

## MICROMAC ALUMINUM

### ON LINE ANALYZER FOR ALUMINUM MONITORING IN WATER



**MICROMAC ALUMINUM** is a microprocessor controlled On Line analyzer specifically designed for automatic aluminum monitoring on several types of waters matrix.

#### ✓ ROBUST AND RELIABLE

Designed for industrial and Environmental On Line applications ensures the highest level of robustness in the electronics, mechanics and hydraulics components. Complete separation between electronics and hydraulics plus a simple and robust LFA\* hydraulics allows easy maintenance and long terms reliable operations.

*\*LFA: Loop Flow Analysis patent pending*

#### ✓ EASY TO INSTALL

The analyzer is delivered after a long and successful series of factory tests ready for installation and setup; it is provided with complete set of spares for start up. To start monitoring is enough to connect reagents, sample line, waste line and power supply.

#### ✓ AUTOMATIC CALIBRATION

When the Calibration Time interval expires the analyzer performs a Calibration Cycle, storing and checking the new calibrant O. D. If new O.D. exceeds selected limits, an alarm contacts is closed.

#### ✓ SAMPLE DILUTION

Sample can be analyzed as it is or after automatic dilution. Automatic dilution is factory adjusted for high range applications.

#### ✓ MEASURING INTERVAL

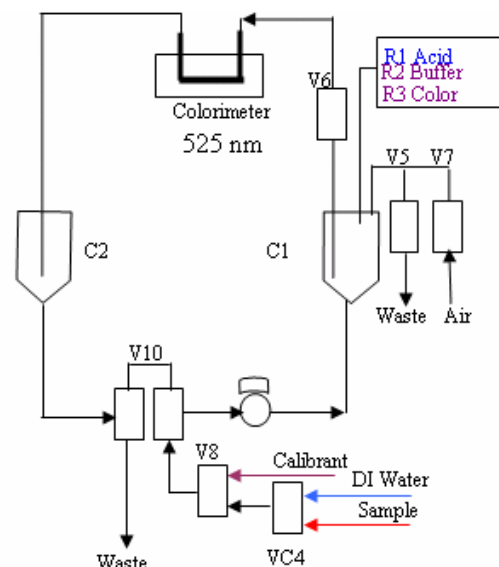
User selectable; between two measurements the analyzer remains in stand by mode, without reagents consumption.

#### ✓ FEATURES AND BENEFITS

- Fully automatic operation
- Long autonomy; low maintenance, low operating cost
- Low reagents consumption; short preparation time; low disposable costs
- Easy operation; plug in analyzer, no special training is required
- Electronics and hydraulics completely separated
- Serial interface for local o remote PC connection (option)

## Aluminum measuring principle and hydraulic diagram

In this automated method, the sample after proper filtration is pumped inside the LFA reactor; Eriochrome cyanine R dye, diluted aluminum solutions buffered to a pH of 6.0, is added to the sample and it produces a red to pink complex that is colorimetrically measured at 525 nm. The intensity of the developed color is influenced by the aluminum concentration, reaction time, temperature, pH, alkalinity, and concentration of other ions in sample. The interference of iron and manganese, two elements often found in water, is eliminated by adding ascorbic acid.



## Technical Specifications

**MEASURING PRINCIPLE:** Colorimetric, Eriochromocyanine method, adicic dissolution of aluminium flocs.

**COLORIMETER:** dual beam, silicon detector

**MEASUREMENT TYPE:** cyclic

**MEASURING INTERVAL:** programmable

**MEASURING TIME:** 10 minutes

**MEASURING RANGE:** 0-0.5/0.7/1/3/5 ppm Al<sup>2+</sup>, other ranges available on request

**DETECTION LIMIT:** typically better 2% of the full scale, calculated as for EPA p. 136 appendix B

**REPEATABILITY:** better than 2%

**OUTPUT SIGNAL:** 4-20 mA

**INPUT SIGNALS:** n. 1 Analysis, n. 1 calibration; digital contacts

**ALARMS:** n. 1 High Limit, n. 1 General, n. 1 Calibration; potential free contacts

**SAMPLE AND WASTE DELIVERY:** pressure free;

**SAMPLE TEMPERATURE:** 10 °C - 30 °C

**REAGENTS REPLACEMENT:** 3/4 weeks depending on the operating temperature

**PROTECTION:** IP55

**HARDWARE:** PC104 industrial standard, Integrated keyboard and graphics display, RS232 option

**POWER SUPPLY:** 12 V DC external power supply from local power to 12 V DC included

**WEIGHT:** 33 Kg without reagents;

**DIMENSION:** 800x450x300 mm(hxwxd)

Subject to change without notice



**SYSTEA S.p.A.**

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