

**AUTOMATED**

**SOFTENING**

**POINT**

**TESTER**

**Model**

**ASP-5**



**ASP-5** automates the softening point test by Ring-and-Ball method for bitumen and similar substances, prescribed in ASTM D36.

A photo-electric device with wide light beam is employed to assure a reliable automatic detection of softening point.

**EASY OPERATION:** Just set up the specimen, determine the bath liquid type, and press the START key; all the rest of the test procedures such as heating, softening point detection, and heater cooling are performed automatically.

**EXACT TEMPERATURE RISE CONTROL:** Exact temperature rise rate can be attained not only with water bath but also with glycerin bath by the precise heater control.

**RELIABLE FALLING BALL DETECTION:** Thanks to the wide light projector and wide light receiver, the ASP-5 detects the falling ball even if the ball falls with some angle.

**SAFETY MECHANISM:** Generation of harmful vapor from overheated glycerin is prevented by the safety shutdown.

**CALIBRATION CAPABILITY:** By simply setting a traceable thermometer right next to the PT-100 temperature sensor and running a test to record and compare the two temperature readings, user can easily carry out a traceable temperature calibration.

**DATA HANDLING:** The unit is equipped to store up to 20 successive test results and export to an optional printer or to a LIMS through an RS232 port.

**COMPACT DESIGN:** The test head unit can be stacked on the control unit and is also small enough (only 23cm in width) to be operated inside of a fume hood.

### SPECIFICATIONS:

#### CONFORMING STANDARDS:

ASTM D36 etc.

#### TYPE:

Two-Rings & Two-Balls type

#### MEASURING RANGE:

Ambient to 200°C (392 °F)

#### TEMPERATUR SENSOR:

PT-100 in stainless steel sheath

#### SOFTENING POINT DETECTOR:

Light projector: Cylindrical lamp

Light receiver: Photo-diode array

#### DISPLAY:

Fluorescent display tube (VFD Module)

#### HEATER:

Nichrom coil heater: 1kW @100V or 1kW @220V

#### SEQUENSE CONTROL:

By an on-board microcomputer

#### TEST MODE:

Water bath mode and Glycerin bath mode

#### DATA OUTPUT:

RS-232C 1 channel (for PC or Optional Printer)

#### DATA MEMORY:

Last 20 sets of test results with sample ID

#### SAFETY MECHANISM:

Automatically shuts off and the problem is reported by buzzer and display, in case:

- (a) the sample falls on only one side and not on the other within the set temperature range,
- (b) the sample does not fall on either side within the set upper limit temperature,
- (c) light projector or receiver is found defective,
- (d) temperature sensor is found defective,
- (e) temperature sensor not placed in the right position,
- (f) built-in battery is found drained out, or
- (g) control computer runs away (no display)

#### DIMENSION & WEIGHT:

Control unit: 230W x 455D x 110H (mm), 6.0kg

Test unit: 230W x 380D x 270H (mm), 7.0kg

### INSTALLATION SITE:

Ambient temperature: 0 to 40 °C

RH: Less than 90%(no condensation)

### POWER SUPPLY:

AC100/120V or 220/240V 50/60Hz

(set at the factory, specify when ordering) 1.5kW(max.)

### ORDERING INFORMATION:

#### STANDARD ACCESSORIES:

- |  |       |
|--|-------|
| 1. Ring Holder and Bottom Plate Assembly               | 1pc   |
| 2. Shouldered Ring                                     | 6pcs  |
| 3. Ball, 3/8in.  | 6pcs  |
| 4. Ball Centering Guide                                | 2pcs  |
| 5. Beaker  | 1 pc  |
| 6. Beaker Handle                                       | 1pc   |
| 7. Temperature Sensor Assy                             | 1pc   |
| 8. Temperature Sensor Holder                           | 1pc   |
| 9. Power Connecting Cable, 0.6m                        | 1pc   |
| 10. Signal Connecting Cable, 0.6m                      | 1pc   |
| 11. AC Power Cord, 3.0m (<AC125V)<br>or 2.5m (>AC200V) | 1 pc  |
| 12. Instruction Manual                                 | 1copy |

#### OPIONAL ACCESSORIES:

Power Connecting Cable, 3m

Signal Connecting Cable, 3m

Built-in Clock Board (for time/date verification)

Printer, BS2-80TS (we recommend that optional Built-in Clock Board be purchased with this Printer)

#### SUGGESTED SPARES:

- |  |       |
|--|-------|
| 1. Ring Holder and Bottom Plate Assembly         | 1pc   |
| 2. Nichrom Heater Coil 1kW @100V<br>or 1kW @220V | 1pc   |
| 3. Light Projector Lamp H-0937                   | 1pc   |
| 4. Light Receiver Assy                           | 1pc   |
| 5. Temperature Sensor Assy                       | 1pc   |
| 6. Shouldered Ring                               | 20pcs |
| 7. Ball, 3/8in.                                  | 50pcs |
| 8. Ball Centering Guide                          | 2pc   |
| 9. Beaker  | 1 pc  |
| 10. Beaker Handle                                | 1pc   |

Specifications subject to change without prior notice.

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