



RHEOMETER RC20-CPS

**FOR QUALITY CONTROL,
PROCESS ENGINEERING
AND PRODUCT DESIGN**



The Rheometer RC20-CPS is a rotational viscometer for quality control, process engineering and product design. A high developed dynamic measuring drive system enables rotational tests with **Controlled Shear Stress (CSS)** and **Controlled Shear Rate (CSR)**.

SPECIAL FEATURES

- microprocessor-controlled measuring device for mains power operation
- torque overload protection
- user-friendly, dust proof keyboard for manual use
- integrated alphanumeric display (4-lined) showing optional 4 current parameters (dynamic viscosity, shear rate, shear stress, rotational speed, torque or temperature)
- RAM data buffering, storage of data (incl. date and measuring-count) for maximum 10 experiments with up to 4800 measuring values
- cone/plate and plate/plate measuring systems (DIN 53018, see table)
- sample tempering by liquid thermostat or peltier heating
- PC-control including data analysis (software package RHEO realizes presentation and output)

TECHNICAL DATA

Torque range	0,05 to 50 mNm
Torque resolution	0,01 mNm
Angle resolution	0,8 mrad
Speed range	0,7 to 800 min ⁻¹
Viscosity range	dependent from measuring system (see table)
Shear rate	dependent from measuring system (see table)
Shear stress	dependent from measuring system (see table)
Accuracy	± 1 % of maximum value
Temperature range	- 20° C to + 250° C (liquid thermostating) + 40° C to + 250° C (electrical heating) 0 to 135° C (peltier heating)
Temperature measuring	Pt 100 1/3 DIN
Power supply	100 to 240 V alternating current / 20 W

MEASURING PARAMETERS

Dynamic viscosity
Shear rate
Shear stress
Rotational speed
Torque
Temperature
Measuring time
Strain

EXPERIMENTS

- Single point viscosity detection (CSR, CSS)
- Shear rate steps (CSR)
- Flow curve (CSR, CSS)
- Determination of yield stress (CSS)
- Viscosity-time-experiment (CSR)
- Creep test (CSS)

ADDITIONAL EQUIPMENT

Computer (486 or pentium processor, 8 MB RAM minimum)
WINDOWS-software RHEO
Graphic printer/plotter
Liquid thermostat
Normal or reference liquid

Measuring systems for DIN 53018 (consisting of cone C or plate P and the tempering device including a basic plate)

MEASURING SYSTEM	CONE/PLATE						PLATE/PLATE		
	C 25-1	C 25-2	C 50-1	C 50-2	C 75-1	C 75-2	P 25	P 50	P 75
Shear rate range [1/s]	0 ... 4800	0 ... 2400	0 ... 4800	0 ... 2400	0 ... 4800	0 ... 2400	0 ... 1047	0 ... 2094	0 ... 3141
Shear stress range [Pa]	0 ... 12223	0 ... 12223	0 ... 1527	0 ... 1527	0 ... 452	0 ... 452	0 ... 16297	0 ... 2037	0 ... 603
Viscosity range [Pas]	0,3 ... 1629	0,5 ... 3259	0,03 ... 203	0,06 ... 407	0,009 ... 60	0,02 ... 120	1,5 ... 9960	0,09 ... 622	0,02 ... 122
Filling volume [ml]	0,08	0,15	0,6	1,2	2,0	3,9	0,5	2,0	4,5
Cone or plate diameter [mm]	25	25	50	50	75	75	25	50	75
Cone angle [°]	1	2	1	2	1	2	-	-	-
Reducing of cone apex [µm]	50	50	50	50	50	50	-	-	-

optional manufacturing of 4° and 6° cones

rheotec

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