.00	4.80	58.00	10.50	15.00	0.10	4	681050
6.00	6.00	5.80	58.00	13.00	18.00	0.10	4	681060
8.00	8.00	7.70	64.00	17.00	24.00	0.20	4	681080
10.00	10.00	9.70	73.00	21.00	30.00	0.20	4	681100
12.00	12.00	11.60	85.00	25.00	36.00	0.30	4	681120
16.00	16.00	15.50	93.00	33.00	48.00	0.30	4	681160
20.00	20.00	19.50	105.00	42.00	60.00	0.30	4	681200

See pages 35 and 36 for cutting data

DEMON
High Performance End Mills

The strong **finisher**

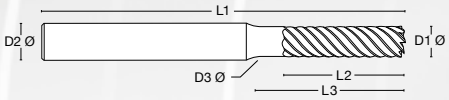
Tool shown 9286D16

The Demon multiflute end mill will provide you with unrivalled high performance.

Designed for super-fine finishing applications in super alloys, our unique geometry is the precise recipe to ensure highly accurate machining of any surface requiring a superb finish.

Ideal for profile milling in super alloys up to and over 60Hrc, Demon's higher speeds and feeds rates deliver increased productivity and high material removal rates.

Tool shown 9286D5



Demon 8 flute end mill for finishing operations

D1 Ø mm	D2 Ø mm	D3 Ø mm	L1 mm	L2 mm	L3 mm	Square corner	Teeth Z	Stock code
3.00	6.00	2.95	58.00	5.00	10.00	Yes	6	9286D3
4.00	6.00	3.95	58.00	8.00	13.50	Yes	6	9286D4
5.00	6.00	4.95	58.00	10.00	15.00	Yes	6	9286D5
6.00	6.00	-	58.00	12.00	-	Yes	6	9286D6
8.00	8.00	-	64.00	20.00	-	Yes	8	9286D8
10.00	10.00	-	73.00	25.00	-	Yes	8	9286D10
12.00	12.00	-	84.00	30.00	-	Yes	8	9286D12
16.00	16.00	-	93.00	40.00	-	Yes	8	9286D16

See pages 35 and 36 for cutting data

QuickTip #2

HRSA materials fall into three groups: nickel-based, iron-based and cobalt-based alloys

Tooling images are for illustrative purposes only and are not actual size

ORBIS
High Technology Lollipop Cutters

A new standard
for complex components

TAKUMI PRECISION ENGINEERING

Orbis lollipops work extremely well and Quickgrind's service is second to none. The fact that they will make the tools to any design is a great help when programming parts. The flexibility in Quickgrind's manufacture process enabled us to create the exact lollipop cutter for our medical application.

Mihail Seckie, Takumi Precision Engineering

Quickgrind's Orbis high technology lollipop cutters are designed for multiple applications in virtually all materials including HRSA.

Lollipop tools are often only used for undercuts and de-burring. Orbis is setting new standards of unrivalled high performance and surface finish in applications and component features that have previously caused many issues.

S ∞ M 270° XRED

Applications and benefits

- Spherical cutting in all directions
- Sphere angle only limited by neck diameter
- Huge options of neck reach and diameter
- Multiple flute numbers
- Uncoated and coated
- High speed cutting (HSC)
- Machine manifolds and ports
- Helical interpolation
- Milling of complex thin walled components
- Machining contour shapes

Super Alloys Challenge #2

We recommend using a high accuracy milling chuck when machining HRSA materials to maximize performance – this keeps a uniform chip thickness on each cutting edge and hence has an even distribution of load

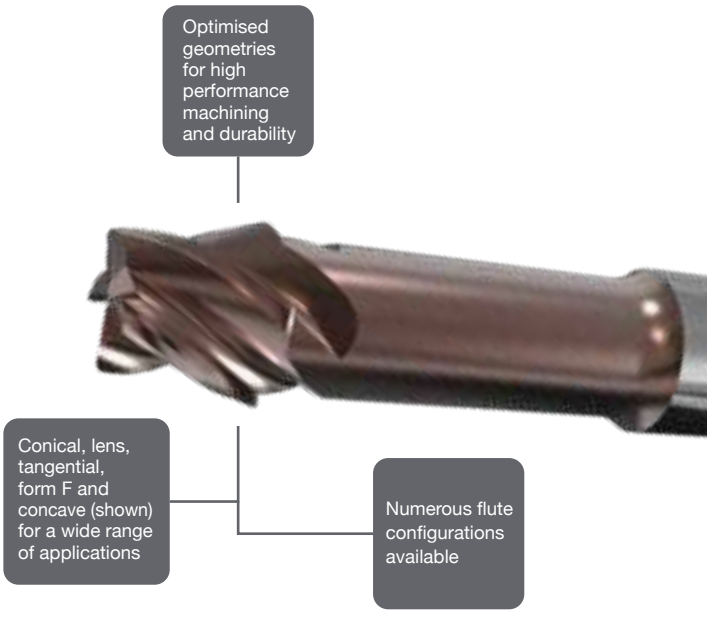
ELIMINATOR
Barrel Tools

Transforming

finishing and semi-finishing strategies

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

By implementing highly efficient machining processes we are able to realise substantial gains from effective cost reductions per part, by as much as 25% or more, to free-up valuable machine hours. Machine times are a costly element in all production processes and cycle time reductions of 25% are hard to achieve and limited to the machine's capabilities. By using our Eliminator range to greatly reduce finishing process times these savings become a reality.



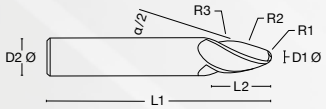
Applications

- Replaces scanning with ball nose and corner radius endmills
- Highly efficient finishing and semi-finishing
- Profiling, flanks and steep walls
- Mill faces and blends with one tool
- Machining steep or flat planes
- Faces with minimal curvature

Benefits

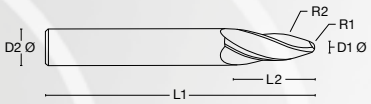
- Up to 90% cycle time reduction achievable
- Increased ap (step down) – greatly reduced machining time
- Smaller cusp (scallop) height
- Tool path distance greatly reduced – better for your machine
- Two-in-one tool – side cutting and ball nose cutting
- Low Ra finish
- Reduced effects of thermal deformation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

Eliminator conical barrel tool



D1 Ø mm	D2 Ø mm	L1 mm	L2 mm	R1 mm	R2 mm	R3 mm	Teeth Z	α/2	Type	Stock code
2.00	6.00	58.00	8.50	1.00	250	2.00	3	20.00	S	872503
3.00	8.00	64.00	10.50	1.50	250	4.00	3	20.00	S	307202
3.00	8.00	64.00	14.50	1.50	1000	4.00	3	12.50	S	997202
4.00	10.00	73.00	12.50	2.00	250	5.00	3	20.00	S	307203
4.00	10.00	73.00	16.50	2.00	1000	5.00	3	12.50	S	997203
6.00	12.00	84.00	13.50	3.00	250	6.00	3	20.00	S	307204
6.00	12.00	84.00	19.50	3.00	1000	6.00	3	12.50	S	997204
8.00	16.00	93.00	18.50	4.00	500	8.00	3	20.00	S	307205
8.00	16.00	93.00	18.50	4.00	1500	8.00	3	20.00	S	307208

Eliminator tangential barrel tool



D1 Ø mm	D2 Ø mm	L1 mm	L2 mm	R1 mm	R2 mm	Teeth Z	Geometry	Stock code
1.00	6.00	58.00	22.00	0.50	95	3	S	230060
1.00	8.00	64.00	25.00	0.50	90	3	S	230080
2.00	10.00	73.00	26.00	1.00	85	3	S	230010
2.00	12.00	84.00	28.00	1.00	80	3	S	230012
3.00	16.00	93.00	31.00	1.50	75	3	S	230016
4.00	10.00	73.00	26.00	2.00	85	6	S	260010
4.00	12.00	84.00	28.00	2.00	80	6	S	260012
6.00	16.00	93.00	31.00	3.00	75	6	S	260016

See pages 35 and 36 for cutting data

Super Alloys Challenge #3

Low thermal conductivity leads to high tool temperatures and rapid wear – we offer the most suitable coatings to eliminate tool wear in HRSA materials

SPECTRE
High Feed End Mills

High feed, **high ROI**

Tool shown 196206

Neck relieved to overcome reach issues

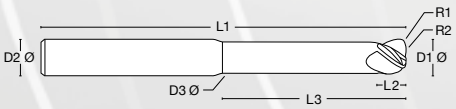
XRed coating to aid chip flow and resist wear

This solid carbide coated high feed tool was initially developed with 3 flutes to machine deep pockets for a UK-based Formula 1 team.

As with all our high feed tools the large radii enables excellent stability when roughing at high feed rates. The combination of our unique geometry, small depth of cut and high feed means clients realise a very good return on investment.

In addition, cycle times are reduced resulting in greatly improved production throughput.

Tool shown 196201



Spectre 3 flute high feed end mill

D1 Ø mm	D2 Ø mm	D3 Ø mm	L1 mm	L2 mm	L3 mm	R1/R2 mm	Teeth Z	Stock code
3.00	6.00	2.75	58.00	1.20	32.00	0.25/2.00	3	196201
6.00	6.00	5.20	58.00	4.00	26.00	0.50/4.00	3	196202
6.00	6.00	5.20	80.00	4.00	34.00	0.50/4.00	3	196203
8.00	8.00	7.00	64.00	6.00	30.00	0.67/5.33	3	196234
8.00	8.00	7.00	80.00	6.00	40.00	0.67/5.33	3	196204
10.00	10.00	9.00	80.00	6.00	40.00	1.25/6.75	3	196205
12.00	12.00	10.40	100.00	8.50	50.00	1.50/8.00	3	196206
12.00	12.00	10.40	84.00	8.50	30.00	1.50/8.00	3	196216

See pages 35 and 36 for cutting data

QuickTip #3

Tool geometries are very important when machining HRSA type materials, with a positive geometry helping to ensure maximum performance is met, enhanced by our XTF (AlTiN) or CXPlus (AlCrN) coatings – see pages 33 and 34

PHANTOM
High Feed End Mills

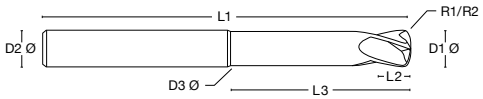
Four flutes, **extended life**

Tool shown 196306

Phantom is a 4 flute that performs like a 16 flute. A development of our Spectre the Phantom is a lens type tool that has been designed to be remanufactured many times using our QuickEdge process (see pages 40-41).

Phantoms achieve 5-6x tool life over normal end mills in roughing operations and have become firm favourites in motorsport and aerospace, where they are used to machine exotics.

A relatively small depth of cut at high feed delivers great advantages to engineers and programmers.



Phantom 4 flute high feed lens tool

D1 Ø mm	D2 Ø mm	D3 Ø mm	L1 mm	L2 mm	L3 mm	R1/R2 mm	Teeth Z	Stock code
6.00	6.00	5.75	58.00	6.00	24.00	1.20/9.00	4	196360
8.00	8.00	7.50	64.00	8.00	26.00	1.60/12.00	4	196380
10.00	10.00	9.50	73.00	10.00	30.00	2.00/15.00	4	196301
12.00	12.00	11.00	84.00	6.00	50.00	2.00/20.00	4	196312
16.00	16.00	15.00	93.00	8.00	50.00	2.50/25.00	4	196306
20.00	20.00	19.00	105.00	20.00	50.00	3.00/32.00	4	196320

See pages 35 and 36 for cutting data

Tool shown 196312

QuickTip #4

Applying the correct machining strategy is very important when machining HRSA materials as this can help depending on machine tools – high torque machines can endure heavier cuts

ZODIAC

High Performance Ball Nose End Mills

A stellar performer

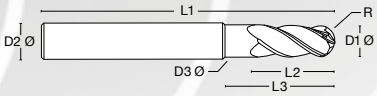
Tool shown 495918

XRed coating aids chip flow and resists wear

The Zodiac 4 flute ball nose is based on our exceptional Mirage end mill and brings a new dimension to ball nose end milling.

Four flutes provide for highly efficient swarf evacuation and enable high speed and feed machining with great stability. Whether contour milling or profiling this tool excels at roughing, semi-finishing, finishing and super-finishing in a wide range of materials.

Tool shown 495915



Zodiac 4 flute ball nose for super alloys, titanium and stainless steel

D1 Ø mm	D2 Ø mm	D3 Ø mm	L1 mm	L2 mm	L3 mm	R mm	Teeth Z	Stock code
3.00	6.00	2.80	58.00	10.00	15.00	1.50	4	495906
4.00	6.00	3.80	58.00	11.00	16.00	2.00	4	495908
5.00	6.00	4.70	58.00	13.00	18.00	2.50	4	495914
6.00	6.00	5.60	58.00	13.00	20.00	3.00	4	495915
8.00	8.00	7.50	64.00	18.00	27.00	4.00	4	495916
10.00	10.00	9.50	73.00	22.00	32.00	5.00	4	495917
12.00	12.00	11.50	84.00	26.00	38.00	6.00	4	495918
16.00	16.00	15.50	93.00	32.00	44.00	8.00	4	495944

See pages 35 and 36 for cutting data

QuickTip #5

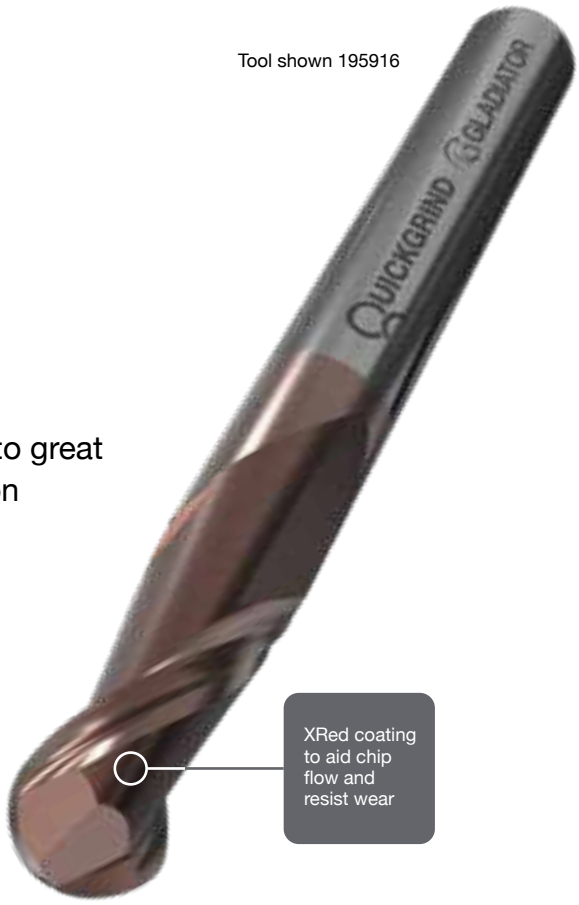
It is important when using ball nose tools on HRSA type materials to ensure the correct geometry and coating are used – Quickgrind's years of experience means we have this covered

Tooling images are for illustrative purposes only and are not actual size

GLADIATOR
High Performance Ball Nose End Mills

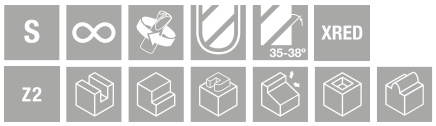
A real **winner**

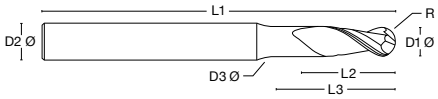
Tool shown 195916



This world beating 2 flute ball nose cutter is used to great effect in mould and die, general engineering and on components such as turbine blades.

Whether used with a 90° or 10-15° tilt approach Gladiator is a stable and accurate tool allowing for high speed cutting and machining. It is suitable for roughing, semi-finishing, finishing and super-finishing with profile, copy or contour milling.





Gladiator 2 flute ball nose for steels

D1 Ø mm	D2 Ø mm	D3 Ø mm	L1 mm	L2 mm	L3 mm	R mm	Teeth Z	Stock code
3.00	6.00	2.80	58.00	5.00	14.00	1.50	2	195912
4.00	6.00	3.80	58.00	8.00	14.00	2.00	2	195913
5.00	6.00	4.80	58.00	10.00	17.00	2.50	2	195914
6.00	6.00	-	58.00	12.00	-	3.00	2	195915
8.00	8.00	-	64.00	16.00	-	4.00	2	195916
10.00	10.00	-	73.00	20.00	-	5.00	2	195917
12.00	12.00	-	84.00	25.00	-	6.00	2	195918

See pages 35 and 36 for cutting data

Tool shown 195913

MODX®

MODULAR SHANKS | EXCHANGEABLE HEADS

Two (three, four, five) heads
are better than one

Combining the performance and durability of solid carbide with the modularity of inserts the new ModX® range from Quickgrind gives you the best of both worlds, but without the compromise of either.

Features and benefits

- Carbide shank with 2µm tolerance for accurate, reliable machining
- Unique ModX® locking mechanism for maximum coupling stability between shank and head
- Modular shank system and interchangeable heads means reduced costs
- Infinite Possibilities® compatible – full customisation including shank length, head length, diameter, coatings and more
- QuickCam® compatible – we will work with you to produce the optimum machining strategies for your operations
- QuickEdge® compatible – heads can be remanufactured to as-new for up to 9x extra usage
- Cost-effective shipping – less weight equals reduced costs
- Environmentally friendly – reduces the need for virgin carbide, a finite natural resource

Solid carbide modular shank
Superior rigidity to stainless steel alternatives

Stepped or tapered
Neck section can be straight or tapered depending on reach requirements

ModX® coupling
Self-centering screw thread for secure connection and maximum strength

Modular heads
From end mills to barrel tools, all fully customisable with our Infinite Possibilities® programme

ModX® thread
Unique locking mechanism ensures maximum coupling stability

Wrench point
Simple but effective tightening of the head into the shank – a physical stop indicates when the head is correctly tightened

Look out for this icon throughout the rest of this brochure to discover which of our tools is ModX® compatible

End mills
A collection of 4 to 7 flute variable end mills with a choice of coatings and geometries for a wide range of operations in super alloys.

Ball nose end mills
A choice of 2 and 4 flute ball nose end mills with flute lengths to suit your applications and coatings to aid chip flow and resist wear.

Barrel tools
Revolutionising finishing and semi-finishing strategies and slashing cycle times by up to 90%, our barrel tools come in a wide range of geometries including conical, convex, tangential, lens and type-F.

Multiflute end mills
Designed for super-fine finishing in super alloys and ideal for profile milling up to 60Hrc – higher speed and feed rates deliver increased productivity and high MMR.

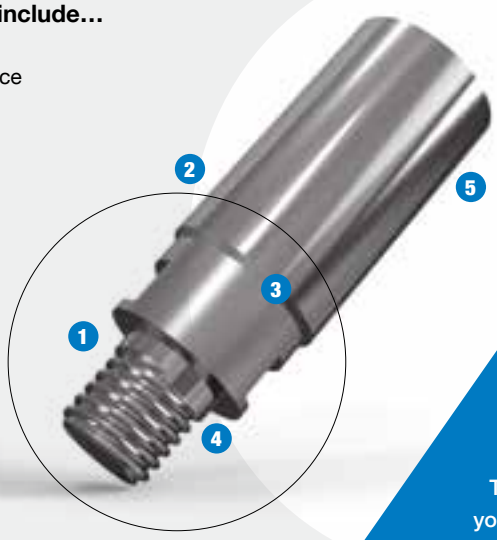
Well connected.

Superior rigidity for one of the strongest modular systems on the market.

The interface between the ModX® head and shank is crucial to the performance of your tooling. Key features include…

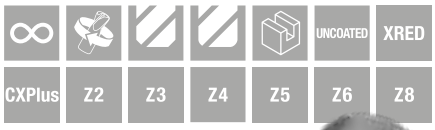
1. Superior rigidity to deliver extreme stability at the interface of head and shank
2. Optimised and tested to ensure the highest levels of performance
3. Double cone design and a third contact area for optimum accuracy and rigidity
4. Low stress levels even when machining at high speeds and loads
5. High rigidity leads to greater accuracy at the cutting surface

ModX® for the performance of a solid carbide tool with the flexibility of a modular system.



Working with you to transform your operations

The modular heads you see here are just a selection of the tools we can offer. Talk to us about your machining operations and we will work with you to find the perfect combination of tool and cutting strategy to achieve the optimum results.



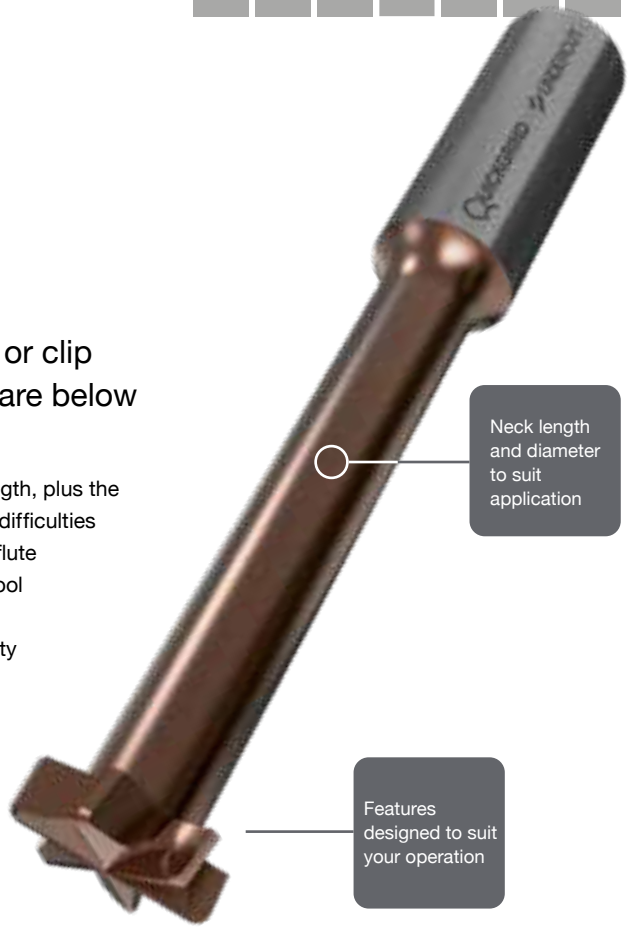
Undercutting
with ease

Undercut tools (sometimes called recess tools or clip cutters) are designed to produce features that are below an overhang feature.

The tool's end diameter and thickness, shank recess diameter and length, plus the shank diameter and overall length, can be produced to overcome the difficulties inherent when machining undercuts. We design the number of flutes, flute geometry and coating, if required, to provide you with the optimised tool to enable you to achieve the most cost-effective components.
The limitations are down to the physical requirements and machinability of the feature.

We will provide the tool with top and bottom radii if required plus the right number of teeth to allow for efficient cutting data to be used.

In some cases the undercut may require a lollipop-type cutter – please see our Orbis range on page 13.



Tooling images are for illustrative purposes only and are not actual size

Get into the **groove**

Dovetail cutters are used in a broad range of applications and can be specified with taper angle, top and bottom diameters to suit your operation.

They are typically used to produce dovetail O-ring grooves in fluid and pressure components as well as industrial slides.

The trapezoidal 'dovetail' shape makes it important to understand the correct selection of cutting data in order to realise optimum results. The larger end diameter is used to calculate the speed while the smaller neck diameter is used when calculating the feed.

The most common cutters have 45° or 60° angles but we regularly produce tools with anything from 5° to 120° and with wide variations of corner radius.

We will work with you to achieve the optimum geometry, number of teeth and any coating to give you a smooth-cutting and efficient tool.

Super Alloys Challenge #4

For every 10 microns in added runout tool life reduces

Z4 UNCOATED XRED CXPlus

Corner rounding
and deburring made easy

Generally used to produce a specific radius on a component in one operation corner rounders can also be used to remove burrs or sharp edges.

The pilot diameter significantly impacts the tool's performance. Larger pilot diameters enable the tool to operate at lower speeds while smaller ones allow for higher speeds due to their increased effective cutter radius. The effective cutter diameter can be calculated using these equations based on the radius-to-pilot ratio:

Radius/Pilot Ratio
< 2.5: Effective Cutter Diameter = Pilot Diameter + Radius

Radius/Pilot Ratio
≥ 2.5: Effective Cutter Diameter = Pilot Diameter + 0.7x Radius

Larger pilot diameters offer enhanced strength compared to smaller ones, thanks to the extra material behind the radius. Smaller pilots may be required for clearance in narrow slots or holes, facilitating tighter turns when machining inside corners.

Take advantage of our QuickEdge tool remanufacturing service to extend the life of these products even more and reduce costs. See pages 40-41 to find out more.

DIN or other shank standards as required

Geometry and coating for your specific application

Our highly accurate tool grinding enables clean and secure machining

Micrograin solid carbide and a choice of coatings (XRed shown)

 Tooling images are for illustrative purposes only and are not actual size

UNCOATED XRED CXPlus

Complex forms
no problem

DIN or other shank standards as required

Port tools are essential for creating complex multi-diameter forms with ease.

These tools require the bores to be pre-drilled on accurate CNC machines. The port tool then follows on creating precise, detailed, accurate bores with dimensionally correct features.

The main uses for these time saving tools are on hydraulic ports and actuators.

From simple to complicated, our range of port tools is almost unlimited. Talk to us about your next project.

Through-coolant and other options

QuickTip #6

Port tools are an excellent way of reducing tooling inventory and using less tool changes within a cycle

Z4 UNCOATED XRED CXPlus

Three tools
in one

DIN or other shank standards as required

Long reach versions available on short delivery

Interpolating a bore, thread and chamfer with one tool gives good cost savings and cycle time reduction. Introducing the Pathfinder threadmill.

Using three tools to produce the chamfer, the correct pre-threaded bore followed by a tap or threadmill can be replaced with one of our highly efficient Pathfinder drill-chamfer-threadmills. Having this one tool to do the work of three frees-up tool station space and counters any possible alignment issues.

Using a single pitch tool to produce more than one diameter thread such as a P1.00 is suitable for producing M6x1mm and MF7x1mm threads.

Pathfinders can achieve thread depths of 2xD and 3xD. Through-coolant and coated tools, which are recommended for 3xD in cast iron and aluminium applications, are available on a short delivery, as are long reach versions.

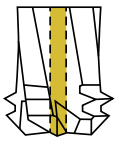
Tools are designed to suit your application and will be provided with the appropriate chamfer angle as required.

Pathfinders can be used for machining pre-cast threads or pre-drilled holes and again these will have the appropriate coating as required.

This tool is also suitable for internal threads in blind or through holes.

Thread systems include ISO Metric, American UN, BSP, NPT and BSPT.

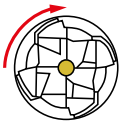
Please note Pathfinder drill-chamfer-threadmills can have 1, 2, 3 or more full profile threads.



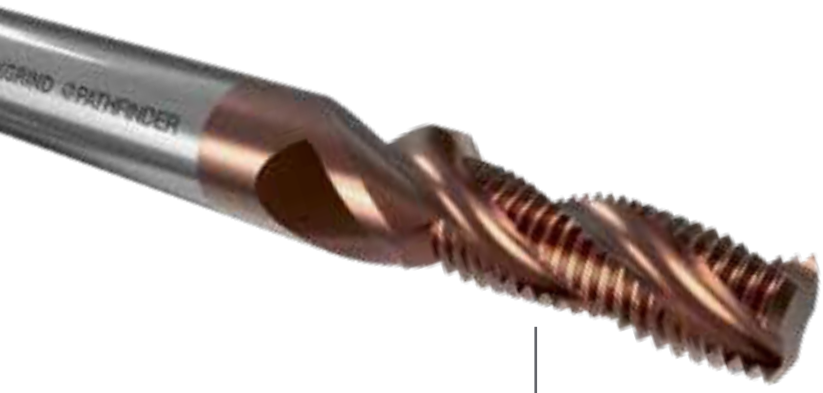
Two cutting teeth

2nd tooth – full profile (finishing)

1st tooth – partial profile (roughing)



TM-IT tools are left handed – for CNC use M04 code



Features and coatings to suit your applications

 Tooling images are for illustrative purposes only and are not actual size

Process-reliable
deep hole drilling

The Leopard DHD rises to the challenge of deep hole drilling with reliable efficiency, up to 50×D.

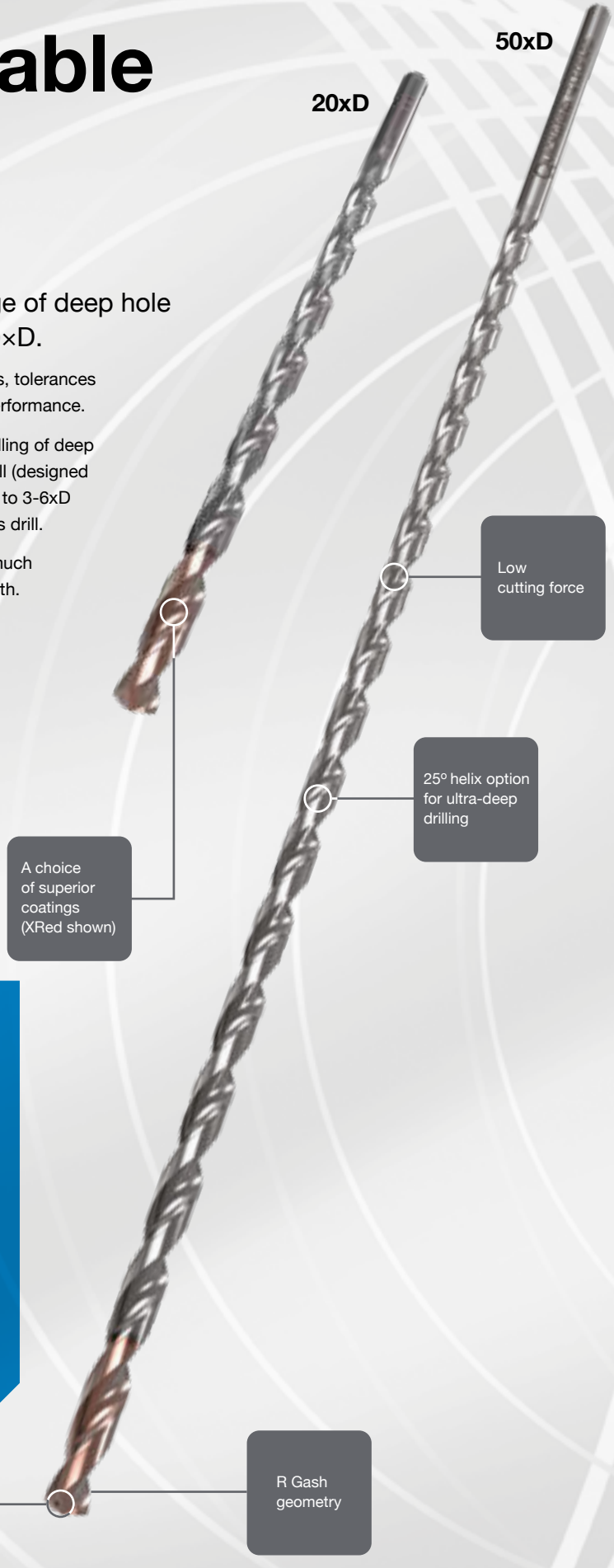
Each tool is produced with perfect symmetry – geometries, tolerances and point angles are all optimised for the best possible performance.

Correct procedures need to be adopted for successful drilling of deep holes ≥20xD and above. Always use a Quickgrind pilot drill (designed +0.02-0.05mm larger than the long drill diameter) and drill to 3-6xD (depending on drill depth) in preparation for the long series drill.

The follow-on drill should enter without coolant and at a much reduced speed and feed, stopping short of the drilled depth. Run at selected higher speed and with coolant before proceeding.

Pecking is recommended on some applications and full retraction of the drill on horizontal operations must be considered. Once full depth is achieved reduce speed and feed on retraction.

As with all drilling applications there are many variables which is why we recommend discussing with our technical team who will help with drill selection and design.



QuickTip #7

Using the correct method when drilling deep holes is very important

1. Ensure a pilot drill is used first with the same point angle
2. Before entering the hole with the long series drill, slow the spindle down
3. Enter the hole with a slow feed then increase to the recommended rpm T/C on then feed to depth
4. Extracting the drill slowly from the hole is also recommended

Accuracy up
cycle times down

Highly accurate bores in one pass

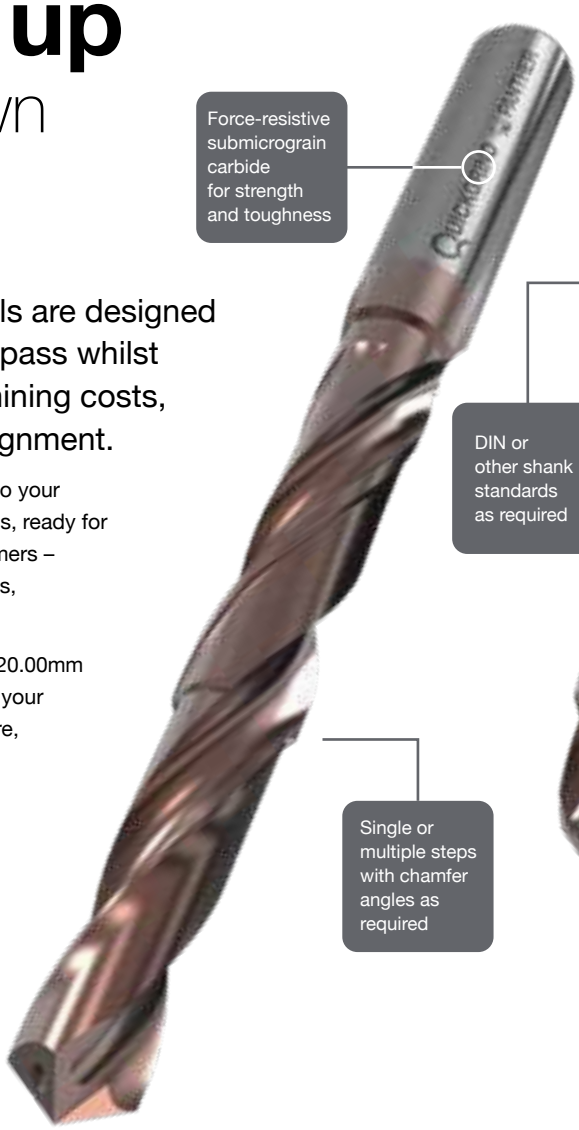
Force-resistive submicrograin carbide for strength and toughness

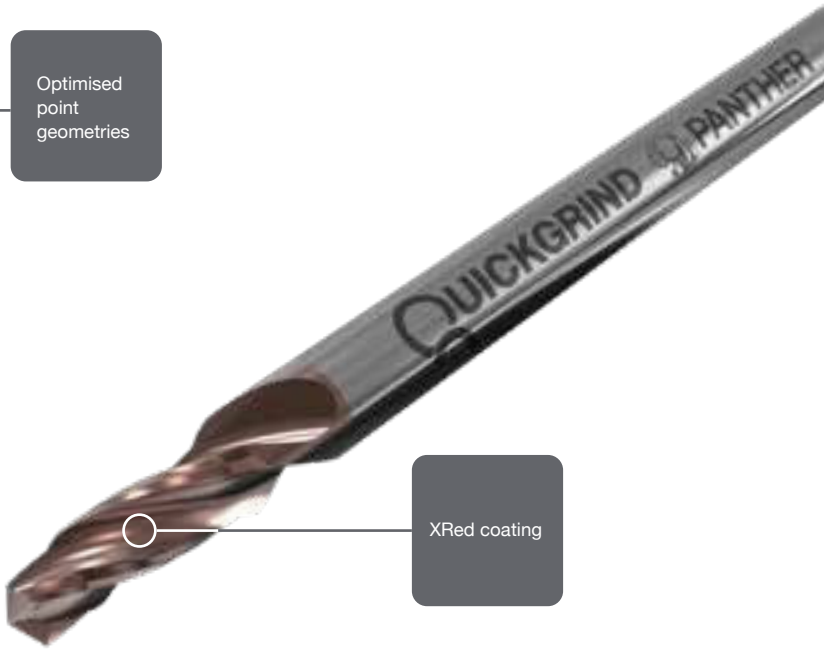
DIN or other shank standards as required

Single or multiple steps with chamfer angles as required

Optimised point geometries

XRed coating





Our Panther multi-diameter drills are designed to create multiple bores in one pass whilst reducing cycle times and machining costs, all with highly accurate bore alignment.

These application-specific drills are designed to your requirements and are used for pre-drilling bores, ready for follow-on tools such as machine taps and reamers – for example prior to threading in hydraulic ports, whether two, three or more diameters.

Available in various diameters from 3.00mm to 20.00mm and with flute and overall combinations to suit your feature, such as top chamfer, front counter-bore, single or multiple steps, with a taper, shoulder or radius.

Panther drills are suitable for machining super alloys and a wide variety of materials.
We design the tools with relevant geometries, with or without coatings, to suit your specifications.

 Tooling images are for illustrative purposes only and are not actual size

A tough drill
for tough materials

The Puma HRSA-TC (through-coolant) and HRSA-D (solid) are the result of extensive work to develop the ultimate carbide drills for the economic and secure drilling of tough and difficult materials such as titanium, stainless steels, Nimonic® and other super alloys.

Machining these materials generates intense heat which can negatively affect both the tool and the workpiece. The heat is often not dissipated easily, leading to thermal damage, such as work-hardening, which makes the material even more difficult to machine. Puma's features help to alleviate these issues.

Puma drills can be designed with application-specific helix angle and flute geometries. The flute form geometry, designed especially for long-chipping materials, ensures optimal chip generation characteristics even at low cutting speeds.

The through-coolant version ensures perfect penetration and cutting characteristics when machining long-chipping materials. Cutting forces and temperatures are considerably reduced.

Working on these types of materials can can also result in chip elongation, low thermal conductivity and welding on the tool, but the Puma overcomes these problems. Clever flute design produces optimal chip shape resulting in smooth chip evacuation.

Versatility
and cost-effectiveness

GD

DIN or other shank standards as required

Application specific helix angle and flute geometries

Point geometries and margin options

GTC

Micrograin solid carbide and a choice of coatings (XRed shown)

Through-coolant ensures perfect penetration and cutting characteristics

Our Lion GTC (through-coolant) and GD (solid) drills have our unique blend of micrograin carbide substrate and superior coatings, providing a recipe that guarantees high performance, cost-effective drilling in super alloys.

Quickgrind's high quality manufacturing processes ensure a high quality surface finish and excellent coating for optimal chip evacuation. High process temperatures are dissipated safely and effectively.

Lion drills can be designed with application-specific helix angle and flute geometries. The flute form geometry ensures optimal chip generation characteristics even at low cutting speeds.

The GTC through-coolant version ensures perfect penetration and cutting characteristics. Cutting forces and temperatures are considerably reduced.

With their precision-ground point geometry and strong rake angle, combined with high wear and low coefficient of friction coating, Lion GTC and GD drills are versatile and effective in numerous applications. Whether you go for the through-coolant or solid variant, these drills deliver incredible performance at depths of 3xD to 10xD.

 Tooling images are for illustrative purposes only and are not actual size

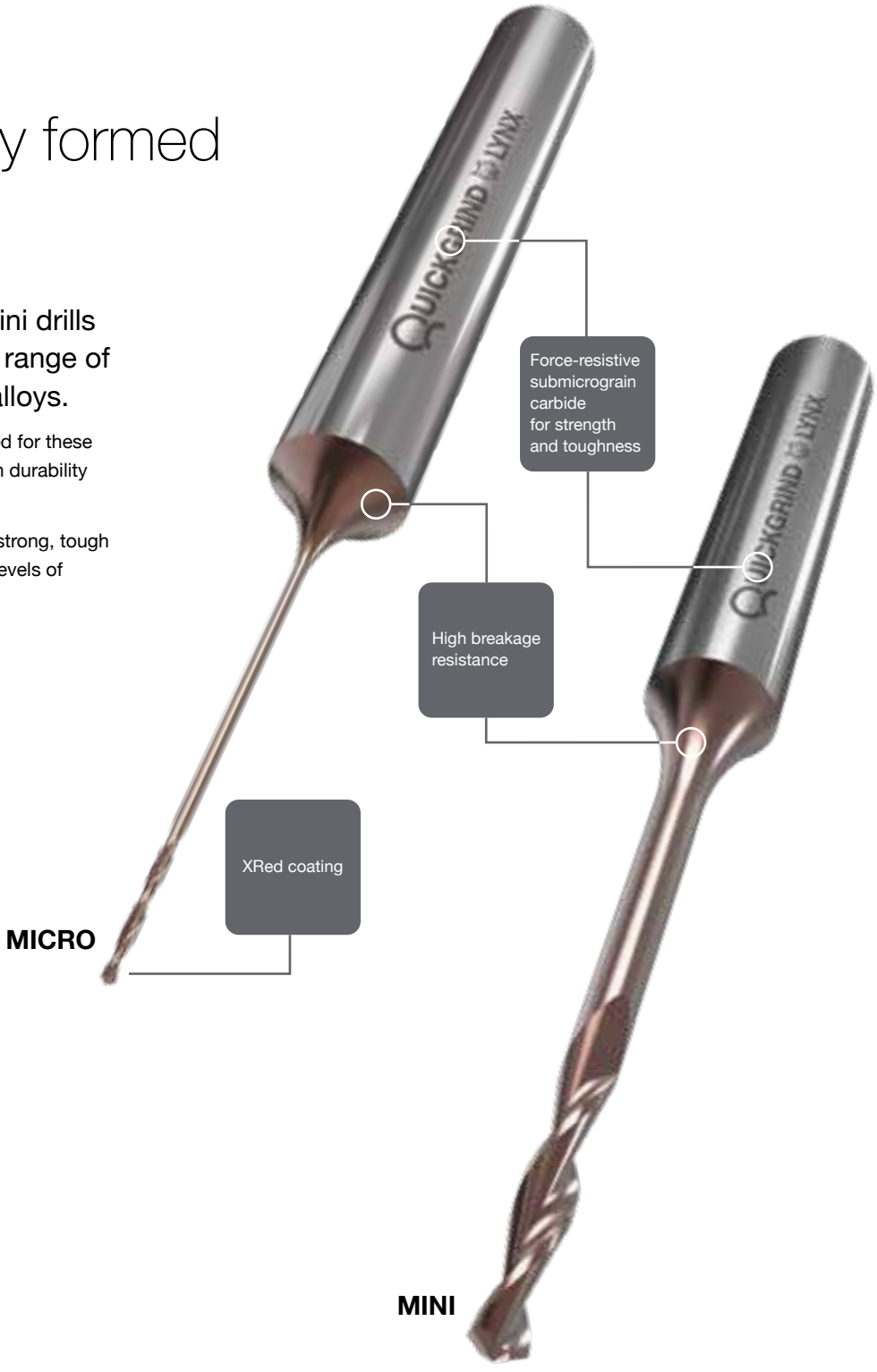
XRED CXPlus

Small
but perfectly formed

Our Lynx Micro and Mini drills are suitable for a wide range of applications in super alloys.

PVD coatings, specially formulated for these small diameter drills, result in high durability and long life.

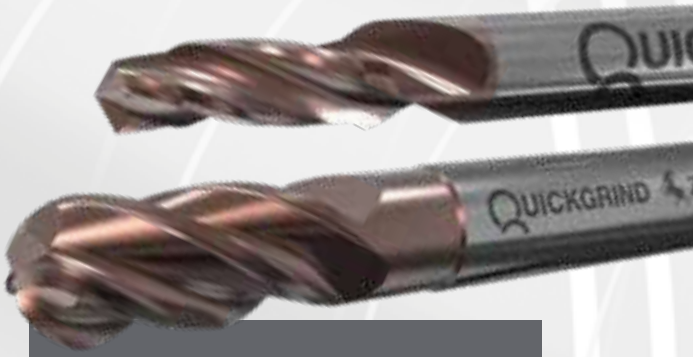
Lynx's recipe of rigid design and strong, tough carbide substrate results in high levels of breakage resistance.



QuickTip #8

Poor thermal conductivity makes it essential to use high-pressure coolants to keep temperatures under control

The coating for **challenging conditions**



XRed TiSiN is engineered to withstand temperatures of up to 1100°C at the cutting edge, making it perfect for the machining of super alloys at high speeds and with low or no lubrication.

Its multi-layer coating, with crystalline TiN matrix/Si_3N_4 nano crystallite outer layer, is designed to protect the cutting edge from excess wear, oxidation and heat transfer.

XRed is ideal for machining titanium and super alloys up to 60Hrc. It is very capable in applications such as roughing, trochoidal milling, semi-finishing and finishing where there are high temperatures at the cutting edge.

Quickgrind's high quality grinding and expertise allows for excellent chip formation and evacuation at high speed and feed without fear of damage to the tool or the component.

Our XRedSL coating is the higher-performing version of the standard XRed. Please contact our Technical Support team for advice.

Technical data

Coating material	TiSiN
Coating thickness	2-4µm
Deposition process	PVD Arc
Hardness HV 0.05	3500
Oxidation temperature	1100°C
Coefficient of friction	<0.4
Process temperature	450-550°C
Colour	Copper

Cutting speed M/min	40	60	80	100	120	140	160	180	200	220	250	300
Steels up to 700 N/mm²												
Steels 800-1000 N/mm²									■	■	■	
Steels >1400 N/mm²							■	■	■			
Tool steels >45-55Hrc										■	■	
Tool steels >55-60Hrc					■	■	■	■	■			
Cast iron							■	■	■	■	■	■
Martensitic stainless steels							■	■	■			
Austenitic stainless steels							■	■	■			
Titanium up to 900 N/mm²			■	■	■	■	■	■	■			
Titanium alloys >900 N/mm²			■	■	■	■	■	■				
Nickel alloys up to 900 N/mm²					■	■	■					
Nickel alloys >1200 N/mm²				■	■	■						

Cutting data is subject to application and machining parameters.
Please contact our Technical Support team for advice.

NEW XTF

AlTiN/TiSiXN Coating

A dual-layer coating for **hardened materials**

Mould-making, aerospace and 3C (computers, communications and consumer electronics) operations push tooling to the limit when machining titanium and nickel-based alloys.

Quickgrind's new dual-layer XTF coating provides outstanding oxidation resistance, high thermal stability and excellent wear resistance and is the perfect solution for machining these demanding materials.

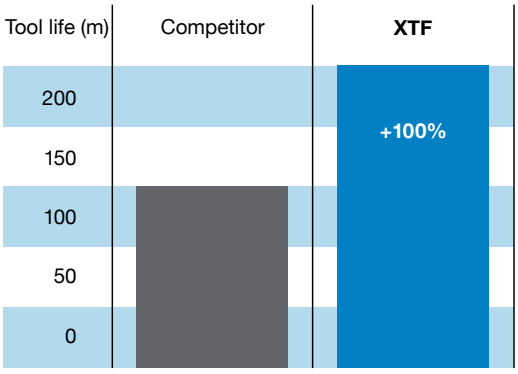
The AlTiN based layer offers high degree of ductility while the TiSiXN hardened layer resists oxidation and wear.

Other benefits include reduced crack formation and improved resistance to chipping, maintenance of high temperatures at the cutting edge and significant reductions in adhesive wear resulting in extended tool life.

Technical data

Coating material	AlTiN / TiSiXN
Coating hardness HIT	38 +/-5 GPa
Deposition process	Arc
Intrinsic stress	-5 +/-1 GPa
Max service temperature	1100°C
Process temperature	<600°C
Colour	Bronze

Nickel alloy



16mm Ø end mill / Nickel alloy 2.4650, NiCo20Cr20MoT (UNS N07263, Nimonic® C-263) / V_c 45m/min / f_t 0.09 mm/tooth / a_p 0.50mm a_e variable

Cutting data is subject to application and machining parameters. Please contact our Technical Support team for advice.

CXPlus
AlCrN Coating

Smoother, harder, **stronger**

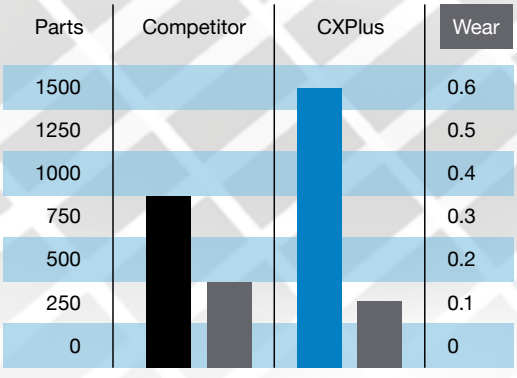
CXPlus's AlCrN advanced arc deposition process deposits coatings at far higher energy levels than conventional processes.

This results in increased density, a higher resistance to wear and a reduction in chipping on cutting edges. Its smooth surface and the controlled coating composition ensures improved tool performance.

CXPlus is suitable for wet and dry machining at medium to high speeds in milling and drilling operations with temperatures reaching up to 1050°C. Its versatility makes it suitable for a wide range of materials including titanium and nickel alloys.

Technical data

Coating material	AlCrN
Coating thickness	2-4µm
Deposition process	PVD Arc
Microhardness HV 0.02	3200
Friction vs steel (dry)	0.55
Max service temp	1050°C
Process temperature	450-500°C
Colour	Grey



Technical data

Milling formula

Cutting speed (Vc)	Spindle speed (n)	Feed per tooth (Fz)	Table feed (Vf)
$\frac{d \times \pi \times n \text{ (M/min)}}{1000}$	$\frac{Vc \times 1000 \text{ (rpm)}}{\pi \times d}$	$\frac{Vf \text{ (mm)}}{z \times n}$	Fz x z x n (mm/min)

Vc = cutting speed (m/min); z = number of flutes; Fz = feed per tooth (mm); n = spindle speed (rpm); d = tool diameter (mm); π = 3.142
a_p = depth of cut (mm); a_e = width of cut

Calculation of average chip thickness

$$hm = Fz \sqrt{\frac{a_e}{d}} \qquad Fz = hm \sqrt{\frac{d}{a_e}}$$

a_e max = maximum lateral infeed depending on the material to be machined (mm); Fz = feed per tooth (mm); hm = average chip thickness (mm); d = tool diameter (mm)

Workpiece materials key

Special alloys	S1	High temp alloys	Nimonics, Inconel 625, 718, 925, Monel, Hastelloy
	S2	Titanium alloys	6Al-4V, 5Al-2.5 Sn, 6Al-2 Sn-4Zr-6Mo, 3Al-8V-6Cr4Mo-4Zr, 10V-2Fe-3Al, 13V-11cR-3Al

Cutting speeds by material group

			Feed recommendations				
Tool diameter (mm)			**3.00**	**4.00**	**5.00**	**6.00**	**8.00**
		Vc (M/min)			**Feed per tooth (mm)**		
Special alloys	S1	35-55	0.003-0.005	0.003-0.006	0.005-0.008	0.006-0.009	0.008-0.015
	S2	50-70	0.008-0.010	0.008-0.010	0.010-0.015	0.015-0.020	0.020-0.030

Tool diameter (mm)			**10.00**	**12.00**	**16.00**	**20.00**	**-**
		Vc (M/min)			**Feed per tooth (mm)**		
Special alloys	S1	35-55	0.015-0.030	0.020-0.030	0.030-0.040	0.045-0.050	-
	S2	50-70	0.025-0.035	0.030-0.040	0.040-0.045	0.045-0.050	-

Note: Cutting data recommendations are guidelines only and are based on ideal cutting conditions.

Technical data (continued)

Cutting data – trochoidal milling

			Feed recommendations					
Tool diameter (mm)			**6.00**	**6.00**	**8.00**	**8.00**	**10.00**	**10.00**
			a_e	**a_e**	**a_e**	**a_e**	**a_e**	**a_e**
ap		**≤ 0.9 x L2**	**0.05 x D**	**0.1 x D**	**0.05 x D**	**0.1 x D**	**0.05 x D**	**0.1 x D**
Special alloys	S1	Vc	50-60	50-60	50-60	50-60	50-60	50-60
		Fz	0.040	0.030	0.050	0.040	0.070	0.050
	S2	Vc	80-110	80-110	80-110	80-110	80-110	80-110
		Fz	0.040	0.030	0.050	0.040	0.070	0.050
Tool diameter (mm)			**12.00**	**12.00**	**16.00**	**16.00**	**20.00**	**20.00**
			a_e	**a_e**	**a_e**	**a_e**	**a_e**	**a_e**
ap		**≤ 0.9 x L2**	**0.05 x D**	**0.1 x D**	**0.05 x D**	**0.1 x D**	**0.05 x D**	**0.1 x D**
Special alloys	S1	Vc	50-60	50-60	50-60	50-60	50-60	50-60
		Fz	0.080	0.060	0.117	0.083	0.160	0.120
	S2	Vc	80-110	80-110	80-110	80-110	80-110	80-110
		Fz	0.080	0.060	0.117	0.083	0.160	0.120

Note: Cutting data recommendations are guidelines only and are based on ideal cutting conditions.

Cutting data – ball nose end mills

					Feed recommendations				
Tool diameter (mm)					**3.00**	**4.00**	**5.00**	**6.00**	**8.00**
		a_p	**a_e**	**Vc (M/min)**		**Feed per tooth (mm)**			
Special alloys	S1	0.1 x D	0.3 x D	25-40	0.030	0.030	0.030	0.036	0.050
	S2	0.1 x D	0.3 x D	50-90	0.016	0.016	0.016	0.019	0.026
Tool diameter (mm)					**10.00**	**12.00**	**16.00**	**20.00**	**-**
		a_p	**a_e**	**Vc (M/min)**		**Feed per tooth (mm)**			
Special alloys	S1	0.1 x D	0.3 x D	25-40	0.061	0.070	0.087	0.101	-
	S2	0.1 x D	0.3 x D	50-90	0.032	0.037	0.046	0.054	-

Note: Cutting data recommendations are guidelines only and are based on ideal cutting conditions.

QUICKGRIND® Technical Centre

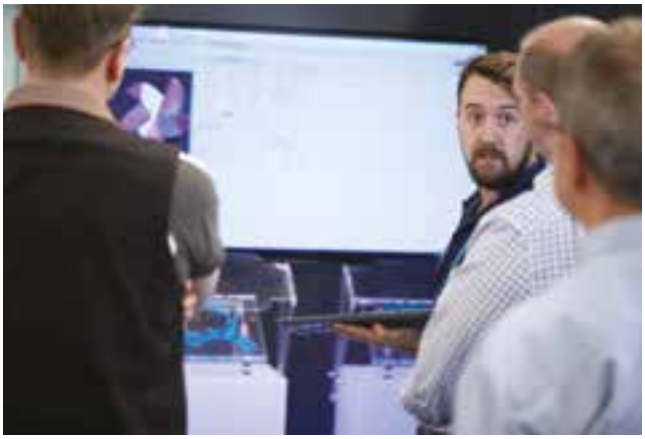
Improving
your machining performance

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



QUICKCAM®
ultimate profitability

Reducing cycle times
and increasing profits

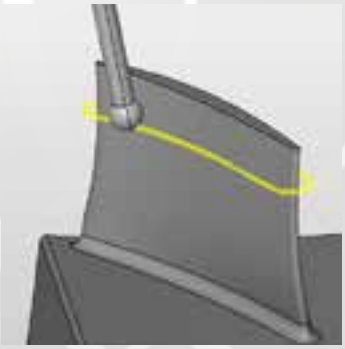
Do you have a component that is taking too long to manufacture? Are you struggling to find the time and resources to investigate advanced machining and cutting tool strategies that could easily double your output? Yes? Then you need to put QuickCam to the test.

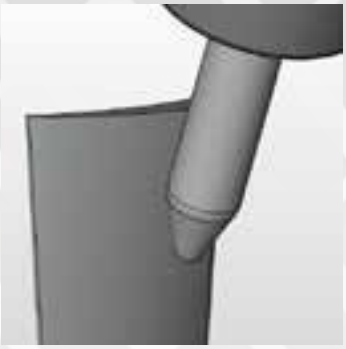
QuickCam is the advanced service from Quickgrind designed to support you with the machining of complex parts in difficult materials.

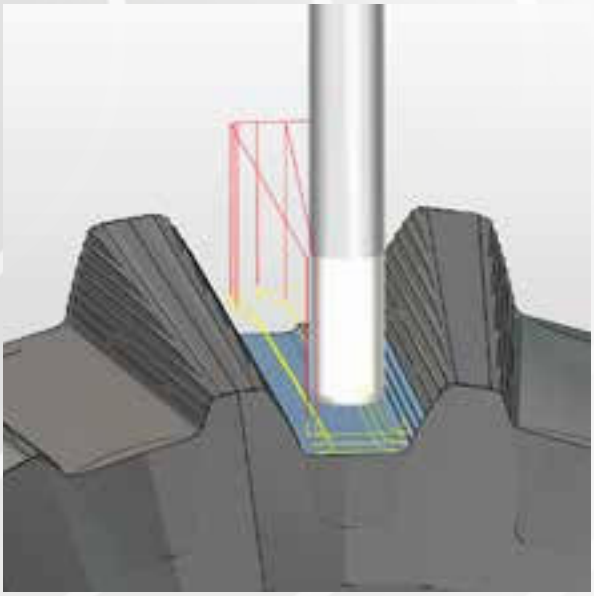
Implementing QuickCam in your business will give you reduced cycle times, leading to reduced tooling costs, increased output and improved capacity.

The bottom line? Improved throughput, more satisfied customers and increased profitability.

CAM programming is essential for maximizing your tooling investment and improving production efficiency.
Proper production engineering can eliminate up to 80% of manufacturing waste and unlock the full potential of your cutting tools.







Benefits

- Reduced cycle time costs
- Reduced tooling costs
- Increased output
- Improved capacity
- Increased profits

Tight timescales
No need to programme, organise standard tooling, or free-up valuable machine time

We do the whole package
In-house tool design – no more outsourcing

In-house technology design centre
No more waiting to get on the machines

End-to-end service
Programming and tooling knowledge all under one roof

Your business may not have the in-house expertise and resources to programme their tooling effectively, leading to suboptimal toolpaths and cutting parameters. Leveraging production-programming expertise is the smart solution to address these challenges and optimise production while addressing application issues.

In manufacturing solutions, it's vital to distinguish between two key components: application strategies and production programming. Application strategies optimise machining and create ideal tool paths for each part, while production programming considers the machine, post-processing verification, and precise binary codes for accurate part cutting. Both application and CAM experts play a significant role in achieving optimised results by refining the tool path and ensuring precise execution by the equipment.

Thanks to CAM simulations, the outdated practice of test cuts for various cutting tool paths is largely obsolete. Modern CAM software incorporates simulation capabilities, eliminating the need to run equipment or waste materials during testing. Application experts use dedicated simulators to achieve the highest precision in perfecting the tool path. Using *hyper*MILL® MAXX machining cycles (our in-house CAM), 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 including EdgeCAM, SolidCAM and Siemens NX.

Finding a trusted source of expertise for these procedures can be challenging, as engineering companies may overlook critical factors like machine behaviour and workholding challenges when creating CAM files. Quickgrind provides a comprehensive solution, offering expertise in optimisation, increased productivity, reduced cycle times and on-site support for verification and simulation procedures. Our team possesses intimate knowledge of tool behaviour within the manufacturing context, enabling us to apply best practices and deliver real value and enhanced productivity.

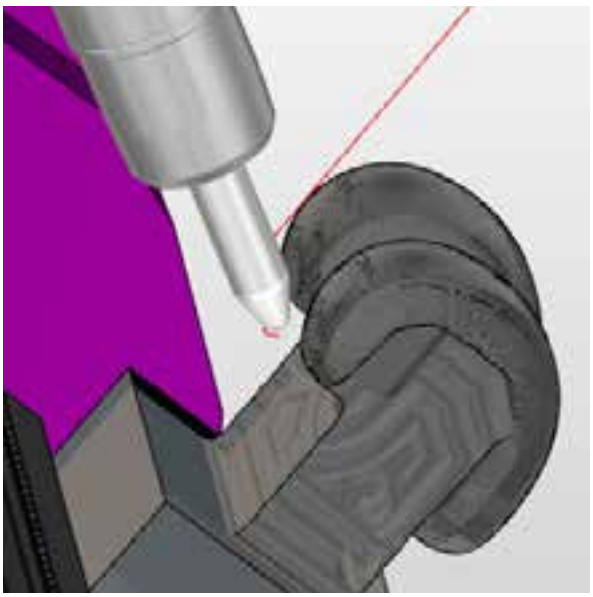
By optimising the processing data through features in CAM software a tool path can be improved by up to 50%. Our programming experts can guide you towards production and tool-cost savings, cycle-time reductions and improved product quality by considering customer perspectives and all factors influencing production efficiency.

Quickgrind's expertise extends beyond cutting tools to optimise every step of your production process, helping you to produce outstanding parts. We offer a holistic view, understanding each step involved, and addressing your unique tooling needs and job requirements for optimal success.

Contact us today to arrange
your free initial CAM assessment.

t +44 (0) 1684 294090

e quickcam@quickgrind.com



QUICKEDGE®
tooling - good as new

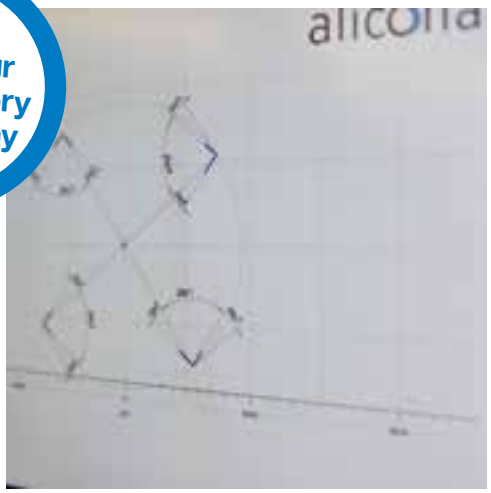
Adding value
to your tooling investment

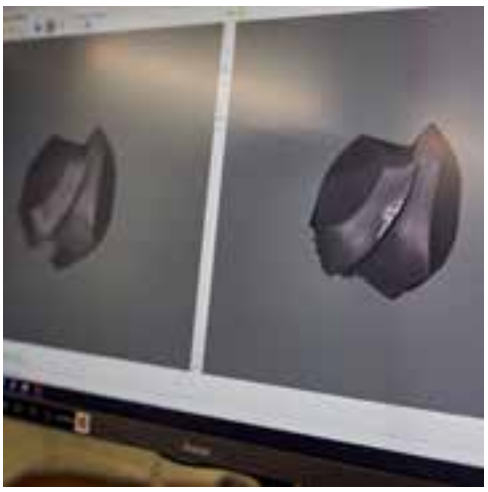
Many of our cutters are suitable for remanufacture. Our unique QuickEdge process can give you up to nine times extra usage out of your tooling, and with material (and environmental) costs increasing, the benefits of remanufacture are clear.

- Tools controlled by size, number of reissues and remanufactures
- Extremely attractive price and performance over the life of the tool
- Reduces the need for virgin raw material, a limited resource

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 nine remanufactures you will continue to enjoy new tool performance, and a clear conscience.

Ask about our introductory offer today





Quality and speed
Remanufactured to an as-new state and can be quicker than ordering new tooling

Cost and investment
Reduces overall tooling spend and maximises your investment

Consolidate your purchasing
Combine multiple vendor tools into one remanufacturing programme

Environmental, social and corporate governance
Reduce your carbon footprint, enhancing your environmental and corporate credentials

Our service is a far superior form of the regrinding process to an as-new state. Because we have access to our proprietary programmes your remanufactured tool will perform as new, every time, with no compromise. We have seen tools in use for over a decade and many that have been through over 9x remanufacturing cycles.

Properly remanufacturing carbide tools, as opposed to standard regrinds, can greatly enhance the value of your tooling investment. It is crucial that certain techniques for remanufacturing be used to maximize the tool's life and productivity, and a remanufacturing schedule should be developed based on tool life to avoid excessive downtime or catastrophic tool failure.

Of equal importance is the need to recycle and renew. By using our remanufacturing services we can help reduce your carbon footprint enhancing your environmental as well as corporate credentials.

High-performance cutting tools will provide increased efficiency and productivity but they can also be a drain on tooling budgets. Cost-justifying these tools often requires remanufacturing them when they are worn or damaged. A successful reconditioning programme reduces tooling costs by extending life as long as possible.

We can consolidate your requirements, remanufacturing both ours and non-Quickgrind tools, removing the need for you to work with multiple companies. We also remove the hassle out of selecting tools that can and cannot be remanufactured. And you set the parameters on the remanufacturing specifications and we ensure these are maintained – no more having a slightly undersize tool causing a catastrophic issue. The QuickEdge quality processes mean this doesn't happen.

We see a lot of tools every day and have built up a specialised knowledge on wear and tear. Leveraging our Alicona Optima machine we can see in-depth where tools may be deteriorating faster than they should be, if they're failing or, ultimately, if they could be improved to overcome any design limitations.

Finally, because we have been operating internationally for many years, an overseas service is available on quick lead times. With our government AEO accreditations we can expedite shipments both into and out of the UK, therefore reducing the overall lead time.

Don't forget, we happily accept solid carbide cutting tools made by other manufacturers and apply the same expertise to remanufacturing them.

Call us today for more information – +44 (0) 1684 294090.

QUICKLAB®
tooling innovation

Best practice design
for the best performing tools

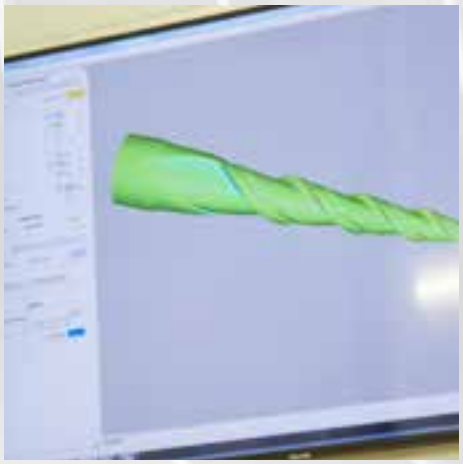
QuickLab allows you to quickly access custom tool designs. With more than 100 years of combined experience and knowledge Quickgrind utilises the best practices in tool design, with complete control over every characteristic of the tool.

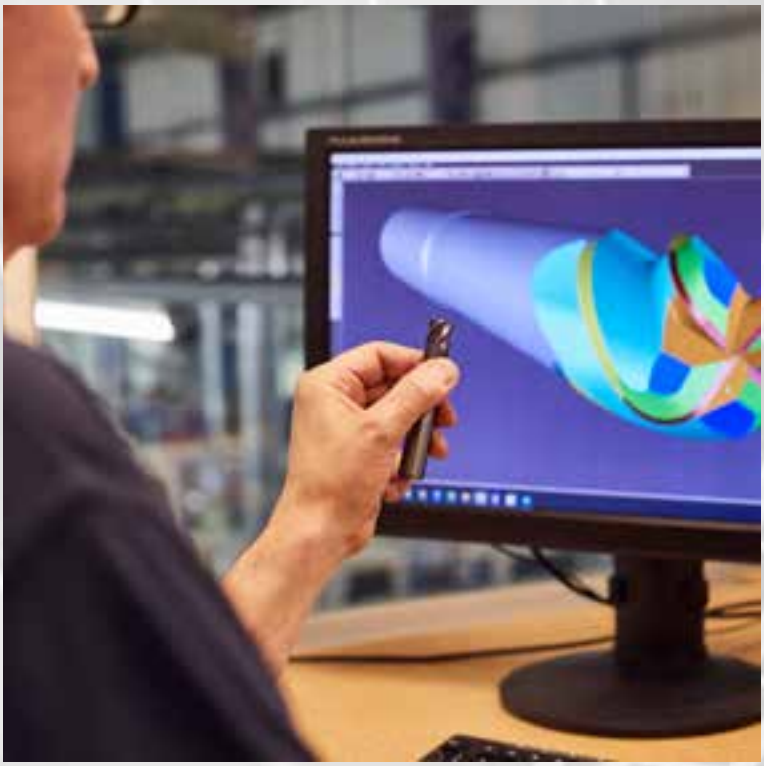
On the one hand a typical business might have to juggle with the limitations of off-the-shelf tooling or accepting long lead-times for bespoke tooling. Large minimum order quantities for 'specials' compounds the problem. The bottom line? Your tooling can be driving the application strategy instead of increasing your efficiency and profitability.

With QuickLab you get rapid turnaround of bespoke tools, often in hours and days not weeks and months.

Adopting the best practices in tool design and with access to the latest advancements in R&D tool design we have control over every aspect of the tool from the ground up.

Finally, enjoy low minimum order requirements. Gone are the days of having to commit to hundreds of tools you don't need.





QUICKVEND®
tooling on demand

24/7 control
of your tooling inventory

Compact table top vending machine with 24 locations equipped with a range of our solid carbide tools

Call today
+44 (0) 1684 294090

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 528 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

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