DRAGONFLY

DraMS Diagram Simulator

DraMS Ops Training

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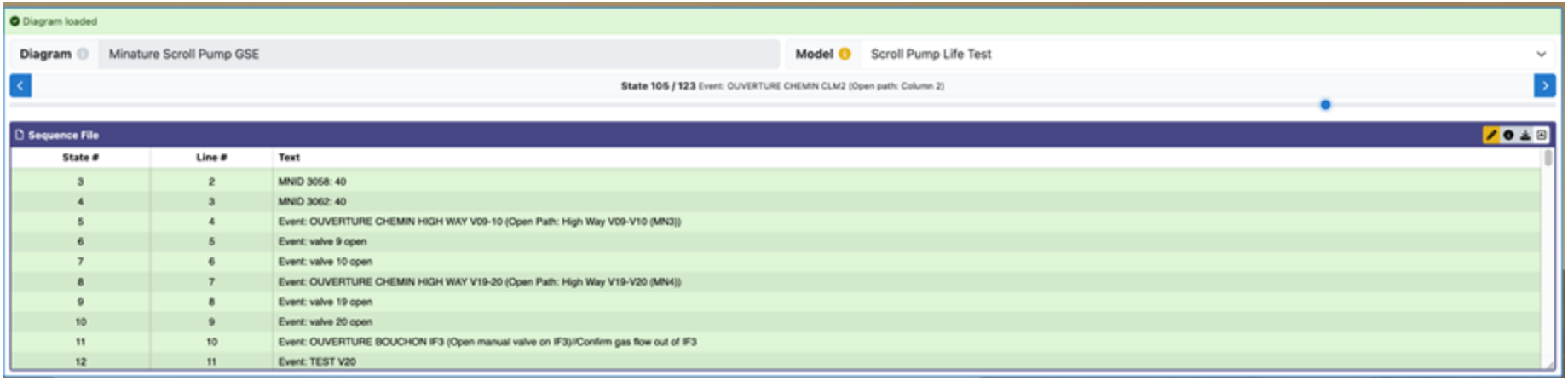
Important Definitions

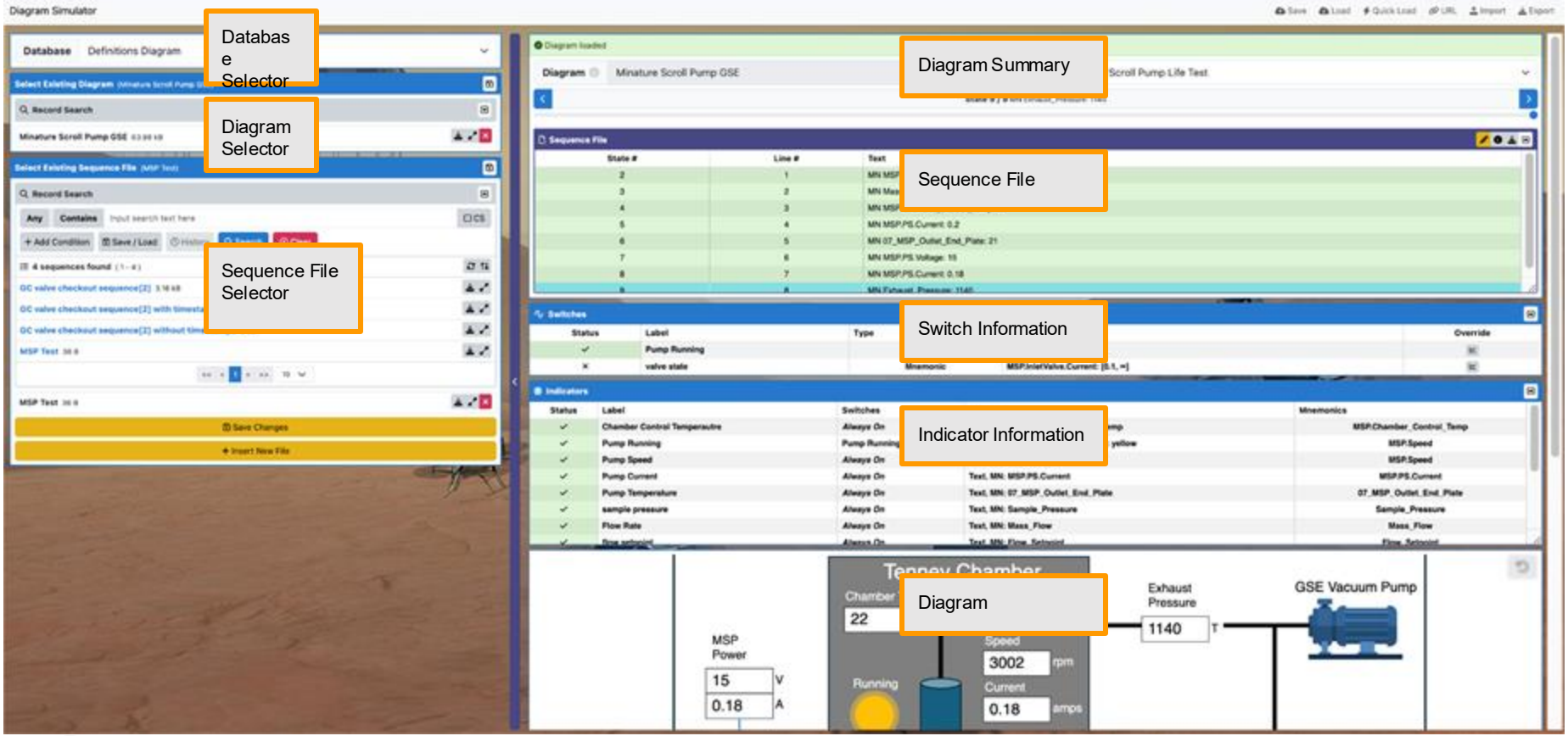
- **Mnemonics**: A named data channel or field
  Example: A temperature sensor or a boolean state
- **Model**: A separate system with independent data
  Example: Engineering model or flight model
- **Events**: A text label with for an instance in time.
  Example: 01-17-2025 12:32:21 “Started the pump”
- **Diagrams**: A Diagram is an SVG image with an accompanying set of rules about how it should change in response to data. Those rules are divided into Switches and Indicators
- **Switches**: A Switch is an on/off logical value. These can be defined as Event Switches, which turn on or off by matching text in Events, Mnemonic Switches, which turn on when a mnemonic is within a specific range, or Logical Switches, which allow you to combine multiple other switches
- **Indicators:** An Indicator associates Switches with visual effects and particular elements in the Diagram image. Indicators can change colors, update text, or apply highlighting
- **Sequence Files**: Simple text (.txt) files containing simulated data streams, one step per line

DraMS Diagram Editor

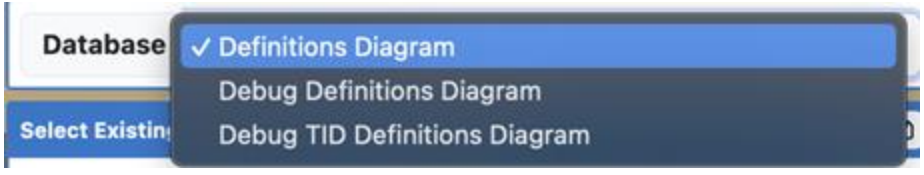
The Diagram Simulator tool allows you to view responsive diagrams and dashboards with simulated data in the form of sequence files. For real data, use the Diagram Viewer.



DraMS Diagram Viewer Overview



Selecting a Diagram (Database Selection)



Database Selector: Select which database to view diagrams from here.

Selecting a Diagram (Diagram Listing/Selection)

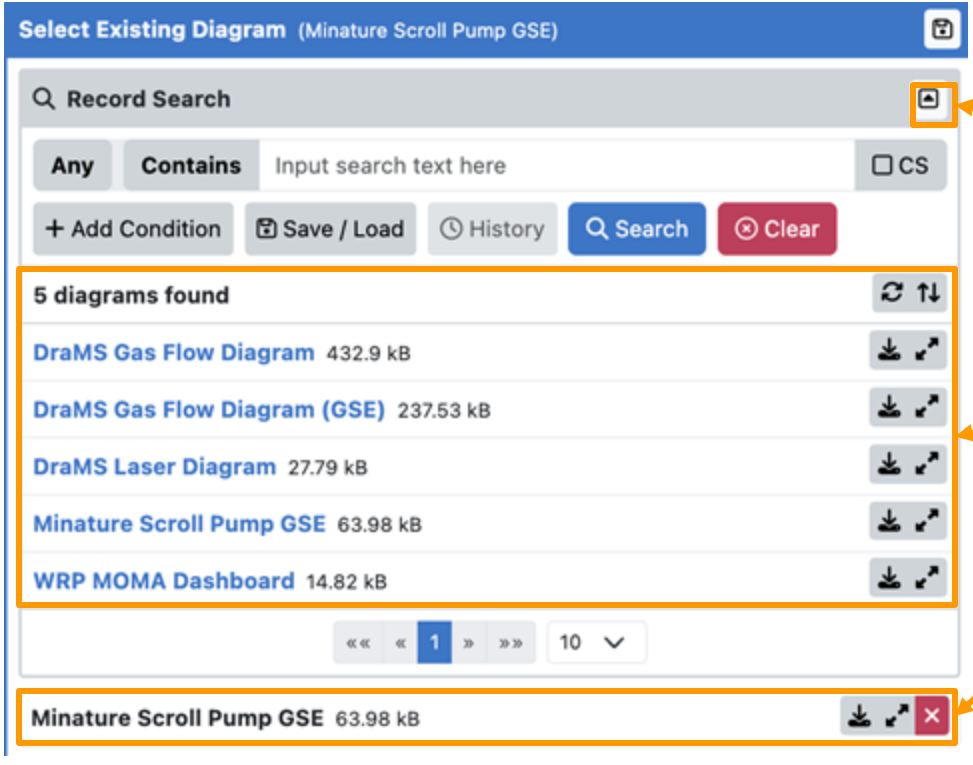


Diagram List Collapser: Clicking this will open/collapse the list of existing diagrams. Note: the diagram list will automatically collapse after selecting a diagram, click this to reopen the diagram list.

Existing Diagrams List: The existing diagrams for the selected database are listed here.

Selected Diagram: The selected diagram is listed here.

Sequence Files

Sequence files are text files that contain simulated data streams, one step per line. As you step through the lines of the sequence file; the diagram, switches, and indicators will reflect the simulated data.

sequence-file.txt

```
Event: PRECHAUFFAGE MN3-MN4 (Preheat MN3 and MN4)
MNID 3058: 40
MNID 3062: 40
Event: OUVERTURE CHEMIN HIGH WAY V09-10 (Open Path: High Way V09-V10 (MN3))
Event: valve 9 open
Event: valve 10 open
Event: OUVERTURE CHEMIN HIGH WAY V19-20 (Open Path: High Way V19-V20 (MN4))
Event: valve 19 open
Event: valve 20 open
Event: OUVERTURE BOUCHON IF3 (Open manual valve on IF3)//Confirm gas flow out of IF3
Event: TEST V20
Event: valve 20 closed
Event: valve 20 open
Event: TEST V19
Event: valve 19 closed
Event: valve 19 open
Event: TEST V10
Event: valve 10 closed
Event: valve 10 open
Event: TEST V09
Event: valve 9 closed
Event: valve 9 open
Event: FERMETURE CHEMIN HIGH WAY (Close Path: High Way)
Event: valve 20 closed
Event: valve 19 closed
```

Sequence File Format

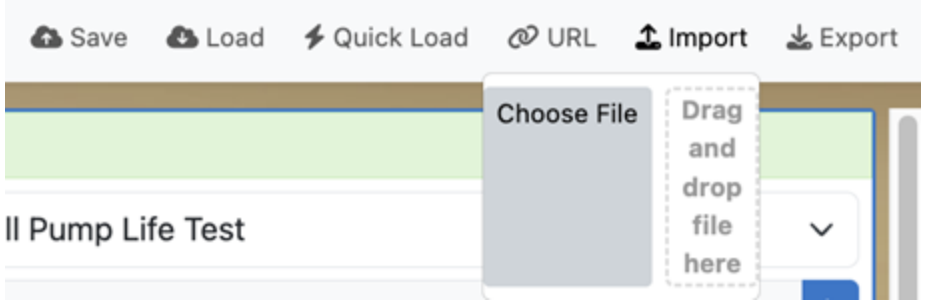
The format for sequence files is fairly straightforward:

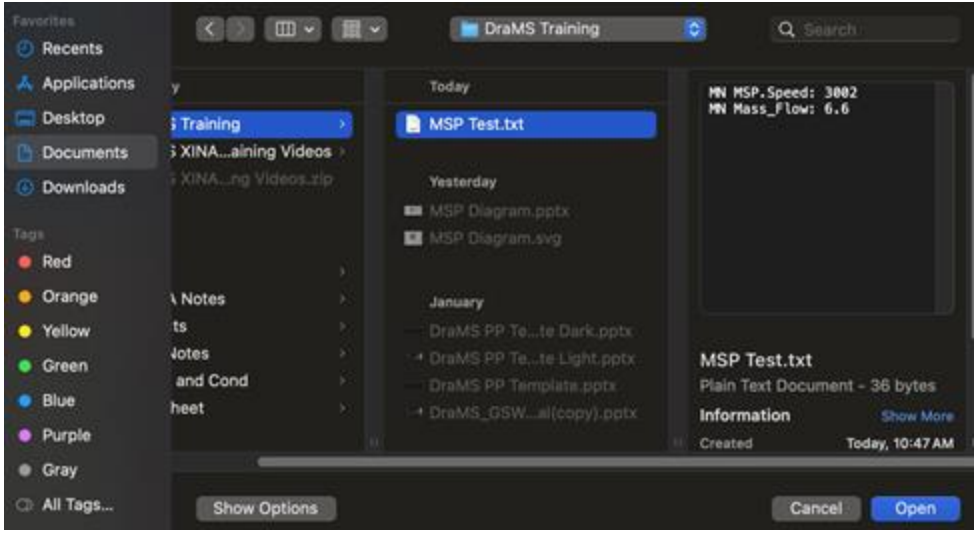
- For Event data, Event: <event text>, e.g. Event: valve 1 open
- For Mnemonic data, MNID <mnid>: <value>, e.g. MNID 10: 125.3
- Alternatively, you can use the Mnemonic name, MN <mn name>: <value>, e.g. MN mrp.heater_current: 125.3
- For timestamps, T <timestamp><units>, e.g. T 125ms. Units default to seconds or can be any of w/d/h/m/s/ms/us. A + before the timestamp will be interpreted as an offset relative to the previous, e.g. T +10.2h
- For comments, the line should start with // or #

Importing Sequence Files

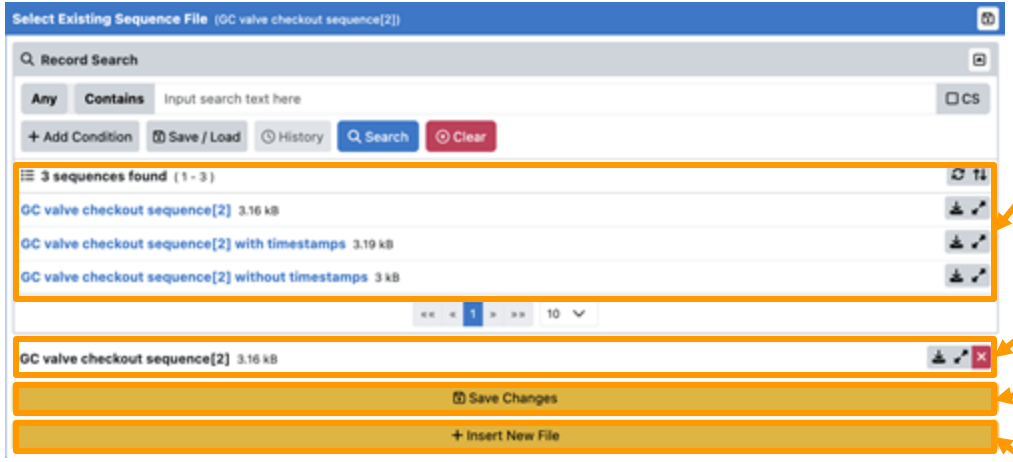
To upload a sequence file, simply click on the “import” button in the top-right.

Then, you can either click “Choose File,” file the sequence text file, and click “Open.” Or you can drag the sequence file from your file system onto the window labeled “Drag and drop file here.”





Sequence Files Listing/Selection



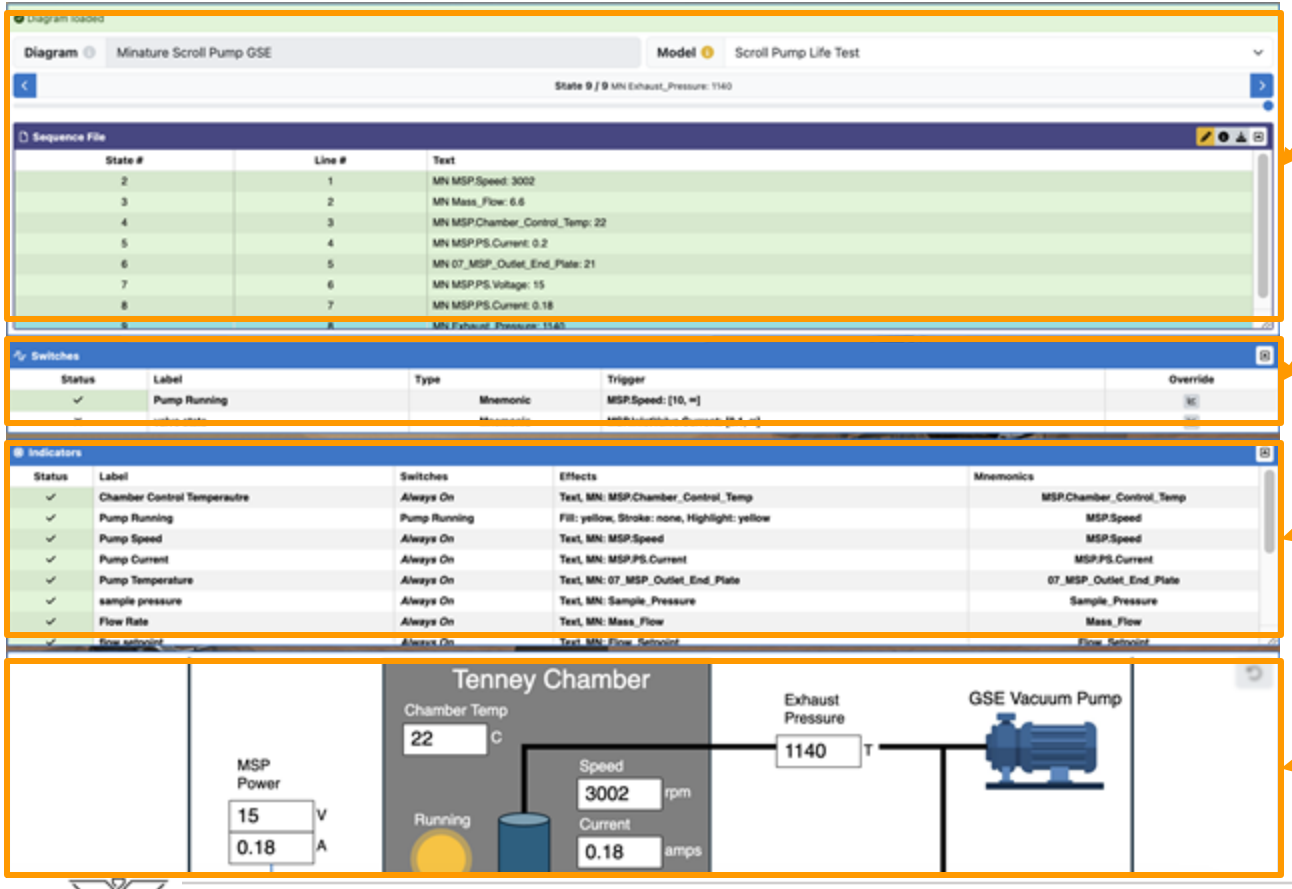
Existing Sequence Files List: The existing sequence files for the selected database are listed here.

Selected Sequence Files: The selected sequence file is listed here.

Save Sequence File: You can save changes made to the currently selected sequence file here.

Insert New Sequence File: This button adds the currently loaded sequence file to the database.

Viewing the Selected Diagram



The Diagram Summary provides some basic information and controls.

Displays all switches for the current Diagram, including their current status and override controls.

Displays all indicators for the current Diagram, including their current status.

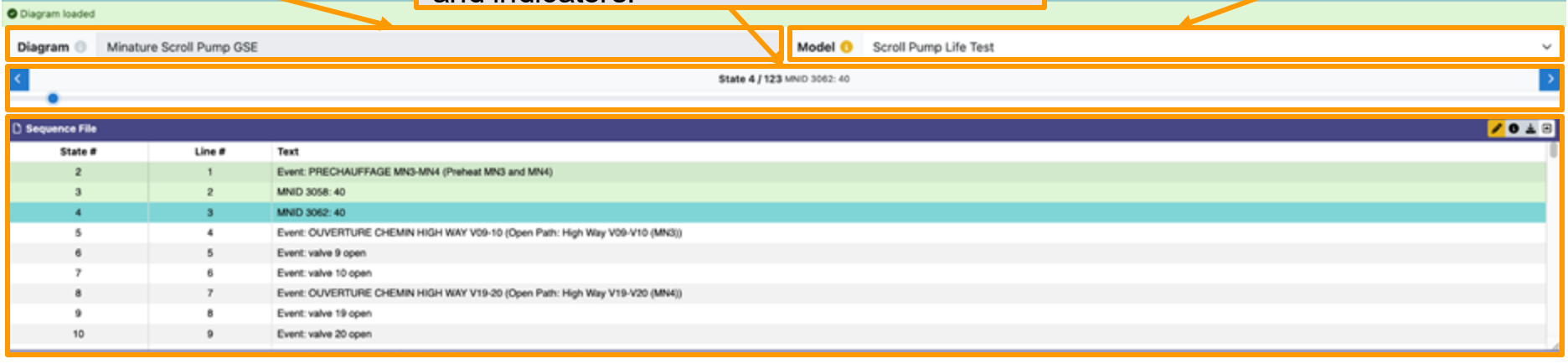
Displays the Diagram here. Scroll to zoom and click/drag to pan. If the diagram has interactable elements, they can be clicked.

Diagram Summary

The selected Diagram's name, which is used for all exported files.

Selected state within the sequence file. Can be stepped forward/backward. This changes the data displayed in the switches and indicators.

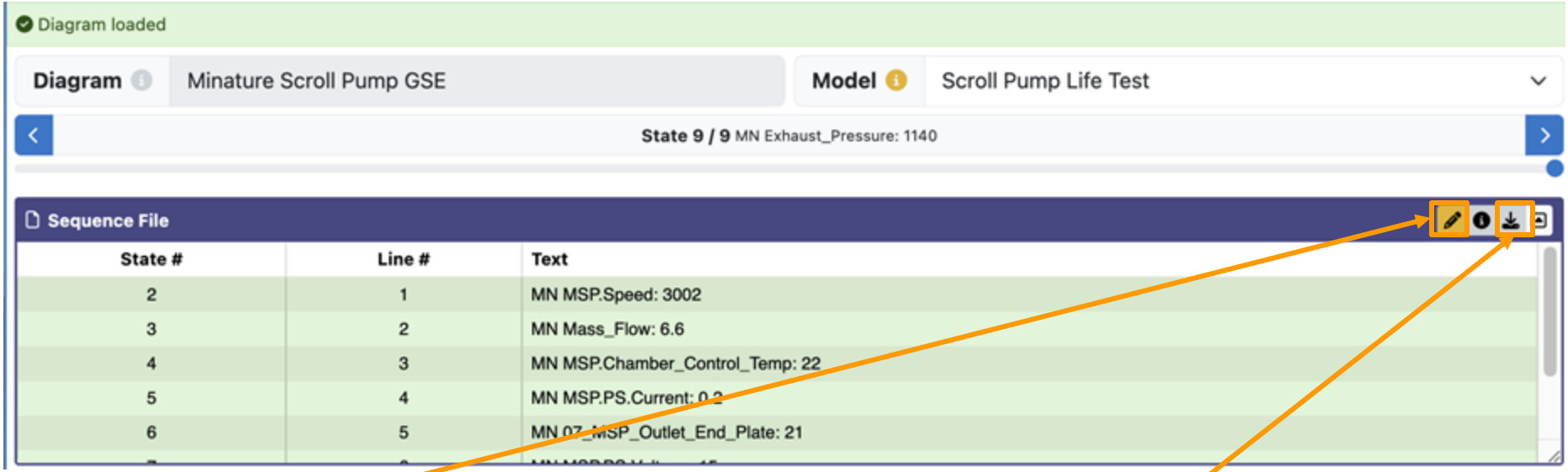
Select the hardware model here. The model determines the data source and mnemonic definitions.



State #	Line #	Text
2	1	Event: PRECHAUFFAGE MN3-MN4 (Preheat MN3 and MN4)
3	2	MNID 3058: 40
4	3	MNID 3062: 40
5	4	Event: OUVERTURE CHEMIN HIGH WAY V09-10 (Open Path: High Way V09-V10 (MN3))
6	5	Event: valve 9 open
7	6	Event: valve 10 open
8	7	Event: OUVERTURE CHEMIN HIGH WAY V19-20 (Open Path: High Way V19-V20 (MN4))
9	8	Event: valve 19 open
10	9	Event: valve 20 open

Selected sequence file. Here, the sequence file can be edited or downloaded. Current state can be seen here.

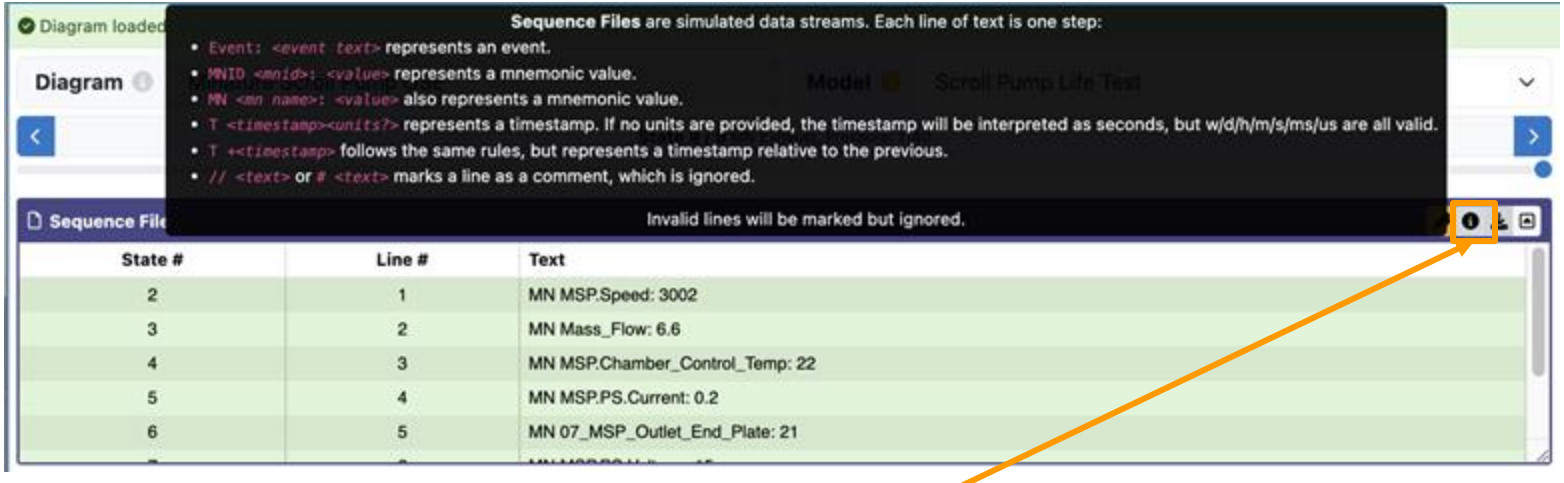
Diagram Summary



Click the “pencil” icon to edit the sequence file directly on XINA. This is useful for quick adjustments in simulated data.

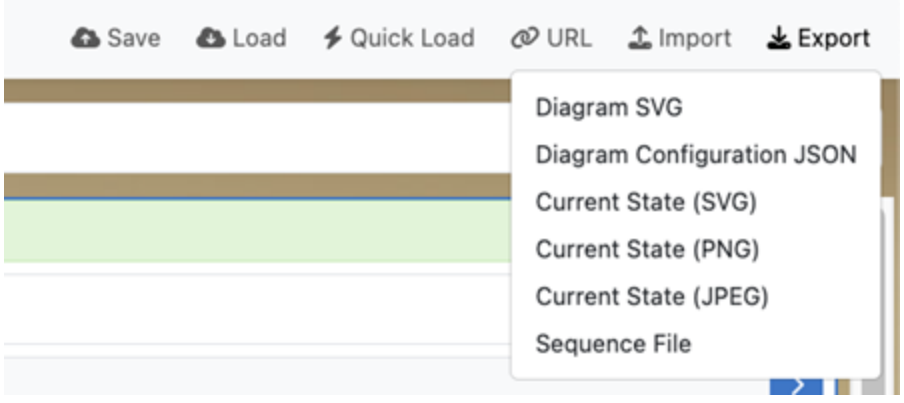
Click this button to download the selected sequence file to your computer.

Diagram Summary



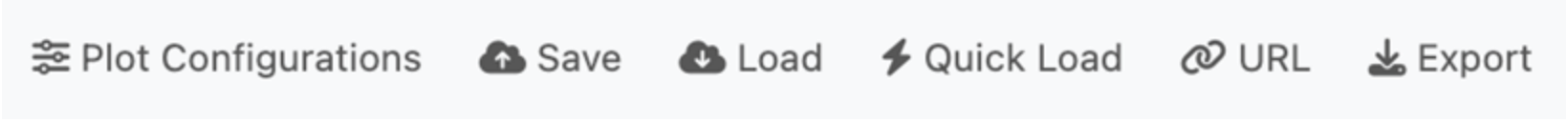
If you ever forget the syntax of the sequence files and want to make any edits, click the info button here. A pop up containing the sequence file syntax will appear.

Exporting Files



To export any of the files from XINA, click the “export” button in the top-right and select the file that you wish to download.

Sharing, Saving, and Loading Configurations



It is possible to share and save the current state of the tool, as well as load a previously saved configuration. Please click here to view the sharing, saving, and loading tutorial.