

## PENETRATION



*K19500 Penetrometer with K20800 Penetration Cone*

### Penetration of Bituminous Materials

### Cone Penetration of Lubricating Grease

### Cone Penetration of Petrolatum

### Needle Penetration of Petroleum Waxes

### Cone Penetration of Lubricating Grease Using One-Quarter and One-Half Scale Cone Equipment

### Yield Stress of Heterogeneous Propellants by Cone Penetration Method

#### Test Method

Penetration tests are performed on petroleum products to determine consistency and shear stability (lubricating greases) 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 a different specified interval) at constant temperature. The depth of penetration of the cone or needle into the sample is measured in tenths of a millimeter by the penetrometer.

#### Penetrometer

- Conforms to ASTM and related specifications for penetrometers
- Suitable for laboratory or field use

Designed for ASTM penetration tests on petroleum products and for consistency tests on a wide range of food products, cosmetics, pastes and other solid to semi-solid products. Precision machined and assembled to exacting specifications, and ruggedly constructed to insure long service life in both laboratory and field applications. Features a full penetration range of 0-62.0mm with  $\frac{1}{10}$ mm subdivisions (0-620 penetration scale). Accommodates cones and needles to perform all of the ASTM tests on lubricating greases, asphalts, petroleum waxes and petrolatums. Compact design facilitates transport for field use. Head assembly adjusts for accurate placement of the tip of the needle or cone on the surface of the sample. Sturdy cast iron base provides excellent support and has a built-in spirit level and leveling screws to insure proper alignment of the penetrometer during testing. Supplied with 50 and 100 gram weights and standard 47.5g plunger assembly. Order test cones, needles and lightweight plunger (where applicable) separately.

#### Specifications

Conforms to the specifications of:

ASTM D5, D217, D937, D1321, D1403, D2884, D4950, D5329; 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

#### Included Accessories

Plunger, 47.5g  
Weights, 50 and 100g

#### Dimensions l x w x h, in. (cm)

6x6x18 (15x15x46)  
Net Weight: 12 lbs (5.4kg)

#### Shipping Information

Shipping Weight: 15 lbs (6.8kg)  
Dimensions: 1.7 Cu. ft.

### Ordering Information

#### Catalog No.

**K19500** Penetrometer

#### Accessories

**K19552** Calibration Kit  
Consists of 0.500, 1.000 and 2.000" gauge blocks with calibration certificate traceable to NIST

**K19553** Calibration Kit, Metric  
Consists of 12.5mm, 25mm and 45mm gauge blocks with calibration certificate traceable to NIST

**K19520** Plunger, 15g  
For use with K20200, K19800 and K20300 Cones

**K20910** Plunger, 6.9g  
For use with K20900 Cone

**K19525** Plunger, 47.5g

**K19510** Auxiliary Weight Set  
Includes one each 2.5g, 5g and 10g weights and two 20g weights

**K19535** Loading Weight, 50g

**K19536** Loading Weight, 100g