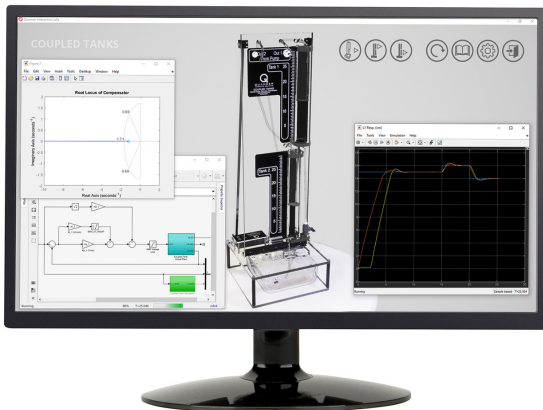# QLABS VIRTUAL COUPLED TANKS

Virtual platform for distance and blended undergraduate process control courses

QLabs Virtual Coupled Tanks is a fully instrumented, dynamically accurate digital twin of a Quanser Coupled Tanks system. It behaves in the same way as the physical hardware and can be measured and controlled using MATLAB®/ Simulink® and other development environments. With QLabs Coupled Tanks, you can enrich your lectures and activities in traditional labs, or bring credible, authentic model-based lab experiences into your distance and online process control course.

Same as the physical Coupled Tanks, the virtual system features a single pump and two tanks. Each tank is instrumented with a pressure sensor to measure the liquid level. The different outflow valves configurations allow to direct the flow of the liquid, while the flow rate can be changed by using outflow orifices of different diameters.

QLabs Virtual Coupled Tanks is available as a 12-month, multi-seat subscription. The platform is compatible with the physical Coupled Tanks curriculum, which covers various modelling and control topics.

Features

Academically appropriate
High-fidelity, credible lab experiences equivalent to use of physical lab equipment

Comprehensive Resources
Curriculum covering modelling and control topics

Open access
Full access to system parameters through MATLAB®/Simulink®

Scalable
12-month, multi-seat subscription

Courseware

- First-principles modelling
- Linearization
- Pole placement
- PID control
- Feed-forward

QLabs Virtual Coupled Tanks runs on Windows 10 (64-bit) and requires MATLAB and Simulink R2019a or later(not included).