SV-10 Viscometer Users Information





Market of SV10 Viscometer.

- **O** Food Market
- **O** University and Laboratory (Dept. of Food Science and Engineering) **O** Paint (Material and that user) O Ink (Material and that user) **O Display** (e.g. LCD and **EL**: Electronic Luminescence) **O Photographic Film O** Battery \bigcirc \bigcirc **O** Pharmaceutical products
- **O** Polymer and Chemicals



SV10, shipping result to customer.

1. University

•Tokyo Agriculture University (Tokyo University of Agriculture) •Shizuoka University

- 1. Department. Nutritional Science
- 2. Material. Foods (Meat, Protein, Dairy products, starch solution, ···)
- 3. Applications. Study of food Rheology.

Nihon University

Utsunomiya University

- 1. Department. Mechanical Engineering
- 2. Material. Various fluid (liquid)
- 3. Applications. Study and Measurement of "Reynolds number"

Reynolds number is the important physical parameter which expresses the characteristic of the flow.

And it is defined with the following formula.

Reynolds number =

Viscosity

•Nagaoka University

•Kanto-Gakuin University

- 1. Department. Chemical Science
- 2. Material. Resin, High polymer
- 3. Applications. Study of physical properties of polymer.

2. Food market

•Coca cola

2. Material.

- 1. Department. R&D
 - Carbonated drinks, Flavor (additive)
- 3. Applications.
- Study of correlation between viscosity and taste.
 - Correlation of viscosity and temperature with simultaneously
 - Measurement of low viscosity, however B-type could not measure low viscosity up to now.

•Ajinomoto

- 1. Department. R&D
- 2. Material. Seasoning, Spice,
- 3. Applications. Measurement of viscosity during chemical reaction and brewing process.

3. Chemicals and Cosmetics

Shiseido

- 1. Department. R&D
- 2. Material. Raw materials of cosmetics

3. Applications. Correlation of viscosity and temperature. They want to measure the viscosity turning point while the material temperature is changed high to low, or inverse process.

•Capsule-Gel

- 1. Department. Production
- 2. Material. Medical capsule (Gelatin)
- 3. Applications. Measurement of coagulation process from sol to gel
 - Correlation of viscosity and temperature
 - B-type could not measure this coagulation process up to now.

•FUJI FILM (Ashigara)

- 1. Department. R&D
- 2. Material. Low viscosity polymer solution
- 3. Applications. •Measurement of low viscosity polymer. ($0.35 \sim 1 \text{mPa} \cdot \text{s}$)
 - •B-type could not measure low viscosity up to now.
 - •SV-10 is very easy to use. (Measuring operation is good)

•FUJI FILM (Shizuoka)

- 1. Department. Production
- 2. Material. Gelatin (Gelatin is one of raw material for photo-film ?)
- 3. Applications. Measurement of gelatin viscosity in line

•FUJI FILM (Tokyo)

- 1. Department. Production & Engineering
- 2. Material. Acrylic solvent
- 3. Applications. Measure the viscosity of acrylic solvent

4. Electronic materials

•Pioneer

- 1. Department. R&D
- 2. Material. Resist liquid and adhesive for Display
- 3. Applications. Measurement viscosity of resist and adhesive for display.

5. Paint and Ink

•Dai-NIPPON PRINTING (Sayama factory)

- 1. Department. Production
- 2. Material. Printing ink
- 3. Applications. Measurement of ink viscosity
 - •SV-10 is good correlated with Cup-type viscometer.
 - •They want to manage a viscosity automatically in line.



•Dai-NIPPON PRINTING (Hiroshima)

- 1. Department. R&D
- 2. Material. Surfactant
- 3. Applications. Measure the clouding point of surfactant.

(Clouding point of surfactant is viscosity turning point as below graph.)



Marketing div. of A&D co., ltd.

•Toyo Ink (Itabashi, Tokyo)

- 1. Department. R&D
- 2. Material. Organic solvent. (One of raw material of ink)
- 3. Applications. Viscosity of organic solvent is low, about 1mPa·s.
 - •B-type could not measure such low viscosity up to now.

•Mazda (Ford)

- 1. Department. Production
- 2. Material. Paint for car
- 3. Applications. Measurement of viscosity due to random inspection in line.
 - ·SV10 can measure a correlation, temperature and viscosity.

<u>6. Oil</u>

•Nidec (Nihon-Densan)

- 1. Department. Quality control
- 2. Material. Lube oil for bearing.
- 3. Applications. Measurement of viscosity due to random inspection in Q.C room.

Shin-Nihon Sekiyu

- 1. Department. R&D
- 2. Material. Lube oil (Engine oil, Brake oil, ···)
- 3. Applications. Correlation of viscosity and setting(coagulating) point. (Setting point is temperature of coagulation with oil)

Kobe Steel

1. Department. Inspection room

Oil

- 2. Material.
- 3. Applications. Measurement of viscosity of oil

7. Battery

Panasonic
HITACH Maxell
Sanyo

1. Department. R&D, Engineering, Production

2. Material. Raw material of battery (Electrolyte solution, others ···)

3. Applications. Measurement of viscosity of raw material (low viscosity?)