



**Designed for daily and routine measurements in the laboratory**

Accessories such as plates, cones, rotors, vane rotors as well as various temperature control techniques enable to analyze the properties of the sample under a wide range of conditions. The range of applications of our RN rheometers include routine production and advanced quality control, to product development and R&D at universities.

**RHEOTEST® RN offers two measuring modes: Rotational and Oscillation mode.**

**ROTATIONAL RHEOMETER RHEOTEST® RN 5.1**  
Rotation tests (in shear rate -or shear stress controlled mode CR / CS) possible

**CR tests** (shear rate)  
- flow curve (viscosity as a function of shear rate)  
- hysteresis determination

**CS Tests** (shear stress)  
- viscosity as a function of shear stress  
- determination of yield point  
- viscoelastic properties (creep recovery tests)

**DSR RHEOMETER RHEOTEST® RN 5.1**  
Rotation tests (in shear rate controlled or shear stress controlled mode CR / CS) as well as shear stress or deformation controlled oscillation tests (OSC) possible

**CR tests** (shear rate)  
- flow curve (viscosity as a function of shear rate)  
- hysteresis determination

**CS tests** (shear Stress)  
- viscosity as a function of shear stress  
- determination of yield point  
- viscoelastic properties (creep-recovery tests)

**OSC tests** (Oscillation)  
- amplitude sweep  
- frequency sweep  
- viscoelastic properties

### UNIVERSAL - MODULAR - COMPACT IN DESIGN

An universal rheometer for routine testing in the laboratory, for advanced quality control as well as for universities and colleges.

The rheometers of the RN series from RHEOTEST® are distinguished by their flexible application possibilities: independent of rheological requirements or future tasks. The modular concept of our RN series allows individual adaptation or extension to numerous applications, at any time.

All rheometers of the RHEOTEST® RN series are universally thanks to their modular design and interchangeable measuring systems. All instruments are equipped with a powerful and high-precision ball-bearing drive, which has been proven and which is much less sensitive than air-bearing rheometers.

### ADVANTAGES RHEOTEST® RN series

All tests from the rotation (CR-/CS-tests: shear rate and shear stress controlled tests) up to Oscillation (OSC tests) are possible.

**flexible at any time**  
Optionally extendable with additional measuring systems and temperature control systems.

**transparent costs**  
RHEOTEST® RN rheometers work reliable for a long time: there is no need for regular calibration or binding service contracts.

Rheometers of the RHEOTEST® RN series are configured and delivered as a complete measuring place. For immediate use.

**practical handling beyond clean room conditions**  
All rheometers of the RHEOTEST® RN series require neither clean room conditions nor technical requirements for stable and oil-free air pressure - thus eliminate additional operating costs.

Our rheometers of the RHEOTEST® RN series are characterized by the high quality of use in daily and routine interaction of a laboratory.

**Measuring precision made in Germany**  
Every rheometer of the series RHEOTEST® RN contains ball bearings from the world's best manufacturer. Thanks to powerful, high-precision and proven ball bearing drive, the RHEOTEST® RN is unbeatable in its robustness.

### RHEOTEST® RN series

#### TECHNICAL SPECIFICATION

	RN	DSR RN
torque	0,1 to 150 mNm	0,1 to 150 mNm
torque resolution	0,002 mNm	0,002 mNm
speed	0 to 2000 rpm	0 to 2000 rpm
speed resolution	0,015 rpm	0,015 rpm
viscosity range	1 ... 10 <sup>10</sup> mPas	1 ... 10 <sup>10</sup> mPas
angle range	-	unlimited, in both directions
angle resolution	-	0,001°
frequency	-	0,001 ... 100 Hz
temperature range, total	-60 ... +350°C	-60 ... +350°C
temperature resolution	0,01°C	0,01°C
normal force	-	-30 ... 30 N
normal force resolution	-	0,01 N

#### APPLICATION & STANDARDS

The RHEOTEST® RN series work according to the standard DIN 53019 and is applicable for rheological tests in quality control as well as in research and development:

- automotive industry
- asphalt/Bitumen (DSR RN 5.3 / DSR RN 4.3 / RN BitumenRheometer)
- coatings, paints, varnishes
- building material, raw material (RN building material Rheometer)
- chemical products, household chemicals
- electronic
- energy and environment
- cosmetics and health products
- food, beverages, dairy products (RN StarchRheometer)
- petrochemistry
- pharmacy
- polymers

### ROTATIONAL RHEOMETER RHEOTEST® RN 5.1 DSR RHEOMETER RHEOTEST® RN 5.1

#### Cylinder measuring systems



7 different rotors  
particle size up to 5,2mm possible  
temperature range, total: -60°C ... +200°C  
measuring range: 1 ... 10<sup>7</sup> mPas  
shear rate: 0,04 ... 6700 s<sup>-1</sup>

Peltier Cylinder:  
-15°C ... +180°C



Cryostate / Thermostate:  
-60°C ... +200°C



#### cone/plate measuring systems plate/plate measuring systems



8 different measuring cones  
7 different measuring plates  
particle size up to 0,5mm possible  
temperature range, total: -30°C ... +350°C  
measuring range: 1 ... 5 x 10<sup>13</sup> mPas  
shear rate: 0,12 ... 20000 s<sup>-1</sup>

Peltier PP4:  
-10°C ... +180°C



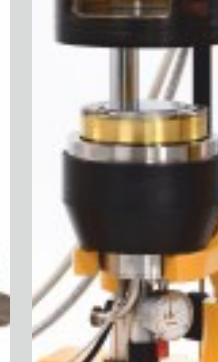
Peltier PP5:  
-15°C ... +180°C



Cryostate/Thermostate:  
-30°C ... +200°C



Electrical:  
+50°C ... +350°C



#### Special measuring systems



profiled rotors  
vane rotors



measuring systems  
for building material



Brookfield method



measuring system  
for starch



### ROTATIONAL RHEOMETER RHEOTEST® RN 5.1 DSR RHEOMETER RHEOTEST® RN 5.1

## DISCOVER TAILOR-MADE SOLUTIONS FOR YOUR INDUSTRY

We at RHEOTEST® are intensively researching the continuous development of new devices, which are optimally aligned to your application. This enables us to offer industry-specific matched products and solutions.

**Request detailed information on your area of application. We would be happy to advise you.**

#### ► Starch



#### ► Bitumen & Asphalt



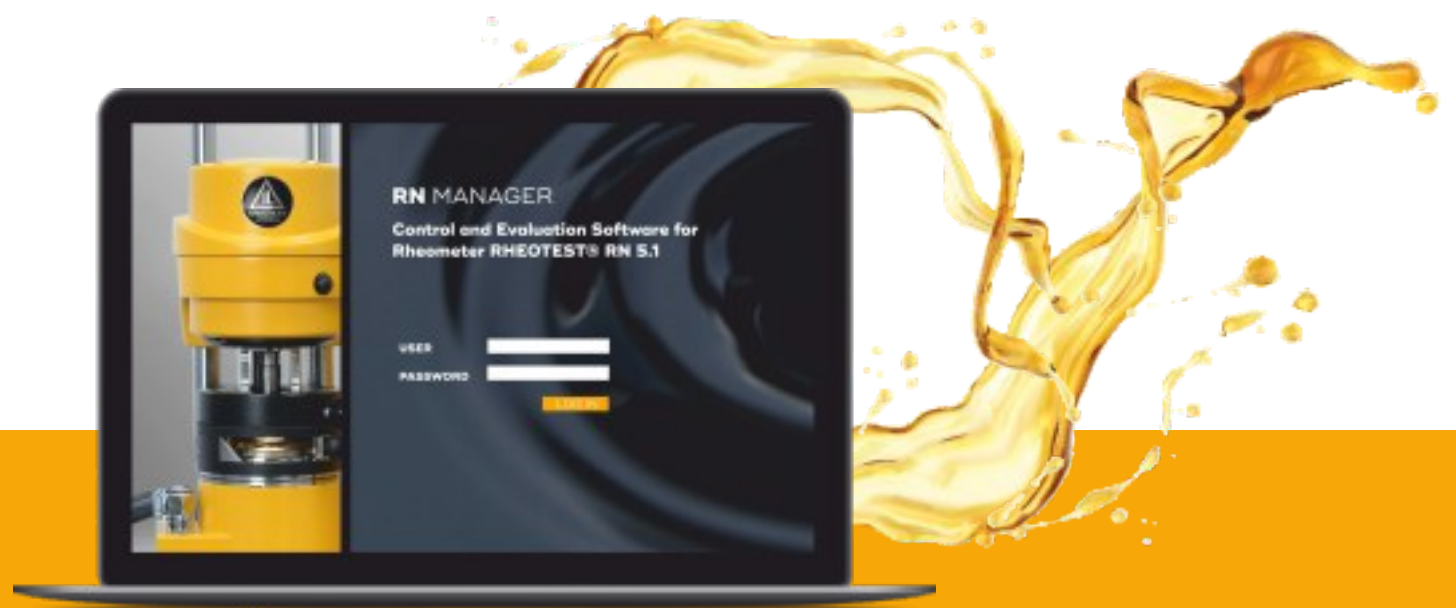
#### ► Building materials



#### ► Petrochemical products and refinery







### Software RHEOTEST® RN MANAGER

Programm for performing, displaying and evaluating CR tests (shear rate), CS tests (shear stress) and OSC Oscillation tests. International standards and test specifications are stored in the software as standard tests. For special applications, predefined jobs for standard test methods are programmed for automatic test execution.

operating system	Windows 10 and higher
languages	English, Spanish, Russian, German - further languages on demand
user administration	definition of user rights
measuring data analysis according to the following models:	Newton, Ostwald de Waele, De Haven, Carreau, Cross, Golub, Reiner-Phillippoff, Meter, Bingham, Herschel Bulkley, Casson, Casson allg., Tscheuschner allgm.
import/export function	of the measurement data e.g. in Excel import and export of jobs for archiving or exchange with other users (GMP, GLP, GCP and FDA 21 CFR Part 11 compliant)
further functions	parallel temperature control of supporting temperature control technology definition of stop criteria definition of parameters calculation (e.g.: average viscosity, limits, thixotropy, yield point, correlation, scatter) configurable display of data in table and graph generation of reports freely programmable jobs

### Manufacture and made in Germany WHY WE ARE DIFFERENT

Know-how and precision down to the smallest detail: At RHEOTEST®, ideas, high-tech and craftsmanship are converted to perfection. Near to Dresden creative engineers, experienced rheologists and practiced mechanics let arise rheological measuring instruments.

RHEOTEST® combines modern technology and manual work with the aim of producing a high quality product which is appreciated both by dealers and customers in our globalized world.

Viscometers and rheometers from Medingen have been a reliable constant in the test laboratory for decades: Precise test results, user-friendliness, robust design and cost effectiveness create real added value for our customers around the globe.

regionally manufactured - globally in demand  
**DISTRIBUTION WORLDWIDE**

Around the globe, our customers appreciate German workmanship: A large number of our viscometers and rheometers are exported and used worldwide. Please contact RHEOTEST® directly or contact our sales partners at: [www.rheotest.com](http://www.rheotest.com)



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**MADE IN GERMANY**



[www.rheotest.com](http://www.rheotest.com)

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Viscometer from Medingen.  
Since 1932.



### RHEOTEST® RN-SERIES

Universally applicable thanks to modular design  
and changeable measuring systems

