PIPENET®

Leading the Way in Fluid Flow Analysis

AUTOLAYOUT: Step-by-Step Guide

PIPENET Spray/Sprinkler Module includes the Autolayout feature that can be used to generate sprinkler systems for vessels. This document provides a brief guidance on how to use the Autolayout tool.
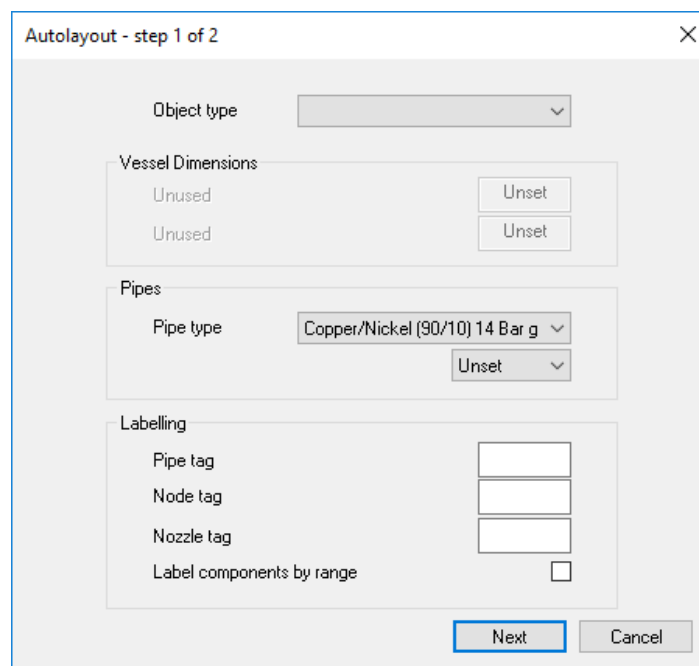
Before using the Autolayout tool

Before using the tool make sure that you have defined the nozzles you intend to use as library items and that you have provided, for each nozzle type, the spray divergence angle. Also ensure that you have at least one pipe type defined.

Launching the tool

Select Autolayout from the Tools menu bar item.

First dialog - defining the vessel and pipes

When the tool is launched, the first of two dialogs will be displayed:

- Object type

  This defines the type of object that requires protection. The options are:

| Tanks	Area Protection
Vertical Cylinder	Rectangle
Horizontal Cylinder	
Sphere	

- Vessel dimensions
  Specifies the dimensions of the object.

- Pipes
  This section defines the type and diameter of pipe you wish to use in the Autolayout network.

- Labelling

  If you want Autolayout to automatically label the generated components, you can define the tags to be used in this section. If the *Label components by range* check-box is checked, the labels of the generated components will be numbered according to the ranges with which they are associated, based on the specified tags. For example, if the nozzle tag is "NOZZ" and this option is enabled, the third nozzle on the second range will be labelled "NOZZ2/3".

Click the *Next* button to proceed to the second dialog.

Second dialog - network specification
The second dialog is where the network is specified, and depends upon the type of object being protected.
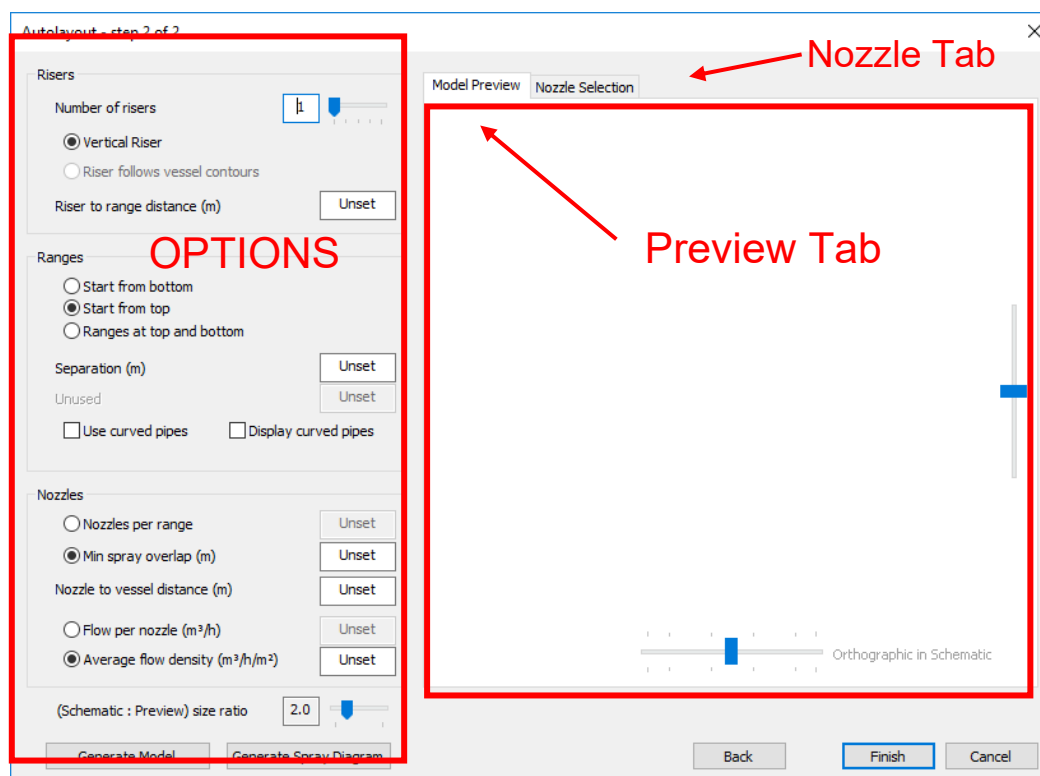
- Options
  This area displays the options for the vessel/area. The contents of this section depend on the selected object type.

- Model Preview Tab
  This tab shows a 3D view of the generated model. The model can be viewed from different angles of rotation and elevation by moving the horizontal and vertical sliders respectively. In addition, rotation in the preview tab defines the rotation of the model when placed in the schematic. The notification to the right of the horizontal slider indicates when the model would appear orthographic in the schematic. If there is an error in generating a model, or the model is not completely specified then no model is displayed.

- Nozzle Tab
  This tab shows a table of all nozzles in the nozzle library, along with information about the model that would be produced if each nozzle were chosen. This is where nozzles are selected to be used in the model.

In order to generate a model, enter valid data as described in the options pages for the chosen object type. In the nozzles tab select the nozzle you wish to use. If a valid nozzle has been chosen then a model will now display in the preview tab. Changing any of the options will automatically update the model/nozzle table depending on the currently selected tab. To manually force an update, click the *Generate model* button.
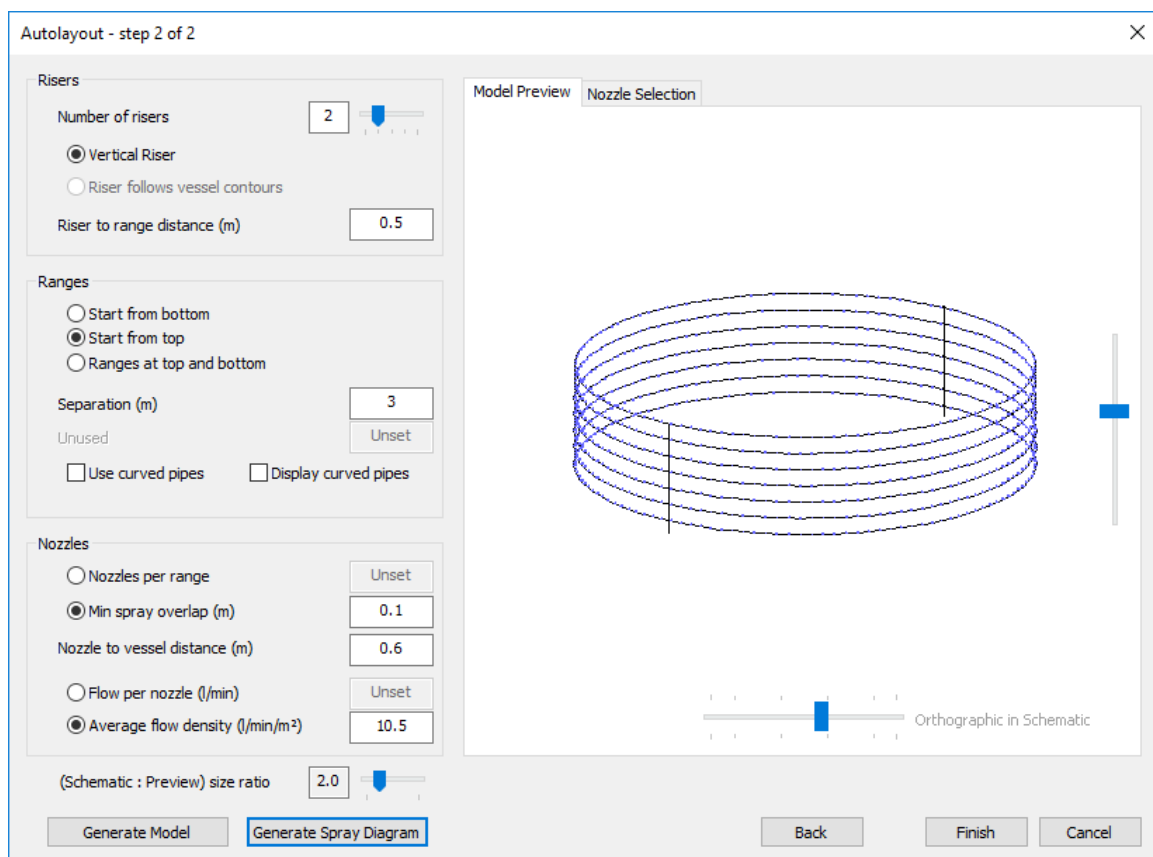
Once the model has been generated, you can check the corresponding calculated nozzle data in the Nozzle tab:

Spray Diagrams

The *Generate Spray Diagram* button launches the Spray Diagrams tool, which can be used to review the effectiveness of the model in protecting the target.

The spray diagram can be copied and pasted into the report.