MICROMAC TOTAL IRON

ON LINE ANALYZER FOR TOTAL IRON MONITORING IN WATER



MICROMAC TOTAL IRON is a microprocessor controlled On Line analyzer specifically designed for automatic Total Iron monitoring on several types of waters matrix.

✓ ROBUST AND RELIABLE

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

***µLFR:** µLoop Flow Reactor 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.

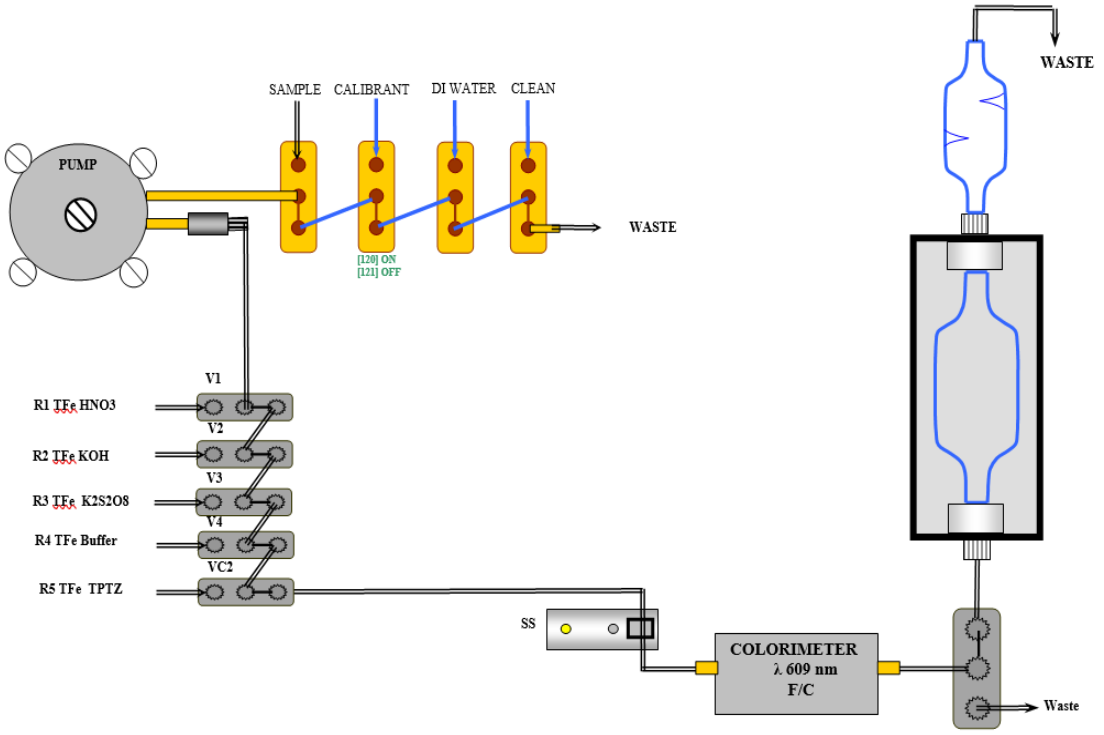
✓ MEASURING INTERVAL

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 and operating cost
- Low reagents consumption;
- Easy operation; plug in analyzer, no special training is required
- Electronics and hydraulics separated
- Serial interface for local o remote PC connection (option)
- The results of the analysis are displayed at the same moment, after 1hour.

Total Iron measuring principle and hydraulic diagram



In this method, the sample is acidified and added of a strong oxidant, then digested at high temperature to dissolve the suspended iron and to destroy the organic matter. After the digestion the acid is partially neutralized by KOH, the pH is corrected with a proper buffer addiction and the iron is detected by the formation of violet complex between iron and TPTZ (2,4,6-tri(2''-pyridin-s.triazine)). Hydroxylammine is used to reduce iron from Fe^{+3} to Fe^{+2}.

Technical Specifications

MEASURING PRINCIPLE: Colorimetric; Acidic digestion, TPTZ method
COLORIMETER: dual beam, silicon detector
MEASUREMENT TYPE: cyclic
MEASURING INTERVAL: programmable
MEASURING TIME: 35-40 minutes depending on the range
CALIBRATION RANGE: 0-0,3/0,5/1 ppm as Fe^{2+}, other ranges available on request
DETECTION LIMIT: calibration range 0-0,3 ppm ≤ than 0,003 ppm (7 replicates at 0,03 ppm x 3,14 as for EPA p. 136 appendix B
REPEATABILITY: calibration range 0-0,3 ppm ≤ 3%, (SD% of 7 replicates at 0,15 ppm)
ACCURACY: calibration range 0-0,3 ppm ≤ than 3% (Average accuracy of 7 replicates at 0,15 ppm)
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° - 40 °C
REAGENTS REPLACEMENT: 3/4 weeks depending on the operating temperature
ENVIRONMENTAL TEMPERATURE: 10 °C - 40 °C;
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**: 800x420x280 mm(hxwxd)

Subject to change without notice

SYSTEA S.p.A.

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Document ID: MicC_uLFR HT FC -TFe-01-E (20250403)