


HVAC Control Schematics Template

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The HVAC Control Schematics Template includes shapes that conform to the proposed ASHRAE Standard 1123 for HVAC Graphic Symbolology. They represent ducts, sensors, and mechanical equipment for use in creating single- and double-line HVAC ductwork and equipment plans.

For information about how a particular shape behaves, right-click the shape, then choose Shape Help.

Setting up your drawing environment

By default, the HVAC Template opens with an unscaled drawing page in landscape (wide) orientation. The ruler and grid are set to Fine resolution, and the ruler zero point and grid origin are at the lower-left corner of the drawing page. You can change these settings at any time.

To change the page settings and drawing scale:

1. Choose File > Page Setup.
2. On the Page Size tab and the Drawing Scale tab, choose the settings you want for the printed page size, the drawing size, and the drawing scale, then click OK.

To change the measurement units, click the Page Properties tab and choose the unit you want to use from the Measurement Units list, then click OK.

To change ruler and grid settings:

1. Choose Tools > Ruler & Grid.
2. In the Ruler & Grid dialog box, choose the settings you want for the ruler and grid resolution, and for the ruler zero point and grid origin.

You can change the grid origin only of fixed grids. To set a fixed grid, choose Fixed under Grid Spacing, then type the values you want for the minimum spacing of the grid lines.

3. When you've finished adjusting the grid and ruler settings, click OK

See also:

[Rotating and resizing pages](#)

[Setting page orientation and scale](#)

HVAC Control Schematics shapes and drawing scale

The HVAC Control Schematics shapes are designed for use in unscaled drawings. If you change the drawing scale, the shapes may not resize or scale properly when you drop them on the page.

Working with HVAC shapes

You can configure HVAC shapes by right-clicking them and choosing the appropriate command from the shortcut menu. For example, right-click a Centrifugal Fan shape and choose Set Properties to define its Use, Control, and Name.

To create an HVAC single- or double-line ductwork drawing:

1. Use shapes from the General - Title Blocks stencil to add a title block or any other reference information. To open the Title Blocks stencil, choose File > Stencils > Annotation > General - Title Blocks.
2. Before adding duct shapes, drag guides from the horizontal and vertical rulers and position them on the page so that they indicate the duct framework.

Guides help you position duct and equipment shapes, and, if you need to revise your drawing later, make it easy to move a duct and its equipment all at once.

3. Drop a duct shape onto a guide. Glue horizontal duct shapes to horizontal guides, vertical ducts to vertical guides.

The duct shape's endpoints turn red to indicate that it is glued properly to the guide.

To create a single-line ductwork drawing, right-click a duct shape, then choose Single Line Ducts. (You can also right-click to switch back to double-line ducts.)

To resize or rotate a duct shape, drag one of its endpoints.

TIP To keep the duct shape in a straight line while resizing it, or to constrain rotation to horizontal and vertical lines, hold down the Shift key while you drag the endpoint.

4. Add additional duct shapes. To position a duct perpendicular to another in a double-line drawing, place its endpoint in the center of the existing duct shape.

This covers the existing duct's outline, creating an opening that shows the ducts are joined.

TIP If the opening does not appear, select the adjoining duct, then choose Shape > Bring To Front.

5. Add equipment and sensor shapes. These shapes are designed to be placed on top of the duct shapes-their alignment boxes match the width of the ducts so they snap into place automatically.

TIP When you drop an equipment shape on top of a duct, it also glues to the guide. To reposition the duct and all of the equipment within it, simply drag the guide.

Configure equipment and sensor shapes as necessary by right-clicking them and choosing Set Properties.

Working with shape properties

A custom property is a field in which you can store information. By default, Visio Technical associates property fields with each equipment and sensor shape. For example, the Air Quality shape has Control, Type, Limit Switch, Reset Switch, B-O-M Tag, and Part Number properties. You can enter data into the fields by right-clicking any shape, and choosing Shape > Custom Properties.

If you want to associate additional data with your HVAC shapes, you can run the Custom Properties Editor to add properties.

To run the Custom Properties Editor:

- Choose Tools > Macro > Custom Properties Editor.

See also:

[Adding, editing, and deleting custom-property fields](#)

Generating reports from properties

If you've associated custom-property data with your HVAC shapes, you can run the Property Reporting Wizard to generate inventory or numerical reports based on the data. For example, you could create a list of the part numbers of the equipment in your drawing.

To run the Property Reporting Wizard:

- Choose Tools > Property Report.

See also:

[Creating reports from custom data](#)

Generating reports on equipment lists

To quickly generate a report with lists of equipment shapes in a drawing, run the Export HVAC Inventory tool.

To run the Export HVAC Inventory tool:

- Choose Tools > Export HVAC Inventory. (This command is available only when the HVAC Control Schematics Template is open.)

Linking shapes to other drawing pages, other files, or World Wide Web locations

You can add navigational links to any shape in your diagram, so that users of the diagram can right-click the shape to jump to separate drawing pages, separate files, or documents on an intranet or the Web. For example, you can link an HVAC drawing to a drawing that shows a space plan of the building in which the system is built.

To add links to shapes:

- Choose Insert > Hyperlink.

See also:

[About using hyperlinks](#)

Placing Visio drawings on the World Wide Web

You can easily convert a Visio drawing to a format Web browsers can read. Then you can distribute the drawing on an intranet or the Web.

See also:

[Exporting shapes and drawings in .jpg or .gif format](#)

[Saving drawings as HTML pages](#)

[Generating reports from properties](#)
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