



BENDING BEAM RHEOMETER (BBR)

Standard: ASTM D6648, AASHTO T313, EN14771

The **NL PavePro Bending Beam Rheometer (BBR)** is a high-precision system engineered to evaluate the low-temperature performance and fracture characteristics of asphalt binders. Operating in strict compliance with international standards, the instrument accurately measures flexural creep stiffness $S(t)$ and the m -value to assess a pavement's resistance to thermal cracking.

By capturing precise deformation data, the BBR provides a reliable, SHRP-compliant solution for quality control and binder characterization. Designed for superior thermal stability, the system utilizes a **circulating hybrid cooling** module to ensure precise temperature control within $\pm 0.1^\circ\text{C}$.

Main Features:-

- **Advanced Control & Visualization:** Integrated industrial workstation providing real-time graphical display of deformation, load and temperature curves.
- **Precision Calibration:** Built-in LVDT calibration assembly ensures a simplified and highly efficient system verification process.
- **High-Efficiency Cooling:** Rapid cooling circulation reaches -18°C from ambient within 40 minutes with superior temperature stability.
- **Vibration Isolation:** External refrigeration unit connected via flexible hosing to eliminate mechanical interference during sensitive creep tests.
- **Thermal Uniformity:** High-volume 5L liquid bath equipped with an adjustable-speed magnetic stirrer for consistent temperature distribution.
- **Digital Pneumatic Monitoring:** Software-based digital display of air source, preload, test load and air bearing pressures.
- **Enhanced Data Management:** Integrated USB communication port for seamless data export and simplified laboratory record-keeping.
- **Intelligent Diagnostics:** Comprehensive protection system featuring overload safety, fault pre-warning, audible alarms and diagnostic error codes.
- **Durable Construction:** Professional-grade stainless steel chassis designed for long-term durability and easy maintenance.
- **Flexible Test Protocols:** Customizable test durations and calculation intervals to accommodate specific research needs beyond standard 240s protocols.

Technical Specifications :

Model Number	NL PV / P6
SENSOR SYSTEM	
Displacement Sensor Range	0 - 10 mm
Displacement Resolution	1 µm
Force Transducer Range	0 – 4900 mN
Force Resolution	1 mN
Temperature Range	-50°C to Ambient
Temperature Accuracy	±0.1°C
FLUID BATH	
Temperature Range	-40°C to Ambient
Temperature Control Precision	±0.1°C
Bath Volume	5 L
Stirrer Speed	25 rpm
TEST PARAMETERS & HARDWARE	
Mould Dimensions	127 x 12.7 x 6.35 mm
Support Contact Radius	3 ± 0.3 mm
Loading Shaft Radius	6.3 ± 1.3 mm (Spherical Contact)
Creep Stiffness Range	20 MPa - 1000 MPa
Data Interface	USB
POWER & DIMENSIONS	
Main Unit Power	AC 220V, 1 kW, 1 Ph, 50/60 Hz
Refrigeration Unit	AC 220V, 3 kW, 1 Ph, 50/60 Hz
BBR Dimensions	610 (W) x 610 (D) x 620 (H) mm
BBR Weight	80 kg
Chiller Dimensions	300 (W) x 550 (D) x 600 (H) mm
Chiller Weight	40 kg

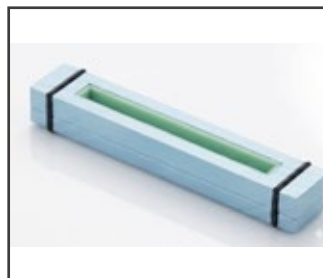
*1 Copy of Manual Instruction

Unit Consists Of :

Model Number	Parts Description	Qty
NL PV / P6 – P1	Chiller	1set
NL PV / P6 – P2	Test Mould	1no.



Chiller



Test Mould