

# GASANALYSIS MAT14

## Modified Atmosphere Packaging Control

- Gas analyser for fast and reliable O<sub>2</sub> / CO<sub>2</sub> analysis
- Electro-chemical O<sub>2</sub>-measuring cell
- CO<sub>2</sub>-sensor based on NDIR
- High accuracy
- Helpful extra functions
- Automatic measuring record with display hold and printout
- RS232-interface
- Easy to use, plain text display



MAT14 Modified Atmosphere Packaging Control

### Protection atmosphere in food packages

Food manufacturers have to ensure a first-class quality of their products over a long period of time. One of the most effective measures to prevent food from aging is the protective atmosphere technology: it keeps taste, colour and freshness for much longer than under normal packaging conditions. Further advantage of the oxygen-reducing procedure is the slowing down of the growth of any micro-organisms. Additionally, modified atmosphere packaging suppresses oxidation processes inside the food or beverage that could cause degradation of the ingredients.

### Quality control

The MAT14 gasanalyser is designed for quality control both in production and laboratory. It is used for automatic spot measurements of single packages as well as for permanent (online) detection of modified atmosphere - just right beside the packaging machines.

### Measuring procedure (spot measuring mode)

Before measuring, the package has to be equipped with a self adhesive septum, to seal the stitch point during the measurement. The needle is then stitched through the septum into the packaging and the measurement starts by pressing a single button; the internal pump now sucks the gas into the analyser. Within a short time ( $\pm$  10-15 seconds) the O<sub>2</sub>-and CO<sub>2</sub>-level is shown on the display and printed out for internal documentation. The device can be optimised for any kind of product due to adjustment possibilities. Once adjusted, the use of the MAT14 analyser is impressingly fast and easy - without special training. All menus are in plain text, the operation can be carried out with 3 buttons only (self measuring procedure with one button only).

## Features

- Stainless steel housing, compact size
- Oxygen sensor based on electro-chemical measuring cell
- CO<sub>2</sub>-sensor based on NDIR solid electrolyte
- Short measuring times, fast response
- Automatic test record with hold on display measuring values
- Simple calibration
- Integrated flow adjustment
- Integrated flow control
- Lighted-up LC display with 2x16 digits
- Status-LED (2 coloured)
- RS-232 interface ( printer or PC)
- Printout: documentation of result, time, date and sample number with every printout
- Min/max detection adjustable (menu)
- Spot (single) detection and online measurement
- Simple operation with 3 keys only
- Multiple accessories

## Standard delivery

- MAT14 analyser
- Spot test device for soft packages, consisting of:
  - 2 pcs. needle standard, 1 pc. protective filter wall, 1 pc. PFA-tubing with 1/16" Swagelok fittings, 40cm
- Cable
- Operating manual
- 30 pcs. septa

## Physical specifications

### Dimensions

140 x 140 x 270 mm (W x D x H)

### Net Weight

± 3 kg

## Accessories

- Spot test device for soft packages
- Can and bottle piercing station
- Transport box
- Matrix printer
- Septa
- Special PFA tubing
- Needles with central hole
- Needles with lateral hole
- Activated carbon filter units
- Protective filter (sample wand)
- Test gases
- Test gas armatures
- Gas bottle car for laboratory use
- Table fixing for gas bottles

## Applications / Products

Measurement of O<sub>2</sub>-concentrations in food packages of: meat and sausages, pizza and pasta, baked goods, potato chips, snacks, ready-to-eat meals, cheese, coffee, beverages, pastry, chips

## Performance data

### Sensor

O<sub>2</sub>: ZrO<sub>2</sub> cell, drift-free (no calibration required)

CO<sub>2</sub>: NDIR technique, dual-wavelength principle with reference

### Measuring range

O<sub>2</sub>: 0,001 - 20,9 Vol.-%, CO<sub>2</sub>: 0 – 100 Vol.-%

### Accuracy

O<sub>2</sub>: ± 0,001 Vol.-% O<sub>2</sub> < 1% O<sub>2</sub>, ± 0,005 Vol.-%

O<sub>2</sub> > 1% O<sub>2</sub>, CO<sub>2</sub>: ± 2% FS

### Resolution

O<sub>2</sub>: 0,001 Vol.-% O<sub>2</sub> (1 Vol.-ppm), CO<sub>2</sub>: 0,1 Vol.-%

### Measuring time

Typical 5-15 seconds

### Measuring principle

Automatic test routine with display hold of measuring values and printout

### Conditions

Operation temperature 5-50°C

Storage temperature 0-50°C

Humidity 0-90% rH

### Signal output

4-20mA (option)

### Interface

RS-232 (for printer or PC), 9 pol. Sub-D port (F)

### Display

LC display, 2 x 16 digits, lighted-up

### Voltage supply

230V , 50-60Hz

### Gas connections

Input 1/16" Swagelok

### Housing

Stainless steel, degree of protection: IP50

"Partners in Quality"