

Coriolis viscometer using parallel connected coriolis mass flowmeters

Patent number: HK1019637
Publication date: 2005-05-06
Inventor: Craig Breinerd van Cleve, Roger Scott Loving
Applicant: Micro Motion Inc. (US)
Classification: - international: G01N
- european: G01N11/04

A pair of flowmeters having unequal flow carrying capabilities are effectively connected in parallel to receive a material flow. The material flow through the flowmeters supplies output signals to associated meter electronics which derives mass flow and other information for each meter. The meter electronics is pre-programmed with information regarding the physical characteristics of each flowmeter. The meter electronics uses the pre-programmed information and the derived material flow velocity for each meter and other information to determine the viscosity for the material in the flowmeters.

Method and apparatus for rheometry , and its application to control of polymer manufacture

Patent number: DE60103125T
Publication date: 2005-06-16
Inventor: Staal Eggen, Petter Aesrud (NO)
Applicant: Borealis Tech OY (FI)
Classification: - international: G01N11/08;
G01N33/44; B29C47/92
- european: B29C47/92E;
G01N11/08

There is disclosed a method of rheometry and to a corresponding rheometer apparatus having particular application to the manufacturing of polymers. The invention provides a method of studying the properties of a polymer. A rheometer having a pump (2) and a die (3) is arranged such that polymer is pumped through the die. Transducers (4) measure pressures within the rheometer. The polymer is supplied to the rheometer with the pump (2) at one speed and value(s) indicative of the shear stress in the fluid within the die are obtained from the transducers (4). This provides a set of data. The data is then directly compared, using multivariate analysis with previously obtained data corresponding to polymer(s) with known rheological properties.

The results of this comparison may then be used to control the manufacturing process.

Device for measuring viscosity and/or density

Patent number: US2005103096
Publication date: 2005-05-19
Inventor: Bernhard Jakoby (AT), Johannes Artzner (DE)
Classification: - international: G01N11/00;
G01N9/00; G01H3/06
- european: G01N9/00B;
G01N11/16

A device for measuring the viscosity and/or the density of a fluid using a resonator capable of mechanical vibrations. The resonator is capable of being brought into contact with the fluid. An oscillator circuit is also provided, wherein the oscillator circuit has a first feedback network and a second feedback network.

Viscosity-change-detecting apparatus and stirring rotor

Patent number: US2005087002
Publication date: 2005-04-28
Inventor: Yashio Kanzaki, Iko Ito, Munehiro Kanzaki (JP)
Classification: - international: G01N11/14
- european: B01F13/08D;
B01F15/00K3; G01N11/14;
G01N11/16B

A viscosity-change-detecting apparatus 5 comprising (a) an elastically deflectable and/or twistable member 16, and (b) a movable permanent magnet member 13 mounted directly or via a connecting member to the elastic member 16 such that the movable permanent magnet member 13 moves depending on the deformation of the elastic member 16, part of the elastic member 16 being fixed to a support 135 for the viscosity-change-detecting apparatus 5, so that the elastic member 16 is subjected to elastic deflection and/or torsion with rotation and/or vibration in the rotating liquid, whereby the relative position of the movable permanent magnet member 13 to a fixed external detector 6 changes depending on the viscosity change of the liquid, and whereby the change of the relative position is detected by the external detector 6 to

detect the viscosity change of the liquid. This viscosity-change-detecting apparatus is suitable for providing the function of detecting viscosity change to stirring rotors, stirring apparatuses, reaction apparatuses and semi-automatic synthesis apparatuses.

System and method for dynamic lubrication adjustment for a lubrication analysis system

Patent number: US6877360

Publication date: 2005-04-12

Classification: - international: G01P21/00;
G01N11/02
- european: F16C19/52; G01N11/16;
G01N33/28H; G01N33/30

A system and methodology is provided for dynamically adjusting fluids that operate as a lubricant in a machine. The system includes a control module having a processor and one or more sensors providing data to the processor in situ with the machine, wherein the processor employs the data to monitor the fluid. One or more inputs are provided to receive a plurality of additives that are associated with the fluid, wherein actuators are employed by the processor to dispense the additives to the fluid. The processor dispenses the fluid based upon one or more parameters of the fluid.

Friction test apparatus and method

Patent number: US2005072208

Publication date: 2005-04-07

Inventor: Joachim Domeiner (US)

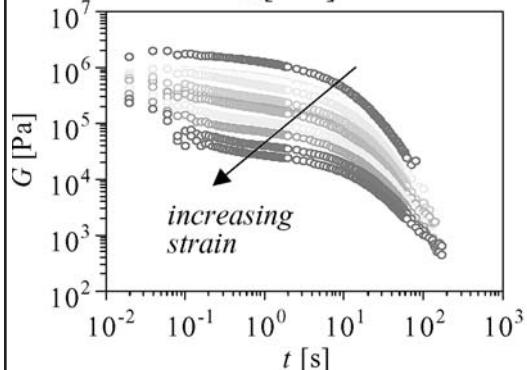
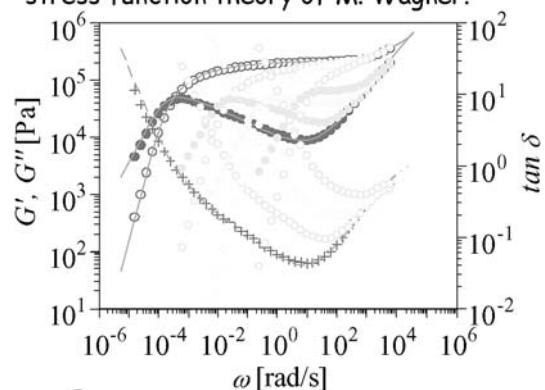
Classification: - international: G01N3/56
- european: G01N3/56; G01N11/10;
G01N19/02

A friction test apparatus includes a base structure and a receptacle secured to the base structure. At least three lower friction surfaces are positioned in the receptacle. The friction test apparatus includes a motor having a rotatable shaft providing powered rotation of the shaft. An upper friction surface is positioned on the shaft in contact with the at least three friction surfaces in the receptacle. The receptacle includes a fluid inlet and a fluid outlet to permit a fluid in the receptacle to be changed.

IRIS drives innovation in rheology: interactive graphics for data analysis, seamless communication of data, comparison with models and more. Import data from any source, shift, calculate spectra, compare, store, retrieve, and plot within minutes.

IRIS allows the rheologist to pursue his/her real mission: explore new materials, discover relaxation patterns, apply to processes, be quantitative and reliable, communicate results, explain and teach.

IRIS (new) predicts from molecular theory: (a) tube dilation theory of T. McLeish and coworkers and (b) molecular stress function theory of M. Wagner.



E-mail: IRISrheo@yahoo.com
<http://rheology.tripod.com/>

Device, system and method for sensing temperature of drag cup in rheometer motor

Patent number: JP2005037392
Publication date: 2005-02-10
Inventor: Nigel Doe
Applicant: Waters Instruments Ltd.
Classification: - international: G01N11/00
- european: G01K13/08;
G01N11/14

To develop effective and accurate devices, systems and methods of determining the temperature of a drag cup within a drag cup motor of a rheometer. The device for sensing the temperature of the drag cup 760 within the motor of the rheometer includes a coil 750 in communication with a source of current. When the temperature of the drag cup 760 changes, a current, flowing through the coil 750 changes or a voltage, is developed across the coil. Based on that, it is possible to detect the temperature of the drag cup 760. For that purpose, the coil 750 is in close enough proximity to the drag cup 760.

Device for low-vibration force measurement in rapid dynamic tensile experiments on material samples

Patent number: US2005087023
Publication date: 2005-04-28
Inventor: Wolfgang Böhm, Manfred Hug (DE)
Classification: - international: G01N3/08
- european: G01N3/04;
G01N3/30

A device for force measurement in dynamic tensile experiments on material samples is disclosed, comprising a force measurement cell in which at least one force measurement sensor is integrated. The invention is characterised in that the force measurement cell is embodied with at least one one-piece connecting structure, whereby the material sample may be detachably fixed to the force measurement cell by means of the connecting structure and the at least one force measurement sensor is arranged on the force measurement cell at a distance from the connecting structure.

Flow cell, and particle measurement device

Patent number: EP1544600
Publication date: 2005-06-22
Inventor: Tomonobu Matsuda (JP)
Applicant: Rion Co. (JP)
Classification: - international: G01N15/14
- european: G01N15/14

According to the present invention, there is provided a flow cell which can detect scattered light more efficiently by fully utilizing the condensing angle of a condenser means. In the flow cell in which a particle monitoring area M is formed within the flow cell by irradiating with laser light La, and scattered light Ls generated by particles contained in sample fluid passing through the particle monitoring area M is condensed by a condenser lens L so as to obtain information including a particle diameter, inner walls are provided such that the scattered light Ls is condensed in a state where the condensing angle [theta] of the condenser lens L is fully utilized

A volumetric fluid dispensing apparatus

Patent number: ES2229315T
Publication date: 2005-04-16
Inventor: Denis E. Keyes, John R. Randall, James V. Curcio (US)
Applicant: Flow Clean Equipment Inc.
Classification: - international: G01F11/00;
G01F11/28; G01F13/00
- european: G01F11/00;
G01F11/00C; G01F11/02;
G01F11/08; G01F11/28C;
G01F13/00C

A fluid dispensing apparatus includes a fluid reservoir comprising a flexible bag-like enclosure. The fluid reservoir includes a discharge valve connected to a fluid output for dispensing fluid from said fluid reservoir. An electronic controller selectively opens and closes the discharge valve to dispense a predetermined volume of fluid from said fluid reservoir. The fluid reservoir is flexible so that it expands and contracts to maintain the internal pressure of the fluid reservoir constant. In an alternate embodiment, the fluid reservoir has a rigid wall and is provided with an external bladder which expands and contracts to maintain the internal pressure of the fluid reservoir constant. The fluid dispensing apparatus can be configured either as a volumetric filler or as a time pressure filler.