

# Tungsten Grinders



Pipe Beveling Machines  
Pipe Cutting Machines  
Grinding Machines  
Pipe Stands and Clamps  
Pipe Purging  
Plate Bevelers  
Heat Exchanger, Boiler & Bundle

 **GBC UK**   
THE CUTTING & BEVELLING EXPERTS





GBC INDUSTRIAL TOOLS LTD ARE THE 'PIPE EQUIPMENT SPECIALISTS' FOR THE SUPPLY OF PIPEWORK EQUIPMENT AND TOOLS.

Over the past 30 years our parent company GBC Industrial Tools Spa, has established itself as one of the worlds leading manufacturers of portable pipework machinery, due to its consistent high level of quality, both in product and service. We are pleased to be part of that team.

GBC has established an extensive distribution network to industries across the world. These industries include:

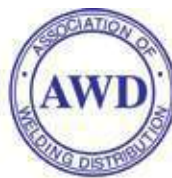


- Petrochemical
- Offshore
- Power Generation
- Heat Exchange Manufacture/ Repair
- Boiler Industry
- Ship Building and Repair
- Nuclear
- General Fabrication
- Site Services



GBC Industrial Tools offer a comprehensive range of on-site machining services, please check with our office for your specific requirements.

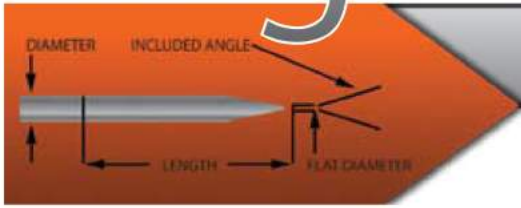
This brochure has been designed to give you a brief introduction to our extensive range of products.



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Registered in England & Wales. Registration no. 08966210  
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# tungstengrinding



## PRECISION GRINDING TUNGSTEN ELECTRODES

**The included grind angle (taper) and tip flat diameter (geometry) of a tungsten electrode greatly affect the size and quality of the weld bead and penetration.**

With precision applications like orbital tube and pipe welding or plasma arc welding, it is important that electrodes are precision ground consistently once a welding procedure is established. Arc-Zone recommends using a dedicated tungsten grinder which allows you to pre-set the angle. A tungsten grinding machine is also safer than a bench grinder and some offer dust collection.

For highly mechanized welding operations purchasing preground electrodes may be the best solution.

Always purchase your Pre-Ground Tungsten Electrodes from a trusted source like Arc-Zone as manufacturing and grinding methods can greatly affect tungsten electrode performance.

Whatever your TIG/GTAW or Plasma welding application, the electrode should be properly cut and tapered.

### SELECTING THE GRIND ANGLE

Follow your equipment supplier's suggested grind angle specifications first, because they have performed tests to determine the optimal electrode preparation for their equipment.

If specifications do not exist or you would like to change those settings to potentially improve and optimize your particular welding operations, the following chart should help you.

Sharper Electrode (Narrow Angle)	Blunter Electrode (Wider Angle)
Wider weld bead	Narrower weld bead
Easier arc starting	Harder arc starting
Less amperage	More amperage
Improved arc stability	Increased potential for arc wander
Less weld penetration	Better weld penetration
Shorter electrode life	Longer electrode life

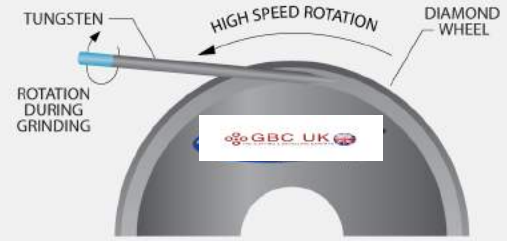
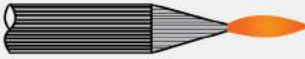
## GRINDING ELECTRODES

Use a dedicated Tungsten grinder to avoid contamination of the electrode and to maximize welding performance. Grinding wheels should be made of diamond or borazon. Grind longitudinally and concentrically so that the lines on the ground surface move in the same direction as the length of the tungsten electrode and the electrode has no flat spots.

Crosswise grinding restricts current and may cause arc wander.



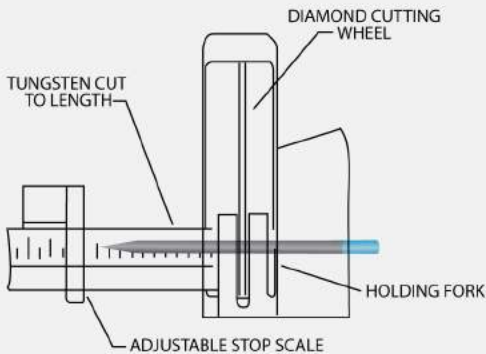
Lengthwise grind marks don't restrict current.



## CUTTING ELECTRODES

Tungsten alloys are dense and very brittle and can splinter or shatter, causing fractures in tungsten electrodes. This can lead to arc instability or "break off" during welding, creating gross weld defects.

When you need to cut your electrode to a specific length, or remove contamination from the tip, be sure to cut electrodes correctly. Incorrect cutting methods damage the integrity of the tungsten alloys, shorten arc time and increase the potential for tungsten contamination in the weld.



For a clean, smooth cut, use a diamond wheel with the electrode secured on both sides of the cut.



Do not bend electrodes until they fracture.



Do not cut tungsten electrodes with wire cutters or pliers.

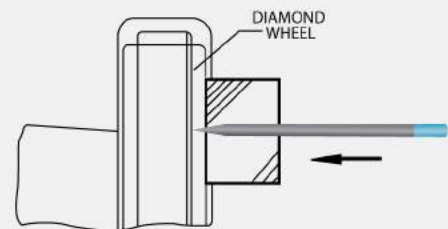


Do not notch the electrode on the grinding wheel, then "snap it off."

## FLAT-TIP

Pointed tips can burn-off and drop into the weld puddle resulting in weld contamination and poor weld quality.

After grinding the angle (taper), "knock off" the tip of the electrode as demonstrated here. You may also grind a new flat-tip prior to re-grinding when reconditioning an old electrode.



⊘ Never grind tungsten electrodes on belt sanders or the sides of standard grinding wheels.

⊘ Do Not breath grinding dust.

⊘ Do Not wear loose clothing, which may get caught in moving parts.

⊘ Do Not operate electrical equipment in or around standing water.

👉 Wear approved safety glasses.

👉 Use an electrode grinding wand when grinding by hand. Electrodes get hot when grinding! Arc-Zone recommends an electrode grinding wand to minimize burns and lacerations to fingers and splintered tungsten electrodes that can penetrate the operators hands and eyes.

👉 Use an exhaust system when grinding radioactive thoriated tungsten electrodes.

# MasterPoint Handy

## Hand held tungsten electrode grinder with dust collection

The MasterPoint Handy is a portable tungsten electrode grinder, that is both environmentally friendly and has the ability to repeatedly grind quality points on tungsten electrodes.

It is equipped with an integrated, replaceable dust filter, protecting the operator and the environment against the potentially harmful dust produced during electrode grinding.

The MasterPoint Handy is able to grind electrodes as short as 15mm with a standard electrode clamp and 8mm with a special electrode clamp. It also has an inspection cover enabling the operator to view the grinding operation.

### How it works

The MasterPoint Handy is easy to operate, set the required grinding angle, secure the electrode into the holder using the locking device. The electrode is now set so as to minimise the amount of grinding required (0.3mm removal).

The MasterPoint Handy is equipped with an eccentric plate, which makes it possible to adjust the grinding position on the face of the wheel, tripling the life of the diamond wheel.

The MasterPoint Handy is supplied in a case, ready to go, with clamps for 1.6, 2.4 and 3.2mm diameter electrodes.

The MasterPoint Handy is CE marked and is manufactured to meet all EU directives.



- Integrated exhaustion with a replaceable dust filter
- Triple use of the diamond wheel
- Adjustable grinding angle 15-180 degrees
- Grinds electrodes as short as 8mm
- Durable storage case

Code	MPH1
Power Supply	110 Volt
Motor	850W
RPM	28000
Weight	2.8kg

# MasterPoint Basic

Portable Tungsten Electrode grinder.



Grinds electrodes from 1.6 to 5.0mm / 0 to 60 degree angle adjustment range.

Voltage:	AC220V	Minimum grinding length:	60mm
Frequency:	50-60HZ	Tungsten diameter:	1.6 - 5.0mm
Power:	60W	Grinding angle range:	0 - 60 degrees
Disc Diameter:	90mm	Dimension:	230x170x200mm (W x Lx H)
Disc rotating speed:	5000rpm	Weight:	4KG

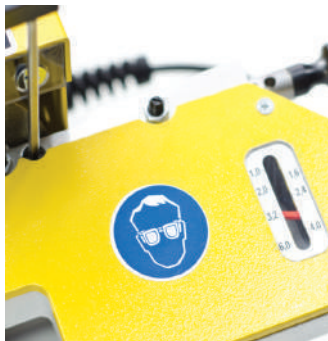
# MasterPoint 1-4

bench mounted tungsten electrode grinder



- ✓ with automatic drive and feeding
- ✓ for Ø 1.0 / 1.6 / 2.0 / 2.4 / 3.2 / 4.0mm
- ✓ angle setting from 15° to 180°

Sharpens TIG welding electrodes precisely & simply.



Diameter selector



Angle selector



Diamond wheel



Dust Extraction Unit

## Technical data

Diamond grinding wheel:	Ø 125 mm
Grinding motor:	230 V, 50 Hz, 0,05 kW, 2840 rpm <sup>-1</sup>
Motor for electrode drive:	230 V, 50 Hz, 375 rpm <sup>-1</sup>
Weight net:	6,8 kg
Angle setting:	15° / 30° / 60° / 90° / 120° / 150° / 180°
Diameter of electrodes:	1,0 / 1,6 / 2,0 / 2,4 / 3,2 / 4,0 mm
Dim (L x W x H):	260 x 300 x 230 mm

Also available in 110 volt.

## Basic version

- Complete with diamond grinding wheel
- Adaptor for dust exhaust
- Ø 1,0 / 1,6 / 2,0 / 2,4 / 3,2 / 4,0 mm
- Special sizes upon request

# MasterPoint Ultimate

## Wet tungsten electrode grinder



- \* eco friendly collection of dust particles
- \* perfect grinding for accurate angles
- \* combined electrode gauge and locking device ensures minimal removal of electrode

This wet grinder provides an eco friendly way to grind accurate angles on tungsten electrodes. It is constructed with a unique disposable container that automatically collects all toxic dust particles, eliminating the need for separate exhaust systems. The container is replaceable.

Cold, wet, high speed diamond wheel grinding ensures the electrode always has a polished and even surface. The precise angle produced is important to the quality of welding seams and also reduces the number of re-ignitions between grinding, thus prolonging electrode life.

It is very easy to use; just place the electrode in the holder, set the grinding angle and insert the holder into the combined stick-out/locking device. After grinding and if required the tip can be flattened by placing the electrode in the 90 degree position.

The MasterPoint Ultimate is available in 220 and 110 volt versions and comes with 250 ml of grinding liquid, diamond wheel, electrode clamps (1.6mm - 3.2mm), electrode holder, disposable container and a stainless steel base.

CE Certified.

Motor: 110/220V, 50/60Hz - Motor yield: 380W  
Rpm: 8500/min - Grinding speed: 44 m/sec.





# GBC Rental

We are the leading supplier of rental pipework fabrication equipment and we have an unrivalled range and quantity of equipment available off the shelf; from pipe bevelling and cutting to tube pulling and expanding, including:

- Pipe and Plate Bevelling Machines
- Pipe Cutting Machines
- Pipe Clamps and Stands
- Bundle Pullers
- Tube Expanding Machines
- Rolling Motors for Tube Expanders
- Tube Pulling Machines
- Reciprocating Saws
- Orbital Pipe Saws
- Flange Facing Machines

Our hire fleet is constantly expanding and improving and is offered not only in the UK, but anywhere in the world.

CALL +44 (0) 1844 201 555 OR EMAIL [HIRE@GBC-UK.COM](mailto:hire@gbc-uk.com)



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