



## Model 1231 1232 Oxygen Probes



## In-situ Oxygen analysis for concentrations as low as $1 \times 10^{-30}$ to 100%

**The Novatech 1231 and 1232 Oxygen probes incorporate the world's most rugged zirconia sensors. They are ideal for:**

- Flue gas analysis
- Oxygen levels in boilers, kilns and furnaces
- Combustibles analysis
- Carbon potential measurement
- Water vapour concentration and dew point measurement
- Inert and sterile packaging
- General industrial use
- Annealing furnaces

**The Novatech 1231 and 1232 Oxygen probes are Australian-made and embody the research and development of one of Australia's premier research organisations, the CSIRO.**

**The Novatech 1231 and 1232 probes are highly accurate, and have minimal drift ( $\pm 1\%$ ).**

**The Novatech in-situ probes are highly durable; choose the Novatech 1231 for analysing gases with temperatures below 900°C and the Novatech 1232 for temperatures 700°C to 1400°C.**

**The Novatech 1231 and 1232 probes have a very rapid response to changes in Oxygen levels**

A response time of between 1 and 4 seconds to oxygen level concentration changes means that potentially hazardous situations such as those caused through the build-up of dangerous, fuel-rich conditions can be avoided.

**The Novatech 1231 and 1232 probes are easy to install**

The probes are inserted into the flue, or other measuring point, and the threaded nipple (1.5" BSP or NPT) is screwed on to a mating socket welded to the process. Connect the probe cable to the analyser, and you are ready to measure and/or control the combustion process.

**Novatech offers you safety of operation**

Use the Novatech 1632 which has a main burner safety interlock. This is the ONLY reliable way of preventing potentially explosive situations; SHOULD THE MAIN BURNER FAIL OR SHUT DOWN THEN THE SENSOR'S HEATER IS DE-ENERGISED SO THAT DANGEROUS FLUE GASES CANNOT BE IGNITED BY THE PROBE!

# Specifications

Model	1231	1232
<b>Applications:</b>	Combustion flue gases below 900°C (Note 1)	Combustion flue gases above 700°C with no contaminants eg natural gas, light oils
<b>Temperature Range:</b>	0-900°C	700-1400°C
<b>Length:</b>	250-2000 mm	500-1500 mm
<b>Process Connection:</b>	1½" BSP or NPT	¾" BSP or NPT
<b>Sheath OD:</b>	34 mm	19 mm
<b>Electrical Connection:</b>	Weather-proof plug-in connector or optional screw terminals. Hazardous area heads have screw terminals.	
<b>Cable:</b>	Order a specific length with the analyser except for hazardous installations where the cable is supplied by the customer.	
<b>Heater:</b>	Yes	No
<b>Flue Gas Thermocouple:</b>	Refer to note 2	R, integral
<b>Response Time:</b>	Typically < 4 seconds	Typically < 1 sec
<b>Head Temperature:</b>	100°C Max	150°C Max
<b>Reference Gas:</b>	Air 50 cc/minute approx. Pump supplied within analyser	
<b>Calib'n Check Gas Flow:</b>	10 to 500 cc / minute	10 to 500 cc / minute
<b>Ref. Air Connection:</b>	¼" tube	Integral air line in probe cable
<b>Particulate Filter (optional):</b>	Removable titanium 30 µm stand'd, 15 µm opt'n	Not required
<b>Calib'n Check Gas Connection:</b>	⅛" NPT female	⅛" NPT female
<b>Weight:</b>	1.8 kg plus 0.16 kg/100 mm	0.1 kg / 100 mm length

## Notes

- Care must be taken to avoid contact with explosive or inflammable gases with 1231 heated Oxygen probes when hot. Novatech Oxygen analysers have built-in safety protection which disconnects the heater when the main flame is off.
- A separate flue gas thermocouple is required with a 1231 probe if a flue gas temperature display on the analyser is required. A 1231 Oxygen probe has an integral type K thermocouple which is used to control the sensor temperature.

## Standard Probe 'U' Lengths

1231	1232
250 mm	500 mm
350 mm	750 mm
500 mm	1000 mm
750 mm	1500 mm
1000 mm	
1500 mm	
2000 mm	

## Distributed by:

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## Ordering Information

- Probe insertion length (from process end of mounting thread to probe sensing tip). Standard lengths below
- Weather-proof plug or screw terminal connections
- No filter or standard 30 µm filter or 15 µm option (1231 only)
- Process connection thread type, BSP or NPT
- Cable with plug connector or no connector