

Automatic Analyzer of Total Phosphorous and Total Nitrogen

TP/TN Monitor

VS-6010



Recently in the semi-closed water area, the problem by the eutrophication like as the red tide and the poor oxygen water mass is serious. It is thought that the phosphorus and the nitrogen measuring is important as the index of the eutrophication.

This TP/TN analyzer, Model : VS-6010, is optimum for the waste control at the factory etc., by means of the low running cost, low maintenance and its compact size. In this analyzer, the sample waste water is decomposed under high temperature and the high pressure by the Potassium peroxodisulfate at first. For phosphorus, the heteropolyacid (Molybdenum yellow) is measured by the coulometry. Nitrogen is measured by the 2 wave length UV spectrophotometry.

Additionally, COD also can be measured by the ultra violet spectrophotometer (option), so 3 items can be measured.

FEATURES

1. Economical, Low cost.

By using the "Micro Flow system", the reagent consumption and the waste is decreased, and the running cost is low.

The reagent consumption and the waste becomes 1/20 compared with our old type.

2. Phosphorus measuring by the coulometry method.

the heteropolyacid (Molybdenum yellow) of Molybdenum - Phosphoric acid is measured by the electro-chemical reduction current method using the coulometry.

3. Nitrogen measuring by the near 2 wave length absorption meter.

By measuring the near 2 wave length UV light absorbance, and calculating the difference, measuring without the effect by the interference material is possible.

4. UV measuring function (Option).

By the UV measuring function (option) to UV light absorption spectrophotometer, TN, TP and COD can be measured by only 1 analyzer.

5. Load dose calculation function.

By connecting the flow rate signal, the load dose of N and P are calculated and recorded. 3 item calculation is possible by addition of COD concentration signal.

6. Large touch panel.

The easy user interface is performed by using the conversation type operation program and the large touch panel LCD.

7. Compact.

The measurement is W480 x H660 x D400mm (analyzer only).

8. Data logging.

The 40 days of data can be stored in this device. The data, the alarm history and the measuring information can be taken out by connecting with a personal computer through the connection cable (option).

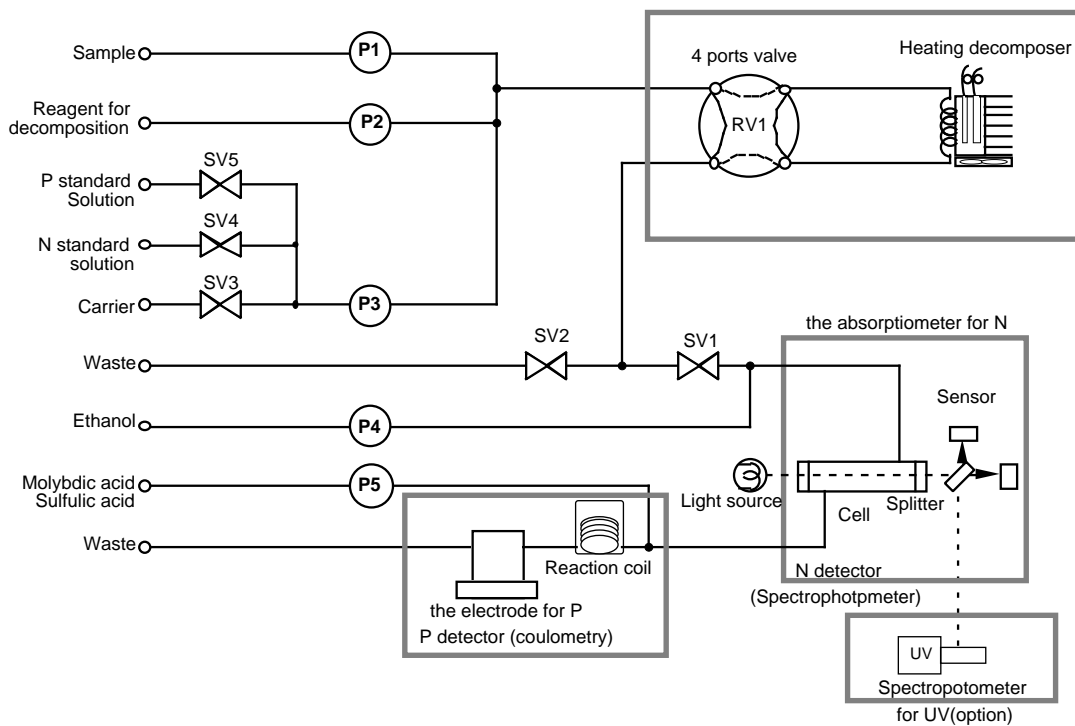
9. Net work connection.

Through the calculation server (option), the connection with the LAN is easy, and the control of the data logging etc. is possible.

* "Micro Flow" : By this technique using the very thin tube, the sample and the reagent volume needed by the analyzer is decreased, and the analysis efficiency and the performance are increased. the sample and the reagent consumption are less than 1/10 compared with past analyzer.

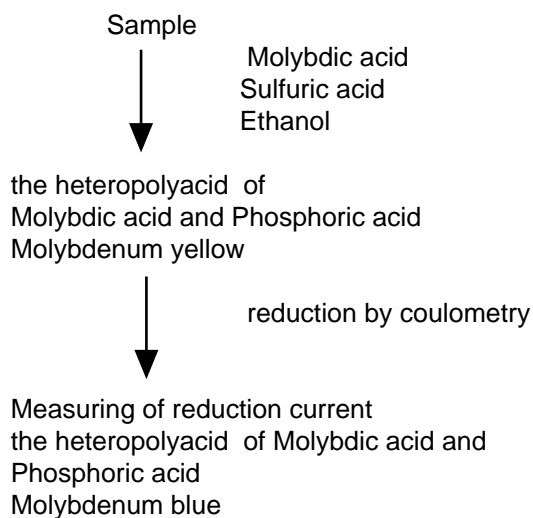
This symbol is a commercial registration of Kimoto Electric Co., Ltd.

FLOW DIAGRAM

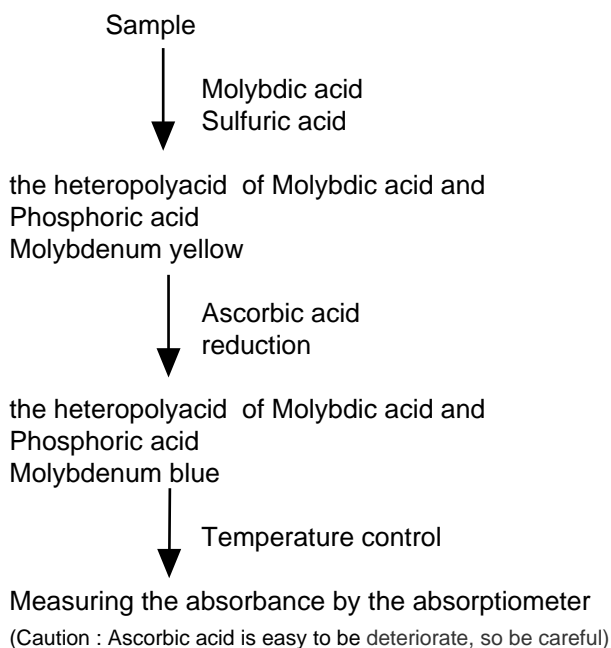


Comparison with the past method (Molybdenum blue)

Phosphorus measuring by the coulometry



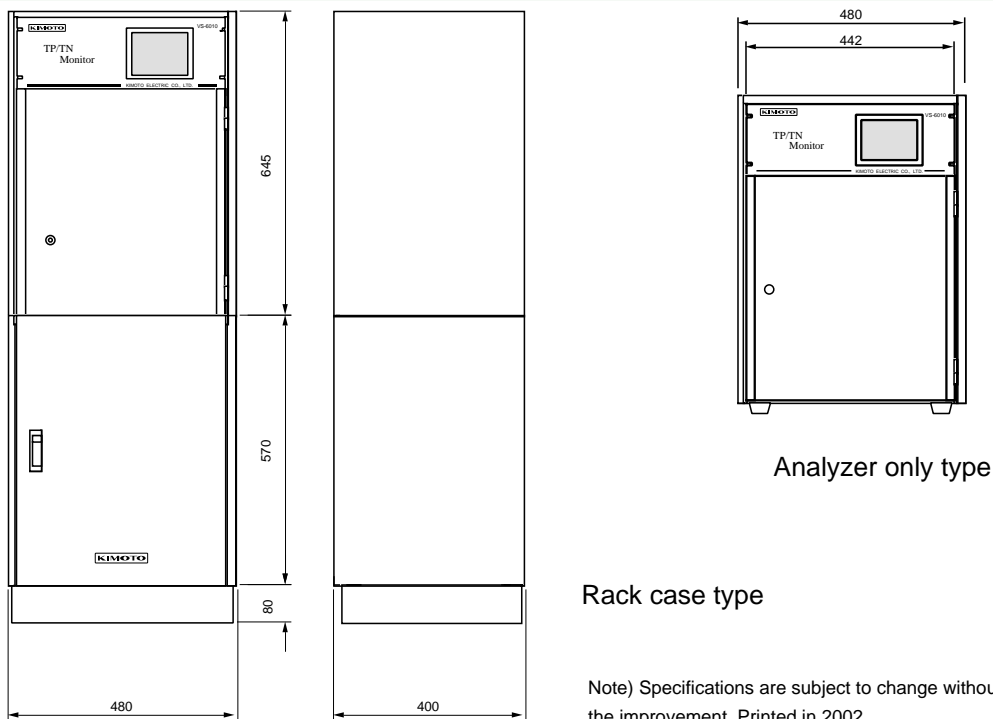
Molybdenum blue absorbance



SPECIFICATIONS

Method	Decomposition	: Potassium peroxodisulfate heating decomposition
	Total Phosphorous	: Molybden - Phosphoric acid deoxidization electric method
	Total Nitrogen	: 2 wave length UV absorption
Measuring range	Total Phosphorous	: 0 - 0.2, 1, 2 or 10mg/L
	Total Nitrogen	: 0 - 2, 10, 20 or 100mg/L, One range can be specified.
Repeatability	about $\pm 5\%$ /FS (at measuring using the standard solution)	
Measuring cycle	1 - 24 hours, (selectable)	
Indication	Touch panel LCD (320 x 240 dots), Japanese (Chinese) letter, time, concentration, Input signal, running condition, set condition, message etc.	
Reagent consumption	Potassium peroxodisulfate solution	1.0L/30 days
	Molybden sulfuric acid solution	0.6L/30 days
	Ethanol solution	0.6L/30 days
	Carrier solution	16.0L/30 days
In-Output signal	Concentration output	: Total phosphate and Total nitrate : 0 - 1V, RS-232C
	Contact output	: Non voltage a contact output (for power down, abnormal, adjusting etc.)
	Flow rate signal	: 4 - 20mA
Power	AC100V \pm 10V, 50/60Hz	
Power consumption	about 200VA (Normal)	Maximum : about 350VA
Measurement	Please refer to the following figure.	
Weight	about 40kg (Portable type), about 68kg (cabinet type)	
Surrounding conditions	Temperature	2 - 40 degC
	Relative humidity	less than 85%RH, Not dewed
	others	without vibration, shock nor corrosive gas. avoid the rainfall and the sun shine.
UV analyzer	Method	:
	Measuring range	: 0 - 2.0, 1.0, 0.5 Abs
	Repeatability	: about $\pm 2\%$ /FS (at measuring using the standard solution)
	Convertible to COD concentration.	

MEASUREMENT



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