



BRAN+LUEBBE

A N A L Y T I C S

SPX Process Equipment

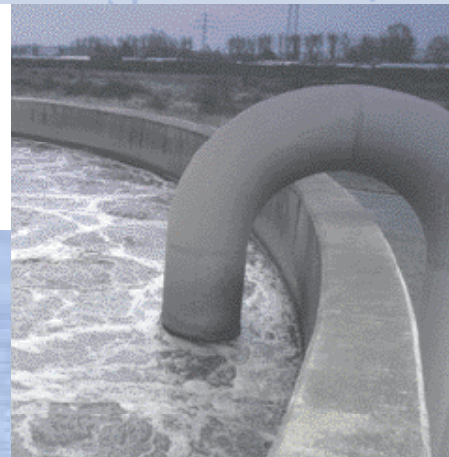
- Multi-parameter on-line analyzer
- Accurately measures Total N and Total P
- For waste water treatment plants, rivers, lakes and coastal waters

Applications

- Total Nitrogen
- Total Phosphorus

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

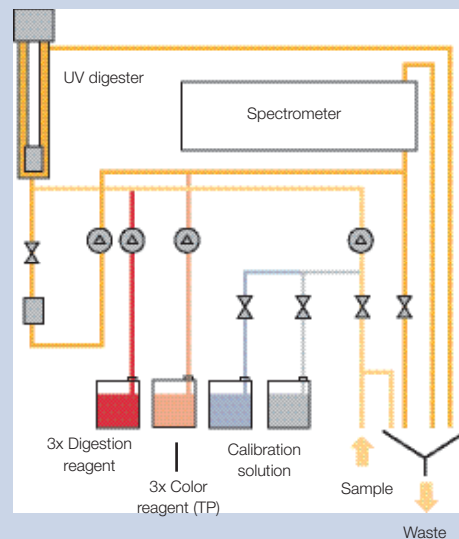
DiaMon TN/TP



The relationship between the concentration of nitrogen 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 N and P in the final effluent is an essential part of the control process.

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



Flow diagram of the DiaMon TN/TP

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

Technical Data

Typical ranges

(user-selectable)

0 - 0.5 ... 0 - 16 mg P/l

0 - 5 mg N/l

0 - 50/100 mg N/l
(1-stage dilution)

0 - 500 mg N/l
(2-stage dilution)

Other ranges on request.

Analysis time

ca. 25 min. for TN

ca. 28 min. for TP

Reproducibility¹⁾

TP ≤ 3 % MBE

≤ 2 % (0 - 5 mg N/l)

≤ 3 % (0 - 50/100 mg N/l)

≤ 5 % (0 - 500 mg N/l)

Drift per 24 h

≤ 1% of full range

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 - 32 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

Operating Principle

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

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

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

¹⁾ compared to ion chromatography as reference method