

# PANDROL



## Gas Box Oxy- Propane Preheating

OPERATION MAINTENANCE MANUAL



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**Partners in excellence**

## 2<sup>nd</sup> Generation Gas Box Features

**Note:** For instructions regarding the 1<sup>st</sup> generation of Gas Box, please refer to the process manual issued in January 2013.

The 2<sup>nd</sup> generation of Gas Box is easily recognisable by looking at the:

- Valves – Brass taps on the 1<sup>st</sup> generation (**Figure 1**) Blue and red on the 2<sup>nd</sup> generation (**Figure 2**)
- Gauges – Blue on the 1<sup>st</sup> generation (**Figure 1**), white on the 2<sup>nd</sup> generation (**Figure 2**).

**Figure 1: 1<sup>st</sup> Generation**



**Figure 2: 2<sup>nd</sup> Generation**



The Gas Box is fitted with 2 digital gauges. The Gas Box can be clamped safely onto the rail head by using the clamp underneath the Gas Box.

The digital gauges provide accurate pressures with an accuracy of one thousandth of a bar. They work with a lithium battery that can be changed via the top panel on the Gas Box (**Figure 6**). The digital gauges are set to switch off automatically after 5 minutes of use. This time can be modified in the settings menu.

### The Hoses

There are 2 hoses, one for the Propane and one for the Oxygen. They are connected to the gas box on one end and connected to the torch and mixer on the opposite end. They are 1.50 meters long and they have a 10mm diameter. It is essential that neither of these be altered.

### Self-Centring Burner

The burner head has a support that is adjustable in height and widths to fit the range of moulds supplied by PANDROL. The moulds have a notch where the torch support sits (**see figure 3**). The torch support is then secured to the moulds by using the thumb screw. Care should be taken not to over tighten the support as it may crack the moulds. (**See Figure 3**).

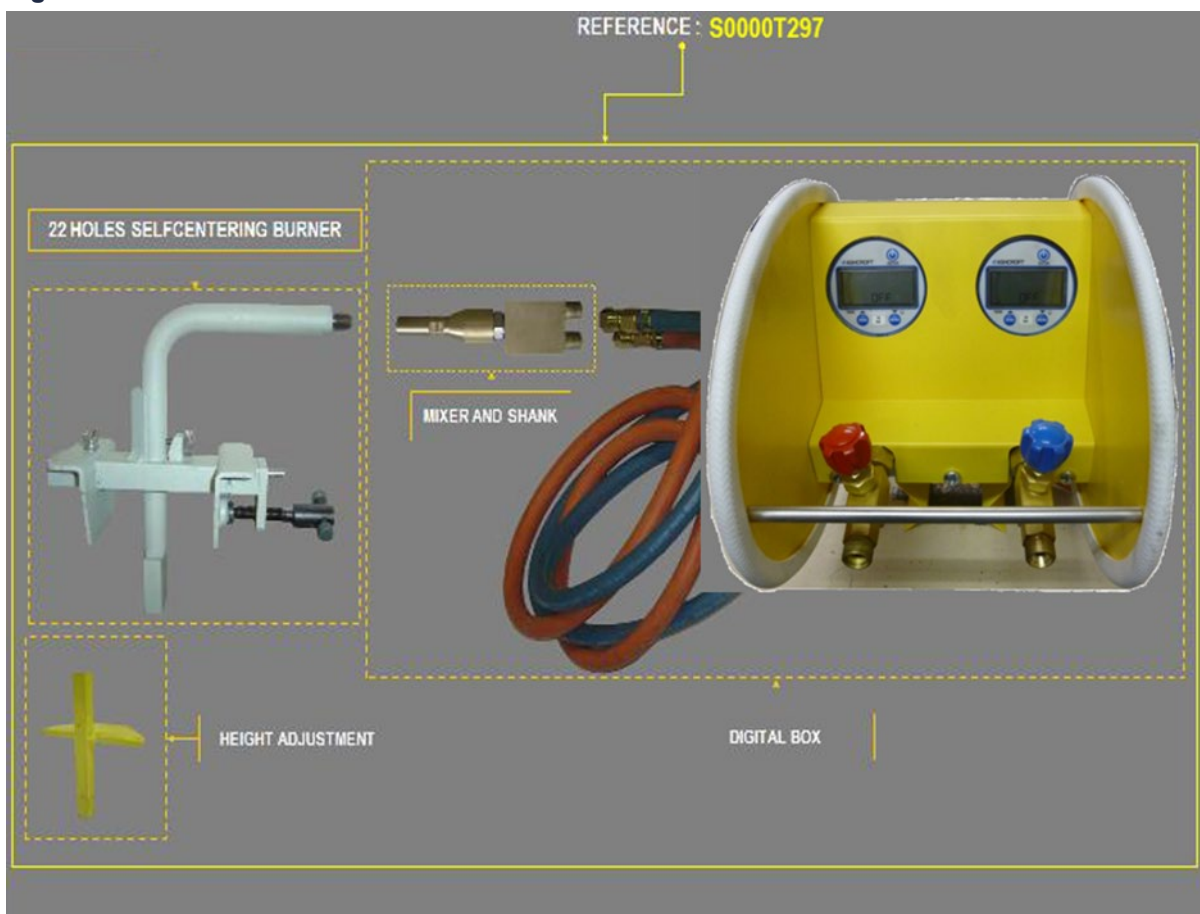
**Figure 3: Self-Centring Burner**



## 1.1 Recommendations when using the Digital Gas Box

- The two taps of the Gas Box must be closed
- Turn the cylinders on and adjust the regulators to the following pressures – Propane 1.5 bar / Oxygen 2.5 bar
- Turn the Gas Box flow gauges on and ensure that the pressure unit is displayed as “custom”
- Light the preheater by gradually increasing the Propane and Oxygen flow on the Gas Box. Adjust the Propane pressure between 0.25 bar and 0.30 bar. The Oxygen pressure is to be adjusted to 0.50 bar (between 0.50bar and 0.51bar) on the Gas Box gauges.
- Ensure that the cone length measures 20mm.
- If you fail to achieve the 20 mm cone length, adjust the Propane tap to obtain the correct cone length (20mm). Never modify the Oxygen pressure outside the parameters given.
- Place the torch support onto the centre of the moulds as shown in figure 3. Tighten the thumb screw to secure the support to the moulds. Ensure that the support is sitting centrally within the moulds. It is essential that the pressures are checked and maintained throughout the duration of the preheat.
- The flame that comes out of the risers during the preheat must be symmetrical and measure approximately 300 – 400 mm above the moulds.

Figure 4:



## 1.2 Preheating Parameters

	Propane	Oxygen	Burner Height	Time
PLA 25	0,25 – 0,30	0,50 – 0,51	50mm	4 minutes
PLA 68	0,25 – 0,30	0,50 – 0,51	70mm	7 minutes

## 1.3 Using the gauge

Several options can be found on the gauge for customisation or maintenance:

- Turning the gauges On / Off:
- To turn the gauge on and start the pressure readings, press the button “Enter”. The gauge can be turned off by pressing the enter button for 5s.
- Resetting the gauge to Zero.
- At start up, and when the cylinders are closed, the gauge must display 0. If not, press the “zero” button for 1 second to reset the pressure sensor.
- Adjusting the backlight timer
- Go to the menu then scroll across until “LIGHT” is displayed. Then press “enter” and then the arrow to select the duration of backlighting. Once chosen, press enter to confirm your choice.
- Changing the battery
- To change the battery, you must first remove the top panel of the Gas Box (6 screws) to access the gauge. Then follow the instruction (**Figure 7**).

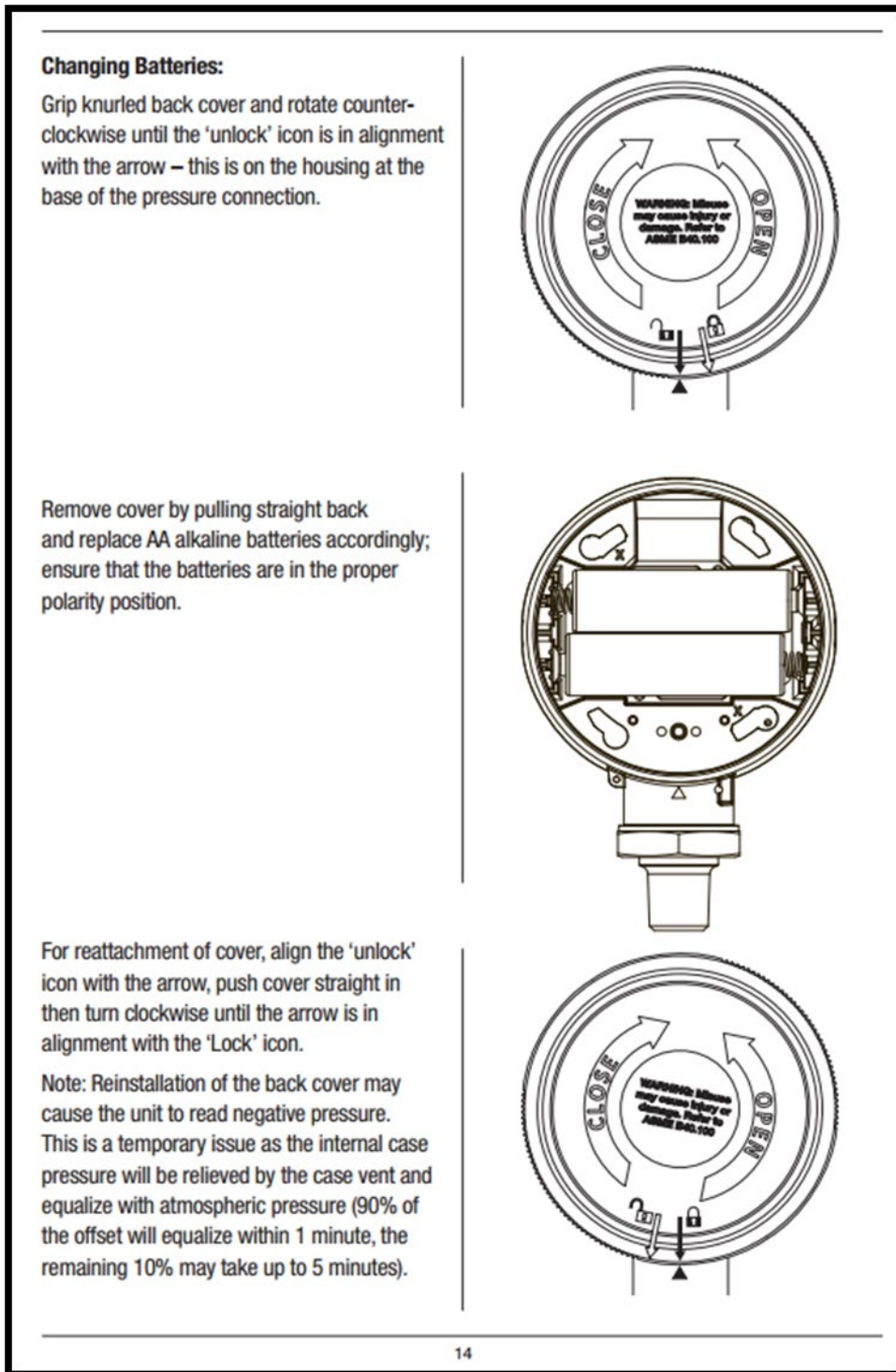
Figure 5:



Figure 6:



Figure 7:



More information can be found on ASHCROFT website

Gauge model: DG25

[http://www.ashcroft.com/installationandmaintenance\\_pdf/upload/manual\\_digital\\_gauge\\_dg25.pdf](http://www.ashcroft.com/installationandmaintenance_pdf/upload/manual_digital_gauge_dg25.pdf)

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