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PIPE-FLO Quick Start

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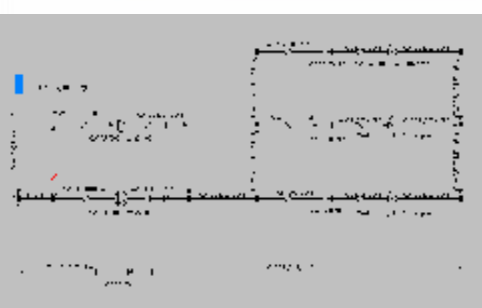
The Three Secrets

- The following steps speed up the creation of a PIPE-FLO project:
 1. Use design files to start a project
 2. Place objects on the FLO-Sheet and draw the connecting pipelines
 3. Use the copy features

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The Example System



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ENGINEERED SOFTWARE **Secret #1 Use Design Files**

- Streamlines the design process and insures design control.
- The design file templates contains:
 - Project units
 - Pipe specifications
 - Fluid zones
 - Drawing options, color gradient options, notes, and links

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- Design files are created and saved in the program.
- The System Setting and Property dialog is the basis of the design file.
- You can create a design file by:
 - Using an existing Piping System Model
 - Create a project from scratch and enter the information.

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ENGINEERED SOFTWARE **Opening a Design File**

- System Setting & Property dialog is the basis for the design file.
- Design files are selected from a list of available design file templates.
- The design file loads the project units, pipe specifications, fluid zones, and set up the program options

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- Design file sets the engineering units for the project
- For each project started with a design file you can change:
 - Local atmospheric pressure
 - Flow rate units
 - Choose the calculation method

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- Streamline piping entry by fixing:
 - Pipe material and roughness
 - Pipe schedule
 - Valve and fitting table
 - Sizing rules (optional)
 - Design guides
 - Specification notes

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ENGINEERED SOFTWARE **Fluid Zones**

- Fluid zones specify fluid properties in the pipeline:
 - Select fluid property file
 - Temperature & pressure
 - Other fluid properties calculated

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The Remaining Tabs

- The following items can also be set in the design file.
 - Summary - report header
 - Drawing options - view, grid, results
 - Notes – displayed on the Design File file notes
 - FLO-Links - reference common design documents

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Saving the Design File

- After completing the System Setting & Property dialog.
 1. Select the File / Save Design File menu
 2. Name the Design File
- Placing design files on a server makes them available to others.

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Secret #2 Place Item on Drawing

- Place objects on FLO-Sheet first then draw connecting pipelines:
 - Place large items first – pumps, controls, tanks, components
 - Establishes elevations
 - Don't have to "break" pipelines to insert objects

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Inserting Pumps

- Centrifugal, or positive displacement pumps can be modeled
- Three ways to model pumps
 - Set flow rate for pump sizing
 - Fixed speed for centrifugal pump operation
 - Variable speed operation

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Inserting Components

- Components represent pressure drop items such as
 - Heat exchangers
 - Filters
 - Strainers

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Inserting Controls

- Controls allow control of flow rate or pressure in a pipeline and can be:
 - Flow control – set flow rate
 - Pressure control – set downstream pressure
 - Back Pressure control – set upstream pressure
- PIPE-FLO calculates the inlet pressure, differential pressure and flow rate for the control.

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Inserting Tanks

- A tank is a location in the system with a known pressure representing:
 - Open & closed tanks and vessels
 - Open reservoirs, lakes, rivers
 - Cooling towers
- Tanks can have multiple penetrations
- The program calculates tank capacity

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Entering the Pipelines

- Pipelines consists of:
 - Pipe material
 - Valves & fitting
 - Fluid
- PIPE-FLO includes many features to help streamline data entry.

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Secret #3 The Copy Commands

- All items on flow sheet can be copied.
 - Copy individual objects
 - Copy groups of objects
 - Copy from designed pipelines, pumps, components

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Group Copy

- To copy multiple objects on the FLO-Sheet:
 1. Choose the pointer tool
 2. Drag the mouse pointer over the area you want to copy
 3. Release the mouse and choose the Group Copy command
 4. Move the copy of the group into position on the FLO-Sheet

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Finishing up the Model

- We'll add the following:
 - The fourth heat exchanger
 - Draw in the remaining pipelines
- When sizing pipelines you can override any recommendation made by the program.

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Copy a Single Object

- To copy an object on the FLO-Sheet
 1. Highlight the object and press the context menu key
 2. Choose the "Copy ..." menu item
 3. Place the copied object on the FLO-Sheet

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Copy a Designed Object

- Pipelines, pumps, and components can be copied from design objects.
 1. Place an object on the FLO-Sheet and display the dialog box
 2. Prior to entering data click on the Copy button
 3. Select the object to copy from on the list

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Inserting Junctions in a Pipeline

- Using the Split Pipe command we can insert a junction.
- Using the Group Copy command we can insert a copy of the pump and connecting pipelines.

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Adjusting the Drawing

- To add a vertex to an existing pipeline
 1. Select the pipeline with the mouse
 2. Press and hold the Ctrl key on the keyboard
 3. Drag the vertex into position
 4. Release the control key and the mouse button.
- You can move text and objects on the drawing.

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Conclusion

- A PIPE-FLO piping system can be created very quickly by:
 - Creating and using design files
 - Place objects on the FLO-Sheet prior to drawing pipelines
 - Use the copy commands when possible

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