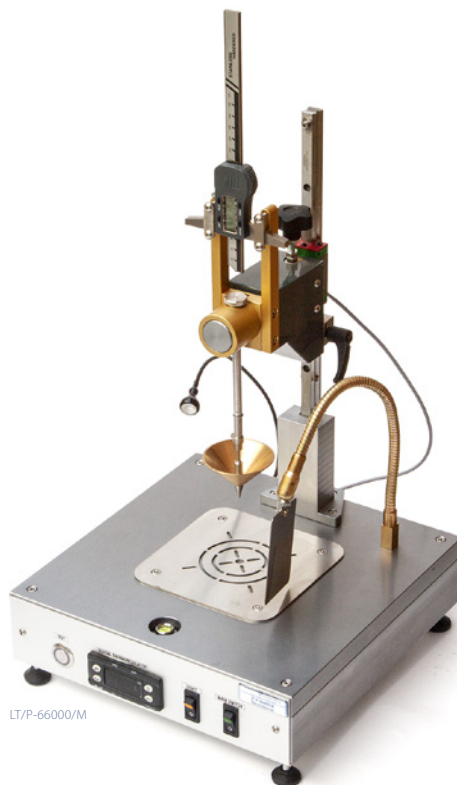




## Penetration of Bituminous Material, Grease, Petrolatum, Waxes, Gel



LT/P-66000/M

ASTM D5  
ASTM D217  
ASTM D937  
ASTM D1321  
ASTM D1403  
ASTM D1831  
ASTM D2884  
DIN 51579  
DIN 51580  
DIN 51804  
DIN 52010  
IP 49  
IP 50  
IP 179  
IP 310  
IP 376  
ISO 2137

ASTM D5, IP 49, DIN 52010  
Penetration of bituminous material.  
For determination of the penetration of semi-solid and solid bituminous materials.

ASTM D217, ASTM D1403, IP 50, IP 310, DIN 51804, ISO 2137  
Cone penetration of lubricating grease.  
Cover four procedures for measuring the consistency of lubricating greases by the penetration of a cone of specified dimensions, mass and finish.

ASTM D937, IP 179, DIN 51580, ISO 2137  
Cone penetration of petrolatum.  
Covers measuring with a penetrometer the penetration of petrolatum as an empirical measure of consistency.

ASTM D1321, IP 376, DIN 51579  
Needle penetration of petroleum waxes.  
Covers the empirical estimation of the consistency of waxes derived from petroleum by measurement of the extent of penetration of a standard needle.  
This test method is applicable to waxes having a penetration of not greater than 250.

ASTM D1831  
Roll stability of lubricating grease.  
Covers determination of the changes in the consistency, as measurably cone penetration, of lubricating greases when worked in the roll stability test apparatus.

ASTM D2884 - Yield stress of heterogeneous propellants by cone penetration method.  
Covers determination of the yield stress of heterogeneous propellants, both of the gel and emulsion types, containing from 0 to 70% solid additives.

**LT/P-65000/M**  
**Precision penetrometer**  
**ASTM D5, D217, D937, D1321, D1403, D1831, D2884**

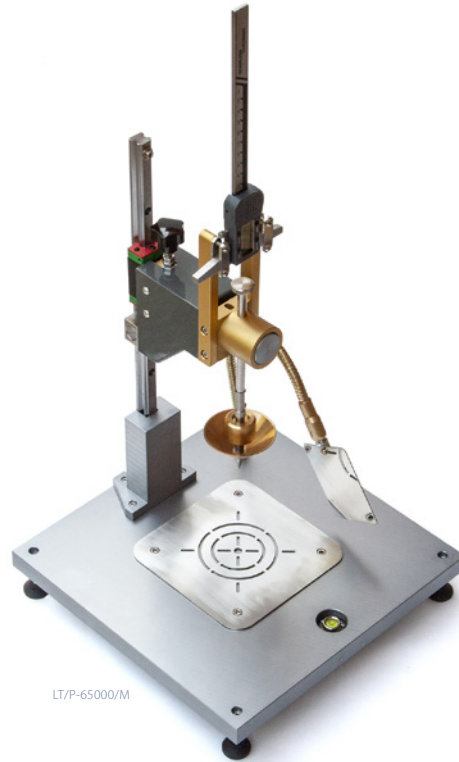
- Metallic base with inset spirit level and adjustable feet
- Stainless steel column supporting a calibrated dial with 360 divisions corresponding to 1/10 of mm and release button with manual halting function
- Micrometric regulation
- 47.5 gr plunger in stainless steel
- Check light

**LT/P-66000/M**  
**Semiautomatic penetrometer**  
**ASTM D5, D217, D937, D1321, D1403, D1831, D2884**

- Metallic base with inset spirit level and adjustable feet
- Plate painted with epoxy products that works as a control box with precision digital timer
- Stainless steel column supporting a calibrated dial with 360 divisions corresponding to 1/10 of mm and release button controlled by a low voltage solenoid, controlled on its turn by a timer
- 47.5 gr plunger in stainless steel
- Micrometric regulation of movements with a check light



## Penetration of Bituminous Material, Grease, Petrolatum, Waxes, Gel



LT/P-65000/M



LAB-100-714



LAB-100-718

### Accessories

- LAB-100-661/50: plunger weight 50 g
- LAB-100-661/100: plunger weight 100 g

### Spare Parts

- LAB-100-661/47: plunger weight 47.5 gr
- LAB-150-038: low voltage solenoid
- LAB-150-037: push button
- LAB-150-080: digital timer

### Optional Accessories

- T-AS17C: thermometer ASTM 17C
- T-AS17C/C: thermometer ASTM 17C with calibration certificate DKD
- T-AS63C: thermometer ASTM 63C
- T-AS63C/C: thermometer ASTM 63C with calibration certificate DKD
- T-AS64C: thermometer ASTM 64C
- T-AS64C/C: thermometer ASTM 64C with calibration certificate DKD

### Accessories for ASTM D5 , IP 49, EN 1426

- LAB-100-662: penetration needle ASTM D5, IP 49, 2.5 g, pack of 5
- LAB-100-1426/20: reduction ring for reduce sample volume, 53 mm ext. diam., 36 mm int. diam., 20 mm height, for EN 1426
- LAB-100-1426/30: reduction ring for reduce sample volume, 53 mm ext. diam., 36 mm int. diam., 30 mm height, for EN 1426
- LAB-100-666/B: sample container 55 x 35 mm, made in brass, pack of 5 pcs.
- LAB-100-666/C: sample container 55 x 45 mm, made in brass, pack of 5 pcs.
- LAB-100-666/E: sample container 70 x 45 mm, for bitumen, penetrations between 200 and 350, made in brass, pack of 5 pcs.
- LAB-100-666/G: sample container 70 x 60 mm, for bitumen, penetrations between 350 and 500, made in brass, pack of 5 pcs.

### Accessories ASTM D217

- LAB-100-664: optional penetration cone ASTM D217, 65 mm diameter, body of brass, stainless steel tip
- LAB-100-664/SS: optional penetration cone ASTM D217, 65 mm diameter, body and tip of stainless steel, for European Pharmacopoeia
- LAB-100-665: optional penetration cone ASTM D217, 69 mm diameter, body and tip of stainless steel
- LAB-100-666/l: sample container 76.5 x 63.5 mm, made in brass, pack of 3 pcs.
- LAB-100-666/l-ring: external ring for grease restraint/recovery, 203 mm diameter

### Accessories for ASTM D937

- LAB-100-664: optional penetration cone ASTM D217, 65 mm diameter, body of brass, stainless steel tip
- LAB-100-666/H: sample container 100 x 65 mm, made in steel with cover, pack of 3 pcs.

### Accessories for ASTM D1321

- LAB-100-663: needle ASTM D1321, 2.5 g, stainless steel
- LAB-100-666/F: sample container wax test cylinder 25 x 32 mm, pack of 2 pcs.
- LAB-100-666/BC: base plate in brass 63.5 x 38 mm, pack of 2 pcs.

### Accessories for ASTM D1403 – D1831

- LAB-100-711: penetration cone 1/2 ASTM D1403, IP 310, 22.5 g, body and tip in stainless steel
- LAB-100-712: slider 1/2 - 15g
- LAB-100-713: sample container 1/2 38 x 32 mm, pack of 3 pcs.
- LAB-100-714: half-scale grease worker ASTM D1403, brass, with 8 holes 6.35 mm diameter

- LAB-100-715: penetration cone 1/4 ASTM D1403, IP 310, 1.20 gr, body Plexiglas®, stainless steel tip
- LAB-100-716: Plexiglas® slider 1/4 8.18 gr
- LAB-100-717: sample container 1/4 19 x 11.5 mm, pack of 3 pcs.
- LAB-100-718: quarter-scale grease worker ASTM D1403, brass, with 8 holes 3.17 mm diameter

### Accessories for ASTM D2884

- LAB-100-719: propellant cone 15 gr, 65 mm diameter, body in magnesium, stainless steel tip
- LAB-100-661/47: plunger 47.5 gr
- LAB-100-666/l: sample container 76.5 x 63.5 mm, made in brass, pack of 3 pcs.

### Optional Accessories

- LT/CB-40800/M-10: cryostatic bath (8 litres) for temperatures up to -10°C
  - professional cryostatic baths ideal for all thermostatic application
  - outer body in steel coated in epoxy anti-acid paint
  - double wall heat insulation
  - internal chamber in seamless stainless steel with rounded corners for efficient circulation and cleaning
  - digital display P.I.D. thermostat
  - temperature range from -10°C to +99,9°C accuracy to ±0,5°C to +37°C (BC)
  - display precision ±0,1°C
  - exit RS 485
  - safety thermostat
  - circulating pump: 1 mt prevalence
  - power supply 230 V - 50 Hz
  - built according to C.E.I. normatives (66-5)
  - 2 class, DIN 12880
  - capacity: 8 litres
- LAB-100-660/A: transfer dish
- LAB-100-332: digital stopwatch