

CDR  
analisi e sviluppo sistemi cibernetici

***INSTRUMENT FOR THE ANALYSIS OF OLIVE OIL***



# MINIFOOD OLIVE

Ver. 0207

The **MiniFoodOlive** system is composed of a **portable analyser** that utilises a sophisticated spectrophotometric technology and a series of dedicated **reagents** developed by the **CDR research laboratories**.

The instrument does not come into direct contact with the samples of the oil to be analysed and therefore does not need particular maintenance.

Furthermore the **MiniFoodOlive analyser**, utilising disposable pre-dispensed test tubes, **does not need specialised personnel or the preparation of reagents**.

A single test is carried out dispensing, inside the test tube with a swab that has been previously inserted into a vial, a minimum predefined quantity of sample that via certain reagents develops a colourmetric reaction.

## THE ADVANTAGES OF THE MINI FOODOLIVE SYSTEM

- The utilisation of **low toxic reagents** that are easily disposed of that permit the test to be carried out in any environment.
- The utilisation of micro-quantities of sample.
- The utilisation of **ready-prepared test tubes** with pre-dispensed reagents.
- **Standardisation** according to **IFL** criteria.
- High **sensitivity, precision and reproducibility**.
- Analyser based on spectrophotometric technology that excludes contact between the instrument and the sample to be analysed. The system does not therefore need maintenance.
- Tested on **vegetable fats, olive oil, seed-oil** and other **vegetable oils**.
- Conforms to the analytical specifications required by the European Directive **CEE n. 2568/91** and successive modifications.
- Interfaceable with computer systems.
- **Utilisable for production line** testing.

## TECHNICAL CHARACTERISTICS

**Control unit:** Mitsubishi M30620 micro-controller

**Total weight:** 470 gr.

**Maximum dimensions:** 243 mm x 130 mm x 60 mm

**Electrical input:** 12V dc

**Absorption:** 500 mA max

**Environmental operating conditions:** The apparatus and its equipment can operate in the following environmental conditions: 10°C. to 40°C. and relative non-condensed humidity from 20% to 90%.

## REFERENCE NORMS

**EN 50081/1.** electromagnetic compatibility: emission – residential environment – light industry

**EN 55022.A** Radio disturbance measures on equipment for computer technology

**EN 50082/2** Irradiated electromagnetic and induced sensitiveness

**ENV 50140** Electromagnetic compatibility: immunity test to radio frequency irradiated electromagnetic fields and their attraction

## THE TESTS

The **MiniFoodOlive** system effectuates analyses for the determination of **acidity** and the number of **peroxides** in **olive oil**.

The determination of the level of acidity and the number of peroxides in oil is of notable importance for quality control during the pressing and stocking of olives.

The **number of peroxides** in olive oil confirms its primary oxidisation condition and therefore its tendency to go rancid. In fact, the unsaturated fat acids react with oxygen thereby forming the **peroxides** that determine a series of chain reactions with a final production of volatile substances that have the characteristic rancid odour. High temperatures and exposure accelerate such reactions to light and oxygen. The lower the number of peroxides is the better the quality of the oil and its conservation condition.

In a few minutes, the **MiniFoodOlive system** allows the determination of the concentration of **peroxides in the oil** by utilising micro-quantities of samples. The reactive agents are composed exclusively of "green substances", easily disposed of that allow the test to be carried out in any environment. The reliability and precision of the method are guaranteed by an auto-calibration system.

The level of acidity in the oil is given by the quantity of fat acids liberated by the hydrolytic rancidity of the triglycerides. This alteration is controlled in non-ideal conditions of treatment and conservation of the oil and therefore the **acidity** represents a fundamental indicator in the genuineness of the product. **Olive oil** can reach a high content of liberated acidity when the harvesting and the working of the olives are not done in the correct way.

In a few seconds, the **MiniFoodOlive system** allows the determination of the **acidity of the oil** by utilising micro-quantities of sample. The reactive agents are composed exclusively of "**green substances**", easily disposable, that allow the test to be carried in any environment. The reliability and precision of the method are guaranteed by an auto-calibration system.

TEST	Linearity	Repeatability	Sensitivity
Acidity	3% Oleic acid	CV<5%	0,03% Oleic acid
Peroxides	40 mEO/Kg	CV<5%	1 mEO/Kg