



## SETTLOMETER KIT ≈ C-10202



Thank you for purchasing a *Raven Environmental Products* process control instrument.

### Unit and Use

The Raven Settleometer Kit is used in water and wastewater treatment to evaluate sludge quality settling characteristics. The Settleometer test measures the rate and amount of solid/liquid separation of sludge samples. This test is commonly used to evaluate secondary clarifier and aerobic digesters to determine settling periods.

Each kit is shipped with the following items:

- C-10102 Settleometer, 1.4 liter cylinder
- C-10103 Mixing Paddle
- C-10104 Snap-on Lid

Settleometer Kit with snap on lid and wide stir paddle.

### Description & Maintenance

Constructed of clear scratch resistant acrylic plastic for excellent visibility and durability, the Raven Settleometer is designed for accurate measurement of settled sludge volumes (SSVs). Distinct bright white markings contrast vividly with most sludge samples. The soft plastic lid snaps tightly on the Settleometer so that samples may be collected directly and transported without spillage.

Practice these precautionary measures when cleaning and during use:

1. Use warm detergent solution to clean and rinse with tap water.
2. Never use abrasive material, e.g. steel wool, scouring powder.
3. Use only the paddle provided (same hardness) to prevent scratches.

### Applications

Settlemeters are used to determine percent (%) volume and/or settled sludge volumes (SSVs) for quantifying settling of sludge samples. Used in conjunction with aeration tank mixed liquor concentrations by volume (ATCs - obtained from the Centrifuge Test) the SSV data can yield Settled Sludge Concentration (SSCs) at respective times. When compared to the return activated sludge concentration by volume (RSC), a powerful process control tool is provided for return sludge flow control.

#### Multi Dilution Test:

When mixed liquor samples are diluted with un-chlorinated secondary effluent, e.g. 75% & 50% mixed liquor, faster settling is noticed with decreasing concentration in most sludge samples. However, a mixed liquor composed of mostly young, un-deoxidized, light, fluffy, low density sludge particles is one that settles slowly regardless of how low the concentration because of the sludge quality. This variation of the Settleometer Test provides a valuable troubleshooting tool for evaluating sludge quality (commonly referred to as Multiple Dilution Test).

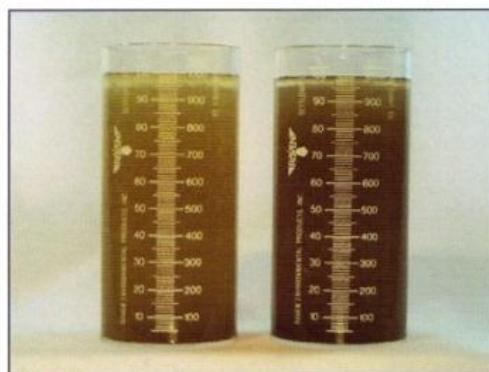


#### Concentration Issue

Settleometer on left at 50% dilution.

Settleometer on right not diluted.

The greater the difference in the first two minutes, the more likely there is too much sludge in the aeration tank. Diluted Settleometer settles properly.



#### Density Issue

Settleometer on left at 50% dilution.

Settleometer on right not diluted.

Even with dilution, the unit on the left fails to settle. Possible indication of filaments.