

MICROMAC TOTAL COPPER

ON LINE ANALYZER FOR TOTAL COPPER MONITORING IN WATER



MICROMAC TOTAL COPPER is a microprocessor controlled On Line analyzer specifically designed for automatic Total Copper monitoring on several types of water 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

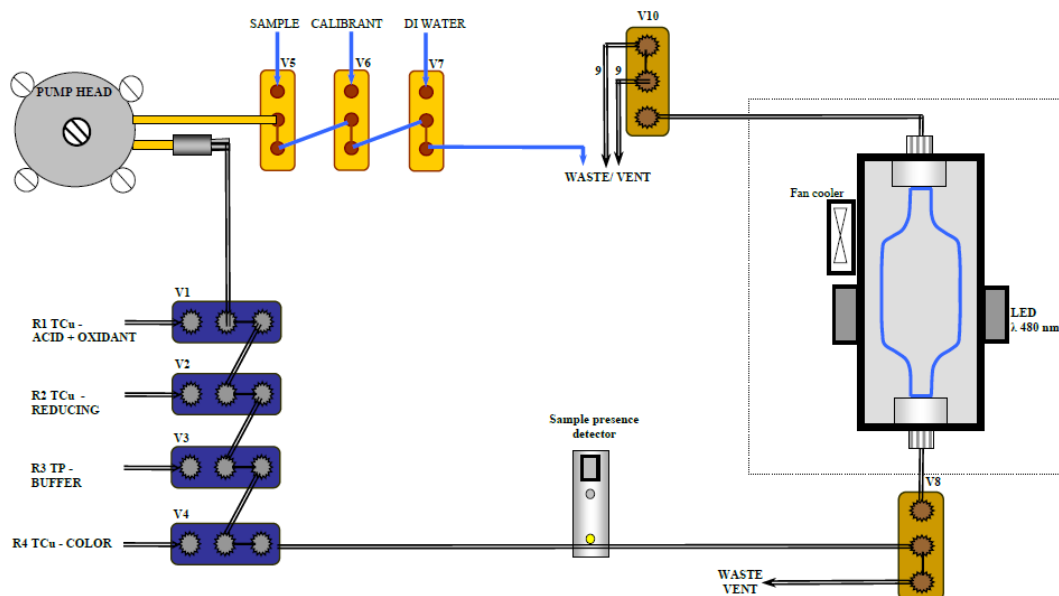
User selectable; between two measurements the analyzer remains in stand by mode, without reagents consumption.

✓ 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)

Total Copper measuring principle and hydraulic diagram

After proper filtration the sample is digested inside a UV digester with the aid of a 100 C° heating bath, to free the complexed copper. After the digestion, the copper ions react with a solution of reducing reagent to reduce all copper ions to cuprous. Then the sample is buffered to pH 4,5 and after mixing reacts with bathocuproine, to form a brownish color that is measured at 480 nm.



Technical Specifications

MEASURING PRINCIPLE: UV digestion Colorimetric, bathocuproine.

COLORIMETER: dual beam, silicon detector

MEASUREMENT TYPE: cyclic

MEASURING INTERVAL: programmable

NUMBER OF STREAMS: up to 6

MEASURING TIME: about 33 minutes per each stream, depending on the range

MEASURING RANGE: 0 – 0.5/1/3/5/10 ppm Cu; other ranges available on request

DETECTION LIMIT: typically better 3% of the full scale, calculated as for EPA p. 136 appendix B

REPEATABILITY: better than 5%; SD% of 7 replicates at 50% of the full scale

ACCURACY: better than 5% 7 replicates at 20% of the full scale

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 included; 4W Standby; 50 W (mean) analysis

WEIGHT: 33 Kg without reagents;

DIMENSION: 800x420x280 mm (hxxwxd)

Subject to change without notice



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