

Hydraulic Retention Time:~

The hydraulic retention time (HRT) is a measure of the average length of time that a soluble compound remains in a constructed bioreactor. The volume of the aeration tank divided by the volume of the aeration tank divided by the influent flowrate is (?) Tau

Solid Retention Time (SRT):~

Solid Retention time

is the average time the activated-sludge solids are in the system.

The SRT is an important design

and operating parameter for activated

Sludge process and is usually expressed in days.

$$SRT = V \times c_d / R_{out} \times C_{out}$$

Decoupling SRT From HRT :-
Decoupling SRT and HRT

enhance the organic loading rate

and enable reactor size reductions

There are four approaches to decouple

SRT from HRT ;

Approaches ;

→ Bio mass Immobilization in attached growth system.

→ Granulation and floc formation.

→ Bio mass recycling

→ Bio mass retention

Advantages of Decoupling SRT

From HRT : ~

→ Decoupling implies using less resources and generating less waste. Per unit of economic activity.

→ Relative decoupling is a positive sign, the real aim is to achieve absolute decoupling, where the economy less continue to grow and waste generation reduces.