

# High responsiveness and wide dynamic range

Ventilated capsule-type flow compensating digital

# SKN-2000



SKN-2000 is a ventilated capsule-type perspirometer achieving high responsiveness and broad dynamic range by employing a flow compensation mechanism\*.

Compared to conventional perspirometers, SKN2000 has one-fifth the rise time and twice the dynamic range, and can detect biological reactions in trace amounts of psychogenic perspiration with high response. This is not possible with conventional perspirometers.

In addition, digital technology enables direct data transfer to a PC, and the operability is improved with an automatic zero-adjustment function.

\*Patented technology

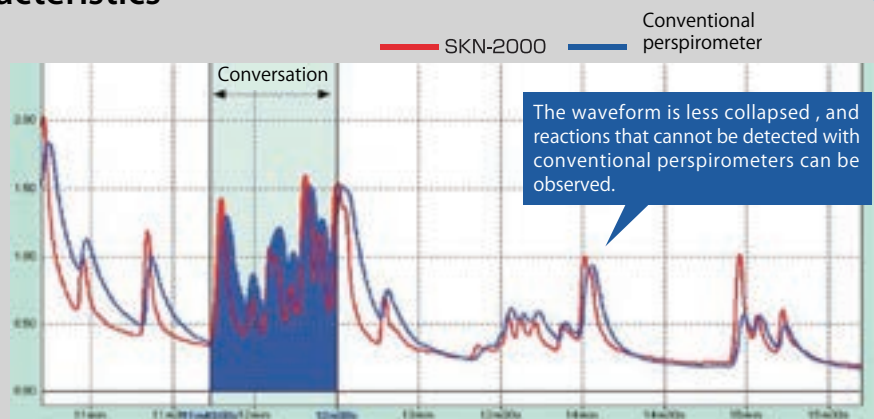


## Feature 1

### The improved response characteristics

enable the measurement of fine biological reactions that have not been observed until now.

The start-up time is approximately one-fifth (1 s or less) of that of conventional perspiration meters. The faster response to biological reactions means that waveforms are less collapsed, enabling the observation of previously unobservable subtle reactions.

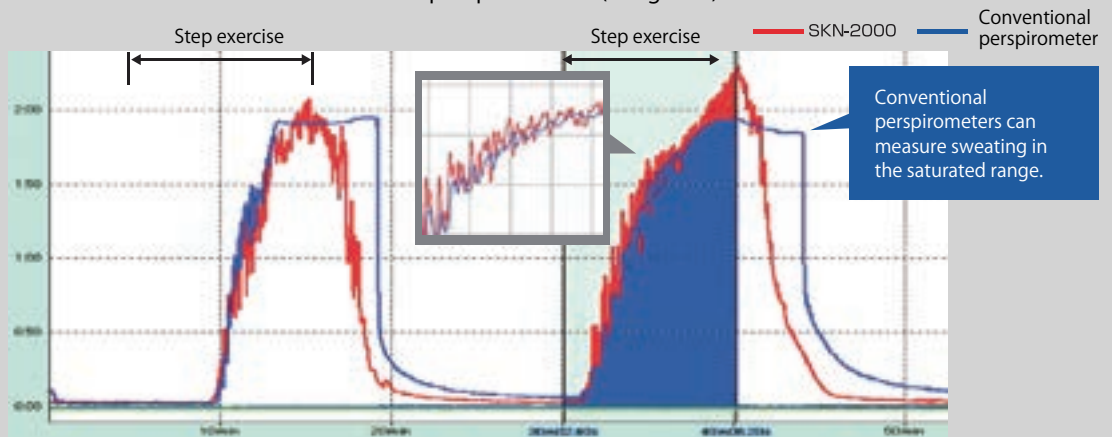


Example of measurement: measurement of sweating on the palms of the hands (5-year-old girl)

## Feature 2

### Double dynamic range.

The dynamic range of the SKN-2000 is twice that of conventional perspirometers (4 mg/min).



Measurement example: forehead sweating during step exercise

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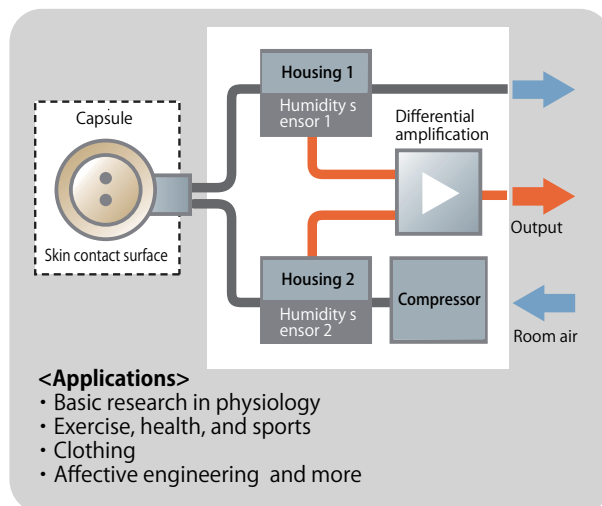
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## Ventilated capsule-type flow compensating digital perspirometer

The ventilated capsule-type digital perspirometer is a simple perspirometer that does not require dry air; it uses the air in the measurement environment as a reference. Two humidity sensors detect the humidity before passing through the capsule and that including sweat after passing through the capsule, and the amount of sweat is measured from the difference. Conventionally, an absolute humidity sensor is used; however, the SKN series uses high-performance relative humidity and temperature sensors to detect the absolute humidity.

### Flow compensation method

In a ventilated capsule-type perspirometer, the airflow rate supplied to the capsule has a significant effect on the measurement performance of the device. For example, if the airflow rate is high, the humidity sensor's response is fast and the dynamic range is wide, but the sensitivity is reduced. Conversely, if the airflow rate is low, the sensitivity is good, but the response is slow and the dynamic range is narrow. The flow compensation method achieves high accuracy, high response, and a wide dynamic range by changing the air flow rate according to the amount of sweat.



### Product overview SKN-2000

#### Basic specifications

Operating mechanism	Ventilated capsule-type differential method
Number of channels	2 channels
Probe length	1.5 m (standard) *Probes can be lengthened on request. However, this may cause the device response characteristics to deteriorate. Please contact us for more information.
Airflow rate	Flow compensation method 300 -1000 ml
Display	LCD digital display Minimum display 0.01 mg/min Maximum display 4.09 mg/min
Output	Analog output ( $\pm 5$ V.BNC) Digital output (D-sub9pin, serial output) Digital output (AD conversion output, compatible with Analog Recorder Pro)
Recommended environmental conditions	Temperature: 23.5° C, Humidity: 60% RH
Power supply	DC 6 V 2A adapter
Power consumption	15 W
Dimensions and weight	210 mm x 230 mm x 90 mm Approximately 2kg
Accessories	Data recording and analysis software (CD, including Analog Recorder Pro) D-sub9pin straight cable, capsule holder, AC adapter

#### Measurement specifications

Operating time	Within 1 s
Measurement range	0 mg/min-4 mg/min
Accuracy (compared to water loss)	$\pm 5$ %

#### Options/Consumables

##### MOD-002

A set of AD converter and data recording and analysis software. Please use this when using the analog output of this device in conjunction with other analog output devices.

##### USB-Serial Converter

Can be used only if your computer has a USB port.

##### Capsule pad

Used to secure the device capsule (sold separately).

\*This device is designed for research applications.

