

ZIRCONIA BASED OXYGEN ANALYSER FOR GLASS MELTING TANKS MODEL AT300



- In situ mounting
- High response time
- Temperature up to 1600°C
- No calibration for drift needed
- Suitable for dusty process
- Inexpensive

This analyser based on an yttria stabilized zirconia cell, is an excellent solution for oxygen measuring in the regeneration chambers or in the first part of the smoke flue. The precise compensation of the output of the zirconia cell to the real temperature of the platinum electrodes, measured by the built in thermocouple makes the analyser to be quite free from any drift both of zero and span. A test has demonstrated stability within 0.1% over 12 months. The probe is mounted inside a protection tube that guarantee a long trouble free working service without any service. The analyser has been drawn and tested for use in side port , end port and unit melter furnaces.

The system is composed by the zirconia probe (produced in two different length) the electronic converter. The analyser does not need any reference air.

- **The probe mod. 4153** is very compact and resistant it includes a fully yttria stabilized zirconia cell the platinum electrode, the outside ricristalized pure alumina tube and the B type compensation thermocouple. The head is spaced from the threaded nipple to avoid over temperature of the electric connections. The probe must be mounted in vertical position, inside the protection electrofused tube that guarantees a long service and a good response time. The vertical position of the probe enables the convective movements inside the reference compartment of the cell to keep the O₂ value at 21.0% without any need for sending to the probe reference air.

- **The converter mod. H705** is a panel transmitter that can convert the electric signals incoming from zirconia cell and the compensation thermocouple type B of the FER high temperature oxygen probes mod. 4153.

Microprocessor based connected to an analogue to digital 16 bit converter, is equipped with a high brightness led display (3 1/2 digit) that continuously visualize the measured oxygen and pressing a key the temperature measured by the compensation thermocouple, the resistance of the cell at high temperature to evaluate the wear of the electrode in contact with the process and all settable parameters. The junction box is equipped with a connector to make the cabling easy.

Options

- Waterproof version (IP 55) for field mounting.



Technical specifications

- Measuring field: 0,0001 ÷ 25% O₂ volume
- Accuracy: ± 0.5% of teorical value or 0,1% of O₂ (whichever is the greater)
- Stability: within 1%
- Response time: (90%): cell < 1", system < 60"
- Storage temperature: -40°C/+80°C
- Temperature limits: probe: 500°÷1600°C for the wet part in the process, < 200 C ° for the head of the probe. Converter -20÷ +45° C; R.H. < 90 non condensating
- Analogue output: 4 ÷ 20 mA max load 500 ohm or 0 – 10 V 10 mA linear on one of the following fields:
0 – 1999 ppm; 0 – 5%; 0 ÷ 10%; 0 ÷ 25%
- Serial interfaces: RS232 e Mod-Bus RTU su RS 485
- Potential free alarms O₂ high & O₂ low, instrument fault (fail safe), service. For all: 250 V, 1 A max.
- In case of fault the analogue output is forced to 2 mA or 0 V
- Dumper: time constant settable between 0 e 900 seconds
- Power: 115V - 230V ± 10%, 50/60 Hz, 50 Va max
- EMC according EN 50081 e EN 50082
- Electrical safety: according EN 61010 – 1
- Protection: Probe IP 65.
- Electric connection probe/electronic unit: copper shielded cable 2x1.5 max length mt 100
- Dimensions of probe: wet part = 650, 500, mm; electro fused protection tube: outside diam mm. 60; immersion depth mm. 564 or mm. 714.

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