



## PURGE MONITORS

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



Sales • Service • Hire

# Introduction



**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.



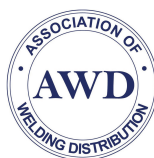
GBC has established an extensive distribution network to industries across the world.

## 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.

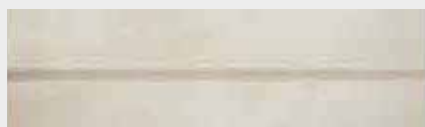


Registered address: 7 Drakes Drive, Crendon Business Park Long Crendon, HP18 9FE  
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# Principles of Purging

## Why Purge?

The primary reason for the wide use of stainless steels is their general corrosion resistance. To ensure the operational safety of weldments of high-alloy steels under corrosive conditions, it is further necessary to maintain the special characteristics of these materials when producing weld joints. The exposure to heat and oxygen during the welding process results in the formation of temper colours on stainless steels and other materials (e.g. titanium). These are bands of various colours around the penetration bead and adjacent parent material that can severely reduce the corrosion resistance of high-alloy materials, and usually must be avoided or removed.



Argon Purge 12ppm Vol. O<sub>2</sub> Content



Argon Purge 60ppm Vol. O<sub>2</sub> Content



Argon Purge 70ppm Vol. O<sub>2</sub> Content



Argon Purge 200ppm Vol. O<sub>2</sub> Content



Argon Purge 250ppm Vol. O<sub>2</sub> Content



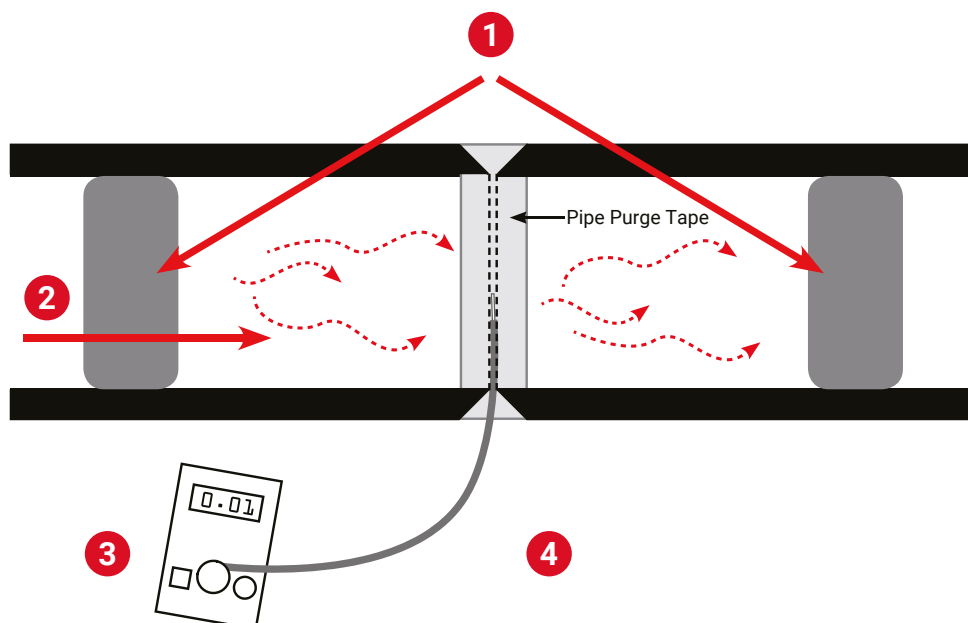
Argon Purge 500ppm Vol. O<sub>2</sub> Content

## Weld Quality

The effective welding of stainless steel, titanium and other exotic materials for the nuclear, petrochemical, pharmaceutical, semi-conductor, aerospace and food industries requires the proper tools to create a perfect weld environment. Purging equipment and its use has a major impact on preventing oxidation and improving final weld quality. The basic principles of purging can be seen below. GBC UK supply a comprehensive range of systems to create the correct welding environment, whatever the application.

## How it works

- 1 Create a seal (dam) either side of the weld and close off the weld gap with Pipe Purge Tape to create the weld chamber.
- 2 Fill the chamber with inert gas (such as argon or nitrogen) to expel oxygen from the chamber.
- 3 Use a weld purge monitor to recognise when the required level of oxygen has been met.
- 4 Welding can then be carried out, guaranteeing no oxidation or discolouration of the weld.





# Purge Monitors

## MasterPurge 100

### Handheld Weld Purge Monitor

The MasterPurge 100 is our easy to use entry level weld purge monitor.

It comes complete and ready to use straight from the carrycase. It is handheld, portable and ideal for the pipefitter's toolbox. Instructions are permanently on display inside the carrycase lid and the large 4 digit display is easy to view.

Its measuring range of oxygen in atmosphere is 0.01% to 20.9% and it accurately measures the concentration of oxygen to 0.1%.

Saves time and improves weld quality when welding stainless steel & Duplex pipework.

#### SELF CALIBRATING



Digital display



Step by step instructions inside the carrycase lid.



Hand held/portable



**Self calibrating**  
**Manufactured in the UK**

#### Package includes:

- Oxygen Monitor
- Hose
- Flow adaptor
- Stainless steel probe
- Aspirator bulb
- Carrycase
- Operating instructions

#### Technical Data:

Measuring range:	20.9% to 0.01%
Sensor response:	T90 < 15 secs
Operating Temp:	-10 to 40 degrees C
Power source:	P3 9 volt battery
Warranty:	Sensor 12 months
Dimensions:	<b>Monitor:</b> 150mm x 80mm x 55mm <b>Case:</b> 270mm x 230mm x 55mm

# Purge Monitors

## MasterPurge 5

The new MasterPurge 5 oxygen analyzer is an innovative, reasonably priced weld purge monitor.

The durable, wear-proof zirconium sensor measures oxygen concentration down to 5ppm. High quality built-in components and charging management make this device the market leader in its sector.

It is lightweight (447g), handheld and easy to use. The pump and the heating of the sensor are activated by strong lateral shaking.

Automatic shutdown after 10 minutes of inactivity preserves battery and sensor capacity.



### Technical Data:

Electrical voltage supply:	<ul style="list-style-type: none"> <li>Input: 100 – 240 VAC (50/60 Hz)</li> <li>Output: 12 VDC, 1000 mA</li> </ul>
Weight:	447 g (without suitcase)
Dimensions (L x W x H):	145 mm x 85 mm x 48 mm
Range:	1000 - 5ppm

### Features:

- 1000 ppm - 5 ppm measuring range
- Coloured 1" OLED-display
- Power supply 110 VAC-240 VAC
- Internal Lithium Ion battery with 3,7 VDC, 4.300 mAh
- A green measurement value on the OLED display means "approved".
- Diffusion resistant FPM measurement hose
- Charging cable for car cigarette lighter available
- Display screen rotates when you turn the device due to position sensor
- Measuring up to 4 hours
- Ready to work in ca. 10 seconds
- Integrated, free programmable signal-horn. The analyzer can be programmed on the PC or Android mobile-phone with the optional Bluetooth adapter.



# Purge Monitors

## MasterPurge Pro2 mobile

The keypad is a very robust snap dome film. Stable plastic plates are installed between the polycarbonate and the conductor-film. This allows the operator a save pressure, also with heavy welders or working-gloves. By pressing the keys, he gets a not overhearing confirmation signal.

Furthermore a practicable software supports the operator with several information (5-fold signal tone before readiness to measure, signal tones as alert - no welding readiness).



### Features:

- Temperature regulated zirconium sensor
- Graphics compatible display (4 background colours)
- Plug-in power supply 110 VAC-240 VAC
- Internal akku with 7 VDC, 2750 mAh
- Integrated, free programmable horn
- Easy operated software
- Operator guidance in several languages
- Diffusion-proof special- FPM- measuring hose
- Charging cable for car-cigarette lighter available
- Measuring-data storable (Premium version)
- PC software for documentation
- Various surfaces for documentation or connection of external orbital welding equipment (Orbitec, AMI, ...)



Graphics compatible display (4 background colours)

### Technical Data:

Electrical voltage supply:	<ul style="list-style-type: none"> <li>• Input: 100 – 240 VAC (50/60 Hz)</li> <li>• Output: 12 VDC, 1000 mA</li> </ul>
Weight:	0,570g
Dimensions (L x W x H):	225mm x 105mm x 45mm
Range:	1000 - 5ppm

# Purge Monitors

## MasterPurge 1

The MasterPurge 1 Oxygen Monitor incorporates a maintenance-free ceramic sensor, which can accurately display oxygen levels as small as 1 ppm (part per million).

High specification welds are now commonplace in the pharmaceutical, dairy, aerospace, petrochemical and many other industries. This oxygen monitor enables welders to more accurately recognise when extremely low rest oxygen atmospheres in the weld environment are reached.



### Features:

- Robust zirconium cell
- 0 - 999 ppm measurement range
- Low maintenance
- Complete with carrycase



### Technical Data:

Measuring range:	0 - 999 ppm O <sub>2</sub>
Temperature operating range:	0°C - 45°C
Accuracy:	+/- 0.3 mV Sensor EMF
Sensor warm-up time:	Approx. 90 Seconds
Stabilisation time:	15-20 Minutes
Response time:	Approx. 2 Seconds for variations
Dimensions (L x W x H):	225mm x 210mm x 140mm
Required voltage:	Multi Range 100 - 240 Volt AC
Warm-up load:	Approx. 200 VA
Normal load:	Approx. 40 VA
Measuring chamber Temp:	Approx. 700°C
Gas temperature:	Max. 50°C
Gas flow:	Approx. 50 l/h (1.8 ft <sup>3</sup> /h)
Moisture content:	Zero - Moisture must be separated out



# Purge Monitors

## MasterPurge Pro2 plus

The GBC MasterPurge Pro2plus Weld Purge Monitor is the ideal tool for welding applications where critical weld standards are required.

Used for production of Semi-conductors, Nuclear, Aerospace, Pharmaceutical, Energy, Dairy, Brewery and Food processing, anywhere strict welding guide lines apply to eliminate weld-quality issues associated with atmospheric contamination.

The MasterPurge Pro2plus Weld Purge Monitor contains a stabilised zirconium oxide cell with a regulated heater to maintain a cell temperature of 750°C, which enables it to accurately measure, levels down to as low as 0.5 ppm.



### Features:

- Temperature regulated, low-maintenance zirconium sensor
- Accuracy of measurement up to 0,5 ppm
- Graphics compatible display
- Internal akku for wireless measurements up to 90 min.
- Integrated, free programmable horn
- Date and time for documentation
- Easy operated software
- Diffusion proof special FPM measuring hose
- Digital flow sensor
- Several surfaces: RS 232, 0-5 VDC (Orbitec), CAN-Bus, AUX (AMI)
- Calibration on the aerial oxygen for authorised personnel
- Internal memory up to 250 sets of parameters or external memory
- (PC-documentation)

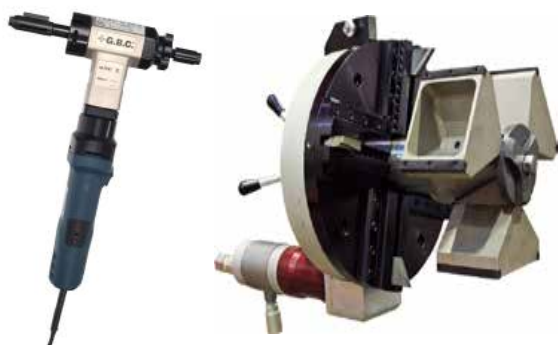


### Technical Data:

Electrical voltage supply:	100-240 VAC (50 / 60 Hz)   Internal Akku: 12 VDC
Weight:	3.2kg
Dimensions (L x W x H):	240 mm x 215 mm x 85 mm (325mm with handle)
Range:	1000 - 1ppm



## We Also Supply



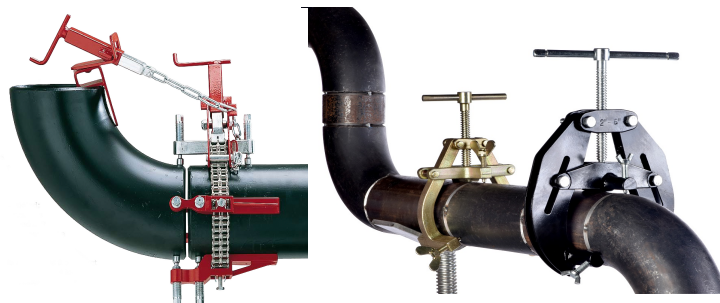
**PIPE BEVELLING MACHINES**



**PIPE CUTTING MACHINES**



**PLATE BEVELLERS**



**PIPE ALIGNMENT CLAMPS**



**PIPE STANDS**



**PIPE PURGING**

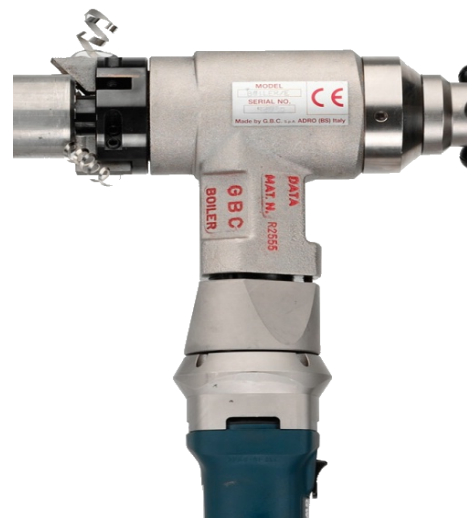
# GBC Rental

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 beveling and cutting to tube pulling and expanding, including:

- Pipe and Plate Beveling 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)**



## Notes

## Notes



- **PEDIGREE - 35+ Years Experience**
- **QUALITY - ISO 9001 Since 1996**
- **PERFORMANCE - Guaranteed**