18   CHAPTER 2

Jar tests simulate the clarifier using a gang stirrer to simultaneously test several samples as shown in Figure 2-5. Typically the optimal dosage determined by the jar test doesn't exactly match the optimal dosage required in the clarifier. Operators need to learn the bias between the bench jar test and the clarifier performance and translate the results to changes in the feed rate.

STANDARD JAR TEST PROCEDURE

1. Premix samples to obtain consistent conditions in all jars: *3–5 min.*
2. Coagulant addition, rapid mix for charge neutralization: *1–2 min.*
3. Flocculant addition, slow mix to form floc: *3–5 min.*
4. Settling: *5–15 min.*

Record visual appearance of settled floc and clarity of the water. Measure the turbidity of the water above the settled floc (supernatant) or at a location near the surface of the sample of each jar.

The water treatment service representative or the clarifier manufacturer should supply a test procedure that models the clarifier with the appropriate durations and speeds of the fast mix and slow mix segments. Starting with the
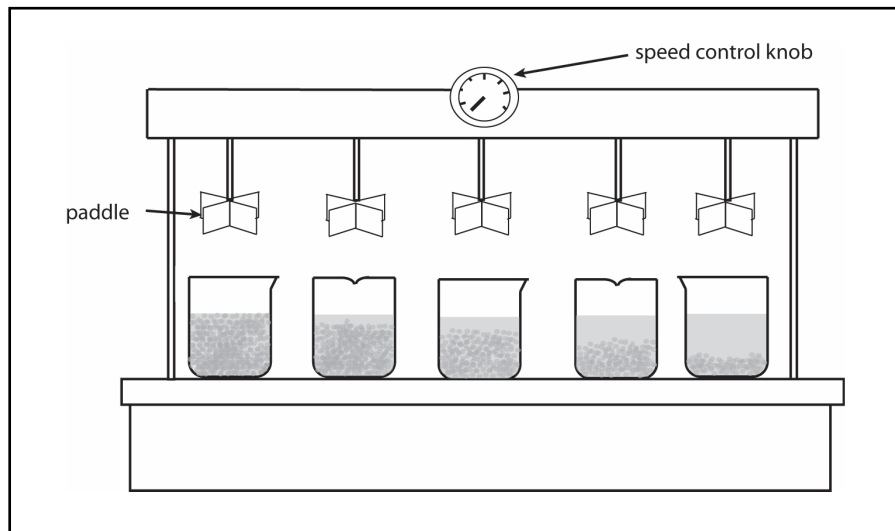

FIGURE 2-5

Jar test.