TN 4500
AUTOMATIC TOTAL NITROGEN ANALYZER

Specification

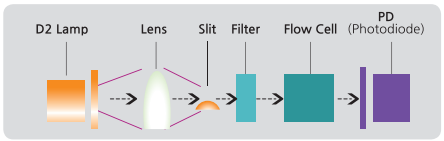
Measuring Range	0 - 100 mg/L
Measuring Principle	Ultraviolet absorbance intensity method
Oxidation Principle	120℃ Alkaline Potassium Persulfate Method
Light Source / Detector	Deuterium Lamp / Photodiode Detector
Repeatability	± 2% of F.S
Accuracy	± 2% of F.S
Display Resolution	0.001 mg/L
Analysis Cycle Time	60 min / one measurement
Sampling unit	Sample Loop Line measuring/ 5port Multi Valve / Peristaltic pump
Cooling Method	Air cooling
Cycle of Reagent Replacement	4 weeks
Permissible Sample Temperature	5 - 40℃
Operation System	Industrial PC, Windows OS Color LCD (10.2") Touch Screen
Data Storage	PC SSD , USB Memory stick available
Alarm List	No sample, No distilled water, No reagent, No carrier gas, UV-Lamp abnormal, MFC abnormal, Detector abnormal, System abnormal, Consumption replacement
Electrical Output Signal	RS-232C / 4 - 20 ㎃
Status List	Normal, Pause, Calibrating, Checking Communication error, Operating error
Power Supply	AC 110 - 220V, 50 - 60Hz
Power Consumption	100VA
Housing Material	Steel / Powder coating 550(W) x 430(D) x 1560(H) mm About 80 kg
Ambient Temperature & Humidity	5 - 40℃ Less than 85% RH

Features

* Use of compact heating oxidation reactor
- Heating, cooling and stirring integrated
* Precise sample measuring method by using Sample Loop
* Various service functions
- Automatic shutdown function in case of device error or alarm
- Auto start function in case of power outage
- Remote control function such as operation start and operation stop using an external terminal
* Increased maintenance convenience
- Reagent replenishment and consumable replacement cycle notification function
- Sample and distilled water supply detection function
- Self-checking function (dilution water pollution level and lamp status display)
* Wide range of application
- Sewage, wastewater, industrial process management, lake water, river water, etc.

Measuring Mechanism

The light source used for total nitrogen measurement is Deuterium Lamp.
In the case of total nitrogen, the light source passes through the UV lens, the slit, and a 220nm filter in the order, and the sample transferred to the flow cell. The transmitted light passes through the cell and is detected by the photodiode.
The signal detected by the photodiode undergoes signal processing such as amplification, and is then calculated as absorbance and displayed on the monitor as a concentration value.



Measurement flow chart

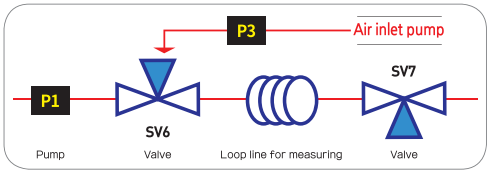
Core Technology for TN 4500

· Installation of a small heating reactor

Classification	Before	After
Reactor volume	100 ml	10 ml
Heating method	Indirect heating	Direct heating
Internal temperature difference	7-10℃	< 1℃
Cooling method	Using water	Using air
Reactor cell material	Pyrex	Quartz
Reach time at 120℃	8 min	2 min

* Increased maintenance convenience
- Application of automatic correction technology
- Automatic input of optimal calibration curve
- Designed for easy replacement of consumables

· Obtain accurate measuring and dilution algorithm



Reactor

Main Installation

- Water and Sewerage Treatment Plant in Gochang-gun

- Water Purification Plant in Geumsan

- Wastewater Treatment plant in Nonsan city

- Energy Service in Pyeongtaek city

- Dongsong Sewage Treatment Plant in Cheorwon city

- Industrial Complex Wastewater Treatment Plant in Yongin city