RHEOGRAPH 200

The First Automated, Nitrogen-Driven Capillary Rheometer

GÖTTFERT®

certified according to DIN EN ISO 9001

GFT 012.0.04-9-02

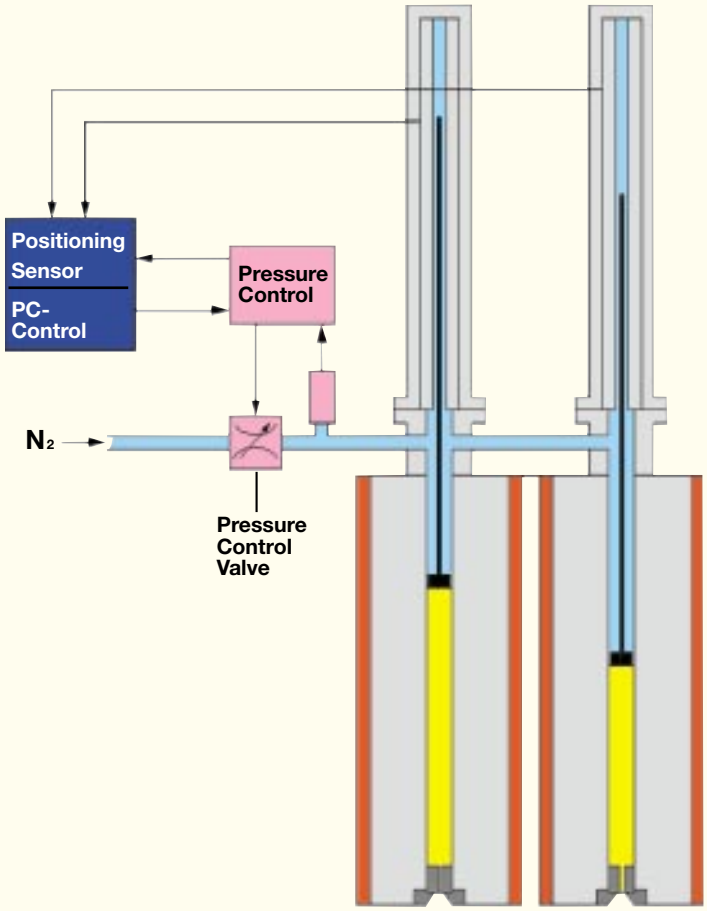
RHEOGRAPH 200

The first automated capillary rheometer operated by nitrogen.

Why use nitrogen?

Because it makes it possible to achieve unparalleled accuracy!

The **RHEOGRAPH 200** keeps the pressure of the nitrogen acting on the polymer melt constant. Our high-precision pressure control unit can register pressure differences of less than one bar with an accuracy of 0.02%, forming the basis of these highly accurate measurements.



Measuring Principle RHEOGRAPH 200

WHY MULTI-BARREL MEASUREMENTS ?

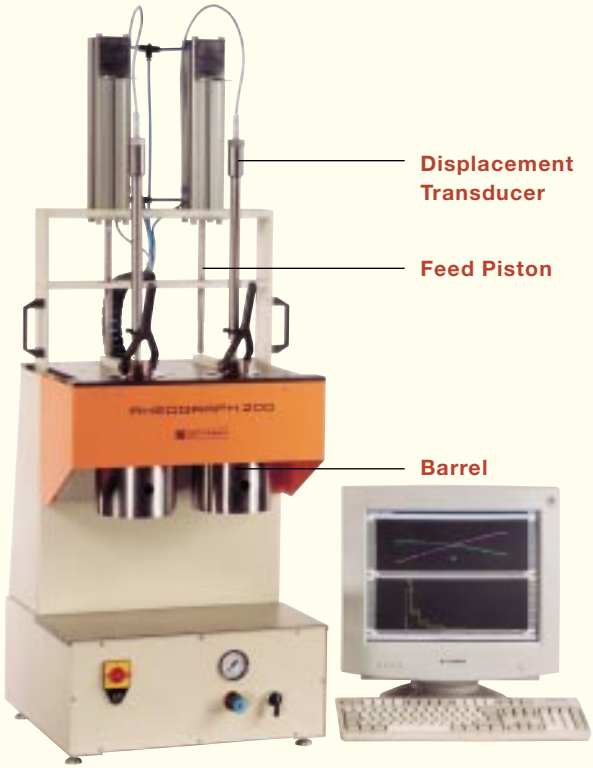
A nitrogen-driven multi-barrel measurement system is something revolutionary. For the first time it is possible to simultaneously run multi-point controlled stress measurements (depending on the number of capillaries) – independent of the chosen die geometries – where the same controlled stress is applied. This unique measurement and control concept, for example, allows the design of an automated measurement for the determination of polymer wall slip according to Mooney.

ACCURACY HAS BEEN IMPROVED 20 FOLD !

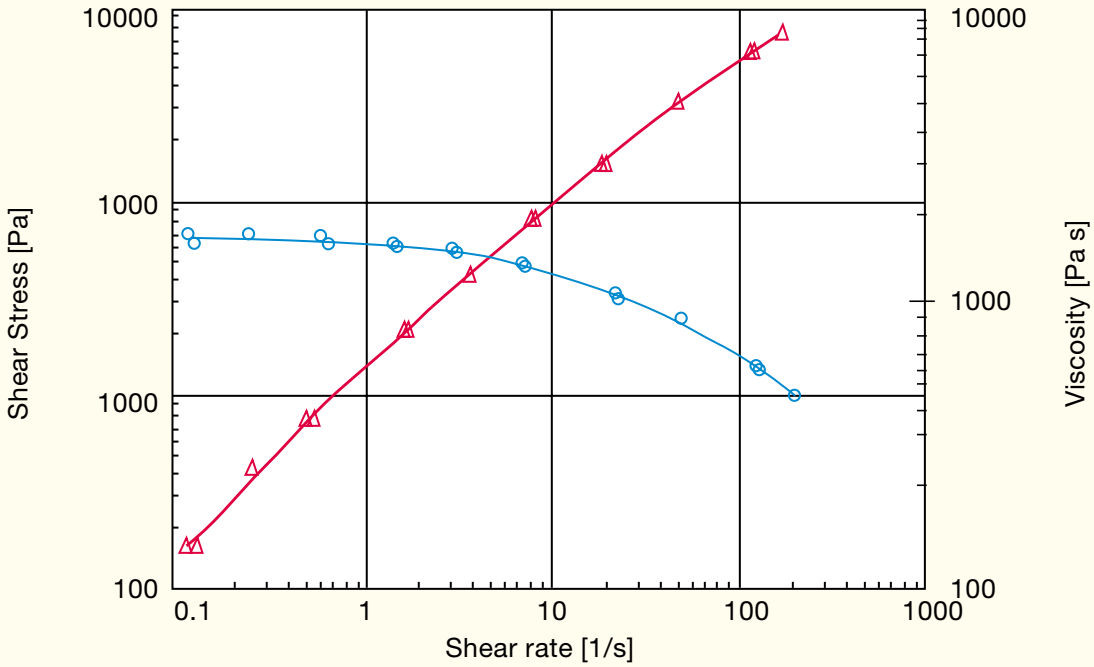
Compared to other commercially available capillary rheometers used in conjunction with DMS-pressure transducers (with a typical accuracy of about 0.5% of full scale), the new nitrogen driven capillary rheometer expands the measuring range towards the smallest still measurable pressures.

ADVANTAGES :

- The accuracy is increased by a factor of 20 compared to conventional pressure transducers.
- Measuring range extended to very low viscosity fluids.
- It is possible to perform two constant stress sweeps simultaneously in one experiment.
- Fully automated test routines
- Easy to operate
- Advanced rheology evaluation program **WinRHEO II** operates under Microsoft Excel and offers many features including different correction and evaluation functions.



RHEOGRAPH 200
shown as Twin Barrel Version



This new concept incorporates a high precision pressure controller with an accuracy of 0.02% of the nominal pressure range and a resolution of 0.01 bar.

With this it is possible to evaluate the characteristic "transition zone" between Newtonian and power law behavior in the viscosity curve of many polymers.

The RHEOGRAPH 200

features a pneumatically driven piston to assist in the feeding of the sample material and to help with the cleaning and purging of the old material.

Specifications:

Capillary Rheometer according to ISO 11443, DIN 54811, ASTM D 3835

Measuring Chambers	Electrically heated by two separate heating circuits. Temperature sensor PT 100 1/3 DIN, Temperature within the effective test channel length: transient temperature fluctuations <± 0.2 °C.
Accuracy of Temperature Measurement	0.1°C
Temperature Range	60 bis 400°C
Test chamber	15 mm diameter, 150 mm usable length
Capillary	L= up to 40 mm
Pressure System	Test pressure: 100 mbar ... 210 bar Resolution: ± 0.005 % of Full Scale (0.01 bar) Calibration accuracy: ± 0.08 % between 20 and 100 % ± 0.02 % between 0 and 20 %
Position Sensor	Measuring distance 200 mm Deviation from linearity:< 0.2 % Max. Pressure 350 bar
Filling system	Force of filling system is adjustable from 0 ... 1 kN
Utilities	AC: 230 V; 50 Hz alternatively 115 V; 60 Hz Air: 6 - 7 bar N2 gas: max. 250 bar

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