

## Centrifuge Basics

Tubes filled with a sample are spun at high speed to separate the liquid from the solids. Solids are concentrated into the bottom to the tube. The amount of solids in the bottom of the tube represents the “Percent of Solids” of the sample. Fifteen minutes is all it takes to determine solids concentrations that are used for return and waste sludge flow rates. Concentrations are easily correlated to TSS calculations using the Weight to Concentration ratio formula.



Source of Sample	Name of Sample	Symbol	Location of Sample	Tool
Aeration Tank	Aeration Tank Concentration	ATC	discharge flume	Mini Dipper
Clarifier - Secondary	Clarifier Sludge Concentration	CSC	1/3 from sidewall	CORETAKER®
Return Sludge	Return Sludge Concentration	RSC	return sludge line	Mini Dipper
Waste Sludge	Waste Sludge Concentration	WSC	waste sludge line	Mini Dipper

## Application to Wastewater Process Control

The Percent of Solids shown on the centrifuge tube is the basis for calculating the amount of sludge in a given tank or flowing through a pipe. The unit of measure is called a Sludge Unit (SU).

**Number of Sludge Units in Tank = Percent of Solids x Tank Volume**

**Number of Sludge Units in Flow = Percent of Solids x Gallons of Flow Per Day**

