



## **AUTOMATIC PENETROMETER**

**ASTM D5, D217, D937, D1321, D1403, NFT 60119, T 60132,  
T 66004, ISO 2131, ISO 2137, DIN 52010, DIN 51804, DIN 51579, IP 49, ...**

The penetration of a product is the depth, in tenths of millimeter, that a standard needle or cone penetrates the sample, under standardized conditions of loading, time and temperature.

The load comprises a needle, a needle holder and possibly an additional weight.

- Fully automatic
- Microprocessor control
- Optoelectronic penetration detection
- Magnifying lens and low voltage illuminator
- Centering guide
- Step by step motorized vertical displacements

This compact instrument uses the latest microprocessor technology and programming tools: motorized mobile head, digital keyboard, 51 family microprocessor, LCD alpha-numeric display, to provide the testing laboratory with a highly accurate and sensitive test system.

A digital keyboard, LCD display, interactive software allows the penetration time as well as the soak time to be set and programmed between 0 and 999 mn and fully automatic test routine enable the user to produce consistent and accurate results repeatedly.

The approach and retraction of the standard needle is controlled through the motorised drive system. A choice of speeds is available through the keyboard and penetration times may be selected with programmed delays also available.

The head can be vertically moved at 4 different speeds with a precision between 1/10 mm and 1/100 mm. 4 mobile head positions can be memorized in order to shorten approaches and levelling attempts. Limit parameters can also be entered. If test falls out these preset limits both a visible and audible signals are activated.

During the test, depth penetration is permanently displayed both in units and tenth of units (0.01 mm)

An optoelectronic detection of depth penetration with an automated approach and a levelling system for conductive samples are available.

Programmed timings may be saved to memory for repeated use.

A magnifying lens and low voltage illuminator are each mounted on separate flexible arms for optimum positioning.

Penetration depth is displayed in increments of 0.01 mm.

The unit is compact with an anodised aluminium baseplate, levelling screws, spirit level, centring guide, magnifying lens, low voltage illuminator mounted on a flexible arms and optoelectric detection of depth penetration.

**REF. 941731**

[Manual Penetrometer](#) includes a large table on levelling feet with spirit level, a manual release mechanism and a dial indicator in 0.1 mm. Outfit (needle, holder, sample container, ...) not included.

**REF. 941734**

Automatic Penetrometer, compact automated instrument uses the latest electronic technologies. It is equipped with keyboard, LCD display, user friendly software and stepper motor for penetration depth as low as 0.01 mm, needle (or cone) holder, magnifying lens and low voltage illuminator, centering guide, RS232C output and accessories for automatic level detection for conductive samples.

**REF. 9417582**

This compact twin-unit automated grease worker uses electronic counter to control the strokes number.

**ACCESSORIES** (for all standards)

27674 Glass transfer bath (cryostat connection)  
941220 Constant temperature water bath (max 100 °C)  
9911504 ASTM thermometer 17C  
9911532 ASTM thermometer 63C  
9911533 ASTM thermometer 64C  
941732 Calibration kit for automatic penetrometer

**BITUMEN ACCESSORIES** (for D5)

99814 Standard needle 2.5 g (up to 350 u.)  
941737 Holder 47.5 g  
941810 Outfit for penetration of bituminous material  
941812 Additional weight 100 g  
941815 Additional weight 50 g  
998140 Long needle 2.5 g (up to 500 u.)  
998171 Sample container one use 55x35 mm (pack of 10)  
998181 Sample container Al. 55x70 mm (>200 u.)  
998191 Sample container Al. 55x57 mm (up to 500 u.)  
9417371 Bitumen automatic level detection device  
998173 Sample container Al. 55x 35 mm (pack of 10)  
*outfit is needle + holder + weight 50g + 2 containers*

**LUBRICATING GREASES ACCESSORIES** (for D217)

941759 Plunger plate ASTM (51 holes)  
99739 Grease cutter with blade  
941736 Outfit for consistency of lubricating grease  
941737 Holder 47.5 g  
941738 Standard cone 102.5 g  
941750 Hand grease worker with cup and thermometer  
941751 Worker cup only  
941760 Plunger plate Fed. Spec. (270 holes)  
997411 Sample container 76x63 mm  
9900759 Thermometer for grease worker  
9951810 Spatula 30x200 mm  
*outfit is cone + holder + container*