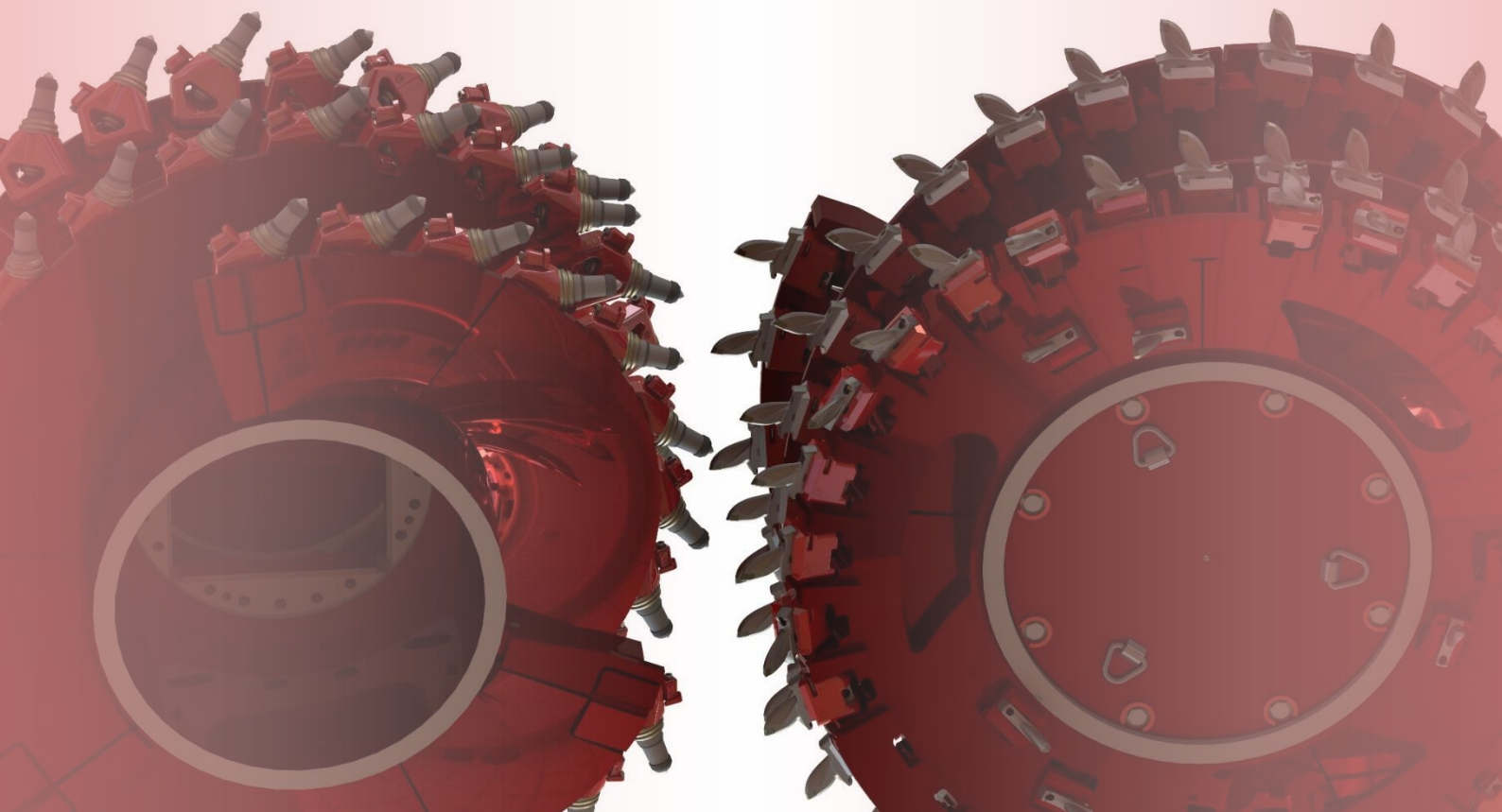




# **TECHGONG AUSTRALIA**

Our Support, Your Success



**TECHGONG MINING AND ENGINEERING SERVICES PTY LTD**

**ABN: 70 161 109 495**

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## 1. About Us

### What we do

Techgong Australia (Techgong Mining and Engineering Services Pty Ltd) has a strong history of longwall shearer drum manufacture, service, and support, and is proud to offer material removal solutions for a variety of industries



### Class leader in Tungsten tooling

Techgong Australia has the full support of our Techgong head office and factory in Shandong, China. Since its beginning in 2000, Techgong has become a global market leader in the production of Tungsten Carbide tooling. With over 50 patents awarded and having set the standard for TBM cutters, the ISO9001 accredited factory has capacity for over 15 million mining tools per year

### Long term Australian supplier

Techgong Shandong produce a huge variety of tools, with various carbide types available, to suit a large range of conditions in mining, road milling, tunnelling, and construction. These tools have been used prolifically in Australia for many years under the Techgong brand, and also previously under SES branding







### **Dedicated and experienced local team**

Techgong Australia has a dedicated and experienced team who provide technical expertise and engineering solutions to suit Australian conditions. Our responsive team has a strong history of close collaboration with our customers, providing class leading performance and total support

### **Customised solutions and innovation**

With the support of the Techgong factory, Techgong Australia provides customised, timely, and innovative solutions for drums, tooling, and consumables

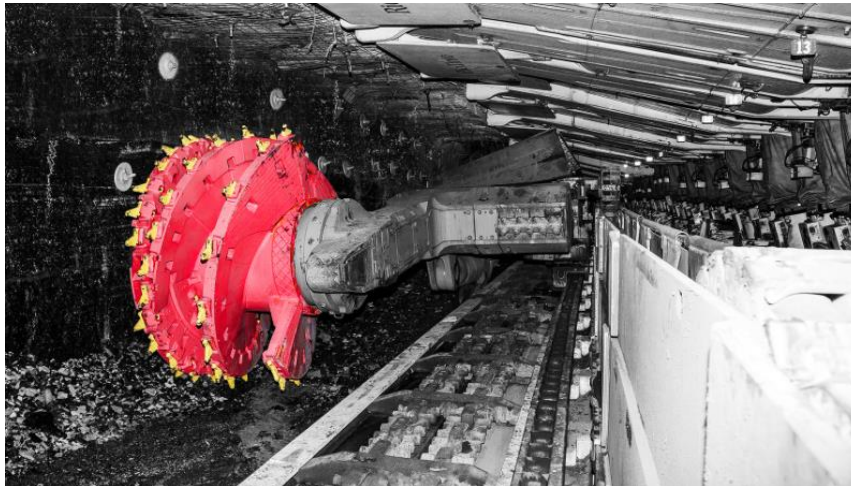


### **Total support**

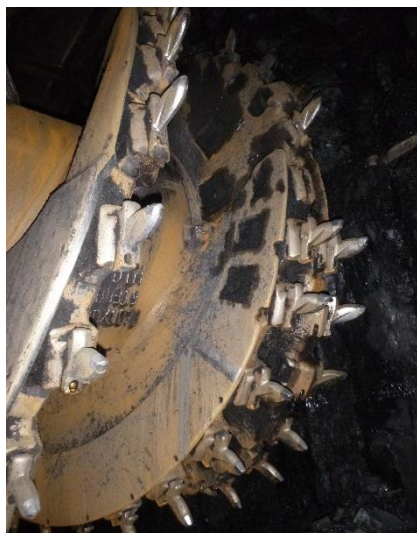
We are proud to provide full through-life support of our products, with fast and reliable delivery of tooling and parts from our Sydney warehouse, on-site inspection and reporting, and comprehensive Australian overhaul facilities

## 2. High Performance Underground Mining Systems

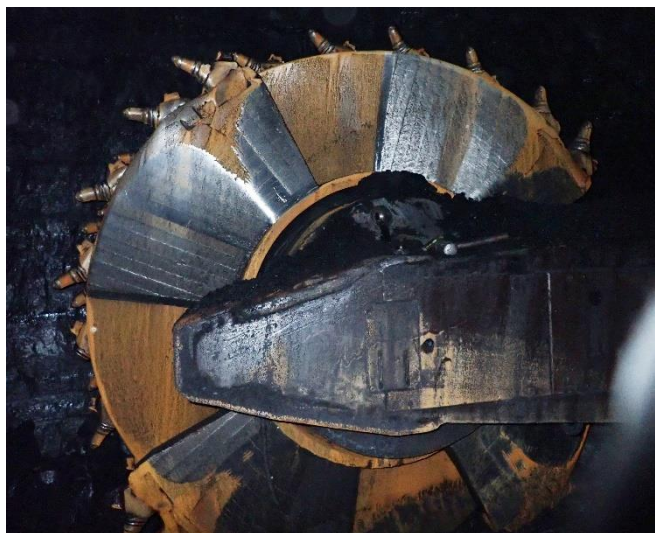
Techgong is proud to provide solutions for underground mining, specialising in longwall shearer drum systems. These systems are the powerhouses of coal extraction, with the vast majority of Australian coal mines operating in this way.



Longwall systems operate in coal seams around 2m to 4m in height, generally consisting of 2 shearer drums operating in a counter-rotating fashion. With typical haulage speeds of 10m/min to 20m/min, these systems can extract around 1 million tonnes of coal per month. Techgong has a strong history of supporting the requirements for ever increasing mining capacity.



Techgong Radial drum in service at approximately **5 million tonnes**

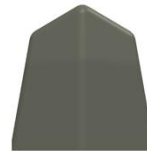


Techgong Point Attack drum in service at approximately **7 million tonnes**

### 3. Carbide Tooling



With its class leading patented technology and large capacity, Techgong's ISO9001 accredited in-house Tungsten carbide manufacturing facilities can provide reliable bulk supply of an extensive range of tool tip solutions for your cutting tools



Radial tip, Radial tools.  
Superior cutting profile.  
Medium hardness & impact resistance



Parallel tip, Point Attack tools.  
High brazing strength.  
High hardness & impact resistance



Mushroom tip, Point Attack tools.  
Extra pick body protection.  
Highest hardness & impact resistance

The carbide tip shapes (and material compositions) are manufactured according to the tooling geometry and the conditions of the material being cut

High output coal production picks: optimised by employing a 'sharper' profile of carbide tip and tool shank, which allows for improved loading and reduced dust

Stone picks: optimised by employing a more 'blunt' profile of carbide tip and tool shank, which allows for improved strength and longevity in tough conditions







In our factory, the tool bodies are forged in our 1600T press forges and hardened in our furnaces, using precision tooling and 3rd party NDT to ensure compliance

The carbide tips are then attached to the tool by either fully automatic or semi-automatic brazing techniques. These processes ensure high reliability and repeatability of the tools



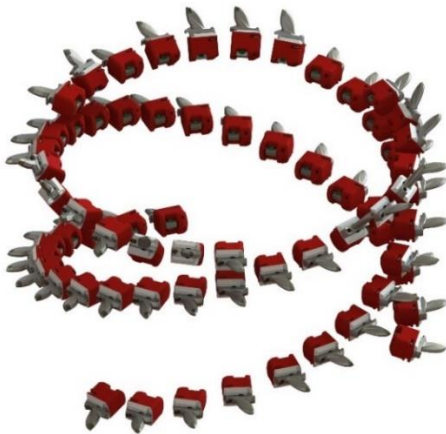
Tungsten Carbide particle layering, a patented Techgong Extreme Wear Technology, can be added to the tool tip to provide extreme wear resistance and longer life, particularly for stone cutting and highly abrasive materials





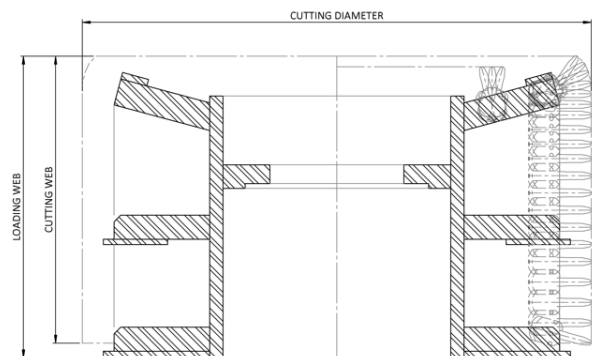
## 4. Shearer Drums

Techgong combines the capacity and efficiency of our large scale overseas production facilities with Australian engineering and manufacturing experience to deliver the highest quality shearer drums to suit local conditions



Using a combination of off-the-shelf and in-house developed CAD packages, our engineers develop customised shearer drum designs based on close collaboration with customers

We have designed and supplied shearer drums anywhere from  $\varnothing 1600$  to  $\varnothing 2700$ , in 3 or 4 vane configurations, with flat or conical faces, with single or multiple vane pitches, in radial or point attack, and with bolt-on pre-cutters



Our drums are supplied complete and ready to run with all hardware, bolting, and water systems

Our production machinery, including our 3.5m rolling die and 1000T press allows for the forming of the heaviest plates used in cutting drums. With such tooling, our shearer drum barrels, vanes and conical face-plates are reliably formed with precision



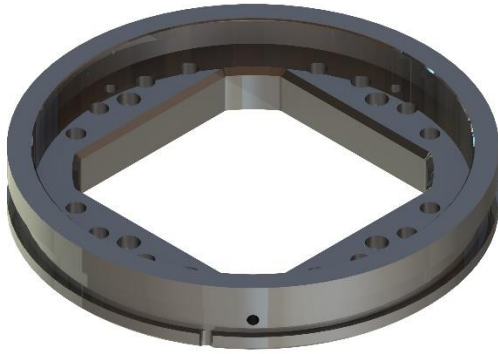
Our 10 tonne multi-axis drum manipulators and precision jigs allow a high level of production accuracy for both robotic and manual welding, while our machining capabilities allow us to reliably produce complex components of large sizes



The welders in both our Shandong factory and at the Australian workshop are trained and assessed in accordance with Australian Standards (AS1554), ensuring consistent quality compliance and confidence in our welds

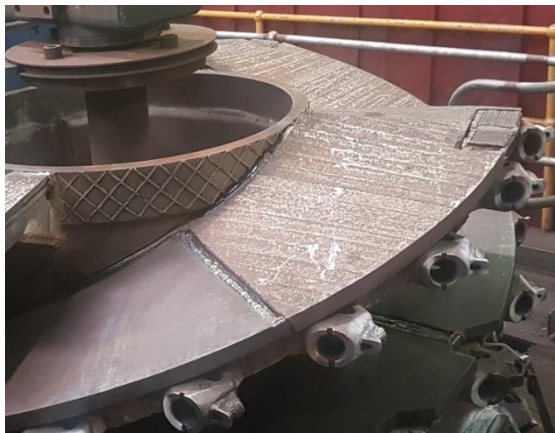






We can produce drive plate profiles and barrel/chassis geometries to suit any hub arrangement

We are able to offer a range of wear plate options. This includes formed options such as CrC60 layered plate and Bisalloy, and flexible options such as hard face welding, cast carbide pads, and carbide chip covering



## 5. Shearer Drum Radial Tool System

The Techgong radial tool system for Longwall Shearer drums is an industry proven flexible platform. It combines the Techgong pocketed radial toolholder (wet or dry configurations as required), radial tool, radial spray, and associated retention devices. The patented shear plane provides extra peace of mind in case of extreme impacts, providing a sacrificial point of failure that allows continued operation without risk to surrounding components.

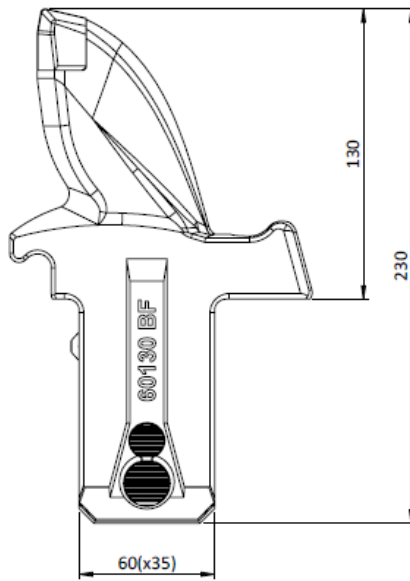
Techgong can work with you to develop and supply customised tooling.

Example use case: a mine was cutting in light to medium conditions using the 130mm Techgong radial tool with shear plane (60130BF). It encountered some unexpectedly tough conditions, causing increased tool wear and down time. After consulting with Techgong Australia, a harder wearing 100mm tool (60100P) was switched in and they were able to continue mining with confidence.





### RADIAL TOOLS (SAMPLE OF RANGE)



#### **60130BF**

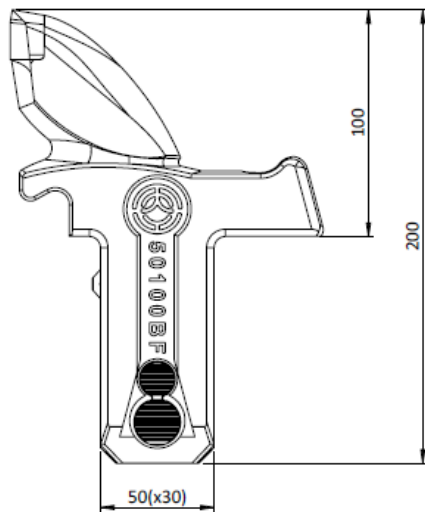
Typical usage: coal production, light to medium conditions

Body: shaped for optimal loading and reduced dust, shear plane

Carbide: extra-large laid-on tip for increased wear life

Shank: 60x35 heavy duty for extended pick life

Retention: rib-lock with anti-vibration button



#### **50100BF**

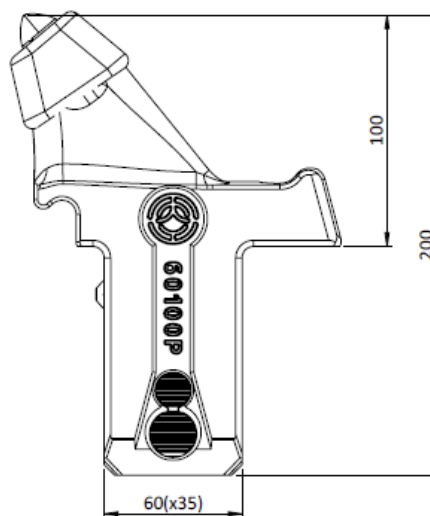
Typical usage: sumping

Body: shaped for reduced dust, shear plane

Carbide: large laid-on tip

Shank: 50x30 standard duty

Retention: rib-lock with anti-vibration button



#### **60100P**

Typical usage: tough conditions, cutting through faults/inclusions

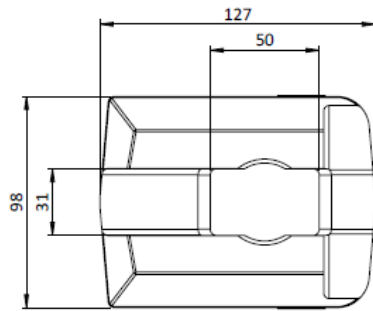
Body: shaped for optimal strength in tough conditions

Carbide: slug tip

Shank: 60x35 heavy duty for extended pick life

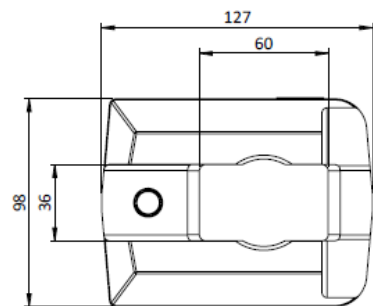
Retention: rib-lock with anti-vibration button

### RADIAL TOOLHOLDERS (SAMPLE OF RANGE)



#### 05700TH

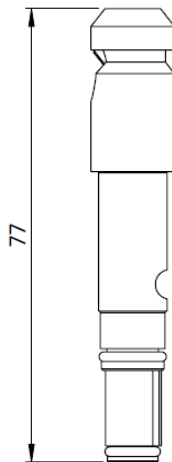
Standard duty tool holder. Used in wet and dry configurations as required



#### 08700TH

Heavy duty tool holder. Used in wet and dry configurations as required

### RADIAL SPRAYS (SAMPLE OF RANGE)



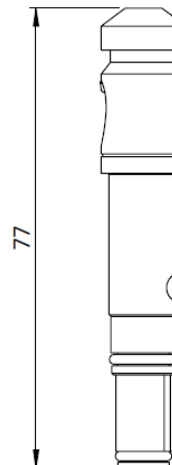
#### 12100RS

Compatibility: 100mm radial tools

Certification: certified to industry standard, British Coal Codes and Rules for sprays

Spray type: solid cone

Typical flow: 2.4L/min at 12 bar



#### 12130RS

Compatibility: 130mm radial tools

Certification: certified to industry standard, British Coal Codes and Rules for sprays

Spray type: solid cone

Typical flow: 2.2L/min at 12 bar

	<p><b>02100RS</b></p> <p>Radial spray retention pin</p>
<p><b>RADIAL TOOL RETENTION</b></p>	
	<p><b>Rib-locks</b></p> <p>Various sizes available, including:</p> <p><b>01650RD</b> – black, standard duty toolholders, new  <b>02650RD</b> – blue, standard duty toolholders, worn  <b>03650RD</b> – green, heavy duty toolholders, new  <b>04650RD</b> – red, heavy duty toolholders, worn</p>
<p><b>RADIAL SYSTEM REMOVAL TOOLS</b></p>	
	<p><b>03901MT</b></p> <p>Radial tool cam lever removal tool</p>
	<p><b>02901MT</b></p> <p>Radial tool removal drift</p>
	<p><b>05901MT</b></p> <p>Radial tool removal wedge block</p>



#### 45901MT

Spray removal tool kit, with slide hammer and associated attachments:

**01901MT** – slide hammer

**29901MT** – broken spray removal

**28901MT** – spray removal

**27901MT** – blanking plug removal



#### 21901MT

Radial tool kit in Techgong bag. Includes the above tools as well as general tooling as required (hammer, crow bar, screwdrivers, sockets, O-Ring grease, etc.)

### EXPANDED RADIAL TOOL RANGE

Part Number	Description	Gauge	Shank	Light	Medium	Hard
		mm	mm	0-25MPa	25-50MPa	>50MPa
50100B	Standard duty, laid-on tip	100	50 x 30			
50100BF	Standard duty, laid-on tip, shear plane	100	50 x 30			
50100P	Standard duty, slug tip	100	50 x 30			
50130B	Standard duty, laid-on tip	130	50 x 30			
50130BF	Standard duty, laid-on tip, shear plane	130	50 x 30			
60100BF	Heavy duty, laid-on tip, shear plane	100	60 x 35			
60100P	Heavy duty, slug tip	100	60 x 35			
60130P	Heavy duty, slug tip	130	60 x 35			
60130BF	Heavy duty, laid-on tip, shear plane	130	60 x 35			
Cutting condition usage guide				Use with Confidence		Use with Caution

Customised configurations available



## 6. Shearer Drum Point Attack Tool System

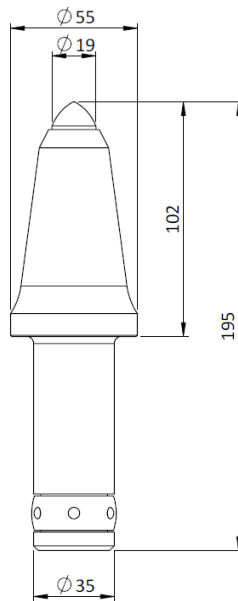
The Techgong Point Attack tool system for Longwall Shearer drums is an industry proven flexible platform. It combines the Techgong pocketed Point Attack tool holder (wet or dry configurations as required, as well as pedestal versions), Point Attack tool, Point Attack sleeve, Point Attack spray, and associated retention devices. The pocketed system provides the strongest tooling platform available, while also presenting the coal face with a smooth and continuous cutting profile for improved loading and decreased dust.

Our flexible tooling allows simple change-out for adapting to different conditions. For example, a tool with a longer shank and a 'sharper' carbide can be used for regular coal production, but can be swapped out for a tool with a shorter shank, hard facing, and a more 'blunt' carbide for tough stone conditions.

Techgong can work with you to develop and supply customised tooling.



### POINT ATTACK TOOLS (SAMPLE OF RANGE)



#### **102-35-190PA**

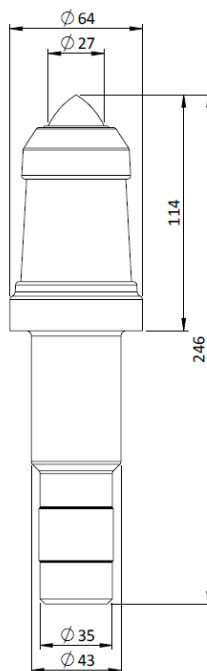
Typical usage: coal production, light to medium conditions

Body: shaped for optimal loading and reduced dust

Carbide: small parallel

Shank: Ø35 straight

Retention: wedding band clip



#### **114-43-270PA**

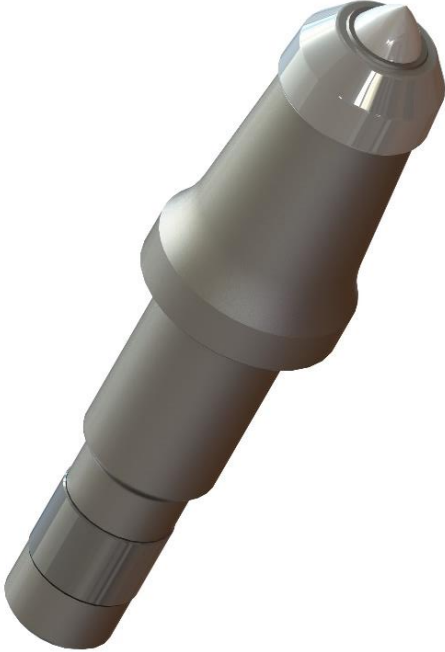
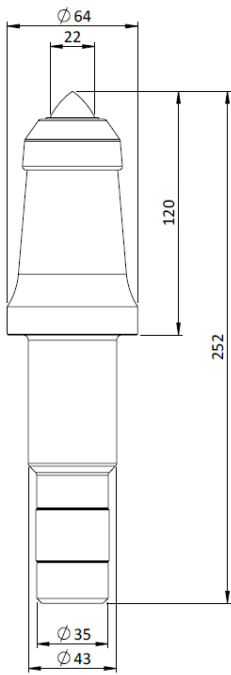

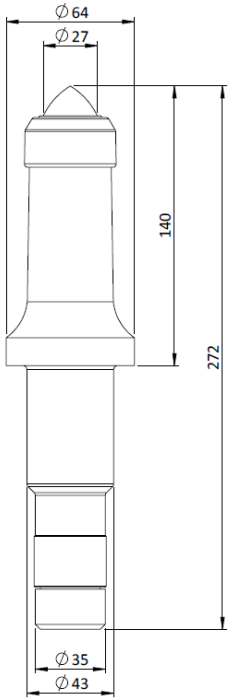
Typical usage: tough conditions, cutting through stone/faults/inclusions

Body: shaped for optimal strength in tough conditions, hard facing for extra abrasion resistance

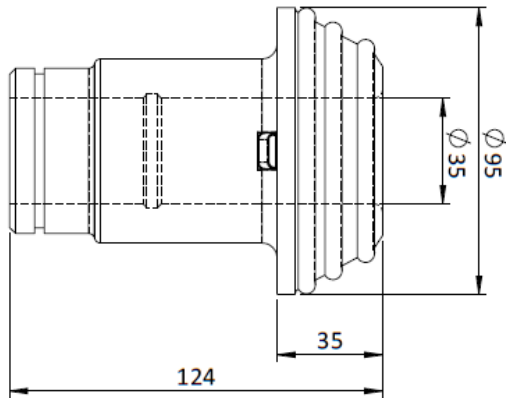
Carbide: extra-large mushroom

Shank: Ø35/43 stepped

Retention: wedding band clip

		<p><b>120-43-220PA</b></p> <p>Typical usage: coal production, medium conditions</p> <p>Body: shaped for optimal loading and reduced dust, hard faced around tip for extra life</p> <p>Carbide: medium mushroom</p> <p>Shank: Ø35/43 stepped</p> <p>Retention: wedding band clip</p>
		<p><b>140-43-271PA</b></p> <p>Typical usage: coal production, medium conditions</p> <p>Body: shaped for optimal loading and reduced dust, hard faced around tip for extra life</p> <p>Carbide: extra-large mushroom</p> <p>Shank: Ø35/43 stepped</p> <p>Retention: wedding band clip</p>

### POINT ATTACK SLEEVES (SAMPLE OF RANGE)

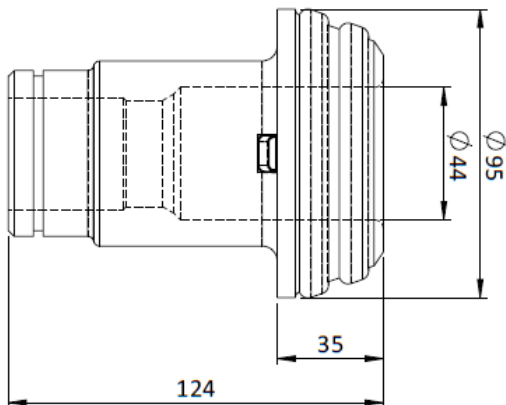


#### 09801SL

Typical usage: Ø35 straight shank wedding band retention tools, Pocketed system

Body: shaped for optimal loading and reduced dust, hard faced around shank for increased life

Retention: heavy duty circlip

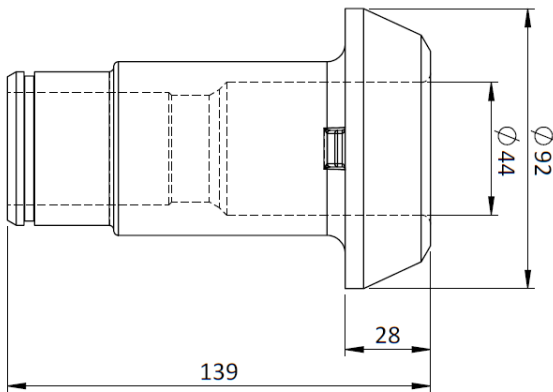


#### 11801SL

Typical usage: Ø35/43 stepped shank wedding band retention tools, Pocketed system

Body: shaped for optimal loading and reduced dust, hard faced around shank for increased life

Retention: heavy duty circlip



#### 15801SL

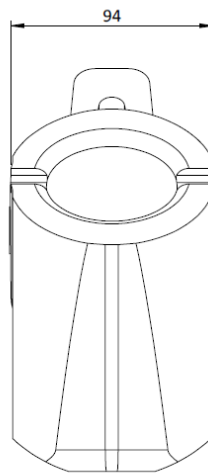
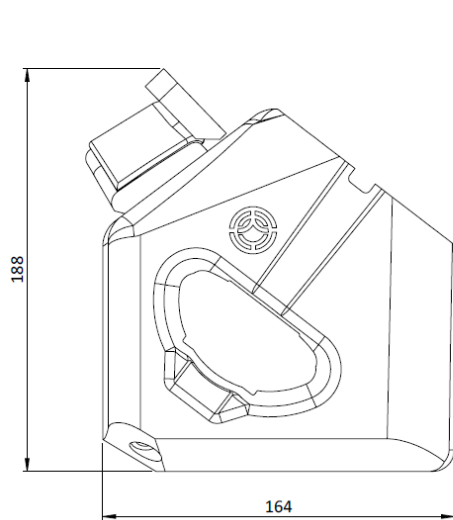
Typical usage: Ø35/43 stepped shank wedding band retention tools, pedestal system

Body: shaped to suit industry standard pedestal system

Retention: heavy duty circlip

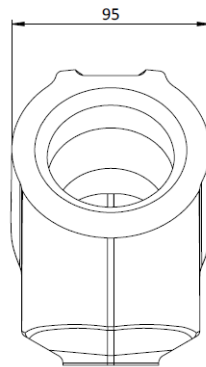
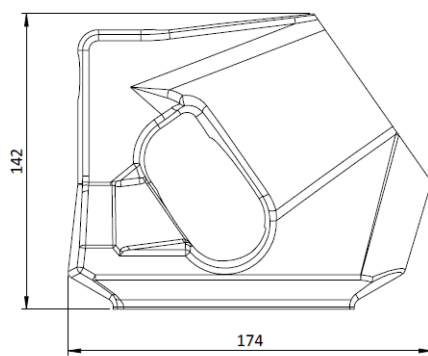


### POINT ATTACK TOOLHOLDERS (SAMPLE OF RANGE)



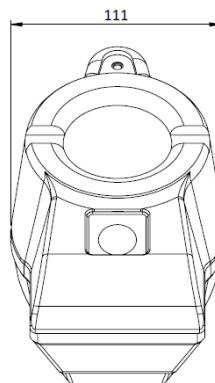
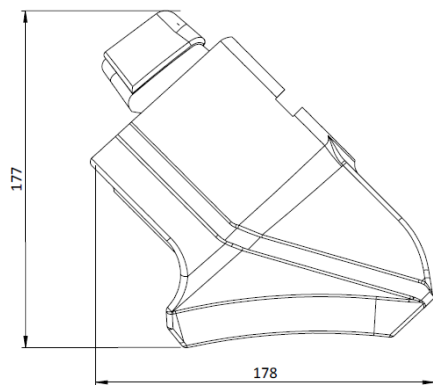
#### **06800TH**

Heavy duty Pocketed Point Attack tool holder



#### **03800TH**

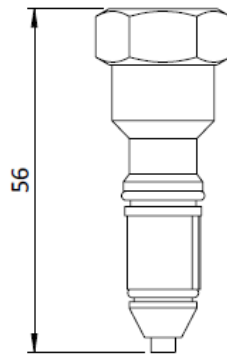
Industry standard pedestal tool holder



#### **07800TH**

Industry standard pedestal tool holder with Techgong spray body

### POINT ATTACK SPRAYS (SAMPLE OF RANGE)



#### 12004PS

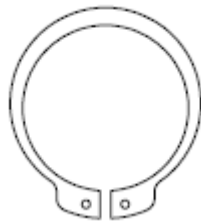
Compatibility: all Techgong Point Attack tools

Certification: certified to industry standard, British Coal Codes and Rules for Pick Back Flushing (PBF) sprays

Spray type: solid cone

Typical flow: 2.5L/min at 13 bar

### POINT ATTACK TOOL RETENTION



#### 05650RD

Heavy duty circlip for sleeve retention



#### Oversized shims

Designed to accommodate bearing wear on the face of the tool holder

**11650RD** – green, wear level 1  
**12650RD** – yellow, wear level 2  
**13650RD** – red, wear level 3



#### Oversized sleeves

Designed to accommodate bearing and radial wear in the toolholder

**13801SL** – blue, wear level 1  
**14801SL** – green, wear level 2

### POINT ATTACK SYSTEM REMOVAL TOOLS



**26901MT**

35mm Point attack pick removal tool



**31901MT**

43mm Point attack pick removal tool



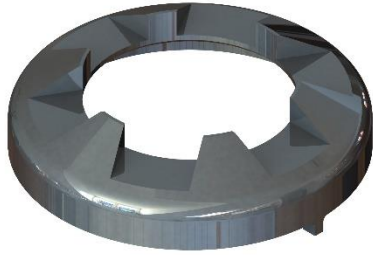
**32901MT**

Sleeve removal drift



**04901MT**

Pick removal bar


**56901MT**

Circlip alignment tool


**20901MT**

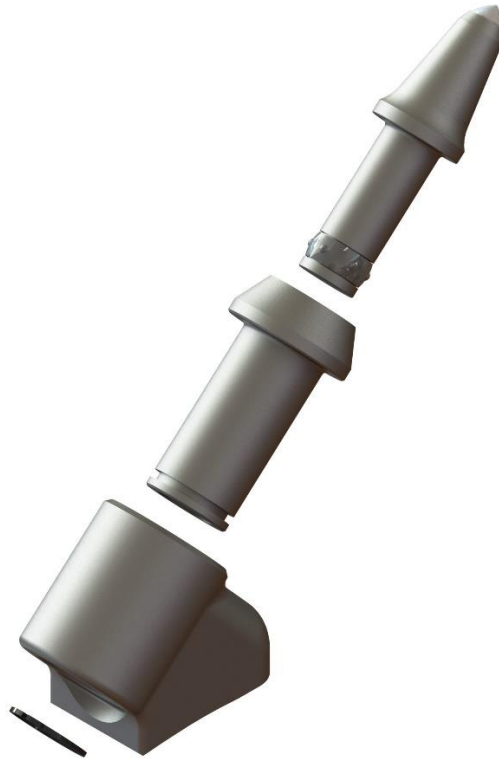
Point Attack tool kit in Techgong bag. Includes the above tools as well as general tooling as required (hammer, crow bar, screwdrivers, sockets, O-Ring grease, etc.)

### EXPANDED POINT ATTACK TOOL RANGE (SHEARER DRUMS)

Part Number	Description	Gauge	Abrasion	Production		Stone
		mm		<50MPa	50-100MPa	>100MPa
102-35-190PA	19mm carbide, straight shank	102	Low			
102-35-250PA	25mm carbide, straight shank, hard facing	102	Medium			
114-43-250PA	25mm carbide, stepped shank	114	Low			
114-43-270PA	27mm carbide, stepped shank, hard facing x 2	114	High			
120-43-220PA	22mm carbide, stepped shank, hard facing	120	Medium			
140-43-270PA	27mm carbide, stepped shank	140	Low			
140-43-271PA	27mm carbide, stepped shank, hard facing	140	Medium			
140-43-272PA	27mm carbide, stepped shank, hard facing x 2	140	High			
Cutting condition usage guide				Use with Confidence		Use with Caution
Many more configurations available, including customised						

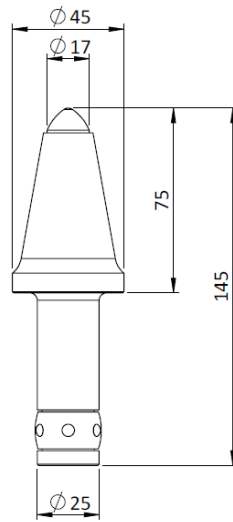
## 7. Continuous Miner Systems

While the majority of coal is extracted using the Longwall Shearer Method, continuous miners are also used for mining and for development headers. Techgong has a complete range of tooling to suit continuous miners, and can collaborate to develop customised tooling as required. Techgong also produces continuous miner cutting heads to suit any geometry required.





### CONTINUOUS MINER TOOLS (SAMPLE OF RANGE)



#### 075-25-170PA

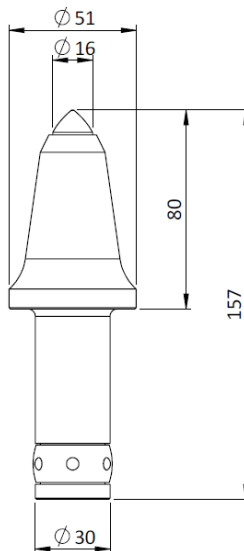
Typical usage: bord-and-pillar coal production, access roads

Carbide: small mushroom

Shank:  $\varnothing 25$  straight

Retention: wedding band clip

High penetration and cutting efficiency in soft to medium conditions



#### 080-30-160PA

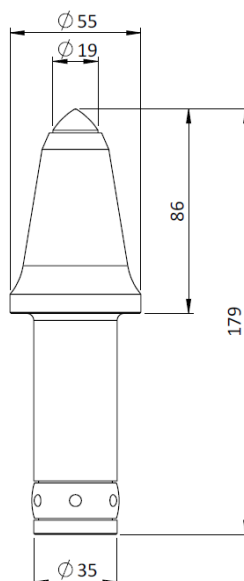
Typical usage: bord-and-pillar coal production, access roads

Carbide: small parallel

Shank:  $\varnothing 30$  straight

Retention: wedding band clip

For medium to hard conditions or complex strata



#### 086-35-190PA


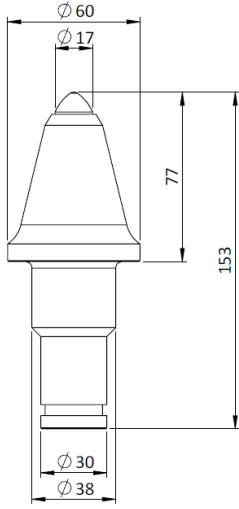
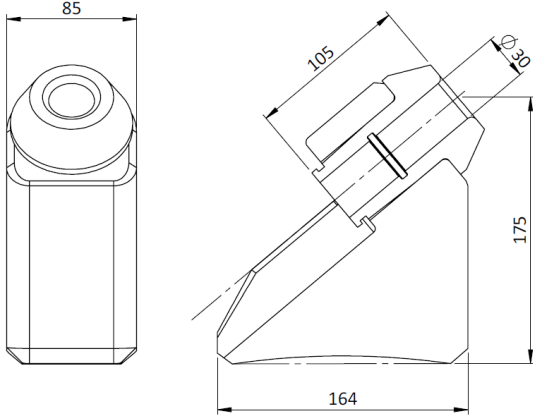
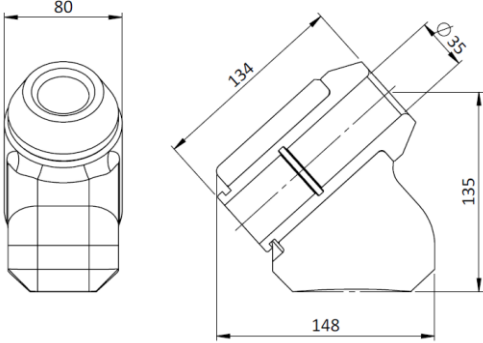
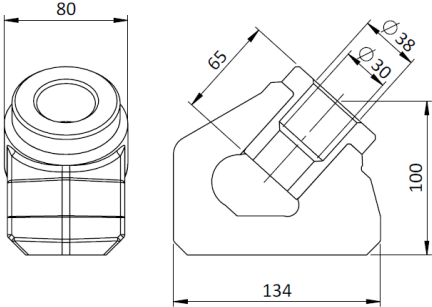
Typical usage: bord-and-pillar coal production, access roads

Carbide: medium parallel

Shank:  $\varnothing 35$  straight

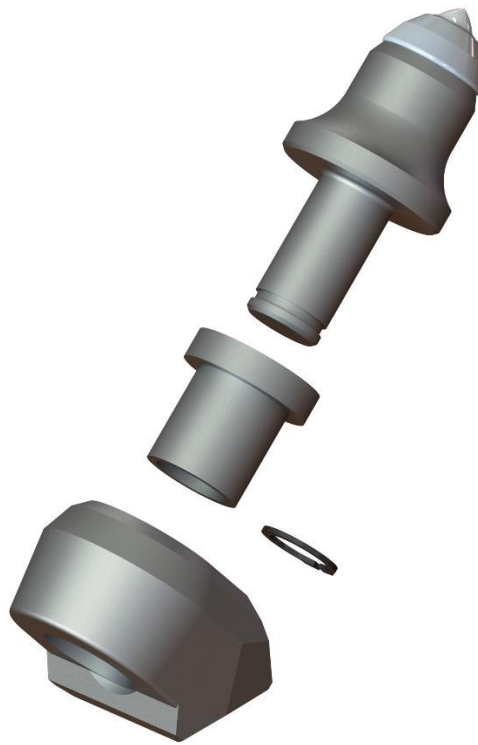
Retention: wedding band clip

High impact and wear resistance, for hard conditions or stone

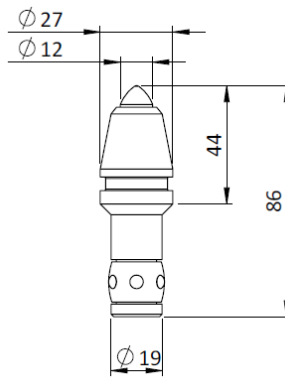
		<p><b>077-38-170PA</b></p> <p>Typical usage: bord-and-pillar coal production, access roads</p> <p>Carbide: medium parallel</p> <p>Shank: Ø30/38 stepped</p> <p>Retention: wedding band clip</p> <p>For extreme conditions</p>
		<p><b>10800TH + 18801SL</b></p> <p>Light duty, high penetration, circlip retention sleeve</p>
		<p><b>11800TH + 19801SL</b></p> <p>Medium duty, medium penetration, circlip retention sleeve</p>
		<p><b>12800TH + 20801SL</b></p> <p>Heavy duty, low penetration, pressed sleeve</p>
<p>Many more configurations available, including customised. Full range of surface mining tooling also available</p>		

## 8. Construction and Road Building Systems

Techgong is a major international supplier of construction and road building tools, being the tool of choice for large scale infrastructure projects around the world. Locally, Techgong tooling has been used to construct new tunnel projects in Sydney with great success. Techgong produces road milling drums and cone cutters to suit any geometry required.



### CONSTRUCTION AND ROAD MILLING TOOLS (SAMPLE OF RANGE)



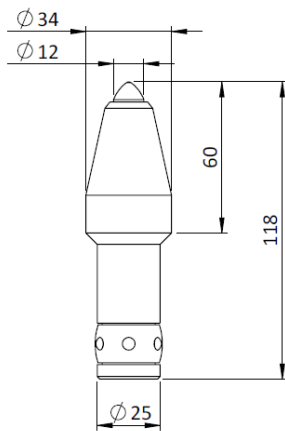
#### 044-19-120PA

Typical usage: small augers and drilling buckets

Carbide: small

Shank:  $\varnothing 19$  straight

Retention: wedding band clip



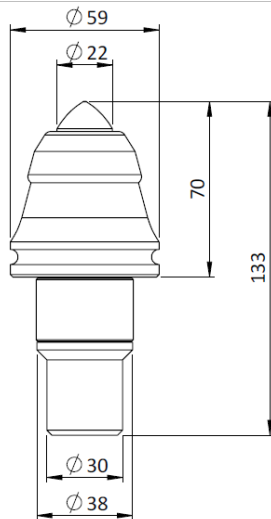
#### 060-25-120PA

Typical usage: medium augers and drilling buckets

Carbide: small

Shank:  $\varnothing 25$  straight

Retention: wedding band clip




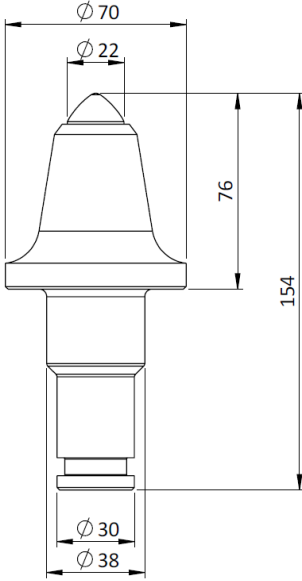

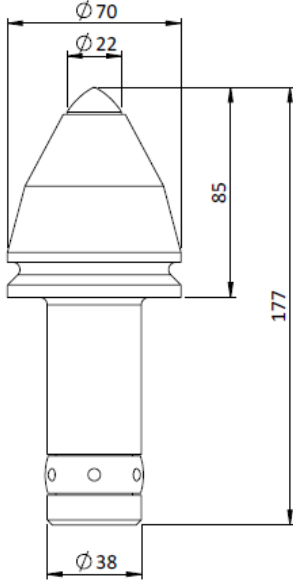

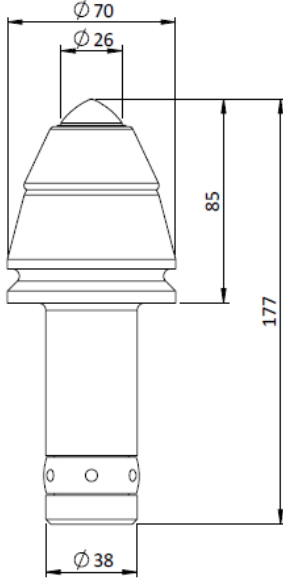
#### 070-38-220PA

Typical usage: large augers and drilling buckets


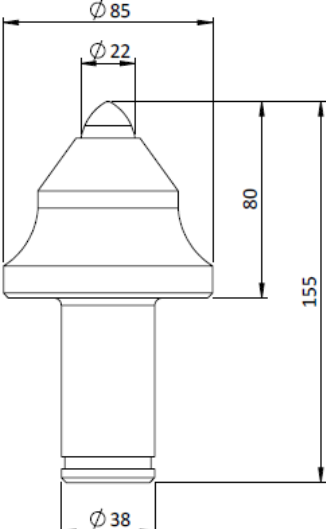

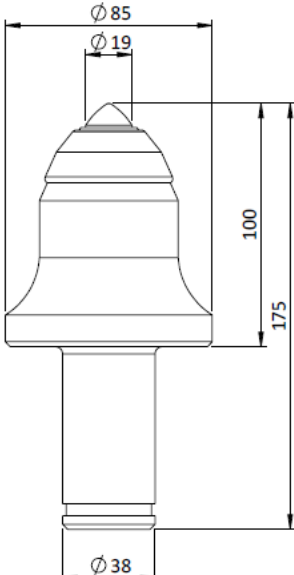

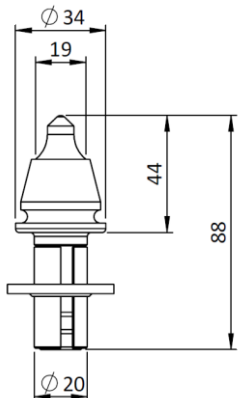
Carbide: large

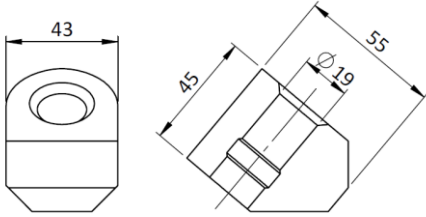
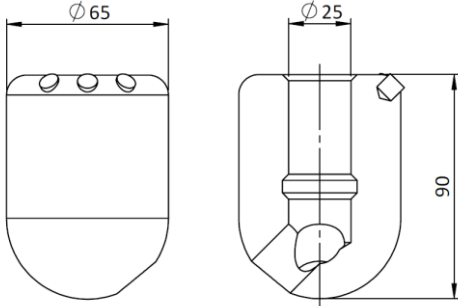
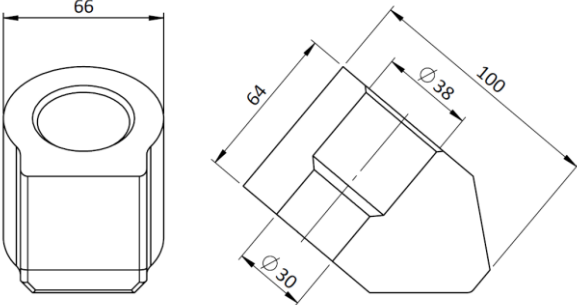
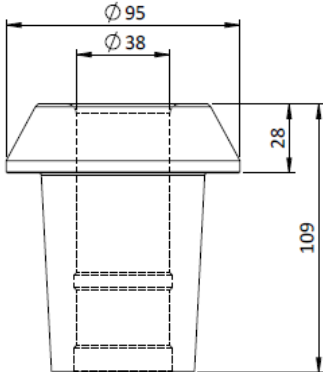
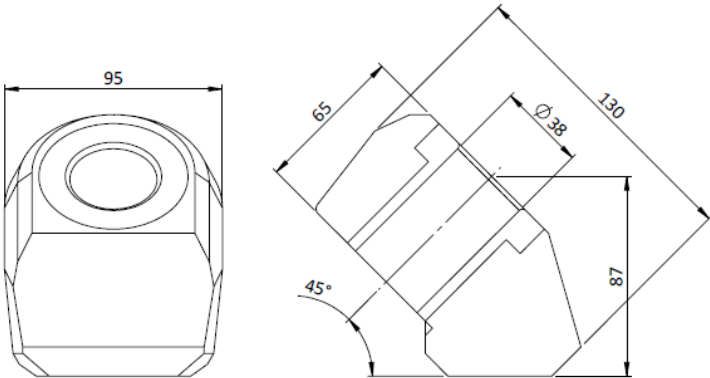
Shank:  $\varnothing 30/38$  stepped

Retention: wedding band clip

		<p><b>076-38-220PA</b></p> <p>Typical usage: road milling</p> <p>Carbide: large</p> <p>Shank: <math>\varnothing 30/38</math> stepped</p> <p>Retention: clip</p> <p>For hard conditions</p>
		<p><b>085-38-220PA</b></p> <p>Typical usage: road milling, Sandvik machinery</p> <p>Carbide: large</p> <p>Shank: <math>\varnothing 38</math> straight</p> <p>Retention: wedding band clip</p> <p>For hard conditions</p>
		<p><b>085-38-260PA</b></p> <p>Typical usage: road milling, Sandvik machinery</p> <p>Carbide: extra large</p> <p>Shank: <math>\varnothing 38</math> straight</p> <p>Retention: wedding band clip</p> <p>Hard facing around tip</p> <p>For high abrasion</p>



		<p><b>085-38-222PA</b></p> <p>Typical usage: road milling, Mitsui machinery</p> <p>Carbide: large mushroom</p> <p>Shank: <math>\varnothing 38</math> straight</p> <p>Retention: clip</p> <p>Extra-large skirt</p> <p>For hard conditions</p>
		<p><b>100-38-190PA</b></p> <p>Typical usage: road milling, Mitsui machinery</p> <p>Carbide: medium parallel</p> <p>Shank: <math>\varnothing 38</math> straight</p> <p>Retention: clip</p> <p>Extra-large skirt</p> <p>Hard facing around tip</p> <p>For high abrasion conditions</p>
		<p><b>044-20-190PA</b></p> <p>Typical usage: road milling</p> <p>Carbide: medium cap tip</p> <p>Shank: <math>\varnothing 20</math> straight</p> <p>Retention: wedding band clip</p> <p>With wear ring</p>

	<p><b>13800TH</b></p> <p>Sleeveless tool holder, for small augers and drilling buckets</p>
	<p><b>14800TH</b></p> <p>Sleeveless cylindrical tool holder with carbide inserts, for medium augers and drilling buckets</p>
	<p><b>15800TH</b></p> <p>Sleeveless tool holder, for large augers and drilling buckets</p>
	<p><b>16801SL</b></p> <p>Press fit sleeve, to suit Sandvik machinery</p>
	<p><b>09800TH + 17801SL</b></p> <p>Tool holder and press fit sleeve, to suit Mitsui machinery</p>
<p>Many more configurations available, including customised. Full range of construction tooling available (foundation tools, roller cutters, trenching tools, etc.)</p>	

## 9. Tunnel Boring Systems

Techgong is a global leader in the production of tooling for Tunnel Boring Machines. We have a strong history of supplying the largest tunnelling projects in the world, particularly in a fast-developing China. A complete range of tooling for TBM applications is available.



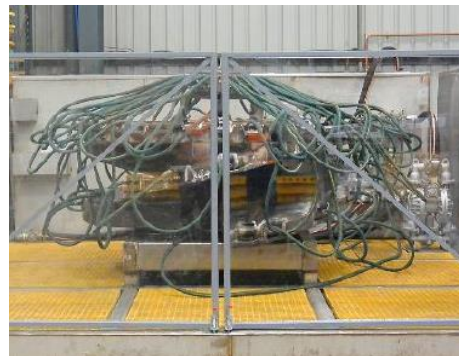
## 10. Overhaul Services

Techgong Australia has comprehensive overhaul facilities, with a network of trusted suppliers and a team of experienced shearer drum specialists. Our team has been overhauling shearer drums and road headers/cone cutters for 15 years, and with hundreds of drums overhauled we have proven ourselves through partnerships that are reliable, flexible, and collaborative.

4 multi-axis drum manipulators, allowing improved ease of work whilst providing superior welding access for consistent results



State of the art drum cleaning facilities, with ultrasonic agitators to ensure the highest level of water gallery integrity



Pressure and flow testing facilities to 140 bar



Experienced pressure vessel and structural welders, working to AS1554 and the highest standards of quality and consistency



Extensive use of NDT for quality assurance

## Contact Us

We are happy to talk about your requirements, and welcome inspections of our facilities. We pride ourselves in close collaboration with our customers, and ensuring you get the best solutions at the most competitive rates, with reliable logistics support.

### **TECHGONG MINING AND ENGINEERING SERVICES PTY LTD (ABN: 70 161 109 495)**

#### **TECHGONG AUSTRALIA HEAD OFFICE AND WAREHOUSE**

**A:** Unit 3, 29 Bay Road, Taren Point, NSW 2229  
**T:** +61 2 8519 4468  
**E:** [sales@techgong.com.au](mailto:sales@techgong.com.au)  
**W:** [www.techgong.com.au](http://www.techgong.com.au)

#### **TECHGONG AUSTRALIA WORKSHOP AND ENGINEERING FACILITIES**

**A:** Klondy building, Steelhaven, via Gate 9, Five Islands Road, Port Kembla, NSW 2505



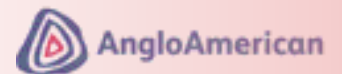
THANK YOU FOR CONSIDERING



OUR CURRENT PARTNERS INCLUDE



GLENCORE



WestConnex



RioTinto

