Bending Beam Rheometer 2S (BBR2S)

The improved ATS Bending Beam Rheometer (BBR2S) is engineered to perform flexural tests on asphalt binder/bitumen and similar specimens per AASHTO T 313, AASHTO TP 87, ASTM D6648, GOST 58400.8-2019, and BS EN 14771 specifications. These tests consist of a constant force being applied to a specimen in a chilled bath to derive specific rates of deformation at various temperatures. Enhanced software and the ability to perform crack sealant tests expand the capabilities of the BBR2S beyond those of the original BBR2. Intuitive programming guides operators through test setup, providing a highly customizable and user-friendly experience.

Features

- New and improved LVDT calibration disk and weight pan as well as an enhanced software update (2.8.1 and later). For more information see the “BBR Product Update” sheet on our website.
- PID temperature controller with digital display
- Two independent platinum RTDs for precise temperature control
- External cooling unit with temperature controller
- Test temperatures of -40° to 25° C
- Three-point bend test apparatus
- Stainless steel, corrosion-resistant construction
- Computerized control, data acquisition, and analysis
- Integral LVDT and temperature-compensated 500 gram load cell
- Optional Crack Sealant Testing Hardware

Software & Reporting

The BBR2S features the newest version of our BBR software, which includes:

- Programmable Test Parameters – amount of force, length of time force is applied, the length of time for the specimen to recover, and the specimen size.
- Language Options – seven pre-programmed languages include English, Spanish, French, Chinese, German, Italian, and Arabic.
- System Status Lights – clearly indicate which system components need to be verified. If verification cannot occur, the software gives users the option to standardize right from the verification screen.
- Customizable Reports – BBR2S users now also have the ability to name their samples, enter any important notes, and upload their company logo directly into their test report. Test data available in CSV and HTML.

Product Specifications

Load Frame	Integral stainless steel frictionless construction
Loading Shaft	In-line stainless steel with blunt point
Test Load	Variable test range from 0 to 1961 mN (200 g) standard System maintains required test load within ±5 mN (0.5 g) throughout the test cycle
Test Cycle Times	Cycle times for pre-load, recovery, and test load are completely operator-adjustable
Load Cell	500 g (temperature-compensated)
Mechanical Overload Protection	Standard
Test Weights	Calibrated and traceable to NIST
Sample Supports	3 mm (0.118 in) radius stainless steel, spaced 101.6 mm (4.00 in) apart
LVDT Displacement Transducer	0.25 in (6.35 mm) calibrated range to provide 2 µm resolution throughout testing and verification range
Test Weights	Calibrated and traceable to NIST
Data Display	Large on-screen display of load, displacement, and bath temperature provides ease of setup and operation. Real-time displacement, loading, and temperature graphs are displayed during the test cycle and can be re-plotted and re-scaled as needed for easy viewing
Cooling Unit	Included (non-CFC refrigerant)
Recommended Cooling Bath Fluid	Non-flammable ethylene glycol mixture
Testing Temperature Range	0 to -40°C (32 to -40°F)
Temperature Measurement	Two platinum RTDs
Power Requirements	115 VAC, 1 ph, 50/60 Hz, 2 A or 230 VAC, 1 ph, 50/60 Hz, 2 A
Compressed Air Requirements	50 psi (0.34 MPa) clean, dry air supply required
Weight	150 lb
Dimensions	BBR: 24 in W x 24 in D x 23.25 in H (with load frame) Chiller: 10.5 in W x 20 in D x 9.25 in H