FALLING/CONTROLLED NEEDLE VISCOMETER

Falling / Controlled Needle Viscometer: FNV-200/CNV-100

A new Instrument for the Rapid and Accurate Determination of the Viscous Properties of Newtonian and Non-Newtonian Fluids.

The Falling Needle Viscometer (FNV) consists of a metal or glass needle with hemispherical ends falling vertically in a fluid with its longitudinal axis along the axis of a cylindrical container. Also, the Controlled Needle Viscometer (CNV) consists of a metal needle with hemispherical ends and its top end is connected to the extension bar plus the weight holder. The CNV is the same as the FNV except for the needle dropped. A measurement of the needle terminal velocity allows a determination of the viscous properties and density of the test fluid. The falling time is measured automatically by means of Hall sensors and a magnet in the needle. The CNV comes with a small sample insert kit for those cases when the sample supply is limited. For Non-Newtonian fluid, a computer program is available from SBS.

Key Features

- **Measures Absolute Viscosity without Instrument Calibration**
- **Better than One Percent Accuracy and Repeatability**
- **Large Viscosity Range: 0.1 to 10^6 cP**
- **Accurate Temperature Control**
- **Large Temperature Range of Fluids**
- **Simultaneous Density and Viscosity Measurements**
- **Thermal Expansion Coefficient**
- **Relative Sedimentation Rates**
- **Automatic Falling Time Measurements to 0.001 s**

- **Microprocessor-based Console with RS-232 Interface**

Applications:

Adhesives, Aerosols, Automobile Fluids, Biomaterials, Coal Slurries, Coatings, Colloids, Cosmetics, Creams, Dairy Products, Detergents, Dispersions, Emulsions, Fertilizers, Foams, Fuels, Gels, Grease, Honey, Inks, Ketchup, Latex, Lubricants, Mayonnaise, Milk, Oils, Ointments, Paints, Petroleum, Polymers, Proteins, Pulp, Resins, Shampoos, Slurries, Soaps, Solutions, Surfactants, Suspensions, Varnish and many more.

Falling Needle Viscometer (FNV-200) Specifications:	
Viscosity Range	0.5 to 2.4x10^6 cP (mPa s)*
Shear Rate Range	Approx. 10^{-4} to 10^4 1/s**
Temperature Range	-40 to 150°C*
Accuracy & Repeatability	Better than 1%
Test Sample Volume	Approx. 110cm^3*
Needle Material	Metal (Al, Ti, S.S.) or Glass
Needle Densities	1.01 to 8 g/cm^3*
Total Instrument Weight	18.2 kg (40 lbs)
Size	O.A.H. 55cm, O.A.W. 36cm
* Outside this range, consult SBS. **depends on the sample and system.	

Controlled Needle Viscometer (CNV-100) Specifications:	
Metal (Ti or Al) Needle Kit	
Viscosity Range	0.1 to 30 cP (mPa s)*
Accuracy & Repeatability	Better than 1%
Test Sample Volume	Approx. 85cm^3*
Small Sample Insert Kit	
Viscosity Range	3 to 10^6 cP (mPa s)*
Accuracy & Repeatability	Better than 1%
Test Sample Volume	Approx. 7cm^3*
* Outside this range, consult SBS.	

BETATEK INC.
Instrumentation Superbly Supported
L'instrumentation à son meilleur

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