



MICROMAC COD

COD-Cr MONITORING IN WATER ON LINE ANALYZER FOR WATER AND WASTEWATER

A microprocessor controlled On Line Analyzer specifically designed for automatic COD Potassium Dichromate method monitoring on several types of water matrices.



The dichromate method follows the international standard where in the sample, after filtration, Potassium Dichromate, Mercury (II) sulfate and Sulfuric acid with a proper catalyst are added; Mercury (II) sulfate concentration is adjusted to mask the expected Chloride amount.

The sample is then heated at 170° for 20 minutes or at 150° up to 2 hours (digestion time and digestion temperature can be adjusted depending on the matrix to digest completely all the substances that give a contribute to COD). After digestion the sample is cooled and the absorbance measured at 592 nm is proportional to a COD concentration.

MICROMAC COD is a microprocessor controlled On Line analyzer specifically designed for automatic COD Potassium Dichromate method 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.

✓ **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.

✓ **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.

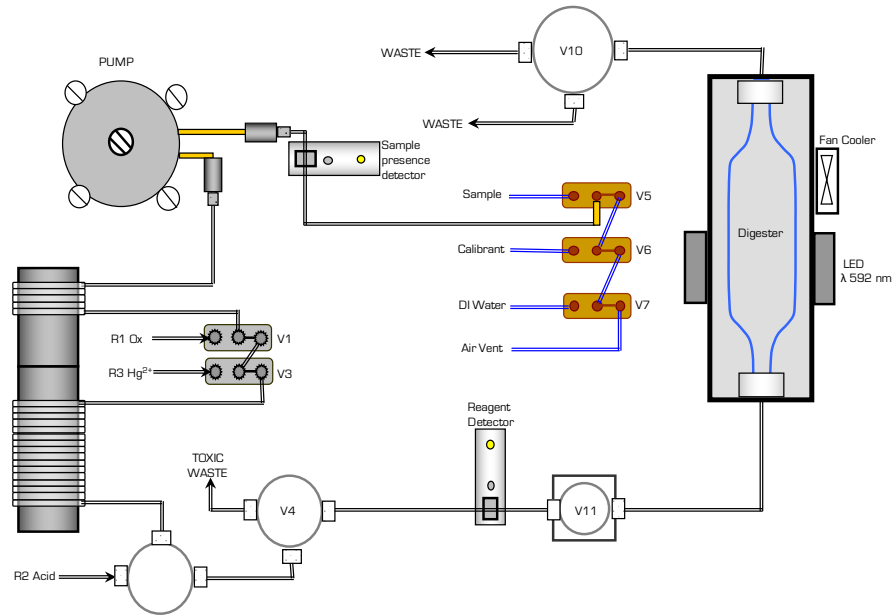
✓ **Measuring interval**

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 (optional)

COD measuring principle and hydraulic diagram



The sample after proper filtration is pumped inside the digestion unit, where Mercury Sulfate, Sulfuric Acid and Potassium Dichromate are injected. After mixing the sample is heated at 170° C, typically 5–15 minutes. When digestion time expires the reaction product is cooled then the sample measured by a detector integrated in the digestion unit.

The measured absorbance is used for the calculation of the sample concentration against the stored calibration factor.

Technical Specifications

MEASURING PRINCIPLE: Colorimetric, After Digestion with Potassium Dichromate and Sulfuric Acid

COLORIMETER: Dual Beam, Silicon Detector

MEASUREMENT TYPE: Cyclic

MEASURING INTERVAL: Programmable

MEASURING TIME: 25–35 minutes (depending on the measurement range & digestion time)

MEASURING RANGE: 0–50/100/200/300/500/1000/2000 ppm COD, other ranges available on request

DETECTION LIMIT: Typical 5% of the full scale, calculated as for EPA p. 136 appendix B

REPEATABILITY: Better than 5%

OUTPUT SIGNAL: 4–20 mA and RS232 (Hyperterminal, MODBUS RTU)

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: 4/5 Weeks

PROTECTION: IP55

HARDWARE: PC104 Industrial standard, Integrated keyboard and graphics display, RS232

POWER SUPPLY: 12 VDC Analyzer + 24 V AC Digester. External power supply included; 4W Standby; 90 W (mean) analysis

WEIGHT: 33 Kg Without Reagents;

DIMENSION: 800 x 620 x 300 mm (H x W x D)

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On-line analyzers for COD monitoring in water and wastewater.



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ANALYTICAL TECHNOLOGIES

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