PAVETEST

B216
BBR PLUS
SERVO-CONTROLLED BENDING BEAM RHEOMETER

The BBR is a thermoelectrically-cooled bending beam rheometer for testing flexural creep of asphalt binders from ambient to – 40 °C (± 0.03 °C). The load is applied by a miniature servo-controlled actuator capable of applying up to ± 10N and loading frequency from static to 25Hz, without the need for compressed air supply. The use of servo-control eliminates the need for frequent calibration and repeated adjustment of air bearing pressures. Just enter the required load and the servo-controlled actuator will apply and maintain the requested load with incredible precision. The temperature is controlled very precisely using a temperature controller mounted on the front of the machine. **The user can set the bath temperature using the controller or via the software. The heart of the system is Pavetest's industry leading Control and Data Acquisition System (CDAS 2) and world acclaimed (TestLab) software**.

MAIN FEATURES

- Servo-control eliminates the need for frequent calibration and repeated adjustment of air bearing pressures
- Loading frequency from static to 25Hz
- No need for compressed air supply
- TE-cooled with solid-state Peltier devices
- Includes a separate air-water heat exchanger
- An integrated, self-contained bath cools using ethanol as the bath medium
- Set and monitor the temperature of the bath via the software

TECHNICAL SPECIFICATIONS

- Meets or exceeds ASTM, AASHTO and SHRP requirement for low temperature flexural creep testing of asphalt binders including ASTM D6648 and AASHTO T313
- Temperature range: Ambient to – 40 °C
- Temperature stability: ± 0.03 °C
- Resolves specimen beam deflection to 0.01 µm
- Load cell span: 50 N
- Load cell resolution: 50 µN
- Range: 20 MPa to 1 GPa
- Loading frequency from static to 25Hz

Power supply:
BBR: 100-230V 50-60Hz 1ph 850W
Chiller: 230V 50-60Hz 1ph 590W
110V 50-60Hz 1ph
Dimensions: BBR: 60 x 50 x 52(h) cm
Chiller: 47 x 53 x 40(h) cm
Weight: BBR: 39 kg
Chiller: 48 kg

COMMON APPLICATIONS

- Flexural creep of asphalt binders
- Low temperature characterization of crack seal under load
- ASTM D6648, AASHTO T313, EN 14771, SHRP Binder Provisions For Low Temperature Flexural Creep Testing of Asphalt Binders

CDAS 2 - CONTROL AND DATA ACQUISITION SYSTEM

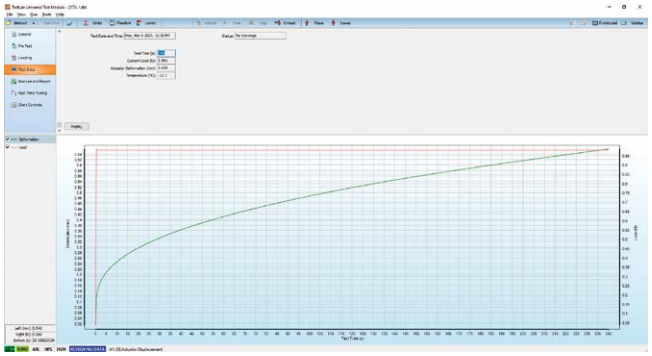
The BBR integrates Pavetest's compact Control and Data Acquisition System, complete with the TestLab Software, delivers unparalleled performance, real time control and ultimate versatility in acquisition and provide a flexible and user-friendly testing solution.

MAIN FEATURES

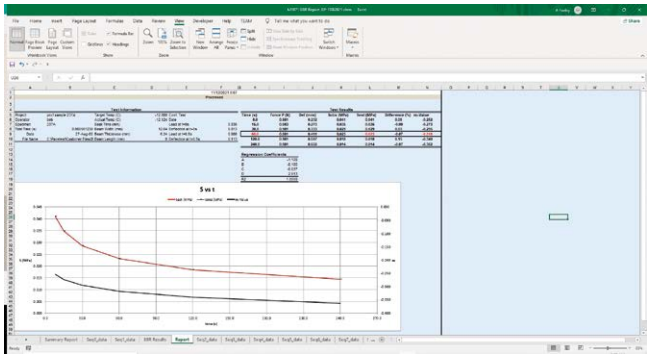
- Compact up to 8 Input, 2 control axis.
- Sampling rate up to 200 kHz over all channels.
- Up to 64 times over-sampling.
- Up to 24 bit resolution over the full range (no auto ranging required).
- Automatic recognition of transducers and upload of calibration files.
- Digital closed loop update sampling rate up to 5 kHz per axis.
- High speed, (18 bit) D/A digital servo-control.
- Modbus/CAN/RS485/RS232 communication among devices connected to the same network.
- Communication USB or Ethernet.
- Optional wireless colour touch screen display/controller.

TESTLAB, A NEW APPROACH - TOTALLY OPEN AND PROGRAMMABLE SOFTWARE

With TestLab software, any kind of test can be designed, cloned and/or modified by the user. The user is no longer limited to the test configuration established at the time of purchase; the possibilities are limited only to her/his ability and imagination.



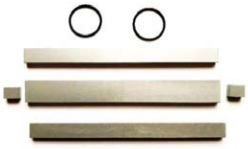
Suite equipped with pre set or customized Method File



Post elaboration integrated function with Excel data.

ORDERING INFORMATION

The BBR is supplied complete with a suitable chiller to ensure a temperature range between ambient and -40 °C. Moulds and calibration kit to check force and displacement are also available and has to be ordered separately.



UPGRADE BENEFITS

Are you sick of adjusting pressure regulators on your out-dated air bearing BBR?
Upgrade to a servo-controlled loading head. Our 40 plus years' experience with servo-controlled systems and instrumentation places us in strong position to restore your outdate system to current day standards.