



DRAINAGE ANALYZER

NEW MODEL

# NDR 2000



*A revolutionary advance—a single analyzer unit measuring coloration and turbidity, excitation value and chromaticity coordinates, all simultaneously.*



### Coloration

Dilution is one method of determining the coloration of drainage water. The colored drainage water is diluted for visual comparison with a standard diluted water reference and the dilution factor when there is no difference from the reference is known as the coloration.

**Integrating  
Sphere Method**

**Drainage Water Tester**



# DRAINAGE ANALYZER NEW MODEL NDR 2000

**Coloration - Turbidity - Chromaticity Coordinate  
Measuring Unit - Integrating Sphere Method**

**Industry-First, A single unit measuring coloration - turbidity  
- chromaticity coordinates(xy).  
(Patent Pending)**

## Drainage Water Color Meter

**For Drainage Management -  
For Decoloration Management**

- Coloration (Correlated to Dilution Method) .  
Light Absorption
  - Turbidity (Factory sewage test method JIS K0101)
  - Excitation Value Y, chromaticity coordinates xy  
(Factory sewage test method JIS K0102)
- Determined simultaneously**

### Input/Output Signals:

Upper/Lower Limit Error Output Signal  
Start of Test/Start of Calibration Input Signal  
RS-232C output  
Measured Value Output Signal 4~20ma (Option)



## Features

1. **Simultaneous measurement of coloration, turbidity, excitation value, and chromaticity coordinates**  
Is capable measuring coloration (correlated to dilution method -- Patent Applied for), turbidity, excitation value, and chromaticity coordinates
2. **Capable of high-accuracy measurement**  
High-speed 16-bit A/D converter (calibrated using built-in 18-bit self-calibration function) and low-drift, high-speed, high-accuracy amplifier to achieve precision measurement to 0.1% of full-scale (electrical precision).
3. **Easy-to-view display**  
Fluorescent display eliminates all problems of visual reading difficulties. Display is also clearly visible in a dark environment. Important coloration and turbidity data are shown in a large display in double-width characters. Interactive style measurements are possible while messages are displayed on screen.
4. **Data printout**  
The long-life thermal printer uses two stepping motors. Designed for extremely low-noise printing and drive. Printer has a selection function to print out only required data.
5. **Averaging function**  
Can be set to average up to 99 readings.
6. **Calibration curves**  
Coloration and turbidity calibration curves can be prepared as desired.
7. **Sample cells available**  
Cells with a light path of up to 100mm can be used.
8. **Sample name input function**  
Sample names can be entered using upper-case alphanumeric characters. Print-out with simultaneous transmission via RS-232C interface.
9. **Clock function**  
Measuring time (YY/MM/DD/HH/MM) can be printed out with measurement data. Time is transmitted via RS-232C interface.
10. **Memory backup**  
A lithium battery preserves settings.
11. **Computer interface**  
To RS-232C specifications
12. **External output**
  - Upper/lower limits can be set to any value from keyboard. External error signal output available.
  - Set-value transmission signal 4 ~ 20 mA (Option)
- External input**  
Measurement (START) and calibration (S-ADJ) possible under external control.
13. **Others**
  - Flow cell can be mounted, (Option)
  - 80mm dia. integrating sphere available to enhance measurement accuracy.

## Specifications

**Light source** : 12V 20W Halogen lamp

**Light receiving Condition:**

Fast-response silicon photocell

**Electrical circuitry:** Stabilized power supply,  
amplifier - microcomputer

**Display** : Fluorescent tube, 256 x 64 dots  
Display size, 166.15 x 41.35mm  
Color, Blue-green

**Printed Date** : Coloration, turbidity, X, Y, Z, xy, light absorption, etc.

**Printer** : Built-in thermal printer for operating comments,  
using serial dot-printing on thermal paper  
Printing direction, Both  
Total no. of dots, 256 x 8 dots  
Print speed, 1.1 sec./line  
Paper width, 80mm

**Displayed Date:** Coloration, turbidity, X, Y, Z, xy, light absorption, etc.

**Sample name input function:**

Sample name can be entered in upper-case alphanumeric characters. Sample name is printed with measurement data and simultaneously output via RS-232C interface.

**External output** : RS-232C (Standard)

Transmitted data; Date and time (YY/MM/DD/HH/MM) of  
measurement - Sample number -  
Average measurement indication -  
Coloration - Turbidity - xy, etc.

Sample names of up to 10 char. can be entered from keyboard.

- Upper measurement limit error output signal
- Lower measurement limit error output signal
- Measurement value transmission signal 4~20mA(Option)

**Input signal** : External measurement START signal  
External calibration (S-ADJ) signal

**Power supply** : 100V AC, 50/60Hz

**Power rating** : 2A

**Size (WxDxH)** : 400 x 400 x 190 (mm)

**Weight** : 12.5kg

※As part of our ongoing policy of product improvement,  
these specifications are subject to change without notice.



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