

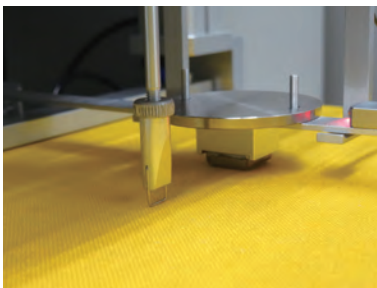
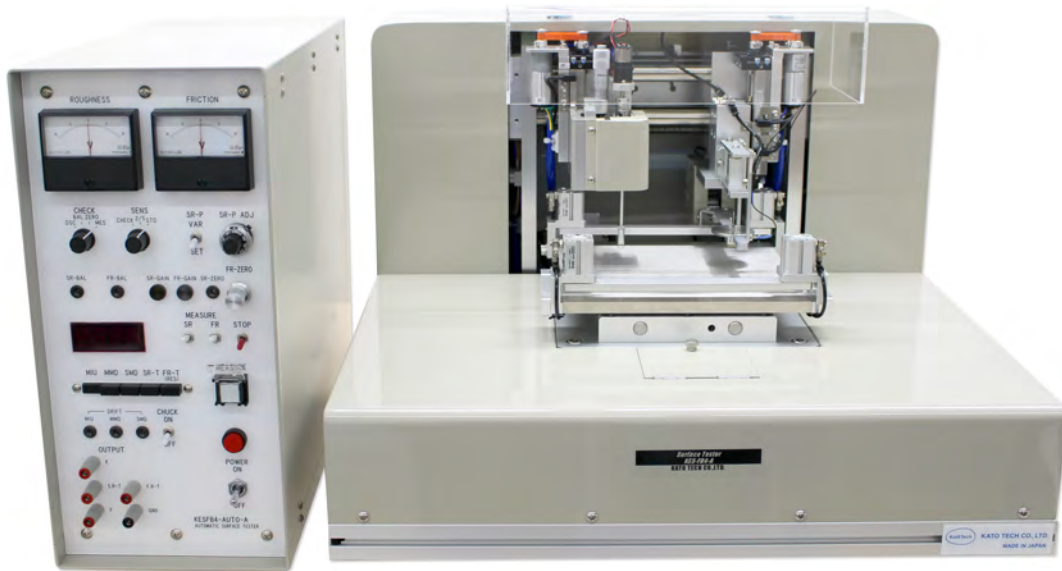
# KES-FB4-A

## Surface Tester

The KES-FB4-A Surface Tester analyzes hand movements—particularly, sliding over surface—performed by artisans and professionals when judging a fabric’s texture. This device performs this movement mechanically, making it possible to obtain objective numerical data.

Obtainable data includes frictional coefficients, fluctuations of frictional coefficients, and surface roughness for such targets as general fabric, cloth, paper, non-woven fabric, and film-like samples. Surface friction and roughness characteristic data is useful for determining fullness and softness, smoothness, crispness.

**Measurement**    General fabric, Fabric, Medicinal fabric, Car seats, Interior fabric,  
**Sample Example**    Non-woven fabric, Film-like samples



## FEATURE

### ● Sensor that imitates fingertips

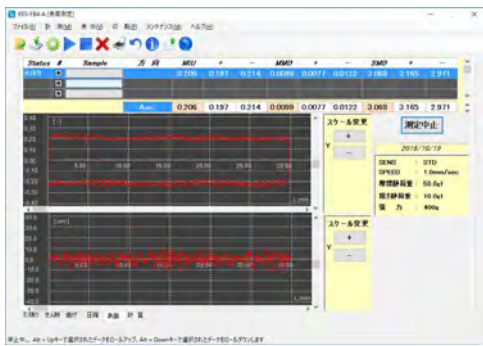
The sensor unit’s design features a load and surface treatment that mimics a fingertip, allowing for quantification similar to that of the human fingertip.

SYSTEM CONFIGURATION DIAGRAM / MEASUREMENT DATA



\*Compressor is attached to the above components.

Sample Measurement Software Screens



▲ Surface properties

Obtainable Data

Item	Characteristic value	Description	Reading the data
Surface properties	MIU	Mean frictional coefficient	Higher values mean less tendency to slip
	MMD	Fluctuation of mean frictional coefficient	Higher values mean less smoothness and more roughness
	SMD	Surface roughness	Higher values mean more surface unevenness

KES-FB4-A Surface Tester

<b>Dimensions/Weight (approx.)</b>	Measuring unit: W550 × D520 × H420 (mm) / 50 kg Amplifier: W180 × D400 × H400 (mm) / 10 kg
<b>Power source</b>	100 VAC, power consumption: 50W Max. for the main device, 300W Max. for compressor.
<b>Measurement environment temperature and humidity</b>	20 to 30°C / 50 to 70% RH. (No condensation.) Temperature and humidity should be kept constant during measurement. (Standard temperature and humidity conditions: 20°C / 65% RH) *The instrument should be located to minimize influence from wind or vibrations.
<b>Surface friction detection</b>	Detector: Ring-type detector with differential transformer Load (full scale): 200 gf (with standard measurement) Accuracy: ±0.5% or less of full scale

<b>Surface roughness detection</b>	Detector: Differential transformer Displacement (full scale): 0.4 mm Accuracy: ±1% or less of full scale
<b>Detection of surface measurement movement</b>	Detector: Potentiometer Travel distance: 30 mm (Range of effective measurement distance: 20 mm) Accuracy: ±1% or less of full scale
<b>Filter properties</b>	Active secondary filter: $\mu = 0.6$ , $\omega 0 = 1$ cps
<b>Sensor size</b>	Friction contactor: 10 mm × 10 mm Roughness contactor: 0.5 mm diameter single wire (contact surface width: 5 mm)
<b>Velocity of Sample Movement</b>	1 mm/sec (standard)
<b>Sample size</b>	Dimensions: 200 × 200 mm (standard), Thickness: 2 mm (max.)

**⚠ Precaution** For safety use, please read the operation manual / the instruction carefully and thoroughly before using the tester.

Specification details recorded here are subject to change without notice. We appreciate your understanding.