Determination of the dynamic Viscosity of Bitumen

According to
DIN EN 13302 and ASTM D4402

Thus, the **DSR RHEOTEST RN 5.3 *advanced*** can be extended by a Peltier temperature control for cylinder measuring systems.

Temperature range, Peltier
-15°C ... +180°C
disposable cups available

Benefit of modular design

The **DSR RHEOTEST RN 5.3 *advanced*** also enables a longer-term investment strategy.
Thus, the **DSR RHEOTEST RN 5.3 *advanced*** can be extended by a variety of different accessories.

This advantage makes the **DSR RHEOTEST RN 5.3 *advanced*** to an universal rheometer, both for the advanced quality control as well as for universities and colleges.

About Rheotest Medingen GmbH

Viscometer and Rheometer from Medingen have a long tradition since more than 80 years: Fritz Höppler founded the Falling Ball viscometer in Medingen, the first viscometer worldwide.

QUALITY MADE IN GERMANY

RHEOTEST Medingen GmbH exclusively develops and manufactures all products at the traditional business location at Medingen. RHEOTEST offers a wide range of various viscometer and rheometer for different applications in laboratory and process. Our measuring technique is used worldwide both in production, advanced quality control and R&D as well as education.

SERVICE

- practical user training
- installation and start-up training
- online support via Skype or Teamviewer
- after sales service: calibration and maintenance / inspection and spare parts
- on demand, RHEOTEST offers user trainings and training courses

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RHEOTEST®
MEDINGEN
Viscometer from Medingen. Since 1932.

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DSR-Rheometer *advanced*

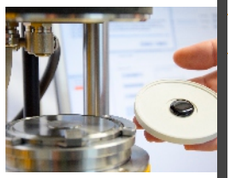
RHEOTEST® RN 5.3

Technical Specifications

RHEOTEST® RN 5.3 *advanced*

torque	0,1 ... 150 mNm
torque resolution	0,002 mNm
speed	0 ... 2000 rpm
speed resolution	0,015 rpm
viscosity range	1 ... 3 x 10^9 mPas
angle range	0 ... 90°
frequency	0,001 ... 100 Hz
normal force range	-30 ... 30 N
temperature range, Peltier	-15 ... +180°C
automatic gap adjustment	yes
gap resolution	1 µm
interface	USB 2.0

rapid temperature control
dry temperature control by integrated Peltier technique
temperature range:
-15°C ... +180°C



normal force measurement
normal force for automatic determination of zero point and measuring gap
limitation of the contact force for preventing of structural damages in the bitumen sample

automatic gap control
lighted measuring chamber
variably adjustable working range for filling, trimming and tempering of samples and cleaning of measuring system

easy handling
exchangeable measuring system for convenient sample loading and cleaning of the measuring system

accessories for standardized sample preparation

Asphalt Testing

According to binding standards DIN EN, ASTM and AASHTO

DIN	ASTM	AASHTO
DIN EN 14770 DIN EN 13302 DIN EN 10659 FGSV AL 721 (konstante Scherate) FGSV AL 722 (Temperatur-Sweeps) FGSV AL 723 (MSCR-Test) FGSV AL 720 BTSV (Bitumen-Typisierungs-Schnell-Verfahren)	ASTM D 4402 "Viscosity" ASTM D7405 "MSCR-Tests" ASTM D7175 "DSR T-Sweep"	AASHTO T 350 "MSCR-Tests" AASHTO M332 "PG" AASHTO T315 "PG Asphalt Binder" AASHTO TP101 AASHTO M320 AASHTO T316

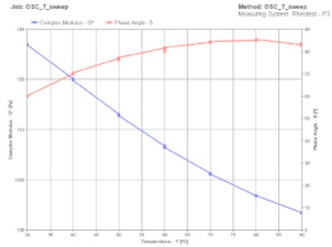
Rheological tests from rotation (shear rate (CR) and shear stress tests (CS)) up to deformation- and shear stress controlled Oscillation tests feasible.

- predefined jobs for standard test methods for automatic test execution
- analysis of measurement data for selected types of bitumen

Asphalt Testing

Different methods of analysis (jobs) are saved as templates in the software RN Manager. A job consists of test sequence, graph, analysis of report and documentation of the test results, e.g.:

- job "MSCR_AASHTO" for MSCR with shear stress levels of 100 Pa and 3200 Pa as well as the analysis according to AASHTO T 350; (ASTM D7405)
- job "OSC_T_sweep" for the determination of complex shear modulus and phase angle with DSR in temperature sweep according to DIN EN 14770,
- jobs „OSC_Binder", „OSC_RTFO", „OSC_PAV_S", „OSC_PAV_M" according to ASTM D7175 and AASHTO T315
- jobs for calibration



- test methods include Original Binder, RTFO and PAV (both grading and verification)
- Grade Determination and Pass/Fail decision
- classification of Bitumen (Performance Grade)
- all measuring data are available as report including test protocol and are arbitrarily exportable

User Benefits

experienced measuring flow

- exchangeable measuring systems for convenient sample loading and cleaning of the measuring system
- accessories for standardized sample preparation

measuring precision made in Germany

Every **DSR RHEOTEST RN 5.3 *advanced*** hides ball bearings from the world's best manufacturer of ball bearings. Thanks to the proven high-precision ball-bearing drive the **DSR RHEOTEST RN 5.3 *advanced*** is unbeatable in its robustness

Quality made in Germany - rheometer and viscometer from RHEOTEST Medingen are manufactured exclusively in Germany and are reliable, easy to use and have a long life.

Practical handling beyond of clean room conditions

DSR RHEOTEST RN 5.3 *advanced* does not need clean room conditions nor technical requirements for oil-free compressed air.
Consequently there are no additional running costs.
The DSR Rheometer **RHEOTEST® RN 5.3 *advanced*** is delivered for immediate use - including accessories, Peltier temperature control, the required measuring systems and software, optionally including tablet to run the software.