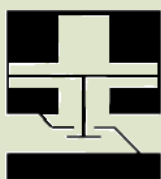


# *Oxygen Depletion Sensor*

**ODS –GCP87/2**



It is designed to shut off the gas supply to the heater if the oxygen content in the room drops to 18% from a normal 21%+.



**GAS CONTROL PARS**

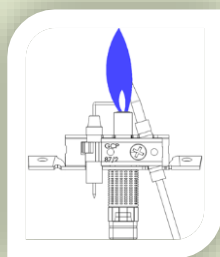
## DESCIRPTION

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The ODS-GCP87 is an oxygen detection safety pilot system. It is designed to shut off the gas supply to the heater if the oxygen content in the room drops to 18% from a normal 21%+. In this event the pilot flame actually lifts off the thermocouple cooling it down and causing the gas valve to close and the heater to shut off. Also, each ODS has a tamper resistant pilot orifice assembly, so do not try to drill or clean out the ODS pilot with a hard object as you will damage it. Follow the cleaning instructions located below.

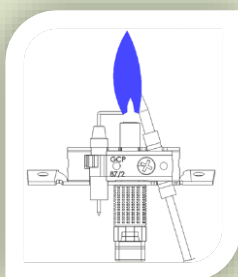
### Normal Operation 20.9% Oxygen

Pilot flame engulfs tip of the thermocouple generating the millivoltage needed to hold the Safety pilot valve open.



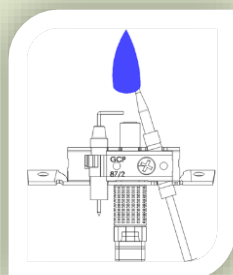
### Oxygen Level Dropping 19% Oxygen

The flame begins to lift-off the precision pilot burner, causing the thermocouple to cool.



### Safety Shutdown 18% Oxygen

The unstable pilot flame moves away from the thermocouple causing the thermocouple to stop generating the electricity needed to hold the spring loaded safety valve open. The flow of gas stops.



# ***TECHNICAL FEATURES***

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The analyzer-spark plug and thermocouple units have been designed for direct application in the heater thereby guaranteeing automatic ignition, the temperature on the thermocouple head and the correct functioning of the analyzer pilot

They have been designed to obtain shut-off values according to the specific norms defined by each country.

With this arrangement, a stable blue flame of the ideal size is obtained for all gases.

The use of recalibrated injectors (ruby) enables an exact flow to be guaranteed with the right jet direction.

These pilots can be applied at heights above sea level of up to 2 000 metres.

## ***INSTALLATION***

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Maximum torque to tighten gas inlet nuts to pilot: 8 NM.

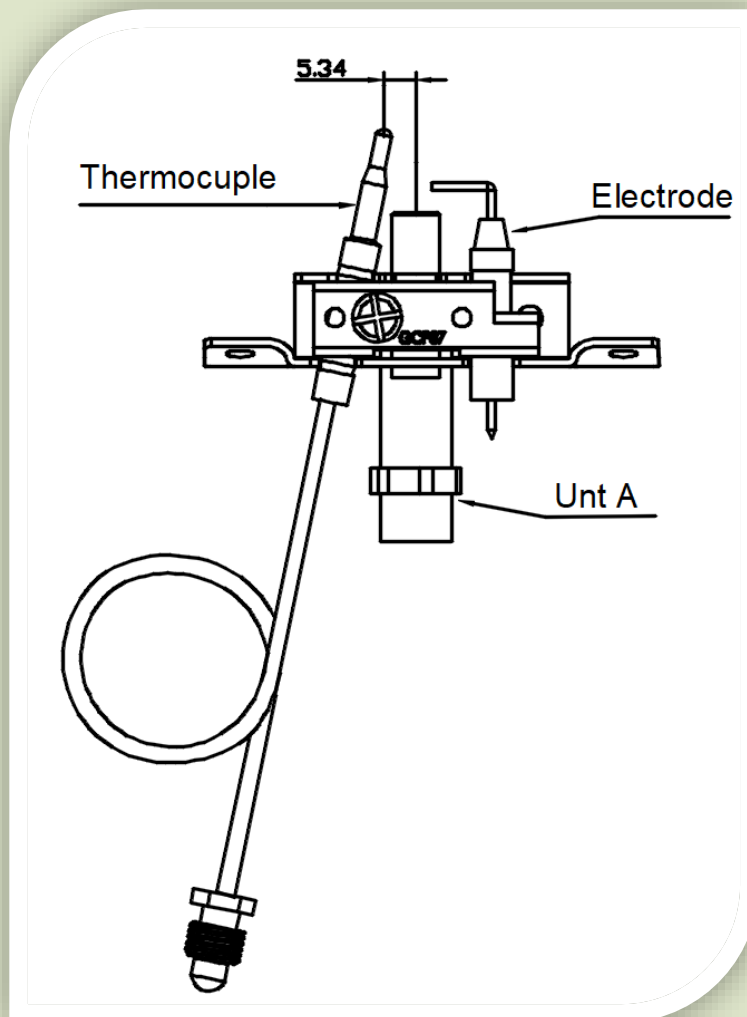
Maximum torque to tighten thermocouple connector: 4 NM

## **How do I clean the ODS-GCP87/2 pilot assembly?**

If your pilot will not stay lit, try cleaning it. Use a can of compressed air, such as is used to clean a computer, to blow dust out of the pilot assembly. Sometimes just blowing air back through the pilot will get rid of the dirt.

If that fails, turn off the gas supply to the heater. As indicated in Figure 2 below grab nut A with an open -end wrench and loosen nut pilot from the pilot tubing with another small adjustable wrench. Blow air pressure through the holes as indicated. This should blow out any foreign materials. To reassemble, tighten nut pilot by grabbing nut A with the open-end wrench. **WARNING:** When the heater is reassembled, always check for gas leaks. Apply a soap and water solution to all joints and watch for bubbles to check for gas leaks. Never use any open flame to check for gas leaks.

If that fails, you need to remove the orifice from the pilot burner cartridge using your wrenches to unscrew the orifice (Item A) and blow air through the pilot burner as show in Figure 2. If the pilot burner remains blocked you will need to use a soft brush (pipe cleaner will also work) to dislodge a spider web or other obstruction. To prevent damage to this assembly, follow the instructions below for disassembly and assembly of the ODS for cleaning. **WARNING:** Never use needles, wires, or similar cylindrical objects to clean the pilot orifice. This will only damage the calibrated pilot orifice (about the size of the head of a pin) which controls the pilot gas flow. Simple rinsing with water and blowing air over it should clean the orifice.



**Figure2. Oxygen Depletion Sensor (ODS-GCP87/2) Servicing**

## ***Dimensional drawing***

