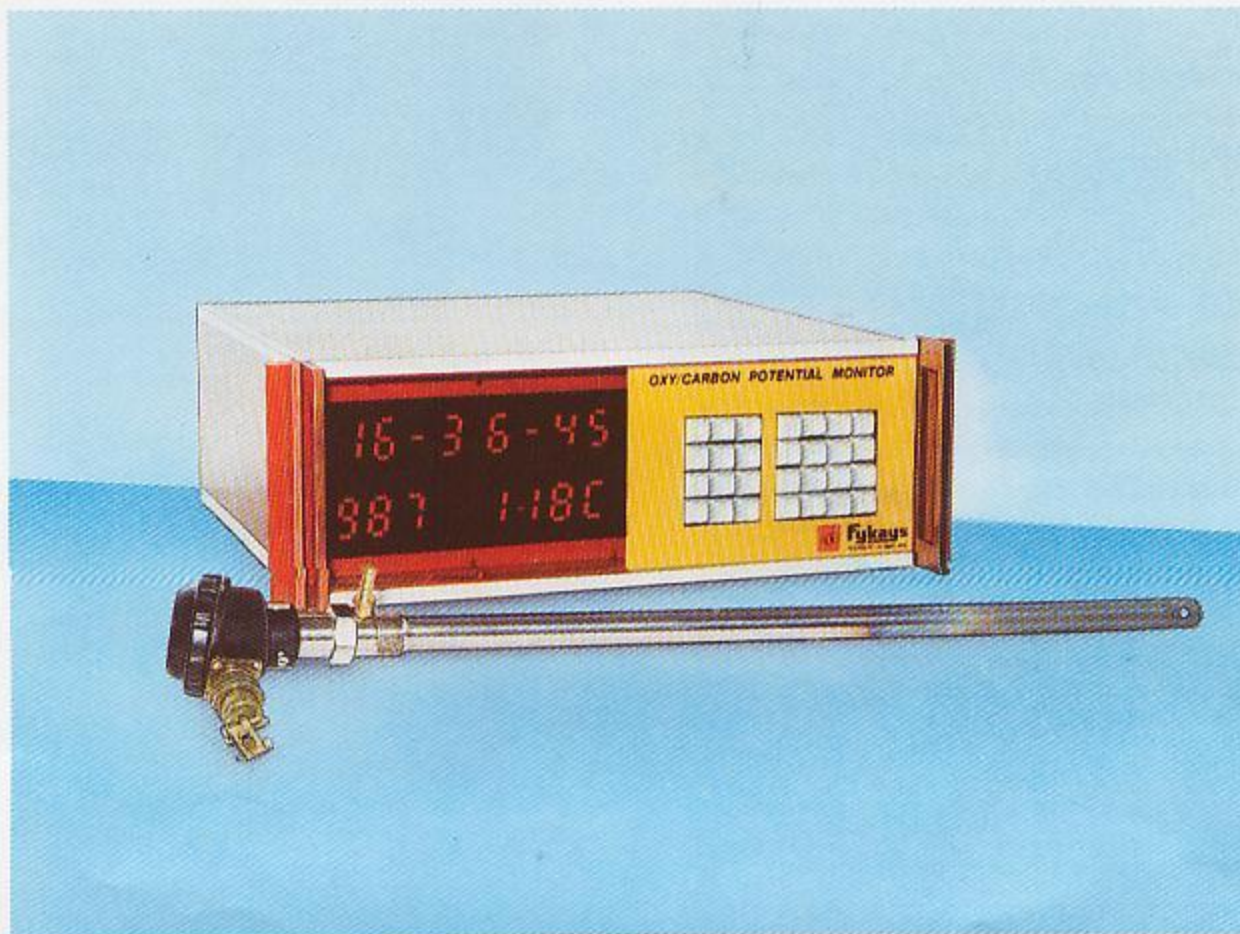




OXY-COMP-G[®]



Versatile Microcomputer System For Atmosphere & Combustion Control

- ◆ High intrinsic accuracy and reliability
- ◆ Direct Digital Reading
- ◆ Continuous PRECISION CONTROL
- ◆ Instant correction of operating conditions
- ◆ Single or multistation control
- ◆ Wide choice of options

DESCRIPTION:

Fykays' OXYCOMP-G® is a state-of-the-art versatile, robust, microprocessor based direct reading computer specially designed for fast analysis of gases. Using a Zirconia Insitu Probe as the signal source, the OXYCOMP-G® analyses and reads directly in terms of desired derivatives like O₂% (or ppm), Carbon Potential, Dew point, etc. By virtue of continuous direct reading/control the system enables the operating staff to ensure optimum fuel efficiency, effective control of furnace atmosphere, reduced rejections and reprocessing, increased productivity and overall cost economy.

WORKING PRINCIPLE:

The OXYCOMP-G® uses as its signal source the well established ZIRCONIA electrolyte with its known partiality to oxygen ions' transfer. The unknown O partial pressure and the reference air O together form a cell and generate a corresponding EMF. This EMF plus the temperature of process together form the twin signals to the processor which uses the well known NERNST-EINSTEIN equation for calculating the O₂% in the unknown atmosphere. Since Zirconia becomes conductive at elevated temperatures, the probe is normally placed in a zone where the temperature is well above 750°C. For those applications where this is not possible a heated probe is used. Where the probe is used in unclean atmospheres like solid fuel fired boilers (coal, wood, bagasse, etc) or carburising furnaces where excessive dust/soot is likely to contaminate or "choke" the cell, a periodic high pressure air purging system is built into the system. The periodicity of such purging is field settable depending upon operating conditions. Special low pressure low volume reference air pumps with filter and regulator are provided for effective and smooth operation. Based on the derived values, operational controls are exercised by means of 'ON-OFF', P.I. or P.I.D. controls.

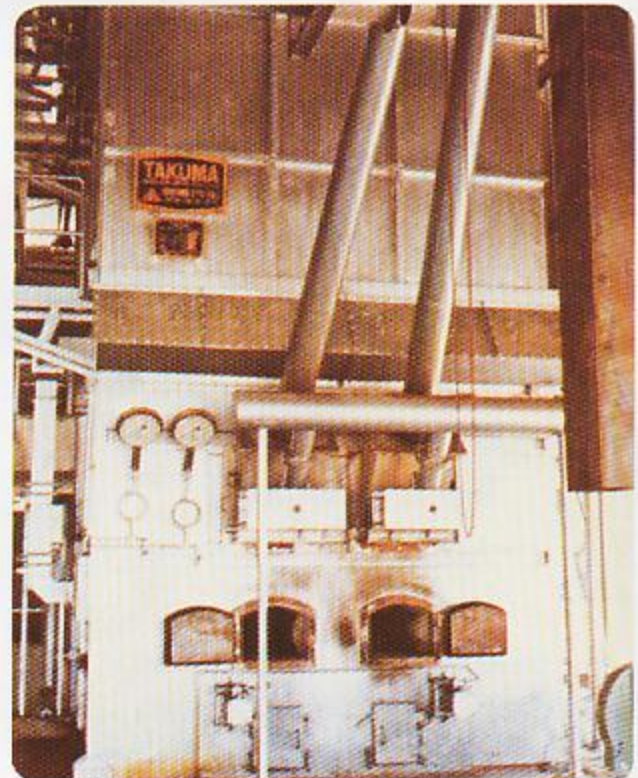
MEGA
BOILERS
AND
FURNACES



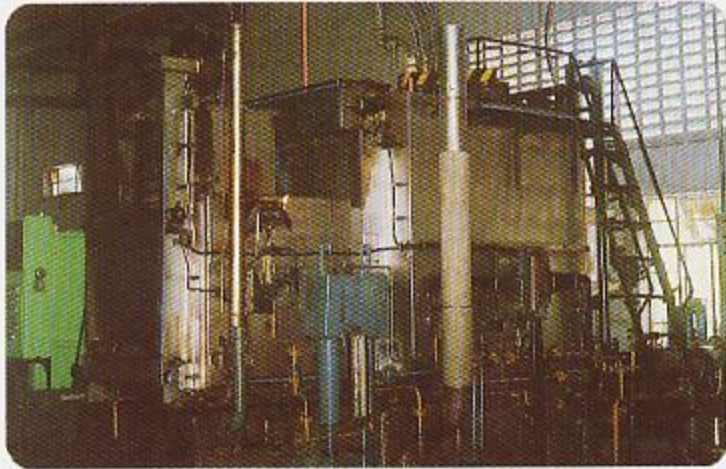
PACKAGED
BOILERS



BAGASSE
AND WOOD
BURNING
BOILERS



SEALED QUENCH FURNACES



TYPICAL APPLICATIONS:

ENERGY CONSERVATION:

- Boilers
- Rotary Kilns
- Reheating/heating furnaces
- Forging furnaces
- Tunnel Kilns
- Heat Treatment furnaces

End Use: Power plants, Cement, Sugar, Paper, Textile, Steel, Chemical, Petro-chemical, Fertilizers, Ceramic and other industries.

ATMOSPHERE CONTROL:

- Endo gas generators
- Carburising furnaces of all types.
- Carbonitriding furnaces
- Bright Annealing furnaces
- Hydrogen filled furnaces
- $N_2/H_2/O_2$ generators
- Explosive atmospheres.
- Coke oven/producer gas plants

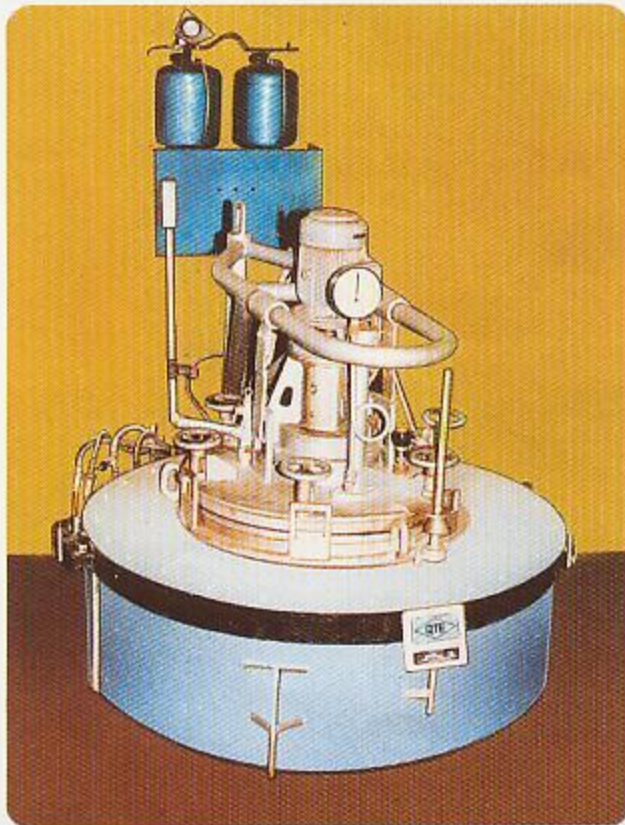
End Use: Heat Treatment industry, air separation plants, petrochemicals, Dyes and Pigments industry, steel plants etc.

CO/CO₂ CONTROL:

- Decarburising of molten steels

End Use: Vacuum metallurgy

PIT TYPE FURNACES



SYSTEM CONFIGURATION:

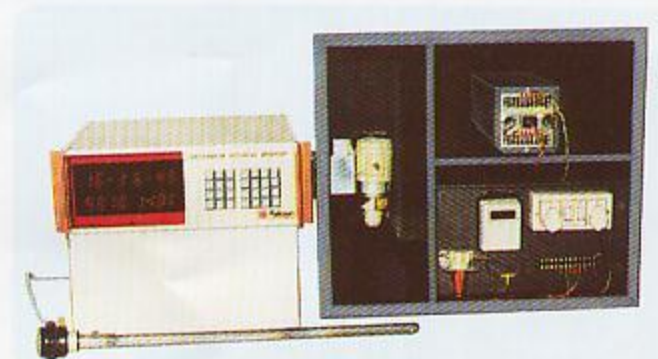
The OXYCOMP-G[®] system in its simplest version consists of an In-Situ Oxygen Probe, the monitor, special Umbilical Cord, reference and purge air systems.

For special applications, systems are built to meet individual requirements.

TURNKEY INSTALLATIONS - OUR SPECIALITY



CONTINUOUS GAS CARBURISING FURNACES



SALIENT FEATURES:

- ◆ By virtue of solid state techniques and software control, a very high sampling rate is achieved resulting in INSTANT update and correction of operating conditions.
- ◆ Choice of display - The derived value can be displayed as per user's choice - O₂%, O₂ ppm, C-potential, CO/CO₂ ratio, Dew point, etc.
- ◆ CAD/CAM techniques ensure high intrinsic stability and accuracy.
- ◆ User friendly key board & menu driven PC system enables users to set/alter parameters.
- ◆ Software controlled coded electronic lock prevents accidental erasure/tampering.
- ◆ Built in REAL TIME CLOCK with battery backup enables realignment of process duration in the event of power failure.
- ◆ Stored parameters are erasable only by prompting - not affected by power failure.
- ◆ Single or multiple probe scanning
- ◆ Group monitoring and control of several stations
- ◆ AUTO SELF check and calibration
- ◆ Wide choice of options:
 - Simple Monitoring
 - ON-OFF Control
 - PID Control
 - Analog output
 - RS-232 or RS-486 output
 - Remote display & control by use of UARTS for hazardous applications.
 - Tailor-made systems.

BROAD SPECIFICATIONS:

- a) 32 bit micro computer
- b) 13 1/2 digit 25mm high 7 segment display or 12" VDU monitor
- c) Built-in Real Time Clock in HRS, MNTS, SECS with battery back-up
- d) Floating decimal for derived value
- e) Built-in self diagnosis
- f) Automatic periodic probe cleaning
- g) Built-in probe diagnosis.

Operating Parameters: Combustion Control -

Range 0.1% to 20.95% O₂
Accuracy +/- 0.01% of measured value
Resolution +/- 0.01% O₂ +/- least count

Carburising application -

Range 0.3% to 1.3% C
Accuracy +/- 0.01% of measured value
Resolution +/- 0.01% Carbon +/- least count

Gas Analysis application -

Range 0.1 ppm to 100 ppm
10 ppm to 1000 ppm
Accuracy +/- 0.01% of measured value
Resolution +/- 0.1/1.0 ppm

Instrument specifications -

Ambient temp -5 to 45°C max.
Power 230V AC +/-10%, 50 Hz, single phase

System ground Essential

Input impedance 25 Megohms

C.J.C. for temp Automatic, better than 0.1°C /°C in the range of -5°C to 45°C

L x W x H Approx. 400 x 380 x 160 mm

Weight Less than 4.0 kgs.

Note: The data given above is indicative and we reserve the right to alter the same without notice, because of design improvements.

FYKAYS' PRODUCTS:

THERMOTIP • MINITIP • ANSPLATIP • FONDTIP • DIGITAL PYROMETERS • CARBOTIP FOR STEELS AND IRONS • CARBOCOMP AUTOMATIC. CEV, C & SI ANALYSER FOR IRONS • CARBOCOMP AUTOMATIC C ANALYSER FOR STEELS • THERMOXYTIP • IN-SITU PROBES • OXYCOMP AUTOMATIC O₂ ANALYSER IN STEELS • OXYMONITORS FOR COMBUSTION & ATMOSPHERE CONTROL • METALLIPOPS: SAMPLERS FOR METAL BATH, STREAMS, INGOTS, 2-IN-1, ETC. • VARIOUS TYPES OF THERMOCOUPLES • VARIOUS TYPES OF PANEL INSTRUMENTS • TEMPERATURE CONTROLLERS AND INDICATORS • MICOUPLE AND MICAB • INSTAMETER INSTANT CALIBRATOR • AND MANY MORE. **NOW LATEST - BOMB THERMOCOUPLES**



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