Anton Paar

COD

DDA 3

Digital Ductility Meter

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The automatic DDA 3 force-ductility meter offers three procedures to measure bitumen properties:

- **Ductility or elongation** is measured by the distance to which a sample will elongate before breaking.
- **Elastic recovery** is measured by the recoverable strain determined after severing an elongated briquette specimen. This is useful in confirming that a material has been added to the bitumen to provide a significant elastomeric characteristic.
- **Force-ductility** measures tensile properties and the deformation energy.

Benefits at a Glance

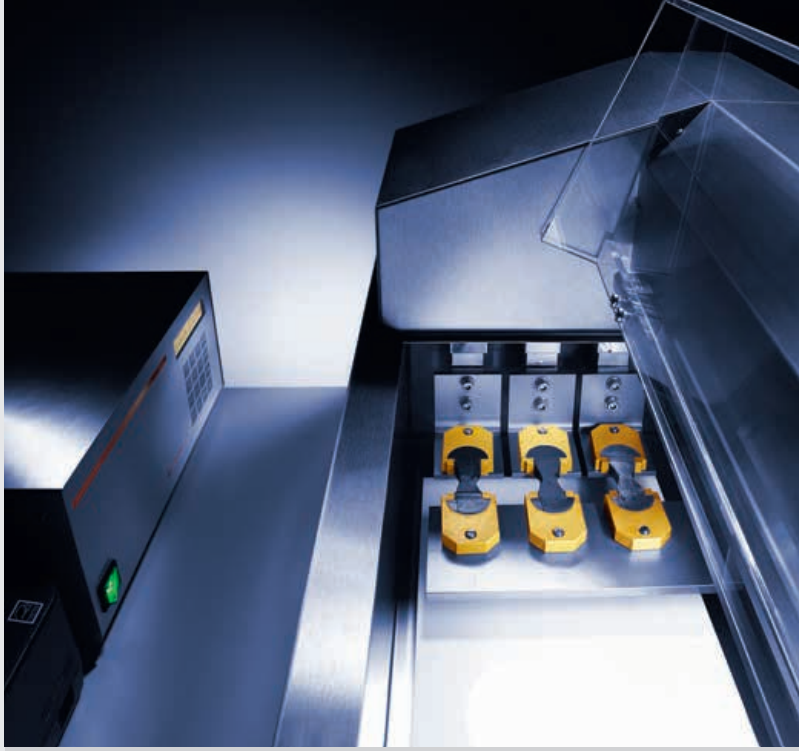
- The double-walled bath technique features a very even and exact temperature accuracy of ±0.2 °C. The fully insulated, isothermal bath jacket is connected to an external thermostatic circulator (optional) for tempering.
- Automatic rupture detection above a force of 20 mN
- Exact temperature recording during the test run period by three sensors allocated across the bath length
- Minimum tensile force margin setting: When a briquette ruptures and the tensile falls below this setting, the pertinent elongation is stored. When all three briquettes are broken, DDA 3 stops automatically.

Convenient Operation

- The ductility meter is a microprocessor-controlled stainless steel test bath with illumination, several temperature probes and transparent acrylic cover. The stepping motor drive and feed rod are located outside the tempering bath and are therefore not affected by corroding influences of the bath liquid. If extremely thin threads are measured, the built-in circulation pump for the inner bath can be switched off.
- The control unit for setting test parameters and the digital display of measured values such as traction speed, tensile force, distance and temperature is placed in a separate housing and serves as a stand for the printer that records test parameters and measured values.

Customized User Flexibility

- DDACon software (optional) with a special research program section
- Special recovery test program: A bitumen briquette is expanded to a pre-set elongation. Then the tractor returns to a position where the material is no longer stressed, which is equivalent to the cut-up state of the specimen. If tension should occur due to any recovery of the material, the tractor will move until there is a stress-free condition again.
- DDA calibration kit (optional)



Standard Methods

Elongation:	ASTM D113, JIS K 2207, AASHTO T51, DIN 52013
Recovery:	ASTM D6084, EN 13398, IP 516
Force:	EN 13589, EN 13703, AASHTO T300, IP 515, IP 520

Technical Specifications	
Application range	-10 °C to 40 °C (dependent on external thermostatic circulator)
Test length	max. 150 cm
Test places	3
Traction force	max. 300 N
Traction speed	up to 140 mm/min, stepless
Interfaces	RS232 for printer and PC, analog outputs for line recorder
Power supply	115 V/230 V, 50 Hz/60 Hz, 250 W
Dimensions (W x D x H)	▸ Bath: 2200 mm x 400 mm x 500 mm ▸ Controller: 350 mm x 250 mm x 150 mm ▸ Printer: 400 mm x 300 mm x 200 mm
Weight	▸ Bath: 92 kg ▸ Controller: 6 kg ▸ Printer: 5 kg

Your distributor:

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