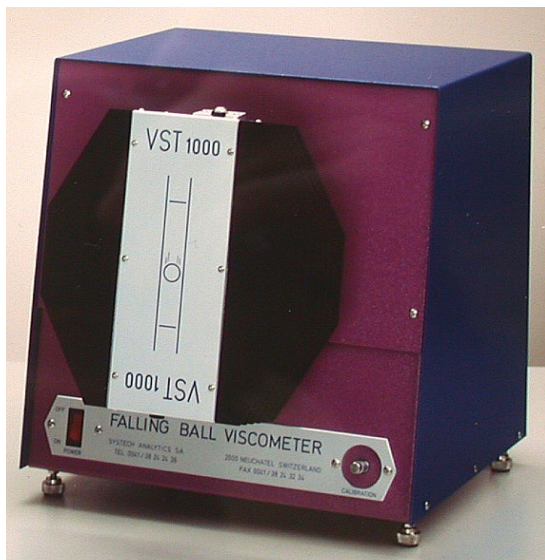


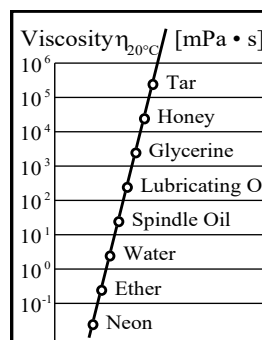
VST-1000 automated falling ball viscometer ISO 12058 / DIN 53015



APPLICATION

The falling ball viscometer is suited for accurate measuring of dynamic viscosity on Newtonian liquids. The VST-1000 meets ISO 12058 and DIN 53015 requirements, so it is convenient for a large range of viscosity such as:

- ☐ *chemistry* polymers in solution, solvents, inks, ...
- ☐ *pharmacy* raw materials, glycerine, ...
- ☐ *food industry* gelatin, beer, sugar solutions, ...
- ☐ *mineral oil industry* oils, liquid hydrocarbons, ...

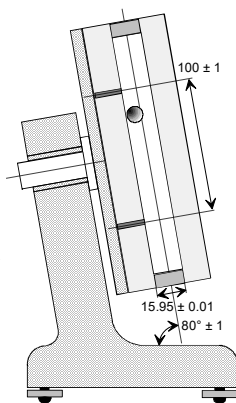


TECHNICAL DATA

- Viscosity range**
 10^{-1} to 10^6 mPa · s
- Temperature domain**
 $+5$ °C to $+80$ °C
- Temperature accuracy**
 ± 0.02 °C
- Falling time range**
5 sec to 10^3 sec
- Repeatability**
 < 1 %

MEASURING PRINCIPLE

Falling time measurement of a rolling and sliding ball in a inclined cylindrical tube filled with a product. The elapsed time to pass through the two sensors with the ball is linearly related to the viscosity of a Newtonian liquid. The tube dimensions and the distance between the two sensors are standardised (ISO 12058 / DIN 53015).



Measurements are automatically repeated to provide a mean value and a standard deviation. The detection system works with any transparent or non-transparent fluids.

DYNAMIC VISCOSITY

The results are given as dynamic viscosity in the international standardized absolute units of milliPascal seconds [mPa · s].

$$\eta \text{ [mPa}\cdot\text{s]} = \kappa \cdot (\rho_1 - \rho_2) \cdot \tau$$

κ : system constant ρ_1 : density of ball
 τ : falling time ρ_2 : density of product

Why to choose the VST-1000 viscometer?

- Automated measuring is significantly easier, faster and more accurate than manual measuring, there is no need to remain close to the viscometer during the whole measuring process
- The ball is automatically detected by 2 sensors separated of 100mm and the falling time is calculated
- The measuring head containing the tube is automatically rotated after each measurement, and any number of consecutive measurements can be configured for the calculation of the mean viscosity
- The measuring head run with thermoelectric heating/cooling, eliminating the need for an external cooling bath
- The computer software allows to easily start measurements with predefined parameters and provides a robust traceability

