

## EnviroLyzer-FE<sup>®</sup>

### 用于在线测量 – 铁 IRON Fe<sup>2+</sup>



比色法标准量程： 0 - 1 mg/L

**典型应用:** 饮用水、锅炉给水、处理过的废水、冷却水、过程水和地表水

#### 测量原理:

**Principle:** 二价铁与三吡啶三吡啶 (TPTZ) 反应在弱酸性介质里生成蓝色络合物。

取样后，加入缓冲溶液，最初的吸光度被测量。然后加入比色溶液，最后再次测量吸光度值。吸光度测量在 590 纳米波长下操作。用获得的吸光度数值，通过比尔定律计算出铁浓度。

**Interferences:** Metal ions like Lead [(Pb)<sup>2+</sup>] > 10 mg/l, Zinc [(Zn)<sup>2+</sup>] > 2 mg/l, Nickel [(Ni)<sup>2+</sup>] > 2 mg/l. Strong oxidizing agents, Cyanide [(CN)<sup>-</sup>], Nitrite [(NO<sub>2</sub>)<sup>-</sup>] and Phosphate [P] (poly phosphate more than orthophosphate), Chromium [Cr], Zinc [Zn] in concentrations exceeding 10 times that of Iron. Iron [Fe] and Copper [Cu] in excess of 5 mg/l, Nickel [Ni] in excess of 2 mg/l. Bismuth [Bi], Cadmium [Cd], Mercury [Hg], Molybdate and Silver [Ag] precipitate Phenanthroline.

Poly phosphate must be absent!

Large amounts of color and turbidity interferes.

Fats, Oil, Proteins, Surfactants and Tar.

#### Note:

-Initial boiling with acid solution converts Polyphosphate to Orthophosphate and removes Cyanide and Nitrite.

-Adding excess Hydroxylamine eliminates errors caused by excessive concentrations of strong oxidizing reagents.

-In the presence of interfering metal ions, use a large excess of Phenanthroline to replace that complexed by the interfering metals. Extraction methodology may be used when excessive concentrations of metals are present.

**Summary:** Iron is a compound with the symbol Fe. Iron exists from oxidation state -2 to +6, although +2 and +3 are the most common. It forms binary compounds with the halogens and the chalcogens. Elemental Iron is reactive; it oxidizes in air to give Iron oxides, also known as rust. The rusting of Iron and Iron alloys is undesirable, and has a major economic impact.

Ferric refers to iron-containing materials or compounds. In chemistry the term is reserved for iron with an oxidation number of +3, also denoted iron(III) or Fe<sup>3+</sup>. On the other hand, ferrous refers to iron with oxidation number of +2, denoted iron(II) or Fe<sup>2+</sup>. Iron(III) is usually the most stable form of iron in air, as illustrated by the pervasiveness of rust, an insoluble iron(III)-containing material.

#### 技术指标:

| 项目    | 技术指标  |
|-------|---|
| 检测方法  | 分光光度法 using TPTZ color solution             |
| 符合标准  | conform ASTM 3500-Fe B                      |
| 量程    | 0 - 1 mg/L 标准量程 (样品稀释可达更高量程)                |
| 最低检出限 | ≤ 5 µg/L (for 0 - 1 mg/L Fe <sup>2+</sup> ) |
| 测量周期  | 一个周期/10 分钟 (可自行设定测量周期)                      |

|       |  |
|-------|--|
| 分辨率   | < 2% full scale range (标液 standard test solutions) |
| 准确性   | ≤ ±5% FS   |
| 重复性误差 | ≤ ±5% FS   |
| 零点漂移  | ≤ ±5% FS   |
| 量程漂移  | ≤ ±5% FS   |
| 输出信号  | 4-20 mA 和 modbus                                   |
| 报警    | 故障报警 结果报警  |
| 仪器外壳  | IP55   |
| 绝缘电阻  | 20MΩ   |
| 电源    | 220V 50 HZ   |
| 尺寸    | 69cm x 46.5cm x 33cm (高 x 宽 x 深)                   |
| 重量    | 25 kg 公斤   |
| 认证    | CE 认证  |
| 其他    | 智能特点: 自动校准、自动检验和自动清洗, 出厂时的配置, 试验和校准。               |

### 订购指南:

随机发货:

1. 标准量程范围内 EnviroLyzer 比色法测量铁仪器 (超出标准量程参考额外选项订货)
2. K0100301 5,7 寸彩色触摸屏 (内含)
3. 4-20 mA 和 Modbus
4. 试剂桶
5. 一年备品备件

CONSUMABLES FOR 1 YEAR OPERATION: 一年内所需备品备件:

| Item                                    | Qty | Reference | Description                                    |
|---|-----|-----------|--|
| <b>EnviroLyzer® colorimetric 正常备品备件</b> |     |           |  |
| 1                                       | 1   | A0020290  | EPDM Duckbill for micropump 50µl (2pcs) 单向阀    |
| 2                                       | 1   | B0011500  | Tubing size 14 Norprene (15,2 m) (sample) 样品管  |
| 3                                       | 1   | C0010010  | Magnetic stirrer bar 13mmX3.0mm,COL 30mm 电磁搅拌子 |
| 4                                       | 1   | O0001710  | tubing pinch-valve 1/8"OD x 1/16" ID x 15m 管夹阀 |
| <b>稀释备品备件</b>                           |     |           |  |
| 5                                       | 1   | B0011600  | Tubing size 16 Norprene (15,2m) (dilution) 稀释管 |
| 6                                       | 1   | I0000300  | Valve/24000/6000/1000 (dispenser valve) 分配器阀门  |
| 7                                       | 1   | I0000700  | Syringe/6000 – 25 ml (range dependent) 分配器注射器  |

Extras: 额外选项

| Item | Qty | Reference  | Description                            |
|------|-----|------------|--|
| 1    | 1   | K0100301   | 5"7 touch color screen 5"7 寸彩色触摸屏      |
| 2    | 1   | 标准量程四倍稀释   | Internal pump dilution 添加内部泵稀释         |
| 3    | 1   | 标准量程四倍稀释以上 | Internal dispenser 添加内部分配器稀释           |
| 4    | 1   | Z0015000   | 2.5 L reagent container 2.5 升试剂瓶       |
| 5    | 1   | Z0015001   | 2.5 L glass reagent container 2.5 升试剂瓶 |
| 6    | 1   | Z0015105   | 5 L reagent container 5 升试剂瓶           |

! 声明: 本公司研发生产部门一直致力于产品更新, 如果出厂前, 仪器因为更新造成实际产品与本材料不符的, 比如: 部分备品和备件和实际发货会有所变化, 或因客户实际应用测量周期等变化, 随机赠送的试剂瓶有所调整, 都不再另行通知, 本公司保留更换的权利, 并且不承担客户追究的责任。