**Training exercise 10.2**.

**Task 1**

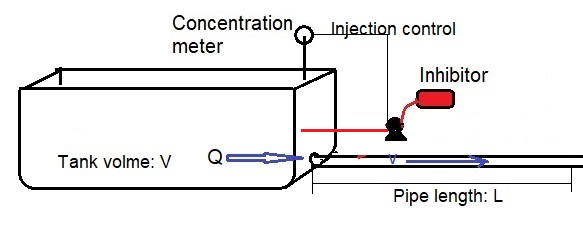
Figure 11 in the compendium A sketched a concentration control process. It was shown to be subject to oscillations.

The figure below sketch a modified process

Tank volume: 1 m3

Pipe length L=300 m

The design rate makes pipe flow velocity v=3 m/s.



1. Predict dynamic response to 5% concentration change.
2. Predict dynamic response to 5% concentration change, if the flow is reduced 50%

**Task 2**

1. Calculate the oscillation spectrum for well head pressure variation during the whole month of January 2016
2. Do the spectrum indicate oscillations?