# **NBA 450**

# **SOFTENING POINT TESTER**

# RING AND BALL METHOD



#### **STANDARDS**

ASTM D 36, ASTM E28, IP 58, EN ISO 1427, DIN 52011, AASHTO T53 and related methods.

#### SCOPE

#### **ASTM D36**

This test method covers the determination of the softening point of bitumen in the range from 30 to 157°C using the ring-and-ball apparatus immersed in distilled water, silicone or glycerin.

#### **ASTM E28**

These test methods are intended for determining the softening point of resins and similar materials by means of the ring and ball apparatus.







# «FULLY AUTOMATIC MODEL FOR RELIABLE MEASUREMENTS»

# TECHNICAL FEATURES

- 4 preset methods (water, glycol, glycerin, silicon oil)
- Test temperature range: up to 200°C
- Automatic detection by optical cells barrier
- Adjustable heating rate and stirring speeds
- Capacitive color touch screen 8,4"
- Stainless steel tray for easy handling of accessories
- Easy positioning of the beaker in the heating block
- Optimized centering system
- Easy handling of the ball with the magnetic ball dropper
- Quick cooling by fan at the end of the test
- Small footprint Compact instrument



# CONNECTIVITY

- 3 rear USB ports
- 1 front USB port
- 1 LAN port
- 1 RS232C port



#### SAFETY

- User access with different levels
- Sample overheating protection
- Audible and visual alarms
- Automatic shut off if missing probe
- Waterproof heater
- Solvent proof display screen



### SOFTWARE

- Backup and software update by USB
- Keyboard, mouse, barcode reader and printer connection
- Data storage 320 Go HDD
- Data export through USB, LIMS, PDF or e-mails.
- Fully settable report
- Friendly software interface
- User and password settings
- Data transfer to printer
- Product files configuration











# **ACCESSORIES**

- Magnetic Ball Dropper
- Mechanical and magnetic stirrers
- Removal magnetic stick for magnetic stirrer
- Optional: different types of rings
- ASTM D 36 or ISO EN 1427 beaker
- Molding plate
- Ball centering guide
- **Optional Printer**
- Optional ASTM E28 beaker with specific treatment

#### SCOPE OF DELIVERY

**NBA 450** is a reliable and resistant instrument dedicated to automatic softenig point detection. Quick and easy operation through integrated touchscreen.

60700

NBA 450 is delivered ready to use with:

- 2 standardized beakers (P/N 17487)
- 10 shouldered rings (P/N 20765)
- 10 balls (P/N 20766)
- 1 holder (P/N 60703)
- 1 Pt 100 probe (P/N 40139)
- 1 mechanical stirrer (P/N 60702)
- 1 magnetic stirrer (P/N 60708)
- 1 removal magnetic stick (P/N 20030)
- 1 magnetic ball dropper (P/N 60705)
- 2 centering guides (P/N 60704)
- 1 molding plate (P/N 60706)

#### Site requirements:

Power supply: AC 200-250 V, 50/60 Hz - 3.3 A

Dimension: (D) 580x (W) 290x (H) 380 mm

• Weight: 14,8 kg

# SUMMARY

Operating temperature
Temperature range
Temperature unit

Temperature measure
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+5 to + 30 ° C Up to 200 ° C °C or °F

Pt 100 Probe

Detection
Stirring speeds
Cooling system

Data Storage

Optical

Up to 250 rpm

By fan

320 Go HDD

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