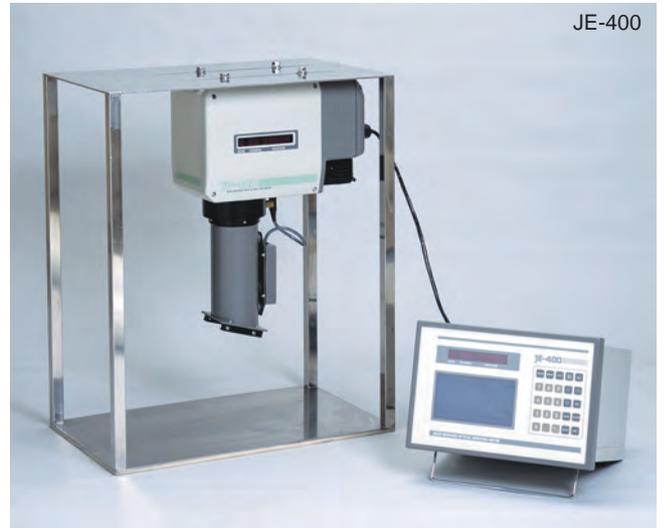## NIR Moisture Meters
Model JE-330/400/500/KTE-30

On-Line Models

JE-330

JE-400

JE-500

KTE-30

Flexible system configuration
A CPU is installed in the sensor head for intelligent operation. The JE-330/JE-400/JE-500/KJT-30 allows flexible system configurations to meet a variety of application.

Display function
The sensor head display yses high intensity red LED's for clear visibility lighted areas. The processor unit uses both high intensity LED's and LCD display for alphanumeric characters.

Check mode
The sensor head can be remotely monitored for information such as reflectance voltages, reference wavelengths, temperatures and humidity.

Offset compensation function
When there is a change in the material being measured which results only in an offset bias (instead of a slope change), this function can be offset value rather than changing the analytical curve.

Application with integrated control system
The JE-330/JE-400/JE-500/KTE-30 production line model can be integrated into a closed loop systems. The instrument responds to commands send from the host through the RS-232C communication line.

Sensor head specifications

Sensor head (SH)	JE-330-SH	JE-400-SH	JE-500-SH	JE-500-SHEX
Measurement distance	350mm±50mm			306mm±50mm
Measurement diameter	50mm ƒ (350mm)			
Light source	Tungsten lamp (20000 hours or more)			
Display	Red 7-segment LED			
Compensations	Temperature and humidity			Temperature
Number of analytical curves	99	20	‹	‹
Ambient temperature	0 - 40°C			0 - 45°C
Ambient humidity	0 - 95RH (without condensation)			
Structures	Water-proof connectors			Explosion- proof version
Humidity sensor (0-52g/m)	Yes	Yes	Yes	None
Processor	KJT-330-CNT	KJT-400-CNT	KJT-500-CNT	KJT-500-CNT
RS-422 connectors	1	2	‹	‹
Junction boxes	Yes	None	None	None
Power consumption	52VA	52VA	60VA	60VA
Weight (kg)	7.5	7.5	8.8	23.2
Power source	100V /220V	‹	‹	‹
Accessories	Power cable(1), Zero adjustment plate(1), Mounting bolt (4)			
Output options	RS-232C, 4-20mA, Software (Windows 95 with cable), etc.			

Processor specifications

Processor (CNT)	JE-330-CNT	JE-400-CNT	JE-500-CNT
Fialure output	Contact point output	‹	‹
Alarm output	Complies with upper/lower limit setting values		
Analog current output	DC 4- 20mA	‹	‹
External communications	RS-232C /RS-422	‹	‹
Ambient temperature	0-40°C		
Ambient humidity	0-95RH (without condensation)		
Number of analytical curves	99	20	‹
Moisture figures	4		
Display refresh cycle	0.5 seconds	‹	‹
Analytical curve algorithms	Liner, Quadratic, cubic	Multiple liner regressions	
Displays	LED:Red 7-segment LED.	LCD:LCD with back light	
Power consumption	16VA	20VA	20VA
Weight (kg)	6.2	7.7	7.7
Power source	100V /220V	‹	‹
Accessories	Power cable(1), Sensor head connecting cable (1pc.10m), interface card (1)		
Options	Software (Windows 95 with cable), interface card, etc.		

OPTIONS

	JE-330	JE-400	JE-500	JE-500-EX
Interface card for processor	JE-330-IFB	‹	‹	‹
Cooling box for sensor head (below 65˚C)	Yes	‹	‹	None
Traverce system	Yes	‹	‹	None
Software for windows (Sensor head --- Processor)	JE-330-PCC	JE-400-PCC	JE-500-PCC	‹
Software for windows (Sensor head --- PC)	JE-330-PCSH	None	JE-500-PCSH	‹
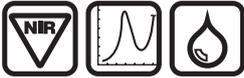
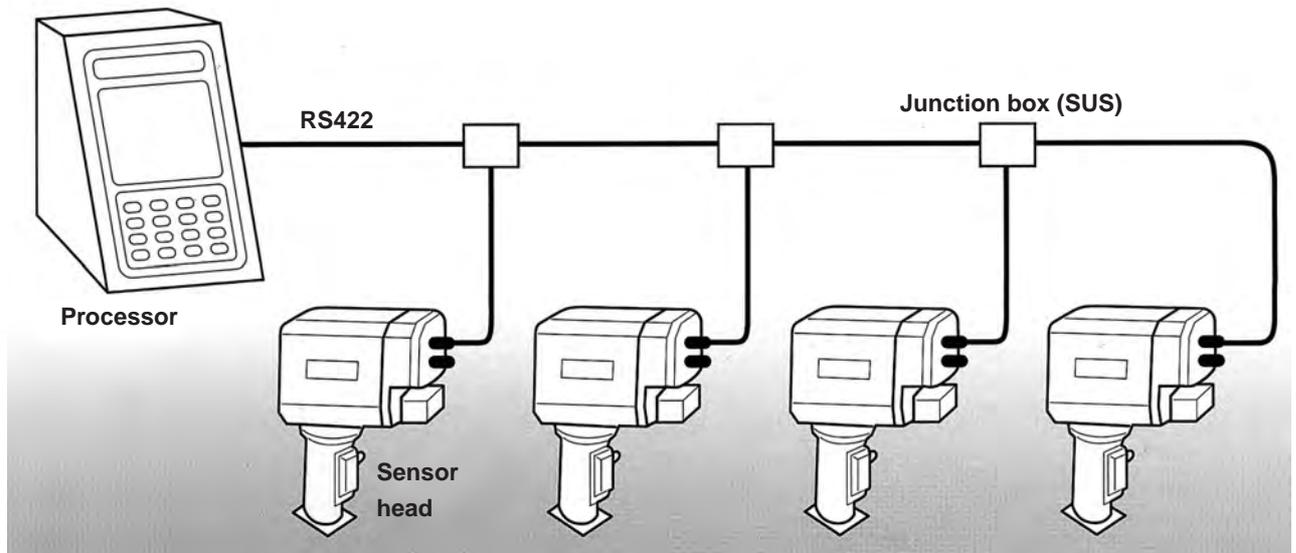The On-line JE series are used in the midway production line of cellulose inductors.

Five hundred or more On-line JE series machines are being used in raw material treatment processing at the factory.
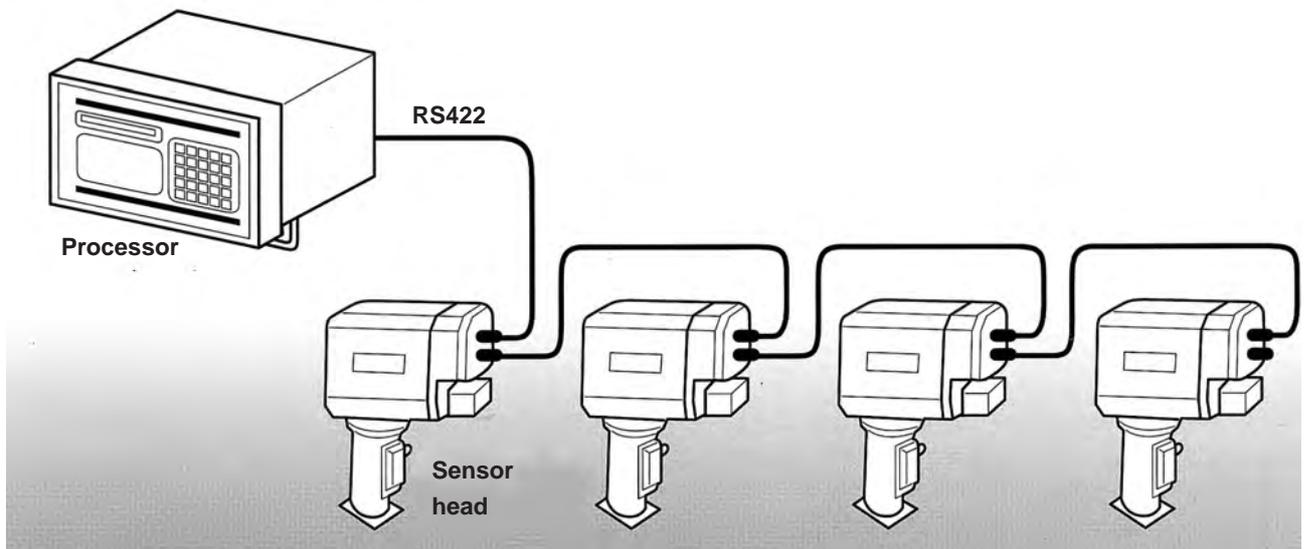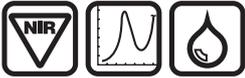

The On-line JE series are used in the ferrite drying process to measure the moisture content at the entrance and exit of a dryer.

# JE-330 system

JE-400/500 system

On-Line Model JE-330/400/500

MOIST./ABS LED
Displays moisture content and absorbance values.

Connectors
Waterproof connectors are used for connecting the power source and various communication lines.

CHANNEL LED
Displays analytical curve channels 1 to 99.

HEAD LED
Displays head numbers 1 to 4.

Air purge nipple
Used for connecting the compressed air pipe.

Humidity compensation sensor
Measures the humidity of the measurement light route and corrects the moisture content value accordingly.

Air purge hood
Prevents dust and vapor from entering.

Zero adjustment plate mounting holder
Used for mounting the zero adjustment plate to compensate the absorbance.

<JE-330-SH>

Output rework option
(at the time of shipment)

Standard
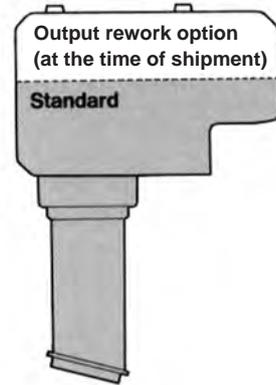
RS-232C
Current output
RS-422 line
Failure alarm

HEAD LED
Displays head numbers 1 to 4.

CHANNEL LED
Displays analytical curve channels 1 to 99.

MOIST./ABS LED
Displays moisture content and absorbance values.

Liquid Crystal Display
Displays operator instructions, moisture content values, and other information during interactive operation.

Control panel keys
Number and function keys.

<JE-330-CNT>

Moisture content value
output DC4mA-20mA

Analytical curve selection
contact input BCD 2 digits

External hold input
contact point

Standard I/ F card
Optional I/F card
Optional I/F card
Optional I/F card

To PC (RS-232C)
To sensor head 1 to 4 (RS-422)
Failure alarm

Interface card
Current output of 4mA to 20mA
Channel switching contact input
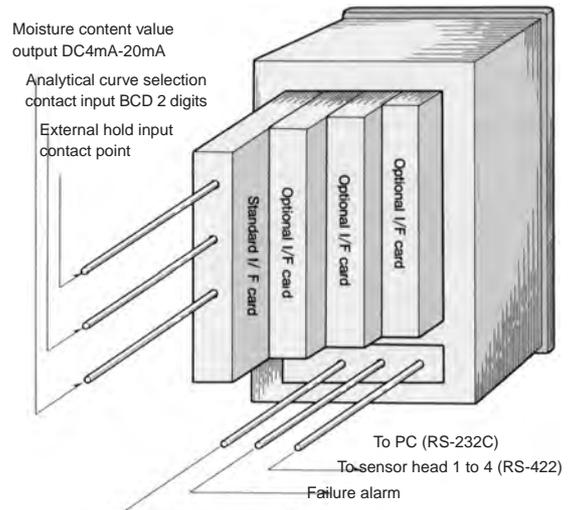Upper/lower limit alarm output
Display hold input

ALARM
Failure signal (relay contact output)

RS-232C port
Used for connecting a personal computer.

RS-422 port
Used for connecting the sensor head to the processor unit.

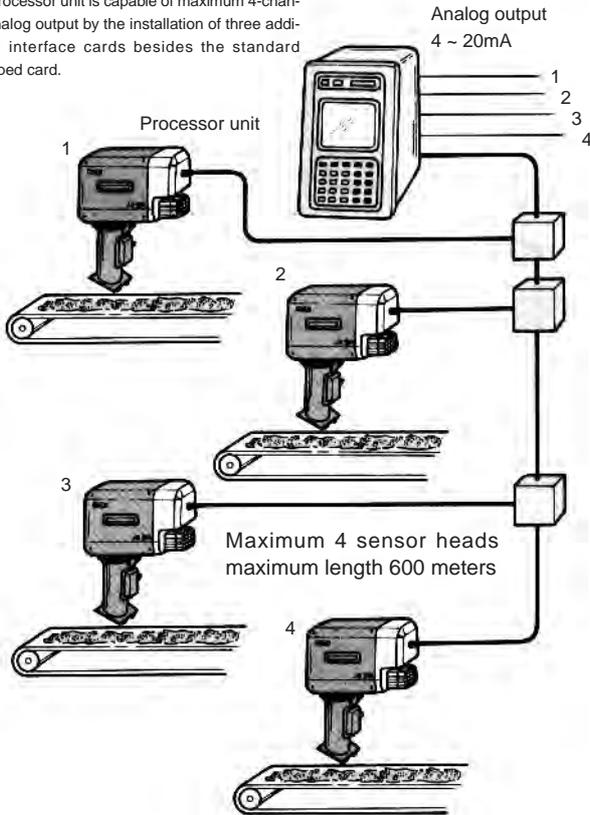**Power switch**

Fuse

AC input socket

<JE-330-CNT>

On-Line Production model

Application examples

Application example 1:< JE-330 >

Four sensor heads are connected to the processor unit via a multi-drop junction box.
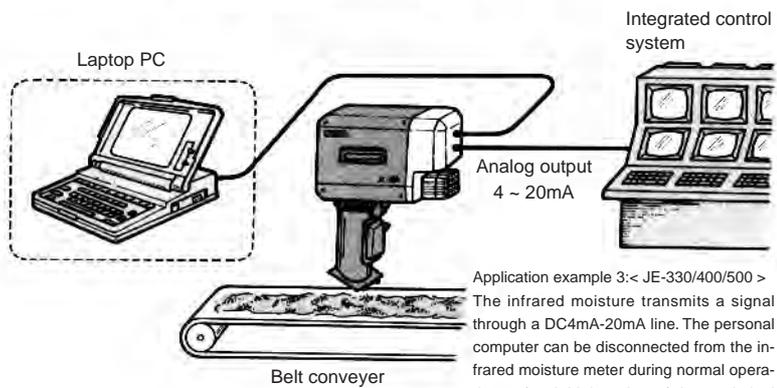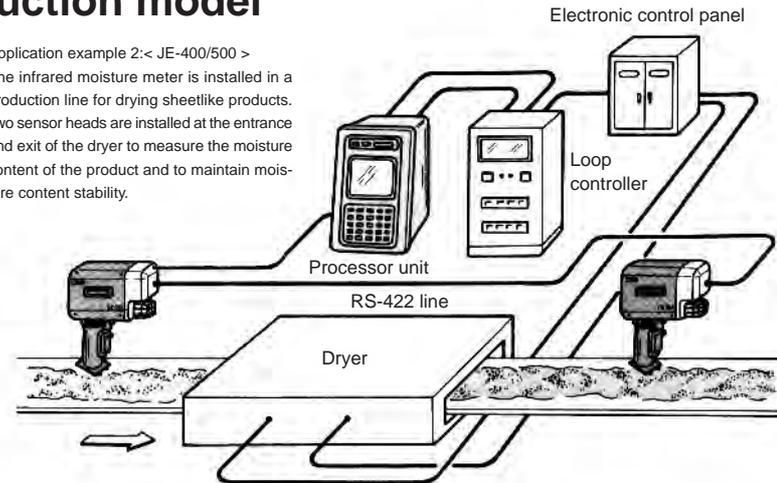
The processor unit is capable of maximum 4-channel analog output by the installation of three additional interface cards besides the standard equipped card.

Analog output
4 ~ 20mA

Processor unit

1
2
3
4

1

2

Maximum 4 sensor heads
maximum length 600 meters

3

4

Application example 2:< JE-400/500 >

The infrared moisture meter is installed in a production line for drying sheetlike products. Two sensor heads are installed at the entrance and exit of the dryer to measure the moisture content of the product and to maintain moisture content stability.
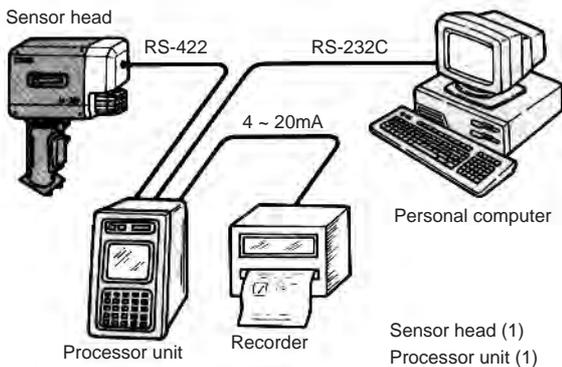
Electronic control panel

Loop controller

Processor unit

RS-422 line

Dryer

Integrated control system

Laptop PC

Analog output
4 ~ 20mA

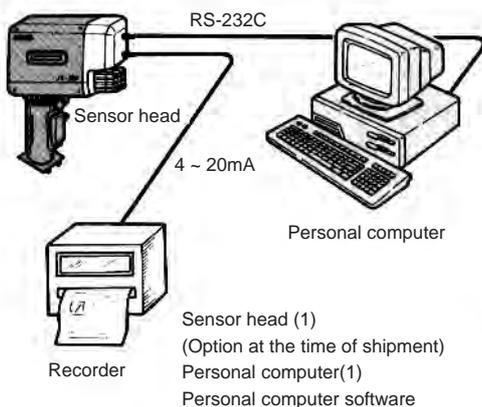**Application example 3:< JE-330/400/500 >**

The infrared moisture transmits a signal through a DC4mA-20mA line. The personal computer can be disconnected from the infrared moisture meter during normal operations after initial setting of the analytical curves. The integrated control system selects the analytical curve for each type and grade.
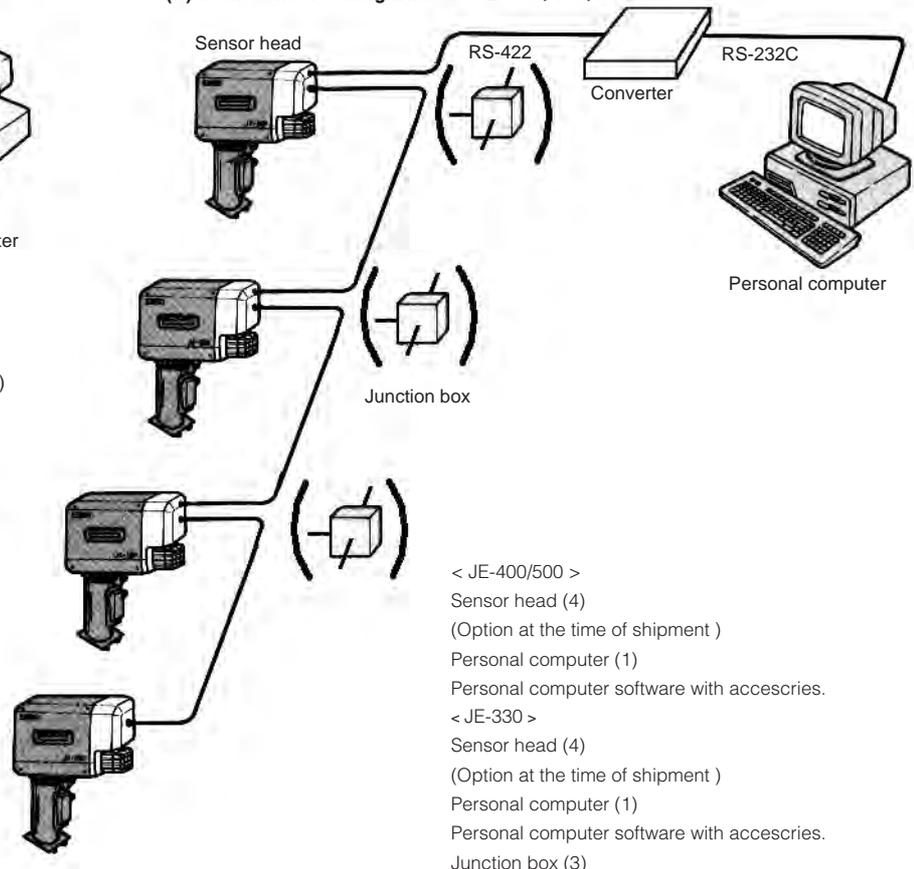
Belt conveyer

## JE series System Configurations

(1) Standard configuration< JE-330/400/500 >

Sensor head

RS-422   RS-232C

4 ~ 20mA

Personal computer

Processor unit   Recorder

Sensor head (1)
Processor unit (1)

(2) Sensor head and PC configuration

RS-232C

Sensor head

4 ~ 20mA

Personal computer

Recorder

Sensor head (1)
(Option at the time of shipment)
Personal computer(1)
Personal computer software

(3) Four-sensor configuration< JE-330/400/500 >

Sensor head

RS-422   RS-232C

Converter

Personal computer

Junction box

< JE-400/500 >
Sensor head (4)
(Option at the time of shipment)
Personal computer (1)
Personal computer software with accescries.
< JE-330 >
Sensor head (4)
(Option at the time of shipment)
Personal computer (1)
Personal computer software with accescries.
Junction box (3)
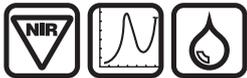
NIR Moisture Meter
Model **KTE-30**

On-Line Model

Features

SIMPLE & LOW PRICE
KTE-30 successfully can be connected to a personal computer, which made its main part design simple and realized a low price. When necessary, you can also use it by itself alone after all the settings have been completed.

LIGHT WEIGHT, COMPACT & WIDE APPLICATION
KTE-30 has realized the lightest weight and smallest size ever. It displays the moisture value by red segment LED. It can measure any type of samples; powdery, flaky, bulky, sheet type and etc...on your production line.

DURABLE & EASY MAINTENANCE
KTE-30 is composed with tested long life parts. The electric bulb and the wheel motor can be replaced in a short time with ease of access.

EFFECTIVENESS & ACCURACY
KTE-30 uses a particular absorption wavelength that is absorbed by the water and also uses other filtered near infrared wavelengths to attain the finest accuracy.

EASY OPERATION
KTE-30 has realized easy operation by dialogue with the software based on Windows 95/98/XP.
(Windows is a registered trademark of Microsoft Corporation.)

Multi Drops
KTE-30 can use both outer communications RS232C and RS485 with a jump switch inside of it. It can be connected with 15 sensor heads via RS485.

SYSTEM CONFIGURATIONS

PDA Direct

PC Direct

Up to 15 Sensor heads

S485/RS232C ONVERTER

Multi Drop
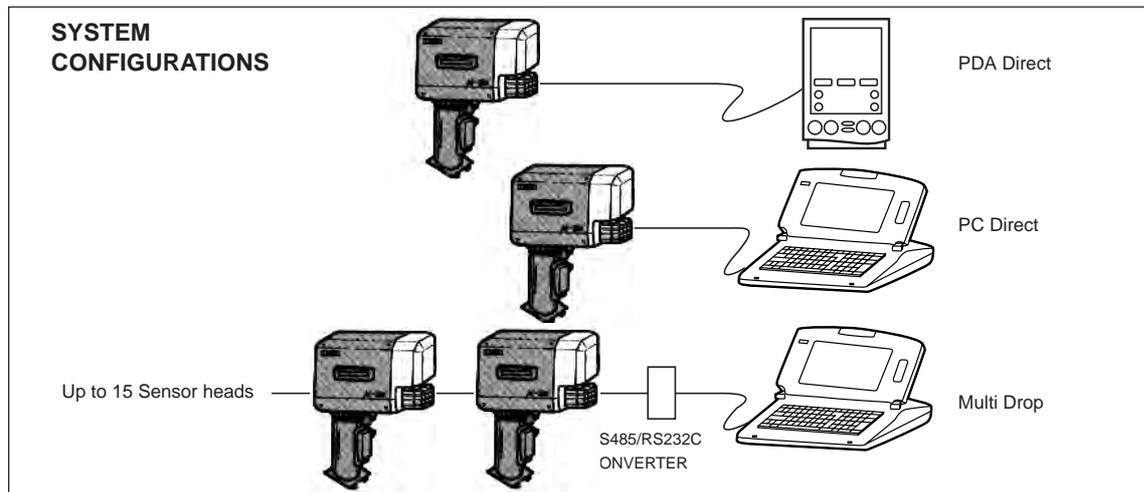
Measurement distance	170mm
Measurement diameter	33mm in diameter at 170mm distance
Analytical curve algorithms	Multiple liner regressions
Display	Red color 7 segment LED
Analog current output	4~20mA DC
Smoothing	0~99 seconds
Display refresh cycle	Display 0.5 seconds
External communications	RS232C/RS485
Number of analytical curves	15
Ambient temperature	5~35°C
Ambient humidity	0~90% RH (without condensation)
Mounting method	Bolt
External connecting devices	Windows 95/98/XP KTE-30 Software is equipped
Size	254 X 135 X 355mm
Weight	5.3kg (including the hood and cables)
Power source	AC 100V or AC 200V

Function	Operation
Zero correction	Commands sent from a PC with the software *
Basic setting	With a PC with the software *
Calibration curve calculation	With a PC with the software *
Calibration curve memory	Memory in KTE-30
Calibration curve data memory	In the file of a PC *
Output current	Output from KTE-30

* KTE-30 can be detached from a personal computer once the settings have been completed.