proRheo
rheological answers!

Rheomat
R 180

The portable viscometer
for product control in
laboratory and field

COMPATIBLE
Direct PC connection via serial port to use our software.

DURABLE
A cast iron housing with an extremely rugged keypad - the R180 is perfect for the rigors of everyday production.

FLEXIBLE MEASUREMENT MODES

• Single point measurement:
Enter any shear rate and read the measurement result immediately. If your R180 is connected to a PC the measurement results are recorded continuously. Changes in shear stress and viscosity are also recorded as a function of time. (Excellent for pot life determination).

• Step Programs:
In the automatic mode you can choose between 10 measurement programs, recording 8 points at different shear rates. The rotational speed is at first increased from low to high and then back down again. The resulting points give a flow curve which can be recorded on your PC or printer. Two of the step programs are predefined and a further 8 are available for customised testing, these can be saved and retrieved by their step program number.

OVERVIEW
The following values are displayed and continuously updated:
• Temperature
• Measurement System Number
• Torque and shear rate
• Rotational speed and shear stress
• Viscosity

SAFE TO HANDLE
A clear dialog guides you through the necessary input options. The buttons marked „Manual", „Automatic", „Printer" and „PC" start the respective functions directly.

FIELD-PROVEN
The R180 uses an integrated grip built right into the housing forease of use.

MEMORY
The integrated measured value memory is powered by a separate lithium battery and saves your measured values.

BATTERY OPERATION
The built-in rechargeable battery allows flexible use of the instrument, even without a power supply at hand.

PRACTICAL
The R180 is supplied with all accessories in a case and is thus quickly ready for use anywhere.

R180 DIMENSIONS

Weight: 2,7 kg
Dimension: 100 x 365 x 135 (W x H x D/mm)

INSTRUMENT OPERATIONAL INFORMATION

The equipment may be stored and operated in an environment from –20 to 60 °C.

VOLTAGE

With power supply: 100 to 250 V AC with 50/60 Hz, without power supply: NiMH batteries minimum 4 hours continuous power supply. Charging of batteries by power supply.

INTERFACES

RS 232 Connector for bi-directional PC connection, USB connector available. Centronics connector available for printer connection.

TORQUE

0,25 to 10 mNm +/- 0,01 mNm

ROTATIONAL SPEED

5 to 1000 rpm +/- 1 rpm

MEASURING SYSTEMS

11 predefined measuring systems
99 programmable measuring systems

MEASUREMENT RANGE

Viscosity: 0,002 Pas to 10.000 Pas according to measurement systems.
Share range: 0,8 s^{-1} to 3.000 s^{-1}

MEASUREMENT OF TEMPERATURE BY PT 100

TEMPERATURE OF SAMPLE

-9,9 to 99,9 °C +/- 0,1 °C
100 to 120 °C: +/- 1,0 °C

MEASUREMENT PROGRAMS

• 8 measurement points at different shear rates.
• 2 predefined test setups.
• 8 programmable test setups, minimum and maximum shear rates, statistical analysis available.

SOFTWARE

Different operational and analytical programs are available. Special print-out programs for ASCII or direct access to Excel.

System requirements for software RHESY:
• IBM PC or compatible PC from Pentium
• 166 MHz, 64 MB main memory (RAM)
• CD-ROM drive
• 1 free serial or USB interface
• Windows operating system

	Measurement systems	Measurement tube Ø mm	Measurement bob Ø mm	Viscosity (Pas)min.	Viscosity (Pas)max.	filling volume (ml)
DIN 53018/ DIN 53019	11	32,54	30	0,005	19	ca. 24
	22	26,03	24	0,010	38	ca. 16
	33	15,18	14	0,050	191	ca. 9
Relative systems	19	32,54	31,5	0,002	7	ca. 20
	12	32,54	24	0,027	104	ca. 18
	13	32,54	14	0,210	800	ca. 26
	23	26,03	14	0,240	906	ca. 18
	14	32,54	14	0,545	2.080	ca. 26
Special relative systems	71			0,003	10	
	71			0,027	104	
	73			0,160	605	
	74			0,665	2.530	
	75			2,580	9.800	
ISO 2555	61			0,007	26	
	62			0,028	106	
	63			0,070	264	
	64			0,139	529	
	65			0,278	1.057	
	66			0,696	2.643	
	67			2,783	10.574	