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# Digital Penetrometer & Software

[www.koehlerinstrument.com](http://www.koehlerinstrument.com)





### Features & Benefits

- Complete instrument and data acquisition system exclusively designed for conducting ASTM, IP, ISO and related specifications for penetrometers
- Powerful software system for PC platforms operating in Windows® 98 SE, 2000, NT, ME, and XP environments
- Tests the consistency of lubricating greases, petroleum waxes, bitumens, pastes, creams and other solid to semi-solid products
- Automatically-timed, operator-programmable penetration measurements with motorized placement of penetrator on sample surface
- Large LCD to display all functions
- Full measurement range of 0-620 in  $\frac{1}{10}$ mm or  $\frac{1}{100}$ mm scale
- Rechargeable battery or AC operation
- Large, removable base accommodates grease worker cups and other ASTM and non-standard sample containers
- Complete selection of penetrometer cones, needles and accessories for petroleum products testing and for a wide range of other applications

### Test Method

Determines consistency and shear stability for design, quality control and identification purposes. A standard cone or needle is released from a penetrometer and allowed to drop freely into the sample for 5 seconds (or other interval) at constant temperature. The depth of penetration into the sample is measured in tenths of a millimeter by the penetrometer.

## Digital Penetrometer & Software

### Digital Penetrometer

Microprocessor-based penetrometer loaded with advanced features to provide ease of operation and highly reproducible consistency measurements of petroleum products. Microprocessor control provides a full range of measurement and reporting options, and operation is simplified by four user programmable presets that facilitate lowering the penetrator tip to the sample surface. Penetration measurements in the full range of 0 - 620 in  $\frac{1}{10}$  mm scale are reported in either  $\frac{1}{10}$  mm or  $\frac{1}{100}$  mm increments at the operator's option. For quality control testing, a penetration range can be entered into memory prior to testing. If a test result falls outside of the programmed range, an audible signal and visual error message alert the operator of a failed sample. Test results are displayed in digital format on a large LCD readout on the head of the penetrometer and can be communicated to a printer or computer via a built-in RS232 interface.

### Penetrometer Software

Software automatically downloads full test parameters and final results on each penetration test. The software will determine averages, standard deviations, and ASTM test repeatability as well as maintain instrument and accessory calibration information. Yield stress values are calculated as per ASTM D2884, and full penetration values (ASTM D217) are automatically determined from the  $\frac{1}{4}$  and  $\frac{1}{2}$  scale ASTM D1403 tests. The sophisticated Windows®-based software package features an easy-to-navigate operation, a straightforward user interface, minimal draw on Windows® memory resources, and automatic real-time data acquisition via RS232 or wireless communication option. The "test intelligent" software simplifies the process by automatically choosing the standard test parameters when choosing an ASTM method. The test results are easily printed in accordance with ISO guidelines. The software package requires no PC hardware installation and includes installation CD and cables.

### Specifications

Conforms to the specifications of: ASTM D5, D217, D937, D1321, D1403, D2884, D4950; IP 49, 50, 179, 310; ISO 2137; DIN 51579, 51580, 51804; FTM 791-311, 791-312, 791-313; AOCS Cc 16-60; AACC 58-14; NFT 60-119, 60-123, 60-132, 66-004

Penetration Range: 0-62.0mm (0-620 penetration scale) in  $\frac{1}{10}$ mm or  $\frac{1}{100}$ mm

Penetration Interval: Operator variable from 0.1 to 9999.9 seconds with automatic repeat function and 5.0 second default

### Included Accessories

Standard Plunger, 47.5g  
Weights, 50 and 100g

### Ordering Information

#### Catalog No.

**K95500** Digital Penetrometer, 115V, 50/60Hz  
**K95590** Digital Penetrometer, 220-240V, 50/60Hz

#### Accessories

**K95500-SFW** Digital Penetrometer Software Package  
**K95500-WLS** Wireless Digital Penetrometer Software Package  
**K19552** Calibration Kit  
Consists of 0.500, 1.000 and 2.000" gauge blocks with calibration certificate traceable to NIST  
**K95573** Plunger, 15g  
**K95519** Plunger, 6.9g  
**K95576** Standard Plunger, 47.5g  
**K19587** Loading Weight, 50g  
**K19588** Loading Weight, 100g

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