KATO TECH CO.,LTD.

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QUOTATION

DATE 2021/3/18
NO. 600347-REV.1

TO:
TECHNICAL UNIVERSITY OF LIBEREC
DEPARTMENT OF CLOTHING TECHNOLOGY
STUDENTSKA 2 461 17 LIBEREC 1 CZECH REPUBLIC
XXXXXXXXXXXXXXXXXXXXX
TEL: FAX:

TRADE TERMS	: DAP LIBEREC, DOOR DELIVERY	GOVERNED BY INCOTERMS 2010
PACKING	: STANDARD EXPORT PACKING	
VALIDITY	: MAY 18, 2021	
SHIPMENT	: WITHIN APPROX. 3 - 4 MONTHS FROM RECEIPT OF ORDER	
TERMS OF PAYMENT	: AS PER AGREED THE PURCHASE CONTRACT	

[redacted]

NOTE:
WARRANTY-ONE YEAR FROM THE INSTALLATION
LANGUAGE OF MANUALS, SOFTWARE ETC.,; ENGLISH

TOTAL DAP LIBEREC, DOOR JPY 6,600,000

THIS EQUIPMENT DOES NOT HAVE CE MARK OR IS NOT COMPLY WITH ANY INTERNATIONAL STANDARD SUCH AS ASTM

DAP*---Buyer pays the import customs clearance, customs duties and taxes, and local delivery charge.

[redacted]

XXXXXXXXXXXX
SALES DEPARTMENT

XXXXXXXXXX
SALES MANAGER

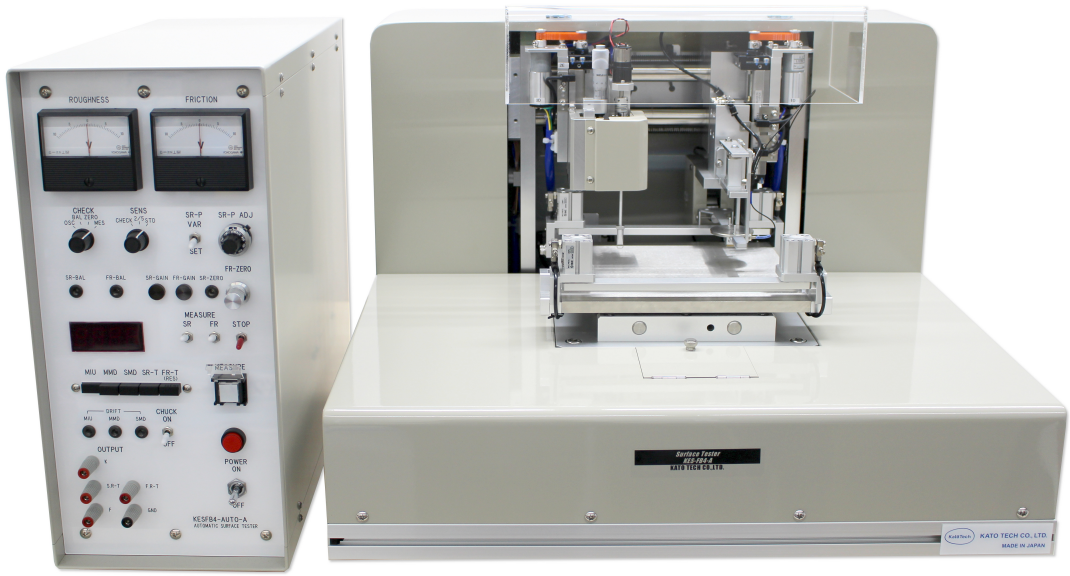
KES-FB4-A

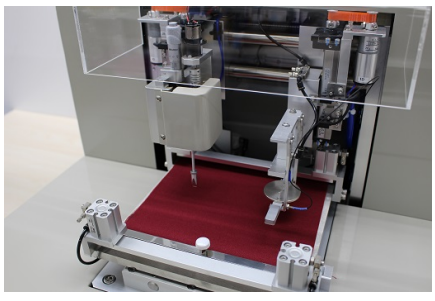
Surface Tester

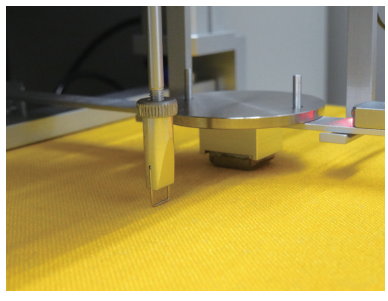
The KES-FB4-A Surface Tester analyzes hand movements–particularly, sliding over surface–performed by artisans and professionals when judging a fabric's texture. This device performs this movement mechanically, making it possible to obtain objective numerical data.

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







FEATURE

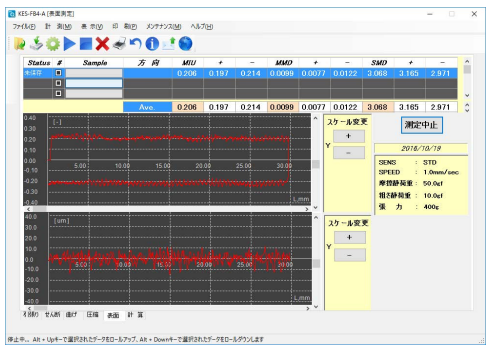
● Sensor that imitates fingertips

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

Dimensions/Weight (approx.)	Measuring unit: W550 × D520 × H420 (mm) / 50 kg Amplifier: W180 × D400 × H400 (mm) / 10 kg
Power source	100 VAC, power consumption: 50W Max. for the main device, 300W Max. for compressor.
Measurement environment temperature and humidity	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.
Surface friction detection	Detector: Ring-type detector with differential transformer Load (full scale): 200 gf (with standard measurement) Accuracy: ±0.5% or less of full scale
Surface roughness detection	Detector: Differential transformer Displacement (full scale): 0.4 mm Accuracy: ±1.0% or less of full scale
Detection of surface measurement movement	Detector: Potentiometer Travel distance: 30 mm (Range of effective measurement distance: 20 mm) Accuracy: ±0.5% or less of full scale
Filter properties	Active secondary filter: μ = 0.6, ω0 = 1 cps
Sensor size	Friction contactor: 10 mm × 10 mm Roughness contactor: 0.5 mm diameter single wire (contact surface width: 5 mm)
Velocity of Sample Movement	1 mm/sec (standard)
Sample size	Dimensions: 200 × 200 mm (standard), Thickness: 2 mm (max.)

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

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

KatōTech **KATO TECH CO.,LTD.** XXXXXXXXXXXXXXXXXXX

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