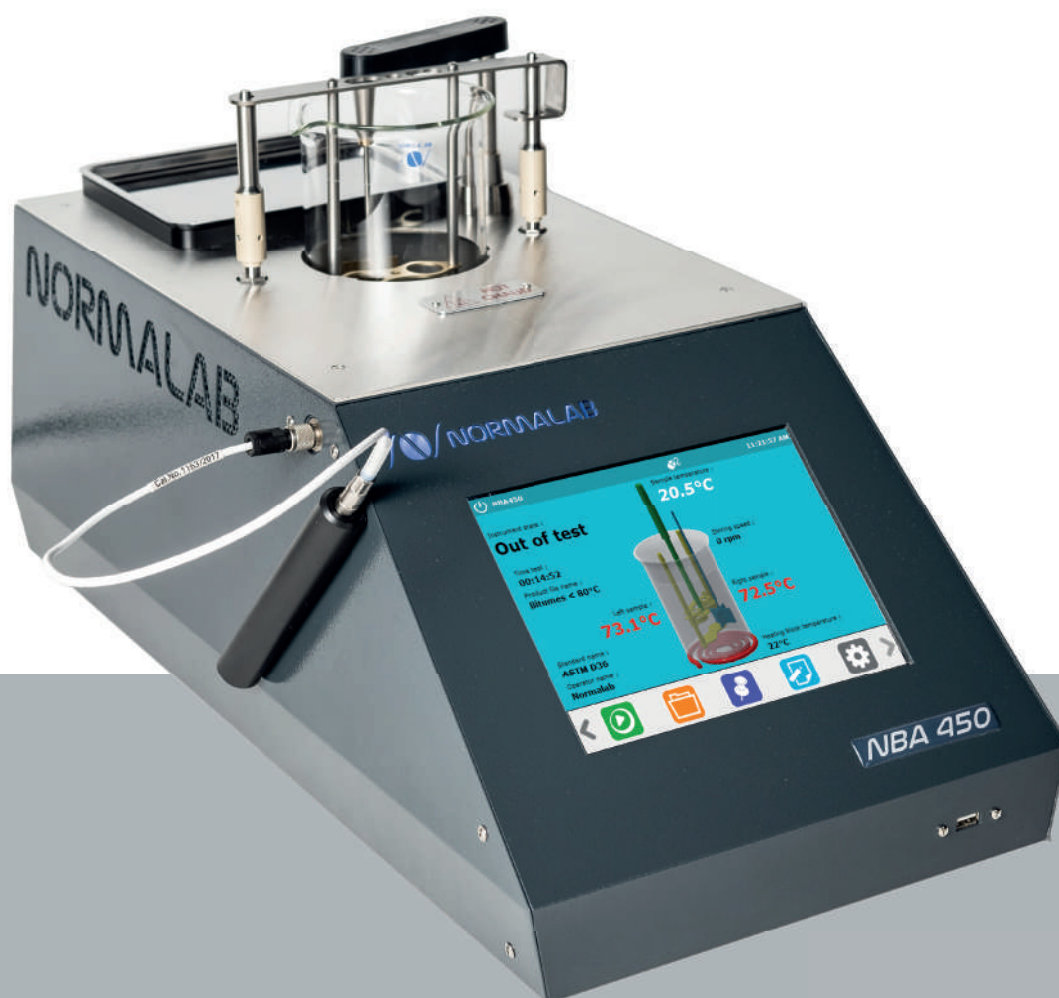


# NBA 450

## SOFTENING POINT TESTER

### RING AND BALL METHOD



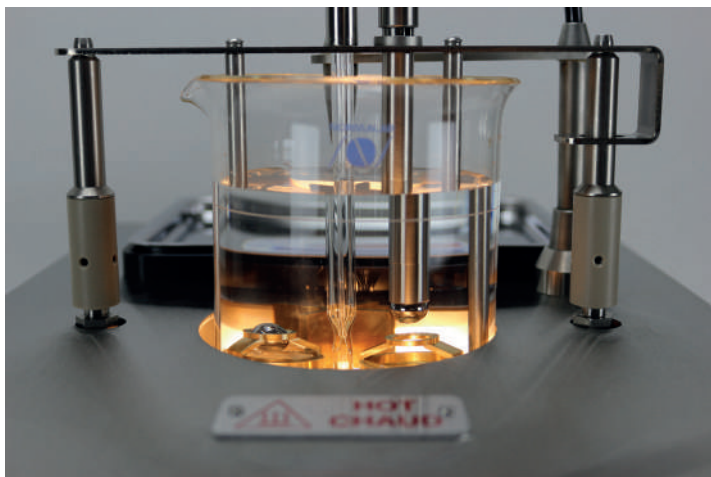
#### STANDARDS

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

#### SCOPE

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. Bitumens are viscoelastic materials without sharply defined melting points; they gradually become softer and less viscous as the temperature rises.

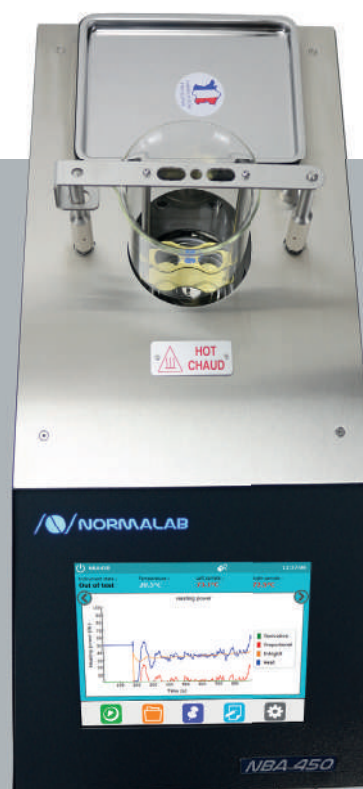
NBA 450 is a softening point tester developed by Normalab. Normalab has been designing and manufacturing petroleum testing instruments and glassware since 1963.



« FULLY AUTOMATIC  
MODEL FOR RELIABLE  
MEASUREMENTS »

## SPECIFICATIONS

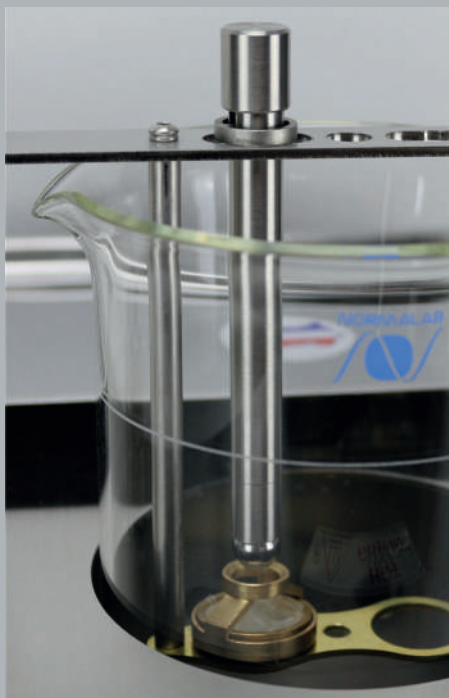
- **Test temperature range: up to 200°C**
- Automatic detection by optical cell barrier
- **3 preset methods (water, glycol, glycerin)**
- Adjustable heating rate and stirring speeds
- **Capacitive touch screen 8,4"**
- User-friendly software
- Stainless steel tray for easy handling of accessories
- 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

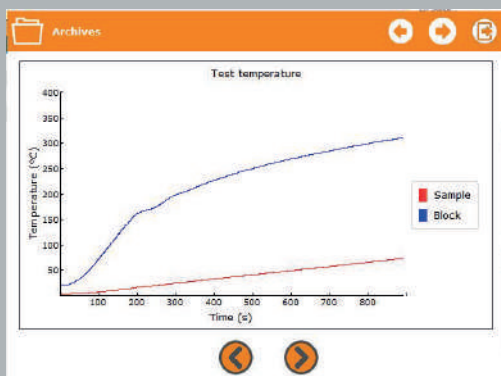
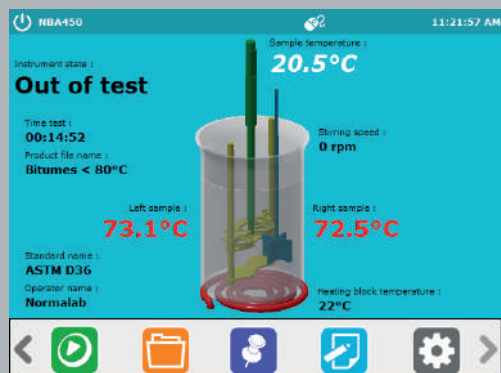
« FROM QC TO R&D LAB APPLICATIONS »



Magnetic ball dropper - P/N 60705



Mechanical stirrer



## SAFETY FEATURES

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

## ACCESSORIES

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



Magnetic stirrer

## SOFTWARE FEATURES

- Backup and software update by USB
- Keyboard, mouse, barcode reader and printer connection
- Data storage - 320 Go HDD
- Fully settable report
- Friendly software interface

## EASY CONFIGURATION

Access from basic to advanced parameters made easy through the intuitive software and large screen.

- Data export through USB, LIMS, PDF or e-mails.
- User and password settings
- Data transfer to local printer
- Product files configuration

## ORDERING INFORMATION

### Fully automatic analyzer of softening point - Ring and Ball method

60700

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

#### Scope of delivery:

**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 Hz - 4 A
- Dimension: (L) 290x (W) 580 x (H) 380 mm
- Weight: 14,8 kg

## SUMMARY

|                         |                |                 |               |
|-------------------------|----------------|-----------------|---------------|
| Operating temperature   | +5 to + 30 ° C | Detection       | Optical       |
| Temperature range       | Up to 200 ° C  | Stirring speeds | Up to 250 rpm |
| Temperature unit        | °C or °F       | Cooling system  | By fan        |
| Temperature measurement | Pt 100 Probe   | Data Storage    | 320 Go HDD    |



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