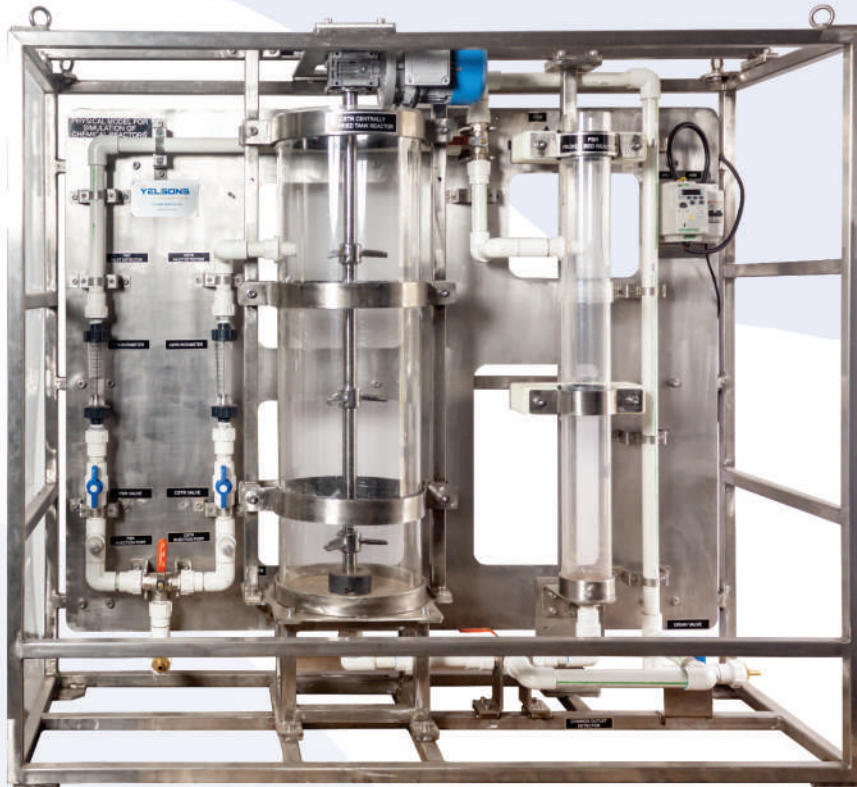


**Physical Model  
for  
Simulation of Chemical Reactors**



The flow rig / RTD simulator will be used to perform various permutations and combinations of flow rate, speed of the agitator and type of the vessel to understand flow dynamics in scaled down models of CSTR and column type reactors.

In a centrally stirred tank reactor, a steady state flow conditions will be achieved using valves on the pipeline connected to the reactor with agitator through flow rate meter. A scintillation detector in collimator will be installed before the reactor at the inlet and the other after the reactor at the outlet. Through injection septum, using a syringe, an aqueous, short lived, diluted radiotracer will be injected. The count rate distribution obtained at the outlet detector and inlet detector will be used to study the residence time distribution analysis. Beauty of this rig will be to vary the flow rate and agitator speed to generate sizeable experimental data for any learner to become well versed in radiotracer techniques.

Below is the video link for the operation of the chemical reactors.

Video Link:

[https://drive.google.com/file/d/1J0Gc\\_YN1mcLVzwfRejSLmWECLzANtJ9z/view?usp=sharing](https://drive.google.com/file/d/1J0Gc_YN1mcLVzwfRejSLmWECLzANtJ9z/view?usp=sharing)

# Physical Model for Simulation of Leaching Reactor

