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| **PLEASE NOTE: The following specification contains areas, highlighted with the [ ] symbol. In these areas, the engineer has to make a selection, add specific, project related information and has to delete what is not applicable for the specific project.** |

**Single or multi-stream online Toxicity Analyser**

Analyser for automatic measurement of Toxicity in wastewater. The analytical method to determine Toxicity in water is respirometry. Monitoring Toxicity allows to protect the microorganisms in activated sludge from toxic substances in the wastewater influent. The measuring results are given in % inhibition of the respiration rate. Measurements are carried out on real sludge freshly sampled from the actual treatment plant by means of a dedicated filtration unit.

Reagents are dosed by high precision micropumps. It performs automatic priming, cleaning, calibration and validation. Up to 8 process streams can be monitored. Single sample ("grab sample") measurement is possible.

**Technical Data**

|  |  |
| --- | --- |
| **Measurement method** | Respirometry |
| **Measuring range** | See Scope of delivery section  |
| **Precision** | Better than 5% full scale range for standard test solutions |
| **Detection limit** | N.A. |
| **Cycle time** | 10 - 15 minutes |
| **Automatic cleaning** | Yes |
| **Calibration** | Automatic; standard at every analysis cycle |
| **Validation** | Automatic; by means of standard solution |
| **Ambient temperature** | 10 - 30 °C ±4 °C deviation at 5 - 95% relative humidity (non-condensing) |
| **Reagent requirements** | Keep between 10 - 30 °C |
| **Sample pressure** | By external overflow vessel |
| **Flow rate** | 100 - 300 mL/min |
| **Sample temperature** | 10 - 30 °C |
| **Sample quality** | Maximum particle size 500 μm, ≤ 0.1 g/LMost applications require the use of a dual EZ9110 + EZ9120 sampling/filtration system. |
| **Power** | 100 - 240 VAC, 50/60 HzMax. power consumption: 120 VA |
| **Instrument air** | Dry and oil free according to ISA-S7.0.01-1996 quality standard for instrument air |
| **Demineralised water** |  |
| **Drain** | Atmospheric pressure, vented, min. Ø 64 mm |
| **Earth connection** | Dry and clean earth pole with low impedance (≤ 1 Ohm) using an earth cable of <gt/> 2.5 mm² |
| **Analogue outputs** | Active 4 - 20 mA max. 500 Ohm load, standard 1, max. 8 (option) |
| **Digital outputs** | Optional: RS232, Modbus (TCP/IP, RS485) |
| **Alarm** | 1 x malfunctioning, 4 x user-configurable, max. 24 VDC/0.5 A, potential free contacts |
| **Protection class** | Analyser cabinet: IP55 / Panel PC: IP65 |
| **Material** | Hinged part: Thermoform ABS, door: plexiglassWall section: Galvanised steel, powder coated |
| **Dimensions ( H x W x D)** | 690 mm x 465 mm x 330 mm |
| **Weight** | 25 kg |
| **Certifications** | CE compliant / UL certified |

**Scope of delivery**

[ ] (delete what is not needed)

Analytical Instrument

Online analyser for Toxicity

Measuring Range

0 - 100 % inhibition

Process Streams/Channels

[\_\_\_\_\_] streams (fill in, select up to 8)

Accessories and options

[\_\_\_\_\_]x 4-20 mA Outputs (fill in, select up to 8)

[\_\_\_\_\_]x 4-20 mA Outputs and Modbus RS485 (fill in, select up to 4)

[\_\_\_\_\_]x 4-20 mA Outputs and Modbus TC/IP (fill in, select up to 4)

[ ] Modbus RS485

[ ] Modbus TCP/IP

[ ] RS232

[ ] Table stand

[ ] Floor stand

Most applications require the use of a combined sampling / filtration unit for sludge and wastewater.

Preconditioning system for sludge

[ ] Self-cleaning heavy-duty filtration system for sludge applications, pore size [\_\_\_\_\_] (fill in, select 1,000 µm or 2,000 µm), stand-alone unit (24 VDC needed)

[ ] Self-cleaning heavy-duty filtration system for sludge applications, pore size [\_\_\_\_\_] (fill in, select 1,000 µm or 2,000 µm), powered through analyser

Preconditioning system for wastewater

[ ] Self-cleaning heavy-duty filtration system for sample preconditioning of wastewater, pore size [\_\_\_\_\_] (fill in, select 50 µm, 100 µm, 200 µm, 500 µm), [\_\_\_\_\_] sample streams (fill in, select up to 8), stand-alone unit (24 VDC needed)

[ ] Self-cleaning heavy-duty filtration system for sample preconditioning of wastewater, pore size [\_\_\_\_\_] (fill in, select 50 µm, 100 µm, 200 µm, 500 µm), [\_\_\_\_\_] sample streams (fill in, select up to 8), powered through analyser

Services

[ ] Manufacturer’s services to perform start-up on instrument to include basic operational training and certification of performance of the instrument.

[ ] Manufacturer’s Service Agreement that covers all the manufacturer’s recommended preventative maintenance, regularly scheduled calibration and any necessary repairs beginning from the time of equipment start-up through to end user acceptance / plant turnover and the first 12 months of end-user operation post turnover.

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**Brand:** Hach

**Product:** EZ7900 Toxicity Analyser