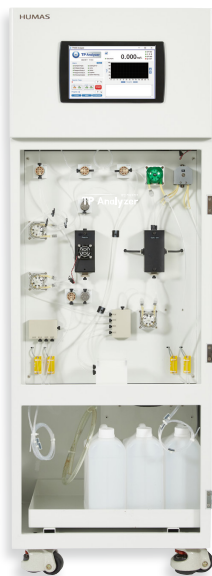


TP 4500

AUTOMATIC TOTAL PHOSPHORUS ANALYZER



Specification

Measuring Range	0 - 20 mg/L
Measuring Principle	Ascorbic acid reduction method
Oxidation Principle	120°C Alkaline potassium persulfate method
Light Source / Detector	880 nm LED / 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/ 5 port Multi Valve / Peristaltic pump
Cooling Method	Air cooling
Cycle of Reagent Replacement	4 weeks
Permissible Sample Temperature	5 - 40°C
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 mA
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°C Less than 85% RH

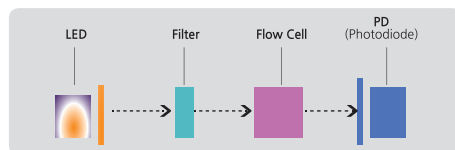


Features

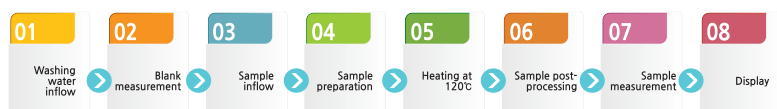
- Use of compact heating oxidation reactor
- Heating, cooling and stirring integrated
- Precise sample measuring method by using sample loop
- Various service functions
- Automatic shutdown function in case of device error or alarm
- Auto start function in case of power outage
- Remote control function 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 phosphorus measurement is 880 nm LED. In the case of total phosphorus, the light source passes through the filter and the sample transferred to the flow cell, and 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

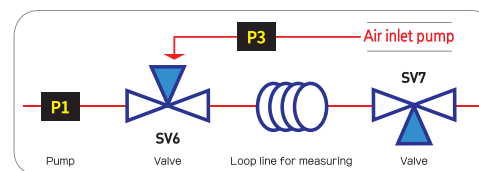


Core Technology for TP 4500

- Turbidity correction function (Option)

Turbidity (NTU)	Standard concentration (mg/L)	Measurement concentration		Accuracy (%)
		Before	After	
5	0.1	0.12	0.11	10.0
50	0.1	0.19	0.11	10.0
150	0.1	0.29	0.10	0
300	0.1	0.48	0.09	10.0

- Obtain accurate measuring and dilution algorithm



- Fiber optic design → Reduce maintenance cost



Fiber Optic design

Main Installation



- Daehan Paper in Chungbuk



- Chilbo Water Purification Plant in K-water



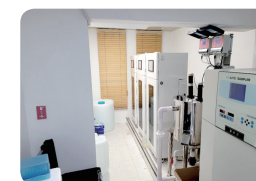
- Dongwha company in Incheon



- Chuncheon Energy



- Samcheok Water Purification Plant in K-water



- Yecheon Sewage Treatment Plant