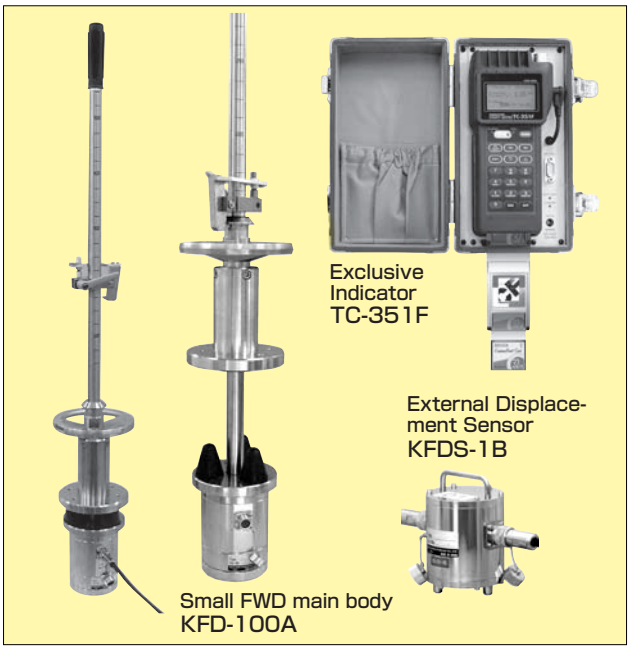
Small Falling Weight Deflectometer FWD-Light



The FWD-Light is a unique small-size FWD system that measures the rigidity of ground using the free fall of a plumb bob. It consists of a plumb bob of 5 kg and a loading platform of 100 mm in diameter. It is small in size, lightweight, transportable, and easy to operate. Using the FWD-Light, rigidity can be measured at any given point on the ground quickly. It measures load and flexure using the built-in strain gauge-type load cell and acceleration transducer and automatically analyzes the modulus of counterforce and elasticity of ground. It can measure rigidity at a maximum of three points on the ground. The indicator designed exclusively for the FWD-Light is battery-powered (NiMH battery) and can continuously operate for 32 hours.

■FWD Specifications

Type	KFD-100A
Dimensions of loading plate	ϕ 100×15(thick) mm
Mass of weight	5 kg.
Falling height	50～530mm
Falling method of weight	Lever (with stopper)
Maximum load	20kN
Miaximum displacement	2.500 mm
Strain gauge based sensor	
Load Cell	1 point, 20kN
Acceleration transducer	1 point, 500m/s^2
Data acquisition	
No. of measuring points	2 points (load nad acceleration)
Measuring accuracy	±(0.1%rdg+2digits) at 23±5℃
Data memory	800 data/point
Sampling speed	50 μs
Trigger function	By data (load value)
Interface	Exclusive 2-wire serial transfer
No. of external displacement sensor	4 points at maximum
Power source	Supplied by TC-351F
Environment	−20～+60℃, less than 85%RH (no condensation)
Height	Approx. 1100mm
Weight	Approx. 15kg. (including 5kg weight)

■Exclusive Indicator Specifications

Type	TC-351F
Display	Liquid crystal display 128x64 dots
Monitor	Load, Acceleration, Acceleration of external sensor, Time
Analysis result	Maximum load, Maximum displacement, Maximum displacement of external sensor, Coefficient of subgrade reaction (K_{TML}), Modulus of subgrade elasticity (E_{TML})
File management	Deletion of stored data in specified file number formatting of memory card
Real time clock	
Setting	Year, Month, Day, Hour, Minute, Second
Accuracy	±2 sec./day at 23±5℃
Memory card	Storing result of analysis
Card standard	Conforms to PC card standard Type II
Card type	Compact flash memory card (with card adaptor) or ATA flash memory card
Card capacity	8～128MByte
Data format	CSV
Interface	For using optional Measurement/ Analysis software TC-7100
Standard	RS-232C
Function	Receiving control command, Sending measured data, Output to exclusive printer
Power source	
Battery	Nickel-Hydride (Ni-MH) battery pack
Continuous operation	Approx. 32 hours of 1000 times measurement at 23±5℃
Vibration tolerance	30m/s^2 (at 50Hz 0.5mmp-p)
Drip-proof	IP-54 (with cover installed)
Environments	−10～+50℃, less than 85%RH (no condensation)
Dimensions	Approx. 150(W)×120(H)×265(D)mm
Weight	Approx. 3kg.

System block