BRAN+LUEBBE
ANALYTICS

SPX Process Equipment

DiaMon TP/Ortho P

- **Multi-parameter on-line analyzer**
- **Accurately measures Total P and Ortho P**
- **For waste water treatment plants, rivers, lakes and coastal waters**

Applications

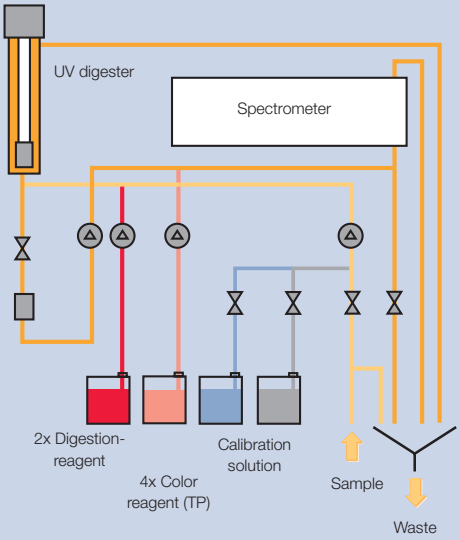
- **Total Phosphorus**
- **Ortho P**

DiaMon analyzers are the pioneers of on-line process monitoring measuring several chemical parameters automatically in a single instrument.

The relationship between the concentration of phosphorus compounds in waste water and their influence on the ecosystem has been increasingly realised in the last few years. Phosphorus is present in various forms both in natural water sources and in waste water: it may take the form of ortho-phosphate, inorganic polyphosphates or organic phosphorus compounds.

As a result, waste water treatment plants aim to remove as much of the nitrogen and phosphorus content as possible before the treated water is returned to nature. Monitoring total P and Ortho P in the final effluent is an essential part of the control process.

The DiaMon TP/Ortho P is the ideal instrument for providing a continuous measurement of these important parameters.



Flow diagram of the DiaMon TP/Ortho P

Advantages

- One DiaMon replaces several single-parameter analyzers
- Precalibrated for quick and easy installation: needs only a simple on-site adjustment to local sample conditions
- Simple maintenance
- Low reagent consumption
- Long maintenance intervals
- Remote diagnostics and modem control

Operating Principle

A built-in UV digestor oxidizes organic and inorganic compounds to ortho-phosphate.

These are then measured, separately, in a diode array spectrophotometer. The results, expressed as total and ortho P, are displayed in graphical and numerical form.

Technical Data

Typical ranges
(user-selectable)

0 - 1...0 - 16 mg P/l
0 - 1...16 mg/l PO_4 -P

Other ranges on request.

Analysis time
28 min for TP/Ortho P

Reproducibility[1)]
TP/Ortho P ≤ 3 % of full range (std. deviation)

Drift per 24 h
≤ 1% of full range

1) compared to ion chromatography as reference method

Number of sample streams:
max. 4
plus optional manual sampling point

No. of reagents
typ. 6
dimensions of canister: per 5 L
Reagents last for 4 - 18 weeks

Calibrants
typ. 2
dimensions of canister: per 5 L
Reagents last for 4 - 8 weeks

Sample
Pressure: zero to max 0.1 bar
Temperature: 0 - 35 °C
Consumption: min. 2 liters/h
Solids content: max. 30 mg/L
Connection:
Tubing: 3.2 x 1.6 mm

Waste
pressure-free
Tubing: 10 x 2 mm

Environmental temperature:
5 - 35 °C

Hardware
Processor: 586 DX 133 MHz
Memory: 4 MB
Flashdisk: 16 MB
Floppy disk: optional

Modem
optional (for remote diagnosis)

Printer
optional (PCL3 compatible)

Outputs
Digital: 3 - 19
Potential-free contacts
Load 50 VAC, 60 V DC, 3 A
Analog (0/4 - 20 mA): 4 - 16
Burden 400 Ohms

Input signal
Digital: 1

Alarms
for all main instrument functions, user-programmable

Interfaces
1 parallel,
2 serial RS 232; or
1 parallel,
1 serial RS 232,
1 serial RS 485

Remote control
via Windows based software (optional)

Power requirement
115/230 V AC ±10 %
50/60 Hz ± 3 %

Power consumption
max. 150 VA

Protection class
IP54 (analyzer)
IP65 (electronics)

Dimensions (HxWxD)
1680 x 600 x 410 mm

Weight:
ca. 112 kg

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