At VMG we work to ensure the performance and reliability of our software is unparalleled. Our experienced and friendly support team is always ready to answer questions you may have.
**PIPELINES AND GATHERING NETWORKS**

- Model large scale pipelines and gathering networks using a robust dynamic network solver
- There’s no need for adjusts, solvers, or controllers
- Simplify your inputs
- Only pressures or flows are needed at boundary conditions; flow paths are automatically calculated based on pressures, hydraulics, and equipment sizes/geometry

- Get a higher level of accuracy in pressure drop and liquid holdup compared to empirical correlations with robust multiphase flow correlations that are based on mechanistic models, such as Petalas and Oliemans
- Calculate multiphase choke flow and track kinetic energy/static head across the entire flowsheet
- Model pipe tees with the Miller model, enabling more accurate predictions of pressure drop through tees
- Rigorous heat transfer and losses are continuously updated in dynamic model

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**FINALLY, A PROCESS SIMULATOR THAT CAN MODEL PIPELINE PIGGING**

Define hydraulic details and equipment sizes/geometry, enabling capacity evaluations and de-bottleneck studies. These inputs allow detailed equipment design, such as separator sizing for correct holdup, and inventory.

- Insert pigs directly in the pipeline or through the pig launcher (i.e. mixer) in the dynamic model
- Track pig location and velocity throughout the gathering system/network
- Predict liquid holdup and pressure loss as pig proceeds down the pipe and sweeps liquid ahead
- Pig one pipe or multiple pipes—there’s no limit to the number of pipes in a network that can be pigged
- Analyze different control mechanisms to mitigate large liquid slugs leaving the pipeline into the downstream slug catcher
- Use Scheduler block to develop a pigging schedule for pipelines at regular intervals

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**SLUGGING**

- Calculate liquid holdups and slugs induced by elevation/terrain changes in pipelines—important for configurations such as risers
- Calculate slugging based on flowrate and operational conditions
- Monitor the formation and burping of liquid slugs in pipelines
- Evaluate slug catchers based on liquid slugs/holdup instead of steady state values

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An example of a full dynamic gas plant model in VMGSim connected to a virtual delta-v system

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