

# TNP-10

## Portable Total Nitrogen & Phosphorus Meter

Simple and easy measurement of 10 items such as total nitrogen & phosphorus, etc.



### FEATURES

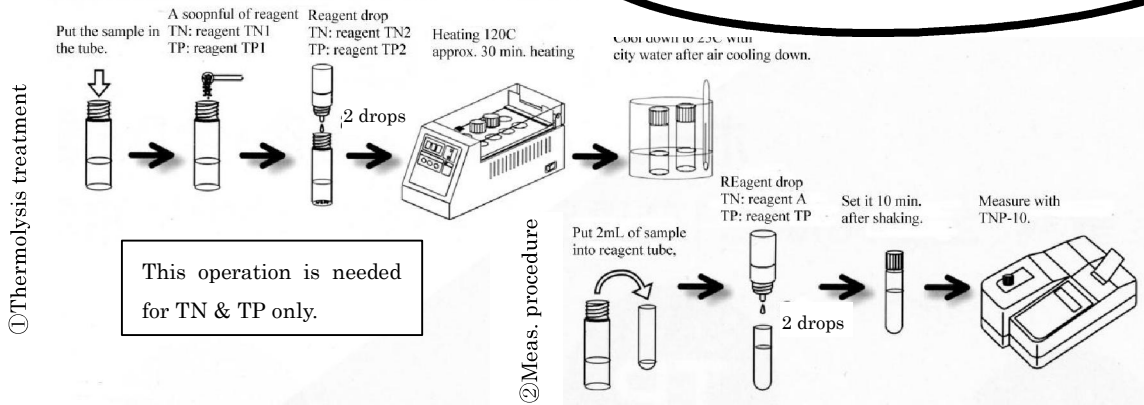
- **10 items measurable with one set**  
Measures NO<sub>3</sub>-N/NO<sub>2</sub>-N/NH<sub>4</sub>-N/P<sub>4</sub>-P/NO<sub>3</sub>/NO<sub>2</sub>/NH<sub>4</sub> and PO<sub>4</sub> as well as TP & TN.
- **Simple measurement**  
Pre-treatment is to put the sample and reagent into the resolution tube, which is loaded in the heater. Measurement is to put treated sample into the reagent previously put in the measurement tube, shake and set in the meter.
- **Small size, lightweight, easy carrying**
- **Just 5 ml sample**  
Necessary sample is just 5ml, resulting in less waste water volume (2ml for other items than TN & TP).
- **Blank calibration function(except TN & TP)**  
Slightly colored sample measurable.
- **Data printed with built-in printer**  
Measuring result remains as it is.
- **Data memory of 1000 data**  
Stored data can be re-printed with built-in printer or transmitted to PC for data management.



# TNP-10 Portable total nitrogen & phosphorus meter

## Easy operation

Application fields  
Effluents, drinking water, environmental water, soils, fish culture



## SPECIFICATIONS

### Portable total nitrogen/phosphorus meter TNP-10

Meas. Method	photo-diode type absorptiometry
Light source	High-intensity LED (wavelength:525,660nm)
Display	16 digits x 2 lines, LCD
Output	RS-232C
Main functions	Meas. item selection Meas. mode selection Meas. result printing Memorized data printing
Data memory	1,000 data (sample No., Item, measured data, date/time)
Printer	16 digits thermal printer
Usable temp.	Operating temp.: 0 ~40°C Performance guaranteed temp. : 5 ~35°C
Power source	Rechargeable battery with use of AC adapter
Dimensions	approx.164(w)x93(h)x250(d)mm
Weight	approx.1kg.

### HEATER FOR TNP-10

Heating method	aluminum block method
Heating temp.	100 , 120°C selectable
Heating time	10 ~120min. ( in 10 min. step)
Usable temp.	Operating temp.: 0 ~40°C Performance guaranteed temp.: 5 ~ 35°C
Power source	AC line (120VA)
Dimensions	abt.100(w)x120(h)x 250(d)mm
Weight	abt.1.5kg

### Standard accessories

TNP-10		TNP-HT heater	
AC adapter	1	Power cable	1
Tube rack	1	Resolution tube	10
Printer paper	5	Thermometer(alcohol)	1
Empty tube	10	A pair of gloves	1

### Measurement reagents

#### Measurement method

TN: Peroxodisulfuric acid dissolution- Zinc oxidation

nathchil ethylenediamine absorptiometry

TP: Peroxodisulfuric acid dissolution- molybdemn blue absorptiometry

NO<sub>3</sub>: Zinc oxidation- nathchil ethylenediamine absorptiometry

NO<sub>2</sub>: Nathchil ethylenediamine absorptiometry

Ammonia: Indophenol blue absorptiometry

Phosphorous: Molybdemn blue absorptiometry

#### Measuring item and range

TN: 0.200 ~10.0mg/L TP:0.050 ~5.00mg/L

PO<sub>4</sub>P:0.050 ~5.00mg/L PO<sub>4</sub>:0.150 ~15.0mg/L

NO<sub>3</sub>N:0.100~5.0mg/L NO<sub>3</sub>:0.500 ~25.0mg/L

NO<sub>2</sub>N:0.020~1.00mg/L NO<sub>2</sub>:0.060~3.30mg/L

NH<sub>4</sub>N:0.050~2.00mg/L NH<sub>4</sub>:0.060 ~2.5mg/L

• **Sample volume** 5mL(2mL for other items than TN &TP)

\* In TN/TP measurement in sea water, the sample must be diluted 50 times or more.

### Separately sold reagents etc.

PS●TN measurement reagent kit(30 times) 143C191

PS●TP measurement reagent kit(30 times) 143C192

●NO<sub>3</sub>-N,NO<sub>3</sub> m' ment reagent kit(30 times) 0BB00007

●NO<sub>2</sub>-N,NO<sub>2</sub> m' ment reagent kit(30 times) 0BB00008

PS●NH<sub>4</sub>-N,NH<sub>4</sub> m' ment reagent kit(30 times) 0BB00009

PS●PO<sub>4</sub>-P,PO<sub>4</sub> m' ment reagent kit(30 times) 143J121

●Pretreatment reagent kit for NO<sub>3</sub>(90 times) 0BB00010

●Empty container (100 pcs.) ODA00005

●Resolution tube (10 pcs.) 65475100

●Resolution tube rack 136D241

●Printer paper (5 rolls) PAP-P

●Carrying case (for TNP-10 only)

AF-3C1

●RS-232C cable (2m)

0GC00002

●Recharging battery

AF-3Y1

PS: poisonous materials (Handle it with utmost care.)