Design Master Plumbing
User Manual

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Design Master Plumbing

You are reading the user manual for Design Master Plumbing 4.1.

You can **download a PDF version of the user manual** for printing and offline documentation purposes.

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Overview

Intelligent Pipes: Each pipe section is linked to a database record that tracks all of the information about that pipe and makes edits and changes quick and easy.

Track Flow Through Pipes: Whether you are tracking gallons per minute, fixture units, or cubic feet per hour, Design Master Plumbing will keep the totals accurate as you work through the system.

Automatic Pipe Sizing: Pipes are automatically sized based upon the flow, accounting for diversity. Sizing is completely customizable to support any possible plumbing code.

Easy Drafting: Labels that update automatically with changes in your design. Quickly and easily place valves and fittings. Layers, elbows, tick marks, and line breaks are all handled for you.

Isometric Diagrams: Generate an isometric diagram directly from your plan view pipe layout, doing in seconds what once took hours. Line breaks, p-traps, and other graphic elements are drawn automatically.

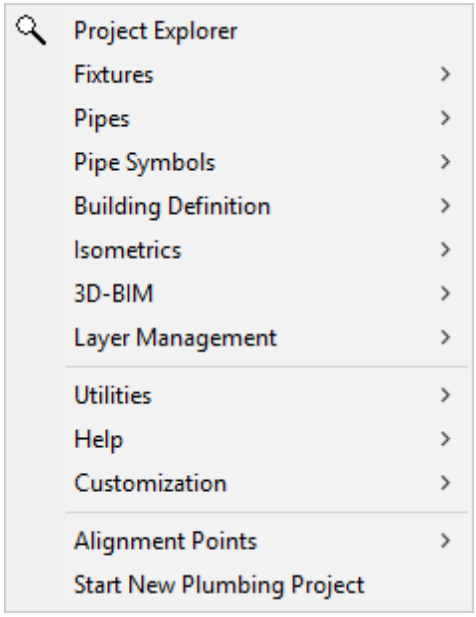
Smart Pipe Risers: Risers instantly link multiple drawing files together and make moving between floors easy, keeping your entire plumbing system coordinated. Never lose track of pipe locations, sizes, or flow values again.

Customizable Graphics: Maintain your existing graphic standards. Pipe linetypes, layer names and colors, text fonts, pipe labels, and various pipe graphics can all be customized.

Command Reference

This section describes all of the commands available in Design Master Plumbing. It is a direct listing of all of the commands and what they do. More complete discussions about how to apply the commands are found in the **Concepts and Procedures** section.

The commands in this section are in the same order as the Design Master Plumbing pulldown menu:



Project Explorer

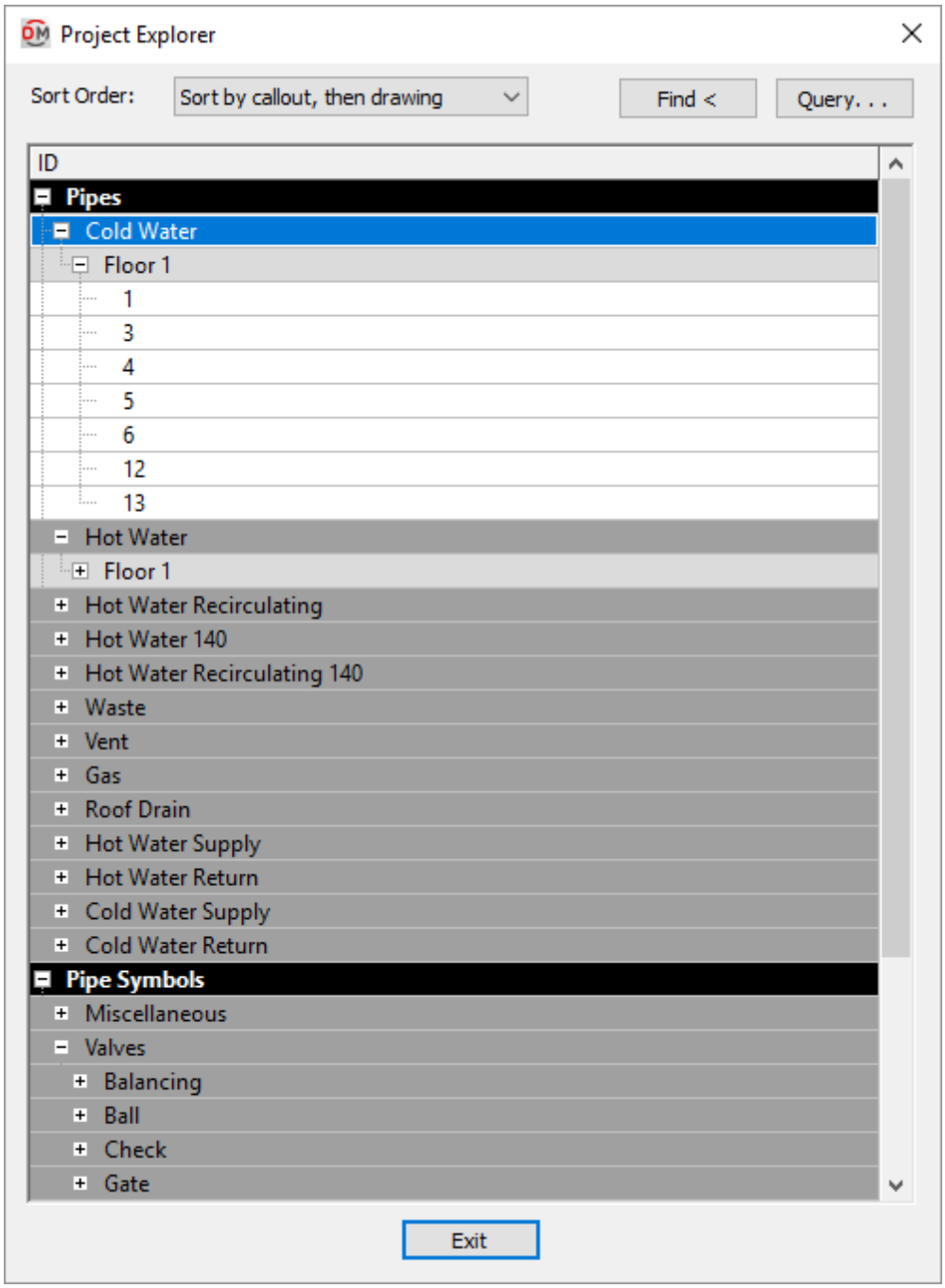
The `Project Explorer` command lists all of the items included in the current project, organized by item type and by drawing.

To view a list of all items included in the current project, or to find a specific item, go to

Ribbon: DM Plumbing->Utilities-> Project Explorer

Pulldown Menu: DM Plumbing->Project Explorer

Project Explorer Dialog Box



Sort Order: Changes how the list of items is sorted.

- **Sort by callout, then drawing:** Under each item type, all of the callouts are listed. Under each callout, all of the drawings containing items using that callout are listed. Callouts that do not have items inserted on a drawing are listed, but no drawings are listed under them.
- **Sort by drawing, then callout:** Under each item type, all of the drawings containing items of that type are listed. Under each drawing, all of the callouts on that drawing are listed. Callouts that do not have items inserted on a drawing are not listed.

ID: This tree lists all of the items in the current project. The main item types are listed first, followed by each callout or drawing depending upon the specified **Sort Order**.

A number is displayed for each individual item. This number is the unique internal identifier used in the project database for the item. The specific value does not have any meaning other than the fact that it is different for each item. In general, items inserted later in the project will have higher values than items that are inserted earlier.

Finding an Item Using the Project Explorer Dialog Box

Find: Press this button to display the selected item on the drawing. If the item is located on another drawing, the other drawing will be opened and the item highlighted. A line will be displayed between the cursor and the item on the drawing to help you locate it.

You will be prompted at the command line regarding what to do next.

[Query device/Next device/Previous device/<Return to dialog>]:

> ***Query device:*** The item is queried as if the corresponding `Query` command had been used on it. See the **Query Pipe** and **Query Pipe Symbol** sections for more information.
>
> ***Next device:*** Locate the next item of the current type.
>
> ***Previous device:*** Locate the previous item of the current type.
>
> ***Return to dialog:*** Return to the **Project Explorer** dialog box.

Querying an Item Using the Project Explorer Dialog Box

Query: Press this button to query a callout or individual item.

Individual items are queried as if the corresponding `Query` command had been used on it. See the **Query Pipe** and **Query Pipe Symbol** sections for more information.

Pipe symbol callouts are queried as if the `Pipe Symbol Project Schedule` command had been used. See the **Pipe Symbol Project Schedule** section for more information.

Fixtures

Design Master Plumbing uses fixtures to quickly input pipes that represent specific plumbing fixtures, their elevations, and their associated flow values in order to speed up the drafting and layout of plumbing and piping designs. As the fixtures are actually pipes and not intelligent toilets or sinks, there is no schedule of fixtures recorded in the database. Fixtures are effectively piping macros that help you locate and define pipe flow values.

Common Fixture Information

Pipe Type: The type of pipe used for the fixture connection. The list of pipe types available can be customized. See the **Pipe Types** section for more information.

Pipe Flow Category Name: The list of the available flow categories. Some pipe types are assigned only one category, while others may be assigned to several. See the **Pipe Flow Categories** section for more information

about making changes to pipe flow categories.

Flow: The flow value for the fixture. These values can be found in your local plumbing codes.

Include P-Trap: Whether a p-trap is automatically drawn on this fixture when shown in an isometric diagram.

Transparent: The fixture and fixture connection will not be drawn. This setting is useful when you need to draw a custom fitting or piece of equipment in your pipe system. A transparent fixture connection keeps the flow connected and allows you to draw the graphics necessary for your design.

Elevation: The elevation of the fixture. See the **Elevation** section for more information.

Pipe Size: The size of the pipe feeding the fixture. The list of pipe sizes available can be customized. See the **Pipe Sizes** section for more information.

- **Sized Automatically:** The pipe size is chosen automatically based upon the flow.
- **Specific Size:** The selected pipe size is used.

Sizing Table: The table used to size the pipe if *Pipe Size* is set to **Sized Automatically**. See the **Pipe Sizing Tables** section for more information.

- **Same as Previous:** The pipe is sized based upon the *Sizing Table* of the previous pipe.

Layer System: See the **Layer System** section for more information.

Floor: Sets whether the fixture extends to another floor. The fixture will be displayed on both floors. See the **Floors** section for more information about setting up floors.

- **Insert fixture on this floor only:** The fixture is not extended to another floor.
- **Extend fixture to floor below:** The fixture extends down one floor.
- **Extend fixture to floor above:** The fixture extends up one floor.

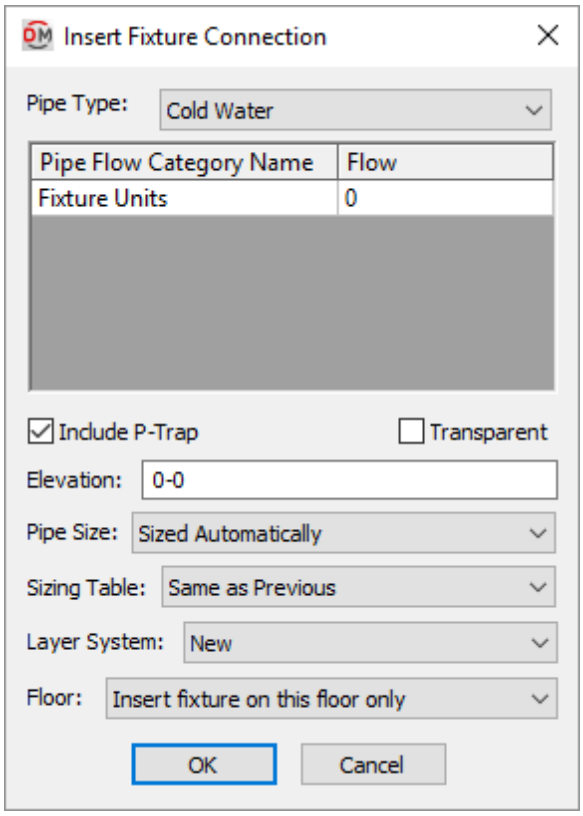
Insert Fixture Connection

To insert fixtures on the current drawing, go to

Ribbon: `DM Plumbing->Fixtures->`  `Insert Fixture Connection`

Pulldown Menu: `DM Plumbing->Fixtures->Insert Fixture Connection`

Insert Fixture Connection Dialog Box



See the **Common Fixture Information** section for more information about the values that can be specified for fixture connections.

Layer System: See the **Layer System** section for more information.

Inserting a Fixture Connection on the Drawing

To insert a fixture connection on the drawing, press the **OK** button. The settings specified in the dialog box will be used for the inserted fixture connection. You will be prompted to identify where on the drawing the fixture connection is to be inserted.

Specify fixture connection insertion point:

A circle will be displayed on the drawing to represent the fixture.

You will then be prompted to insert another fixture with the same definition. Continue to insert fixtures, or press **ENTER** to finish the command.

Related Options

P-trap width: Sets the width of p-traps.

Direct 90 Vertical at Fixture Connection

The `Direct 90 Vertical at Fixture Connection` command is used to insert a connecting pipe at a 90-degree angle to the pipe, which then rises or drops from the elevation of the pipe to the elevation of the fixture.

To make a direct 90 vertical connection at the fixture, go to

Ribbon: `DM Plumbing->Fixtures->`  `Direct 90 Vertical at Fixture Connection`

Pulldown Menu: `DM Plumbing->Fixtures->Direct 90 Vertical at Fixture Connection`

You will be prompted to identify which fixtures to connect to a pipe.

Select fixtures to connect:

You will then be prompted to select the pipe to which the selected fixtures will be connected.

Select pipe to connect to:

The fixtures and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

Direct 45 Vertical at Fixture Connection

The `Direct 45 Vertical at Fixture Connection` command is used to insert a connecting pipe at a 45-degree angle to the pipe, which then rises or drops from the elevation of the pipe to the elevation of the fixture.

To make a direct 45 vertical connection at the fixture, go to

Ribbon: `DM Plumbing->Fixtures->`  `Direct 45 Vertical at Fixture Connection`

Pulldown Menu: `DM Plumbing->Fixtures->Direct 45 Vertical at Fixture Connection`

You will be prompted to identify which fixtures to connect to a pipe.

Select fixtures to connect:

You will then be prompted to select the pipe to which the selected fixtures will be connected.

Select pipe to connect to:

The fixtures and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

90-90 Vertical at Fixture Connection

The `90-90 Vertical at Fixture Connection` command is used to insert a connecting pipe at a 90-degree angle to the pipe, which then turns 90 degrees to connect to the fixture. Once it reaches the fixture, it will either rise or drop from the elevation of the pipe to the elevation of the fixture.

To make a 90-90 vertical connection at the fixture, go to

Ribbon: `DM Plumbing->Fixtures->`  `90-90 Vertical at Fixture Connection`

Pulldown Menu: `DM Plumbing->Fixtures->90-90 Vertical at Fixture Connection`

You will be prompted to identify which fixture to connect to a pipe.

Select fixture to connect:

You will then be prompted to select the pipe to which the fixture will be connected.

Select pipe at connection point:

The fixture and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

90-45 Vertical at Fixture Connection

The `90-45 Vertical at Fixture Connection` command is used to insert a connecting pipe at a 90-degree angle to the pipe, which then turns 45 degrees to connect to the fixture. Once it reaches the fixture, it will either rise or drop from the elevation of the pipe to the elevation of the fixture.

To make a 90-45 vertical connection at the fixture, go to

Ribbon: `DM Plumbing->Fixtures->`  `90-45 Vertical at Fixture Connection`

Pulldown Menu: `DM Plumbing->Fixtures->90-45 Vertical at Fixture Connection`

You will be prompted to identify which fixture to connect to a pipe.

Select fixture to connect:

You will then be prompted to select the pipe to which the fixture will be connected.

Select pipe at connection point:

The fixture and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

45-90 Vertical at Fixture Connection

The `45-90 Vertical at Fixture Connection` command is used to insert a connecting pipe at a 45-degree angle to the pipe, which then turns 90 degrees to connect to the fixture. Once it reaches the fixture, it will either rise or drop from the elevation of the pipe to the elevation of the fixture.

To make a 45-90 vertical connection at the fixture, go to

Ribbon: `DM Plumbing->Fixtures->`  `45-90 Vertical at Fixture Connection`

Pulldown Menu: `DM Plumbing->Fixtures->45-90 Vertical at Fixture Connection`

You will be prompted to identify which fixture to connect to a pipe.

Select fixture to connect:

You will then be prompted to select the pipe to which the fixture will be connected.

Select pipe at connection point:

The fixture and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

End Vertical at Fixture Connection

The `End Vertical at Fixture Connection` command is used to insert a connecting pipe to the end of the pipe, which goes directly toward the fixture and then rises or drops from the elevation of the pipe to the elevation of the fixture.

To make a vertical end connection at the fixture, go to

Ribbon: `DM Plumbing->Fixtures->` `End Vertical at Fixture Connection`

Pulldown Menu: `DM Plumbing->Fixtures->End Vertical at Fixture Connection`

You will be prompted to identify which fixture to connect to a pipe.

Select fixture to connect:

You will then be prompted to select the pipe to which the fixture will be connected.

Select pipe to connect to:

The fixture and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

Direct 90 Horizontal Connection

The `Direct 90 Horizontal Connection` command is used to insert a pipe that connects to the fixture at a 90-degree angle to the pipe. The elevation of the fixture will be changed to match the elevation of the pipe.

To make a direct 90 horizontal connection, go to

Ribbon: `DM Plumbing->Fixtures->`  `Direct 90 Horizontal Connection`

Pulldown Menu: `DM Plumbing->Fixtures->Direct 90 Horizontal Connection`

You will be prompted to identify which fixtures to connect to a pipe.

Select fixtures to connect:

You will then be prompted to select the pipe to which the selected fixtures will be connected.

Select pipe to connect to:

The fixtures and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Direct 45 Horizontal Connection

The `Direct 45 Horizontal Connection` command is used to insert a pipe that connects to the fixture at a 45-degree angle to the pipe. The elevation of the fixture will be changed to match the elevation of the pipe.

To make a direct 45 horizontal connection, go to

Ribbon: `DM Plumbing->Fixtures->`  `Direct 45 Horizontal Connection`

Pulldown Menu: `DM Plumbing->Fixtures->Direct 45 Horizontal Connection`

You will be prompted to identify which fixtures to connect to a pipe.

Select fixtures to connect:

You will then be prompted to select the pipe to which the selected fixtures will be connected.

Select pipe to connect to:

The fixtures and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

90-90 Horizontal Connection

The `90-90 Horizontal Connection` command is used to insert a pipe that goes toward the fixture at a 90-degree angle to the pipe, then turns 90 degrees to connect to the fixture. The elevation of the fixture will be changed to match the elevation of the pipe.

To make a 90-90 horizontal connection, go to

Ribbon: `DM Plumbing->Fixtures->`  `90-90 Horizontal Connection`

Pulldown Menu: `DM Plumbing->Fixtures->90-90 Horizontal Connection`

You will be prompted to identify which fixture to connect to a pipe.

Select fixture to connect:

You will then be prompted to select the pipe to which the fixture will be connected.

Select pipe at connection point:

The fixture and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

90-45 Horizontal Connection

The `90-45 Horizontal Connection` command is used to insert a pipe that goes toward the fixture at a 90-degree angle to the pipe, then turns 45 degrees to connect to the fixture. The elevation of the fixture will be changed to match the elevation of the pipe.

To make a 90-45 horizontal connection, go to

Ribbon: `DM Plumbing->Fixtures->`  `90-45 Horizontal Connection`

Pulldown Menu: `DM Plumbing->Fixtures->90-45 Horizontal Connection`

You will be prompted to identify which fixture to connect to a pipe.

Select fixture to connect:

You will then be prompted to select the pipe to which the fixture will be connected.

Select pipe at connection point:

The fixture and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

45-90 Horizontal Connection

The `45-90 Horizontal Connection` command is used to insert a pipe that goes toward the fixture at a 45-degree angle to the pipe, then turns 90 degrees to connect to the fixture. The elevation of the fixture will be changed to match the elevation of the pipe.

To make a 45-90 horizontal connection, go to

Ribbon: `DM Plumbing->Fixtures->`  `45-90 Horizontal Connection`

Pulldown Menu: `DM Plumbing->Fixtures->45-90 Horizontal Connection`

You will be prompted to identify which fixture to connect to a pipe.

Select fixture to connect:

You will then be prompted to select the pipe to which the fixture will be connected.

Select pipe at connection point:

The fixture and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

End Horizontal Connection

The `End Horizontal Connection` command is used to insert a connecting pipe at the end of the pipe, which then connects directly to the fixture. The elevation of the fixture will be changed to match the elevation of the pipe.

To make a horizontal end connection, go to

Ribbon: `DM Plumbing->Fixtures->`  `End Horizontal Connection`

Pulldown Menu: `DM Plumbing->Fixtures->End Horizontal Connection`

You will be prompted to identify which fixture to connect to a pipe.

Select fixture to connect:

You will then be prompted to select the pipe to which the fixture will be connected.

Select pipe to connect to:

The fixture and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Direct 90 Vertical at Pipe Connection

The `Direct 90 Vertical at Pipe Connection` command is used to insert a connecting pipe that rises or drops from the elevation of the pipe to the elevation of the fixture, then connects to the fixture at a 90-degree

angle to the pipe.

To make a direct 90 vertical connection at the pipe, go to

Ribbon: `DM Plumbing->Fixtures->`  `Direct 90 Vertical at Pipe Connection`

Pulldown Menu: `DM Plumbing->Fixtures->Direct 90 Vertical at Pipe Connection`

You will be prompted to identify which fixtures to connect to a pipe.

Select fixtures to connect:

You will then be prompted to select the pipe to which the selected fixtures will be connected.

Select pipe to connect to:

The fixtures and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

Direct 45 Vertical at Pipe Connection

The `Direct 45 Vertical at Pipe Connection` command is used to insert a connecting pipe that rises or drops from the elevation of the pipe to the elevation of the fixture, then connects to the fixture at a 45-degree angle to the pipe.

To make a direct 45 horizontal connection at the pipe, go to

Ribbon: `DM Plumbing->Fixtures->`  `Direct 45 Vertical at Pipe Connection`

Pulldown Menu: `DM Plumbing->Fixtures->Direct 45 Vertical at Pipe Connection`

You will be prompted to identify which fixtures to connect to a pipe.

Select fixtures to connect:

You will then be prompted to select the pipe to which the selected fixtures will be connected.

Select pipe to connect to:

The fixtures and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

90-90 Vertical at Pipe Connection

The `90-90 Vertical at Pipe Connection` command is used to insert a connecting pipe that rises or drops from the elevation of the pipe to the elevation of the fixture. The connecting pipe then goes toward the fixture at a 90-degree angle to the pipe and turns 90 degrees to connect to the fixture.

To make a 90-90 vertical connection at the pipe, go to

Ribbon: `DM Plumbing->Fixtures->`  `90-90 Vertical at Pipe Connection`

Pulldown Menu: `DM Plumbing->Fixtures->90-90 Vertical at Pipe Connection`

You will be prompted to identify which fixture to connect to a pipe.

Select fixture to connect:

You will then be prompted to select the pipe to which the fixture will be connected.

Select pipe at connection point:

The fixture and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

90-45 Vertical at Pipe Connection

The `90-45 Vertical at Pipe Connection` command is used to insert a connecting pipe that rises or drops from the elevation of the pipe to the elevation of the fixture. The connecting pipe then goes toward the fixture at a 90-degree angle to the pipe and turns 45 degrees to connect to the fixture.

To make a 90-45 vertical connection at the pipe, go to

Ribbon: `DM Plumbing->Fixtures->`  `90-45 Vertical at Pipe Connection`

Pulldown Menu: `DM Plumbing->Fixtures->90-45 Vertical at Pipe Connection`

You will be prompted to identify which fixture to connect to a pipe.

Select fixture to connect:

You will then be prompted to select the pipe to which the fixture will be connected.

Select pipe at connection point:

The fixture and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

45-90 Vertical at Pipe Connection

The 45-90 `Vertical at Pipe Connection` command is used to insert a connecting pipe that rises or drops from the elevation of the pipe to the elevation of the fixture. The connecting pipe then goes toward the fixture at a 45-degree angle to the pipe and turns 90 degrees to connect to the fixture.

To make a 45-90 vertical connection at the pipe, go to

Ribbon: `DM Plumbing->Fixtures->`  `45-90 Vertical at Pipe Connection`

Pulldown Menu: `DM Plumbing->Fixtures->45-90 Vertical at Pipe Connection`

You will be prompted to identify which fixture to connect to a pipe.

Select fixture to connect:

You will then be prompted to select the pipe to which the fixture will be connected.

Select pipe at connection point:

The fixture and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

End Vertical at Pipe Connection

The `End Vertical at Pipe Connection` command is used to insert a connecting pipe to the end of the pipe, which rises or drops from the elevation of the pipe to the elevation of the fixture and then goes directly toward the fixture.

To make a vertical end connection at the pipe, go to

Ribbon: `DM Plumbing->Fixtures->`  `End Vertical at Pipe Connection`

Pulldown Menu: `DM Plumbing->Fixtures->End Vertical at Pipe Connection`

You will be prompted to identify which fixture to connect to a pipe.

Select fixture to connect:

You will then be prompted to select the pipe to which the fixture will be connected.

Select pipe to connect to:

The fixture and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

Direct 90 Vertical at Wall

The `Direct 90 Vertical at Wall` command is used to insert a connecting pipe at a 90-degree angle to the pipe. The connecting pipe then rises or drops inside a wall from the elevation of the pipe to the elevation of the fixture before connecting to the fixture.

To make a direct 90 connection with a vertical pipe in a wall, go to

Ribbon: `DM Plumbing->Fixtures->`  `Direct 90 Vertical at Wall`

Pulldown Menu: `DM Plumbing->Fixtures->Direct 90 Vertical at Wall`

You will be prompted to identify which fixtures to connect to a pipe.

Select fixtures to connect:

You will then be prompted to select the pipe to which the selected fixtures will be connected.

Select pipe to connect to:

You will then be prompted to select a point inside the wall in which the vertical pipes will be inserted.

Specify point inside wall where vertical pipes will be located:

The fixtures and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

Direct 45 Vertical at Wall

The `Direct 45 Vertical at Wall` command is used to insert a connecting pipe at a 45-degree angle to the pipe. The connecting pipe then rises or drops inside a wall from the elevation of the pipe to the elevation of the fixture before connecting to the fixture.

To make a direct 90 connection with a vertical pipe in a wall, go to

Ribbon: `DM Plumbing->Fixtures->`  `Direct 45 Vertical at Wall`

Pulldown Menu: `DM Plumbing->Fixtures->Direct 45 Vertical at Wall`

You will be prompted to identify which fixtures to connect to a pipe.

Select fixtures to connect:

You will then be prompted to select the pipe to which the selected fixtures will be connected.

Select pipe to connect to:

You will then be prompted to select a point inside the wall in which the vertical pipes will be inserted.

Specify point inside wall where vertical pipes will be located:

The fixtures and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

90-90 Vertical at Wall

The `90-90 Vertical at Wall` command is used to insert a connecting pipe at a 90-degree angle to the pipe, which then turns 90 degrees to connect to the fixture. The connecting pipe will rise or drop inside a wall from the elevation of the pipe to the elevation of the fixture.

To make a 90-90 connection with a vertical pipe in a wall, go to

Ribbon: `DM Plumbing->Fixtures->`  `90-90 Vertical at Wall`

Pulldown Menu: `DM Plumbing->Fixtures->90-90 Vertical at Wall`

You will be prompted to identify which fixture to connect to a pipe.

Select fixture to connect:

You will then be prompted to select the pipe to which the fixture will be connected.

Select pipe at connection point:

You will then be prompted to select two points inside the wall in which the vertical pipe will be inserted.

Specify first point inside wall where vertical pipe will be located:
Specify second point inside wall where vertical pipe will be located:

The fixture and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

90-45-Vertical at Wall

The `90-45 Vertical at Wall` command is used to insert a connecting pipe at a 90-degree angle to the pipe, which then turns 45 degrees to connect to the fixture. The connecting pipe will rise or drop inside a wall from the

elevation of the pipe to the elevation of the fixture.

To make a 90-45 connection with a vertical pipe in a wall, go to

Ribbon: `DM Plumbing->Fixtures->`  `90-45 Vertical at Wall`

Pulldown Menu: `DM Plumbing->Fixtures->90-45 Vertical at Wall`

You will be prompted to identify which fixture to connect to a pipe.

Select fixture to connect:

You will then be prompted to select the pipe to which the fixture will be connected.

Select pipe at connection point:

You will then be prompted to select two points inside the wall in which the vertical pipe will be inserted.

Specify first point inside wall where vertical pipe will be located:
Specify second point inside wall where vertical pipe will be located:

The fixture and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

45-90 Vertical at Wall

The `45-90 Vertical at Wall` command is used to insert a connecting pipe at a 45-degree angle to the pipe, which then turns 90 degrees to connect to the fixture. The connecting pipe will rise or drop inside a wall from the elevation of the pipe to the elevation of the fixture.

To make a 45-90 connection with a vertical pipe in a wall, go to

Ribbon: `DM Plumbing->Fixtures->`  `45-90 Vertical at Wall`

Pulldown Menu: `DM Plumbing->Fixtures->45-90 Vertical at Wall`

You will be prompted to identify which fixture to connect to a pipe.

Select fixture to connect:

You will then be prompted to select the pipe to which the fixture will be connected.

Select pipe at connection point:

You will then be prompted to select two points inside the wall in which the vertical pipe will be inserted.

Specify first point inside wall where vertical pipe will be located:
Specify second point inside wall where vertical pipe will be located:

The fixture and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

End Vertical at Wall

The End `Vertical at Wall` command is used to insert a connecting pipe to the end of the pipe, which goes directly toward the fixture. The connecting pipe will rise or drop inside a wall from the elevation of the pipe to the elevation of the fixture.

To make an end connection with a vertical pipe in a wall, go to

Ribbon: `DM Plumbing->Fixtures->`  `End Vertical at Wall`

Pulldown Menu: `DM Plumbing->Fixtures->End Vertical at Wall`

You will be prompted to identify which fixture to connect to a pipe.

Select fixture to connect:

You will then be prompted to select the pipe to which the fixture will be connected.

Select pipe to connect to:

You will then be prompted to select two points inside the wall in which the vertical pipe will be inserted.

Specify first point inside wall where vertical pipe will be located:
Specify second point inside wall where vertical pipe will be located:

The fixture and the pipe will be connected.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

Pipes

This section describes the commands used to draw pipes.

Common Pipe Information

The values that can be specified for pipes are listed below.

Pipe Type: The type of pipe being used. The list of pipe types available can be customized. See the **Pipe Types** section for more information.

Starting Elevation: The starting elevation of the pipe. The reference point for the starting elevation of the pipe is set by the *Vertical Alignment*. See the **Elevation** section for more information.

Ending Elevation: The ending elevation of the pipe. The reference point for the ending elevation of the pipe is set by the *Vertical Alignment*. See the **Elevation** section for more information.

Vertical Alignment: Specifies the reference point used for the *Starting Elevation* and *Ending Elevation*.

- **Center of Pipe:** The elevations refer to the centerline of the pipe. The pipe will extend both above and below these elevations.
- **Top of Pipe:** The elevations refer to the top of the pipe. The pipe will extend below these elevations.
- **Bottom of Pipe:** The elevations refer to the bottom of the pipe. The pipe will extend above these elevations. If the pipe has hangers, they will extend below this elevation.
- **Bottom of Hanger:** The elevations refer to the bottom of the hanger for the pipe. The hangers and the pipe will extend above these elevations. If there is no hanger, the bottom of the pipe will be at these elevations.

Horizontal Alignment: Specifies the reference point for the pipe construction line.

- **Centered:** The construction line is the centerline of the pipe. The pipe extends to both sides of the construction line. Any transitions in the pipe are concentric.
- **Flat on Left:** The construction line is the left edge of the pipe. The pipe extends to the right of the construction line. Any transitions in the pipe will be eccentric, with the flat edge on the left.
- **Flat on Right:** The construction line is the right edge of the pipe. The pipe extends to the left of the construction line. Any transitions in the pipe will be eccentric, with the flat edge on the right.

Exterior Insulation: Whether the pipe has exterior insulation. Check this box to specify the width of the insulation. The pipe size will include the insulation when drawn in 3D. The insulation is not drawn in 2D.

Pipe Size: The size of the pipe. The list of pipe sizes available can be customized. See the **Pipe Sizes** section for more information.

- **Sized Automatically:** The pipe size is chosen automatically based upon the flow.
- **Specific Size:** The selected pipe size is used.

Sizing Table: The table used to calculate the size of the pipe if *Pipe Size* is set to **Sized Automatically**. See the **Pipe Sizing Tables** section for more information.

- **Same as Previous:** The pipe is sized based upon the *Sizing Table* of the previous pipe.See the **Previous**

and Next Pipes section for more information about identifying previous pipes.

Layer System: See the **Layer System** section for more information.

Transparent: The pipe will not be drawn. This setting is useful when you need to draw a custom fitting or piece of equipment in your pipe system. A transparent pipe inserted through the custom graphic keeps the flow connected and allows you to draw the graphics necessary for your design.

Include P-Trap: Whether a p-trap is automatically drawn on this fixture when shown in an isometric diagram.

Distance to Farthest Fixture: The longest pipe run from this section of pipe. If the **Pipe Calculations** command has not been run for the system, this value will display as **0**.

Maximum Height: The maximum height of any pipe in this pipe system.

Common Pipe Flow Information

The values that can be specified for pipes are listed below.

Pipe Flow Category: The type of flow conveyed by the pipe. See the **Pipe Flow Categories** section for more information about editing pipe flow category settings.

Fixed Values: The flow for each category for a specific section of pipe.

Calculated Values: The total flow for each category in this section of pipe.

Common Riser Information

Starting Floor: The floor on which the riser starts.

Elevation: The elevation of the riser on the starting floor.

Ending Floor: The floor on which the riser ends.

Ending Floor Elevation: The elevation of the riser on the ending floor.

Pipe Calculations

To calculate the total flow in a water or gas piping system, go to

Ribbon: `DM Plumbing->Pipes->`  `Pipe Calculations`

Pulldown Menu: `DM Plumbing->Pipes->Pipe Calculations`

You will be prompted to identify the pipe system for which the total flow is to be calculated.

Select pipe in the system to size:

The total flow in the pipe system will be calculated and stored in the database.

To view the flow value in a specific section of pipe, use the **Query Pipe** command.

Insert Pipe

To insert a pipe on the drawing, go to

Ribbon: `DM Plumbing->Pipes->`  `Insert Pipe`

Pulldown Menu: `DM Plumbing->Pipes->Insert Pipe`

You will be prompted to identify the starting point of the pipe to be inserted.

Specify first point for pipe or [Set pipe information/Backward]:
Specify first point for pipe or [Set pipe information/Forward]:

Specify first point: Specify the location of the first point for the pipe. You will be prompted to specify the next point of the pipe. The prompt that is displayed depends upon whether you are inserting pipes forward or backward.

Specify next point for pipe or [Set pipe information/Vertical/Riser/Backward/start New run]:
Specify next point for pipe or [Set pipe information/Vertical/Riser/Forward/start New run]:

Specify next point: Specify the location for the next point of the pipe.

If the pipe is not connected to another pipe, the **Insert Pipe** dialog box will appear, described below.

If the pipe is connected to another pipe, the pipe information will be based upon the connected pipe.

You will be prompted again to specify the next point, allowing you to continue inserting pipes.

Set pipe information: Type **S** to change the settings for the next pipe that will be inserted. The **Insert Pipe** dialog box will appear, described below.

Vertical: Insert a vertical pipe at the location of the first point.

If the pipe is not connected to another pipe, the **Insert Pipe** dialog box will appear, described below.

If the pipe is connected to another pipe, you will be prompted to enter an elevation for the pipe. If you are inserting pipes forward, you will be prompted for the *Ending Elevation*. If you are inserting pipes backward, you will be prompted for the *Starting Elevation*.

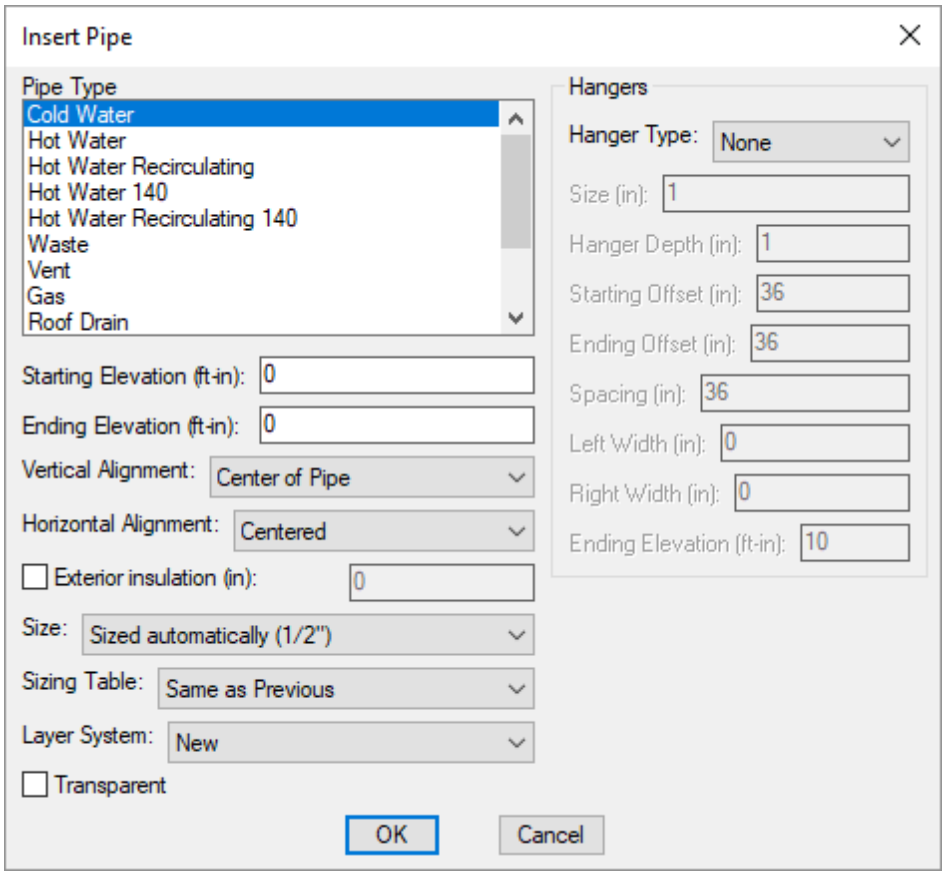
Riser: Insert a riser at the location of the first point. The **Insert Riser** dialog box will appear.

Backward: Type **B** to change the current direction of drawing pipes from forward to backward. The first point of a backward pipe is the location of the arrowhead. The next point of a backward pipe is the location of the tail of the arrow.

Forward: Type **F** to change the current direction of drawing pipes from backward to forward. The first point of a forward pipe is the location of the tail of the arrow. The next point of a forward pipe is the location of the arrowhead.

start New run: Type `N` to finish the current run of pipe. You will be returned to the first prompt of the command and asked to specify the first point for a pipe.

Insert Pipe Dialog Box



See the **Common Pipe Information** section for more information about the values that can be specified for pipes.

Hanger Type: The type of hanger. Controls whether hangers and their graphics are included.

- **None:** No hangers are included. The other hanger fields will be disabled.
- **Wrap:** The hanger will wrap around the item. A single support rod will be inserted in the middle of the item.
- **Trapeze:** The hanger will be a support underneath the item with two support rods on either side.

Size: The size of the hanger, in inches. The size is used to control most of the dimensions of the hanger graphic. The support rod diameter will be equal to this size. Other dimensions will be scaled based upon this size.

Hanger Depth: The distance the hanger extends below the item, in inches.

Starting Offset: The distance from the start of the centerline to the location of the first hanger, in inches.

Ending Offset: The distance from the end of the centerline to the location of the last hanger, in inches.

Spacing: The distance between each hanger, in inches.

Left Width: The distance the hanger extends to the left side of the centerline, in inches.

If this value is 0, the hanger will be wide enough to support the item.

If it is greater than 0, the hanger will extend exactly that distance to the left of the centerline. It is possible this distance will be less than the width of the item it is supporting. In that case, you need to increase the width. A width greater than necessary to support the specific item can be used to support a rack of items or to allow for future expansion.

Right Width: The distance the hanger extends to the right side of the centerline, in inches.

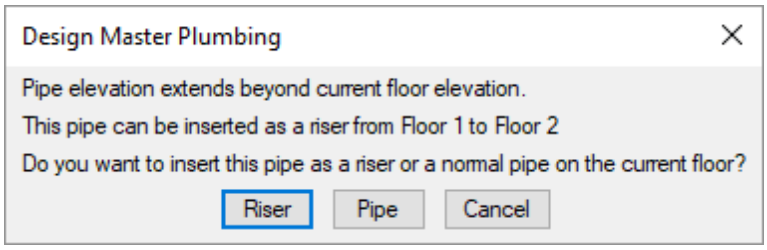
If this value is 0, the hanger will be wide enough to support the item.

If it is greater than 0, the hanger will extend exactly that distance to the right of the centerline. It is possible this distance will be less than the width of the item it is supporting. In that case, you need to increase the width. A width greater than necessary to support the specific item can be used to support a rack of items or to allow for future expansion.

Ending Elevation: The elevation where the support rods end. The support rods will be drawn from the item up to this elevation. See the **Elevation** section for more information.

Inserting Vertical Pipes

If you attempt to insert a vertical pipe at an elevation above or below the limits of the current floor, the **Design Master Plumbing** dialog box shown below will appear.



Riser: The pipe will be converted to a riser. The dialog box will close and you will be prompted to continue inserting pipes on the new floor. See the **Insert Pipe Riser** section for more information.

The elevation of the riser will be measured from the current floor. For example, if you attempt to insert a pipe with an *Ending Elevation* of 12' on a floor that is 10' high, the *Ending Floor Elevation* of the riser will be 2'.

Pipe: The dialog box will close and you will be prompted to continue inserting pipes on the current floor. The pipe will not be displayed on other floors.

Cancel: The dialog box will close and the command will end. The vertical pipe will not be inserted.

Related Options

Break width: Sets the width of the break in a pipe if it is overlapped by another pipe.

Vertical pipe drafting method: Sets how vertical pipes are drawn.

This option can be further customized with the **Minimum vertical pipe diameter** and **Not to scale vertical pipe diameter** options.

Default exterior lining width: Sets the default value for the *Exterior Insulation* field.

Draw hangers in 2D: Sets whether hangers are drawn.

Query Pipe

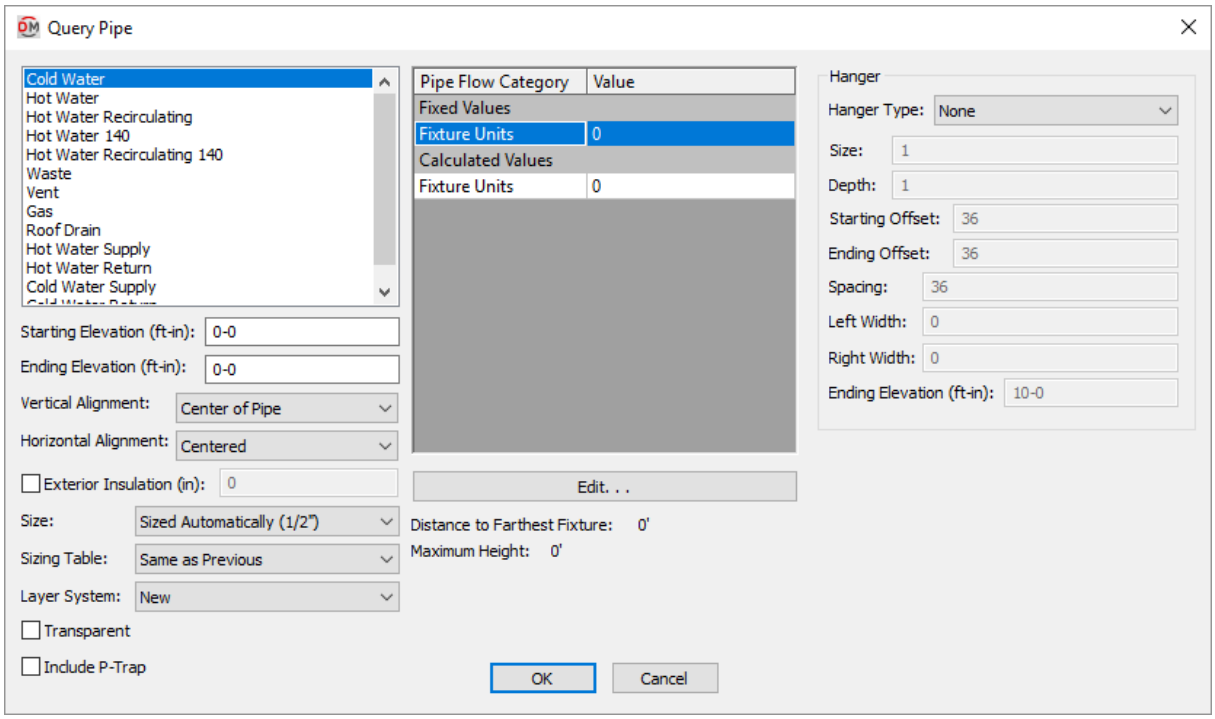
To modify a pipe that is inserted on the drawing, go to

Ribbon: `DM Plumbing->Pipes->`  `Query Pipe`

Pulldown Menu: `DM Plumbing->Pipes->Query Pipe`

Select the pipe on the drawing to be queried.

Query Pipe Dialog Box



Changes can be made to the pipe section in the same way as when it was inserted. See the **Insert Pipe** section for more information.

Edit: Press this button to edit the selected *Pipe Flow Category* settings. See the **Pipe Flow Categories** section for more information.

Related Options

P-trap width: Sets the width of p-traps.

Edit Multiple Pipes

To edit multiple pipes, go to

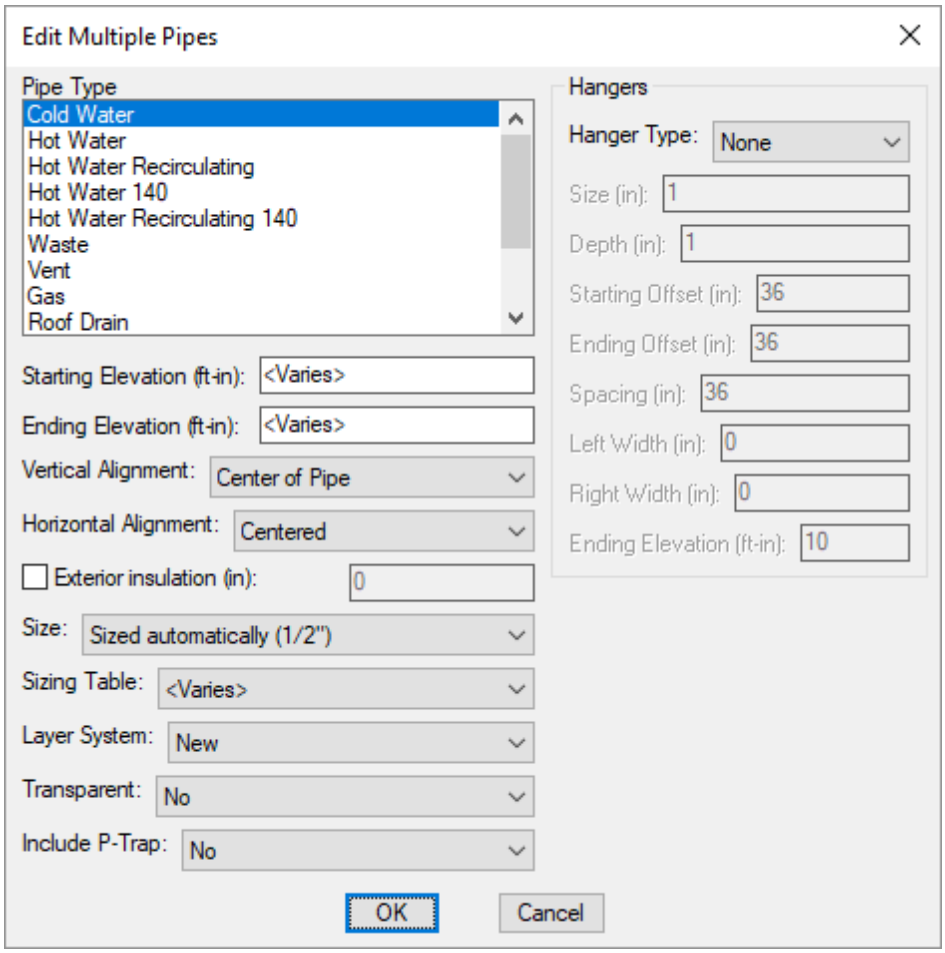
Ribbon: `DM Plumbing->Pipes->`  `Edit Multiple Pipes`

Pulldown Menu: `DM Plumbing->Pipes->Edit Multiple Pipes`

You will be prompted to select the pipes to be edited.

Select pipes to edit:

Edit Multiple Pipes Dialog Box



Changes can be made to the pipes in the same way as when they were inserted. See the **Insert Pipe** section for

more information.

Edit Pipe Branch

The `Edit Pipe Branch` command is used to edit a run of connected pipes. All of the pipes that are connected to the selected pipe will be modified.

To edit all of the pipes in a selected branch, go to

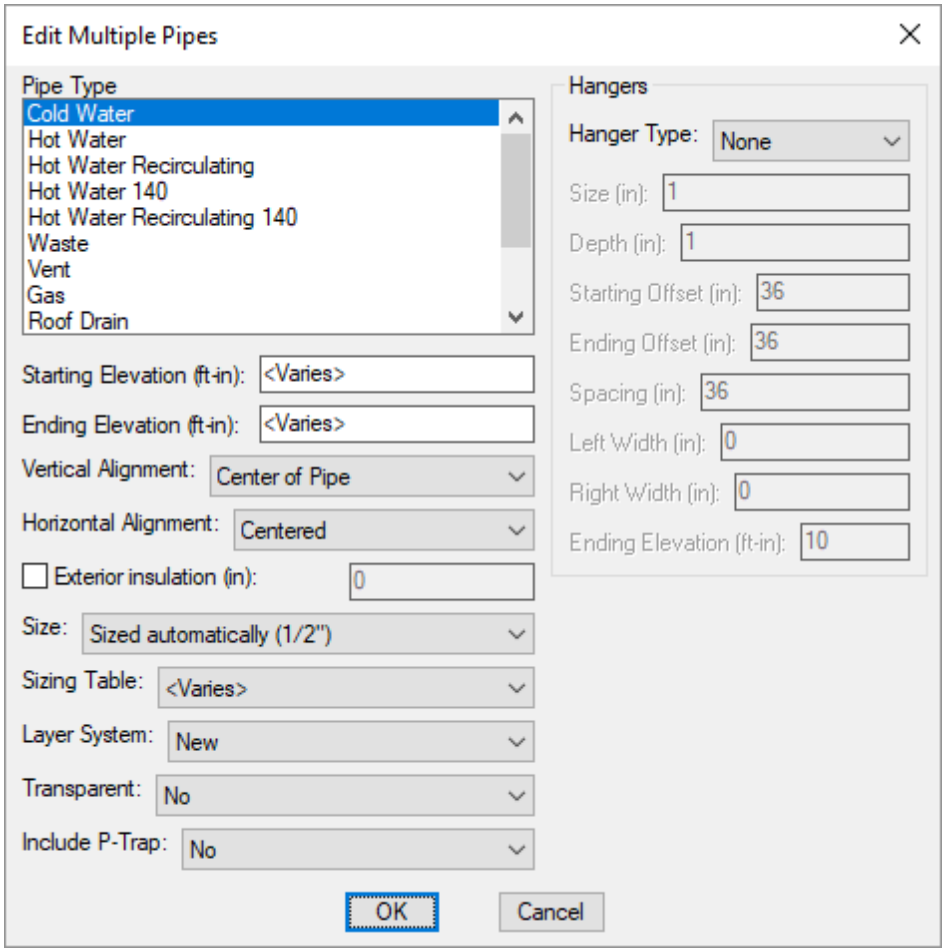
Ribbon: `DM Plumbing->Pipes->` `Edit Pipe Branch`

Pulldown Menu: `DM Plumbing->Pipes->Edit Pipe Branch`

You will be prompted to select a single pipe.

Select pipe to edit:

Edit Multiple Pipes Dialog Box



Changes can be made to the pipes in the same way as when they were inserted. See the **Insert Pipe** section for more information.

The modified values will be applied to the selected pipe and all of the next pipes. See the **Previous and Next Pipes** section for more information about identifying next pipes.

Find Pipe

The `Find Pipe` command is used to locate a pipe selected in an isometric on the plan view, and vice-versa.

To locate a pipe shown on either an isometric or plan view, go to

Ribbon: `DM Plumbing->Pipes->`  `Find Pipe`

Pulldown Menu: `DM Plumbing->Pipes->Find Pipe`

You will be prompted to identify on either the isometric or plan view the pipe to be located.

Select pipe to find:

The pipe will be highlighted in the other view. A line will be displayed between the cursor and the pipe to help you locate it.

Press **ENTER** to finish the command. The highlight and displayed line will be removed.

Insert Pipe Riser

To insert pipe risers and automatically coordinate the riser between multiple floors, go to

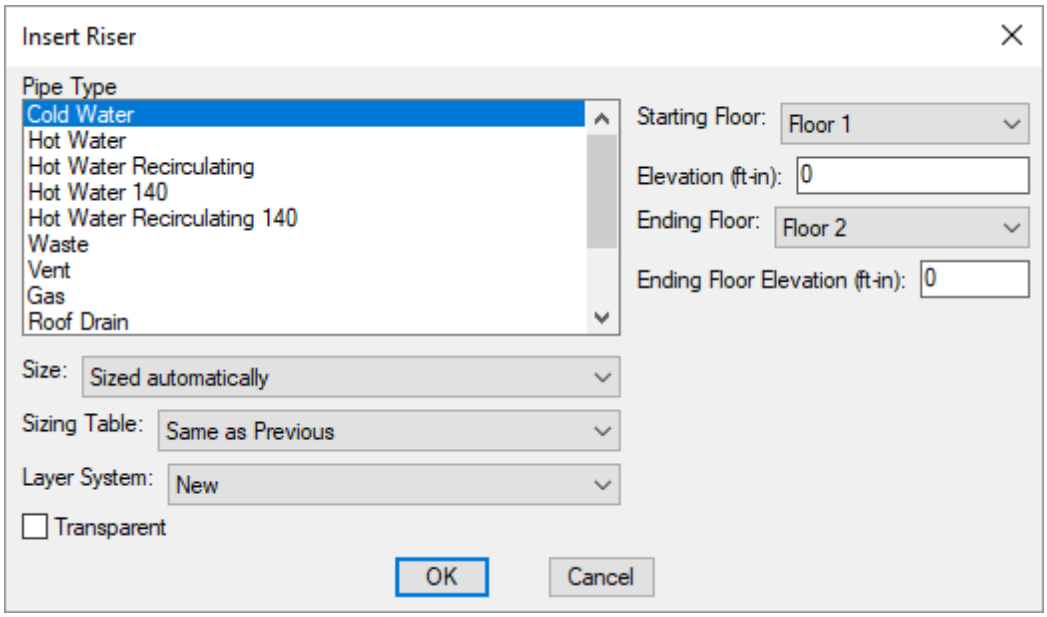
Ribbon: `DM Plumbing->Pipes->`  `Insert Pipe Riser`

Pulldown Menu: `DM Plumbing->Pipes->Insert Pipe Riser`

You will be prompted to identify where the pipe riser is to be inserted.

Specify location of riser:

Insert Riser Dialog Box



See the **Common Pipe Flow Categories** section for more information about the *Pipe Types* listed in this dialog box.

See the **Common Riser Information** section for details on the riser settings in this dialog box.

Enter the riser settings and press the **OK** button. The riser pipe will be inserted on the *Starting Floor*, the *Ending Floor*, and any floors in between.

Query Pipe Riser

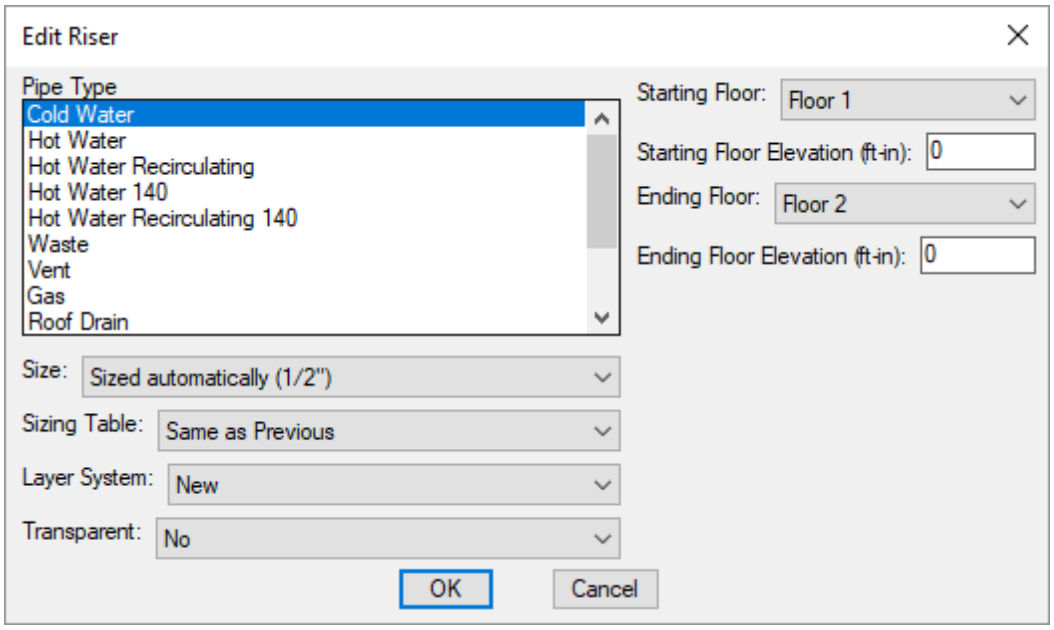
To query a pipe riser, go to

Ribbon: `DM Plumbing->Pipes->`  `Insert Pipe Riser`

Pulldown Menu: `DM Plumbing->Pipes->Query Pipe Riser`

Select the pipe riser on the drawing to be queried.

Edit Riser Dialog Box



Changes can be made to the riser in the same way as when it was inserted. See the **Insert Pipe Riser** section for more information.

Find Pipe Riser

The `Find Pipe Riser` command is used to follow a pipe riser from one floor to other floors.

To find and follow a pipe riser, go to

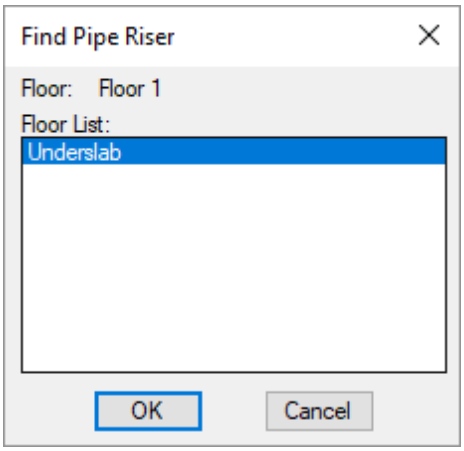
Ribbon: `DM Plumbing->Pipes->`  `Find Pipe Riser`

Pulldown Menu: `DM Plumbing->Pipes->Find Pipe Riser`

You will be prompted to identify the pipe riser to be located.

Select riser to follow:

Find Pipe Riser Dialog Box



Floor: The floor on which the selected section of the riser is located.

Floor List: The list of floors the selected riser occupies.

Select a floor and press the **OK** button. If the selected floor is on the same drawing, the riser will be highlighted on the selected floor. A line will be displayed between the cursor and the pipe to help you locate it.

If the selected floor is on another drawing, your CAD program will attempt to open the drawing.

Fillet Pipes

The `Fillet Pipes` command is used to join two pipes together. This command works similar to the standard CAD **`FILLET`** command.

To fillet two pipes, go to

Ribbon: `DM Plumbing->Pipes->`  `Fillet Pipes`

Pulldown Menu: `DM Plumbing->Pipes->Fillet Pipes`

You will be prompted to select the first pipe to fillet.

Select first pipe:

The selected pipe will be highlighted. You will then be prompted to select the second pipe.

Select second pipe:

The two pipes will be extended to each other and connected. If the pipes are at different elevations, a vertical pipe will be be inserted to complete the connection.

Offset Pipe

The `Offset Pipes` command is used to duplicate and offset a pipe. This command works similar to the standard CAD **`OFFSET`** command.

To offset a pipe, go to

Ribbon: `DM Plumbing->Pipes->`  `Offset Pipe`

Pulldown Menu: `DM Plumbing->Pipes->Offset Pipe`

You will be prompted to specify the distance the pipe is to be offset.

Specify offset distance <current>:

Enter a value, select two points on the drawing to calculate the distance, or press **ENTER** to use the offset distance specified the last time this command was run.

You will then be prompted to identify the pipe to be offset.

Select pipe to offset:

You will then be prompted to specify on which side of the pipe the new pipe will be offset.

Specify point on side to offset:

Select a point on the side of the pipe where the offset is to be placed.

Specify a point on either side of the pipe. A new pipe will be inserted on that side at the specified distance from the selected pipe.

You will be prompted to select another pipe to offset. Continue to offset pipes, or press **ENTER** to finish the command.

Move Pipe Run

The `Move Pipe Run` command is used to move part of a pipe run. This command is often used to move a single pipe with several pipes connected to it without needing to adjust the other pipes.

To move a pipe run, go to

Ribbon: `DM Plumbing->Pipes->`  `Offset Pipe`

Pulldown Menu: `DM Plumbing->Pipes->Move Pipe Run`

You will be prompted to select a pipe to move.

Select pipe on run to move:

You can then move the selected pipe in the same way as with the standard CAD **MOVE** command.

Any pipes connected to the selected pipe will have their starting or ending points moved to stay connected.

Break Pipe

The `Break Pipe` command will break a single pipe into two pipes.

To break a pipe, go to

Ribbon: `DM Plumbing->Pipes->`  `Break Pipe`

Pulldown Menu: `DM Plumbing->Pipes->Break Pipe`

You will be prompted to specify the location of the break on the pipe centerline.

Select pipe at break point:

The pipe will be broken into two pipes. Both pipes will point in the same direction as the original pipe.

Remove Pipe Node

To remove a node and combine two pipes into one pipe, go to

Ribbon: `DM Plumbing->Pipes->`  `Remove Pipe Node`

Pulldown Menu: `DM Plumbing->Pipe->Remove Pipe Node`

You will be prompted to identify the pipe node to be removed.

Select pipe near node to remove:

The two pipe sections will be combined into one. The sizing criteria and pipe specifications will be matched to those of the previous pipe. See the **Previous and Next Pipes** section for more information about identifying the previous pipe.

Straighten Next Pipes

The `Straighten Next Pipes` command is used to make pipes straight relative to the other pipes to which they are connected. The first pipe you select will be treated as straight by the command. All of the pipes that the selected pipe points to will be moved so that they are either parallel, perpendicular, or at a 45-degree angle to the selected pipe.

Any pipes connected to the pipes that are moved will have their starting points moved to stay connected. Their ending points will not be moved, which can result in pipes that are no longer straight. Continue using the `Straighten Next Pipes` command until all of the pipes are straight.

To straighten pipes, go to

Ribbon: `DM Plumbing->Pipes->` 

`Straighten Next Pipes`

Pulldown Menu: `DM Plumbing->Pipes->Straighten Next Pipes`

You will be prompted to select the pipe that is straight.

Select pipe that is currently straight:

The next pipes of the selected pipe will be made straight.

See the **Previous and Next Pipes** section for more information about identifying the next pipes.

Straighten Previous Pipes

The `Straighten Previous Pipes` command is used to make pipes straight relative to the other pipes to which they are connected. The first pipe you select will be treated as straight by the command. All of the pipes that point to the selected pipe will be moved so that they are either parallel, perpendicular, or at a 45-degree angle to the selected pipe.

Any pipes connected to the pipes that are moved will have their ending points moved to stay connected. Their starting points will not be moved, which can result in pipes that are no longer straight. Continue using the `Straighten Previous Pipes` command until all of the pipes are straight.

To straighten pipes, go to

Ribbon: `DM Plumbing->Pipes->`  `Straighten Previous Pipes`

Pulldown Menu: `DM Plumbing->Pipes->Straighten Previous Pipes`

You will be prompted to select the pipe that is straight.

Select pipe that is currently straight:

The previous pipes of the selected pipe will be made straight.

See the **Previous and Next Pipes** section for more information about identifying the previous pipes.

Reverse One Pipe

The `Reverse One Pipe` command is used to swap the starting and ending points of a selected pipe.

To reverse the direction of a single pipe, go to

Ribbon: `DM Plumbing->Pipes->`  `Reverse One Pipe`

Pulldown Menu: `DM Plumbing->Pipes->Reverse One Pipe`

You will be prompted to specify the pipe for which the direction is to be reversed.

Select pipe to reverse:

The selected pipe will be reversed.

Reverse Pipe Branch

The `Reverse Pipe Branch` command is used to reverse a series of pipes in a branch.

The starting and ending points of the selected pipe will be swapped. The pipe that is previous to the selected pipe will also be reversed. The previous pipes will continue to be reversed until no previous pipe is found. See the **Previous and Next Pipes** section for more information about identifying the previous pipes.

To reverse the direction of a pipe branch, go to

Ribbon: `DM Plumbing->Pipes->`  `Reverse Pipe Branch`

Pulldown Menu: `DM Plumbing->Pipes->Reverse Pipe Branch`

You will be prompted to select the first pipe in the branch to reverse.

Select pipe at start of branch to reverse:

The selected pipe and all of the previous pipes will be reversed.

Insert or Move Size Label

To insert or move a size label for a pipe on the drawing, go to

Ribbon: `DM Plumbing->Pipes->` 

`Insert or Move Size Label`

Pulldown Menu: `DM Plumbing->Pipes->Insert or Move Size Label`

You will be prompted to select the pipe for which the size label is to be inserted or moved.

Select pipe label to move:

You will then be prompted for the location of the size label.

Right-click or press space to toggle the leader on or off. Press "L" to move leader endpoint.

Specify a point on the drawing or press **ENTER** to insert or move the size label.

Type **L** to move the end of the leader along the pipe. Type **L** again to specify the location of the label.

See the **Inserting Notes and Leaders on the Drawing** section for more information about inserting the size label.

Related Options

Stack fractions: Sets how fractions in labels are displayed.

Horizontal and Vertical pipe leader arrow blocks: Sets the blocks used for leader arrows.

These options can be further customized with the **Horizontal and Vertical pipe leader arrow size** options.

Erase Size Label

To remove a pipe size label, go to

Ribbon: `DM Plumbing->Pipes->`  `Erase Size Label`

Pulldown Menu: `DM Plumbing->Pipes->Erase Size Label`

You will be prompted to identify the pipe label to be erased.

Select pipe label to erase:

The pipe size label will be erased.

Add Label Leader

To add a an additional leader to an existing pipe size label, go to

Ribbon: `DM Plumbing->Pipes->`  `Add Label Leader`

Pulldown Menu: `DM Plumbing->Pipes->Add Label Leader`

You will be prompted to identify the pipe size label to which the leader is to be added.

Select pipe label:

You will then be prompted to identify the pipe to be labeled.

Select pipe to point to:

An additional leader will be inserted that points from the pipe size label to the selected pipe.

Remove Pipe Text

The `Remove Pipe Text` command is used to remove text from pipes that are drawn with inline text. See the **Pipe Linetypes** section for more information.

To remove the text from a section of pipe, go to

Ribbon: `DM Plumbing->Pipes->`  `Remove Pipe Text`

Pulldown Menu: `DM Plumbing->Pipes->Remove Pipe Text`

You will be prompted to identify the pipe section from which the text is to be removed.

Select pipe to remove text from:

The text will be removed.

Insert Pipe Text

The `Insert Pipe Text` command is used to restore text that was removed using the **Remove Pipe Text** command.

To insert text on a pipe section, go to

Ribbon: `DM Plumbing->Pipes->`  `Insert Pipe Text`

Pulldown Menu: `DM Plumbing->Pipes->Insert Pipe Text`

You will be prompted to identify the pipe section in which text is to be inserted.

Select pipe to insert text on:

The text for the selected pipe section will be restored.

Insert Pipe Sizing Table

To insert a pipe sizing table on the drawing, go to

Ribbon: `DM Plumbing->Pipes->` 

`Insert Pipe Sizing Table`

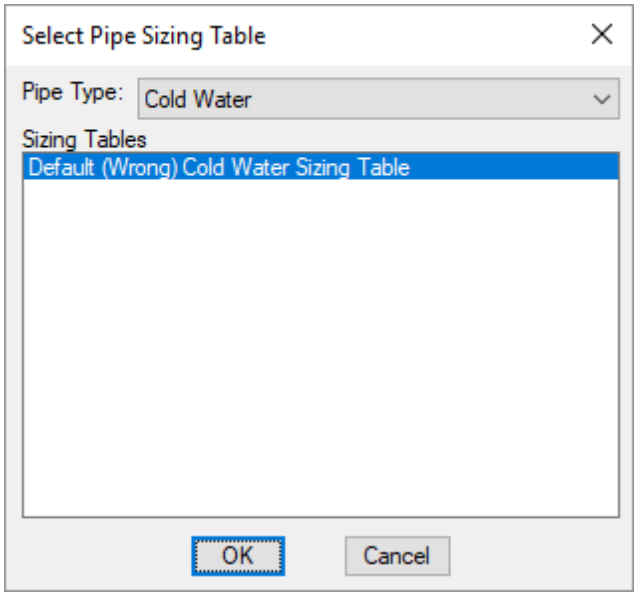
Pulldown Menu: `DM Plumbing->Pipes->Insert Pipe Sizing Table`

You will be prompted to specify the pipe sizing table to be inserted.

Select sizing table from pipe or <From dialog box>:

Select from pipe: Specify a pipe on the drawing that corresponds to the pipe sizing table you want to insert. The **Insert Pipe Sizing Table** dialog box will appear.

From dialog box: Press **ENTER** to open the **Select Pipe Sizing Table** dialog box.

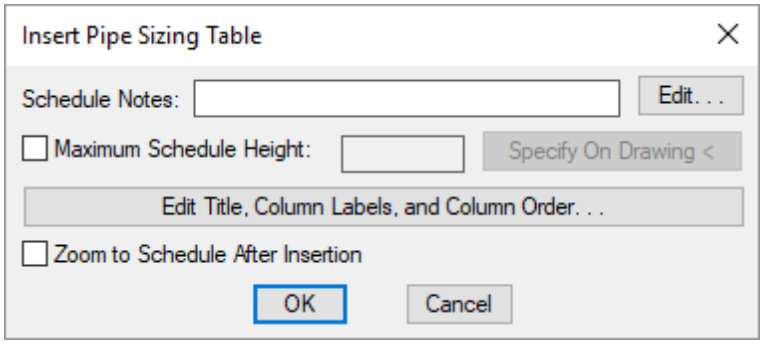


Pipe Type: The type of pipe for which you are inserting the sizing table. See the **Pipe Types** section for more information about editing this list.

Sizing Tables: The sizing table to be inserted on the drawing. See the **Pipe Sizing Tables** section for more information.

Press the **OK** button. The **Insert Pipe Sizing Table** dialog box will appear.

Insert Pipe Sizing Table Dialog Box



Schedule Notes: A note that will appear below the schedule when inserted on the drawing.

Maximum Schedule Height: Whether the schedule has a maximum height. This height corresponds to inches on the printed page.

If this is not checked, the schedule will be in a single schedule.

If this is checked, you can specify the maximum height of the schedule. When the schedule exceeds this height, it will be continued in a second schedule next to the first. The label of the second schedule will have the *Schedule Title Continued Label* option added to it to indicate that it is a continuation of the first schedule. See the **Miscellaneous** options section for more information.

Specify on Drawing: Press this button to specify the *Maximum Schedule Height* on the drawing. The dialog box will be closed and you will be prompted to specify the height.

Specify maximum schedule height:

The distance that you enter on the drawing will be used as the maximum height. It is simplest to draw a line straight down to where the bottom of the schedule should be located.

Zoom to Schedule After Insertion: Whether the display will be moved to the schedule location after it has been inserted or updated. Check this box if you are having difficulty locating your schedule on a busy drawing.

Edit Title, Column Labels, and Column Order: Press this button to modify the layout of the schedule on the drawing. See the **Edit Pipe Sizing Table Schedule List** section for more information.

Inserting or Updating the Table on the Drawing

To insert or update the table, press the **OK** button.

Inserting the Table the First Time

If the pipe sizing table is not currently inserted on the drawing, you will be prompted for the insertion location of the table.

Specify insertion point for pipe sizing table:

The location you specify will be used as the top-left corner for the pipe sizing table.

Updating the Table Already on the Drawing

If the pipe sizing table is already inserted on the drawing, it will be updated in its current location.

You must update the table on the drawing when changes are made to the **Pipe Sizing Tables**. The table will not update automatically.

If additional graphics, such as revision clouds, have been inserted over the table graphic, be sure to check their location after updating the table.

Related Options

Schedule title justification: Sets the justification for the schedule title.

Schedule column label justification: Sets the justification for column headings.

Schedule title continued label: Sets the label added to the schedule title for continued sections.

Pipe Symbols

This section describes the commands used to insert and manage pipe symbols.

Common Pipe Symbols Information

The values that can be specified for pipe symbols are listed below.

Callout: The name of the pipe symbol.

Include in Schedule: Whether the pipe symbol is displayed in the pipe symbol project schedule that is inserted on the drawing. Most pipe symbols will have this box checked.

Include on Isometric: Whether the pipe symbol is displayed on the isometric drawing.

Include on Plan View: Whether the pipe symbol is displayed on the plan view drawing.

Schedule Note 1, Schedule Note 2, Schedule Note 3: These notes will appear on the pipe symbol schedule on the drawing. See the **Edit Default Schedule Notes** section for more information about setting the default values for these notes.

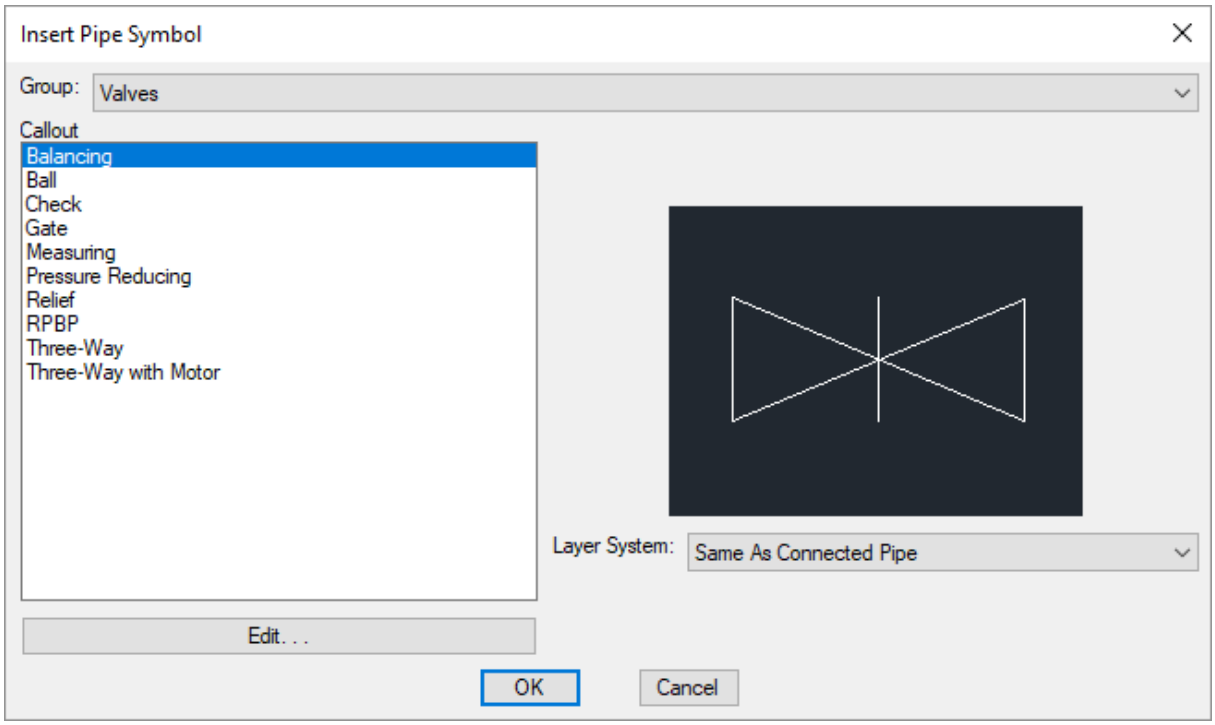
Insert Pipe Symbol

To insert a pipe symbol onto a pipe, go to

Ribbon: `DM Plumbing->Pipe Symbols->` `Insert Pipe Symbol`

Pulldown Menu: `DM Plumbing->Pipe Symbols->Insert Pipe Symbol`

Insert Pipe Symbol Dialog Box



Group: The active pipe symbol group. See the **Common Groups Dialog Box Features** section for more information.

Callout: The pipe symbol to be inserted. The list of pipe symbols available is defined in the **Pipe Symbol Project Schedule** command.

Layer System: See the **Layer System** section for more information.

- **Same as Connected Pipe:** The layer system of the pipe the symbol is inserted on will be used. The layer system will change if the layer system of the pipe changes.

Edit*:* Press this button to open the **Pipe Symbol Project Schedule** dialog box with the selected pipe symbol active. See the **Pipe Symbol Project Schedule** section for more information.

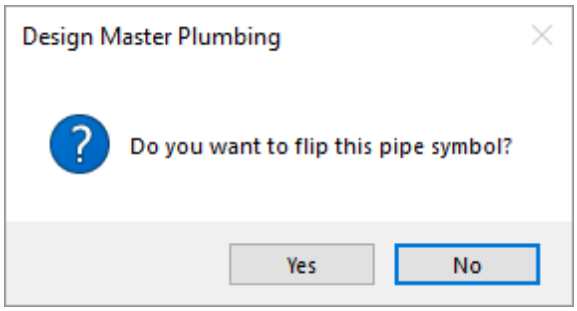
Inserting a Pipe Symbol on the Drawing

Press the **OK** button. You will be prompted to identify where the pipe symbol is to be located.

Select pipe at location to insert pipe symbol:

The pipe symbol will be inserted at the specified location.

Depending upon the type of pipe symbol inserted, you may be asked if you want to flip the pipe symbol.



You will then be prompted to insert another pipe symbol of the same type. Continue to insert pipe symbols, or press **ENTER** to finish the command.

Related Options

Show tick marks before pipe symbols: Sets whether tick marks are inserted along with the pipe symbol.

This option can be further customized with the **Tick width** and **Tick offset** options.

Query Pipe Symbol

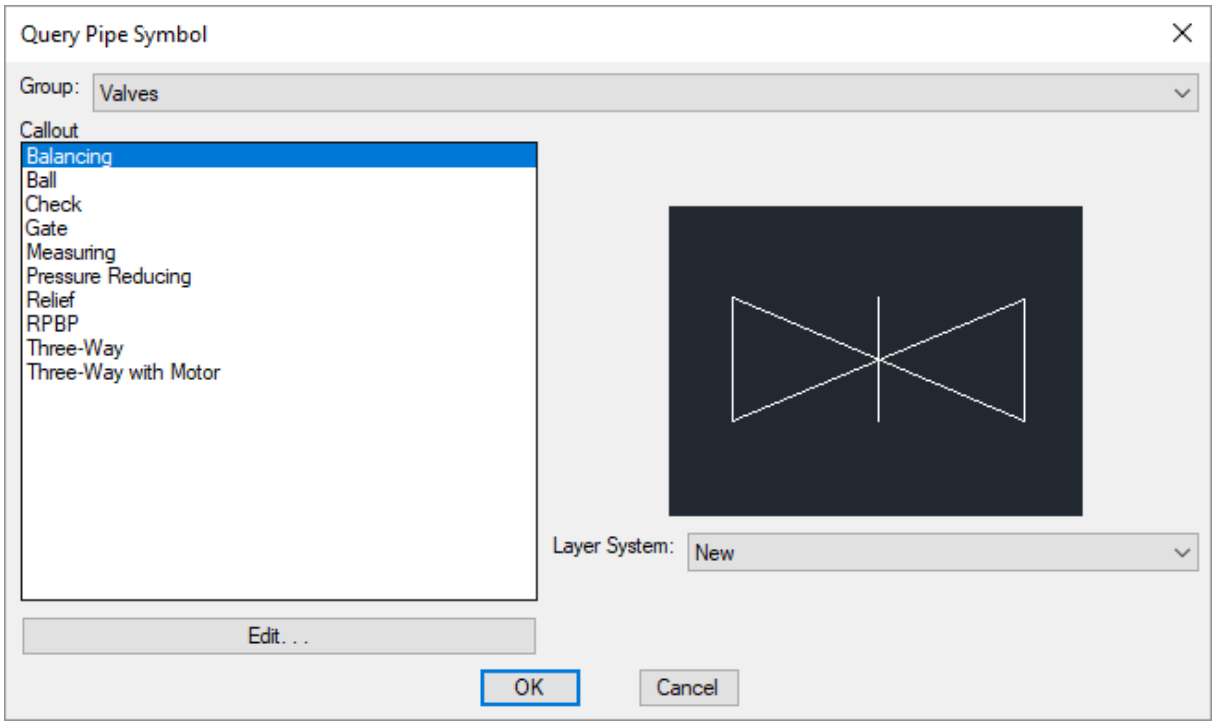
To modify a pipe symbol that is inserted on the drawing, go to

Ribbon: `DM Plumbing->Pipe Symbols->`  `Query Pipe Symbol`

Pulldown Menu: `DM Plumbing->Pipe Symbols->Query Pipe Symbol`

Select the pipe on the drawing to be queried.

Query Pipe Symbol Dialog Box



Changes can be made to the pipe symbol in the same way as when it was inserted. See the **Insert Pipe Symbol** section for more information.

Edit Multiple Pipe Symbols

To edit multiple pipe symbols, go to

Ribbon: `DM Plumbing->Pipe Symbols->`  `Edit Multiple Pipe Symbols`

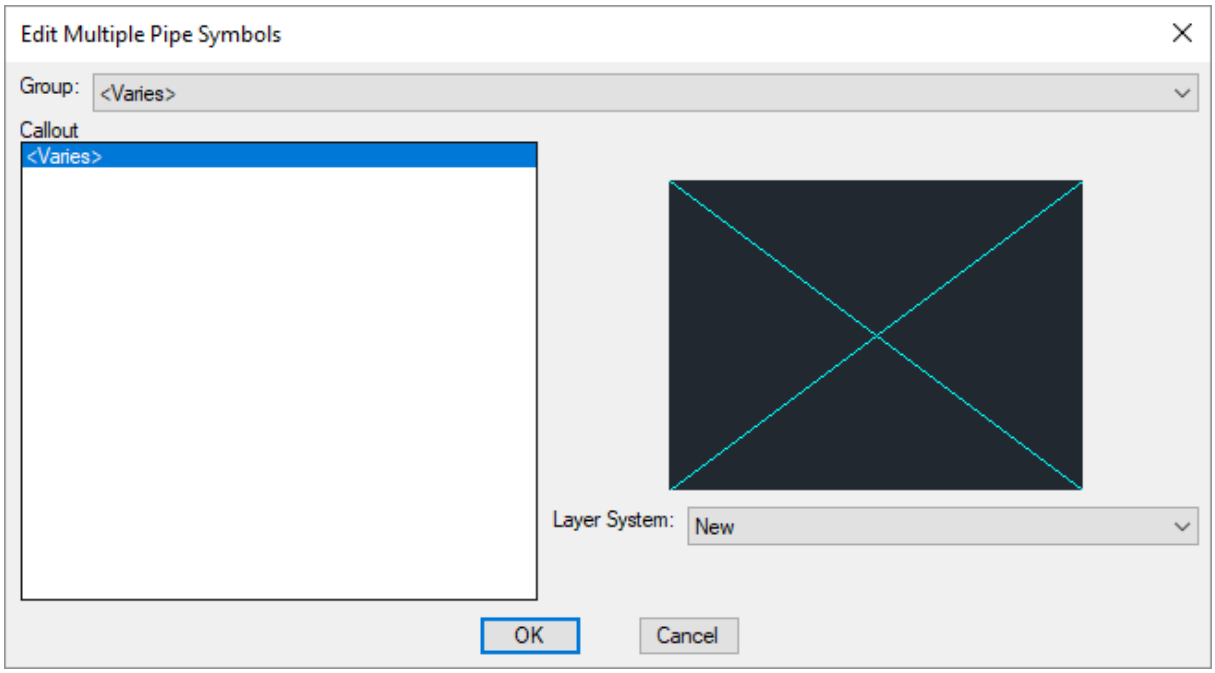
Pulldown Menu: `DM Plumbing->Pipe Symbols->Edit Multiple Pipe Symbols`

You will be prompted to select the pipe symbols to be edited.

Select pipe symbols to edit:

The **Edit Multiple Pipe Symbols** dialog box will appear.

Edit Multiple Pipe Symbols Dialog Box



Changes can be made to the pipe symbols in the same way as when they were inserted. See the **Insert Pipe Symbol** section for more information.

Flip Pipe Symbol

To rotate a pipe symbol to face the other side of the pipe, go to

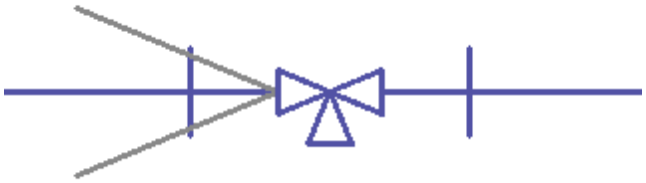
Ribbon: `DM Plumbing->Pipe Symbols->` FLIP `Flip Pipe Symbol`

Pulldown Menu: `DM Plumbing->Pipe Symbols->Flip Pipe Symbol`

You will be prompted to identify the pipe symbol to be flipped.

Select pipe symbol to flip:

The pipe symbol will be flipped to face the other side of the pipe.



Connect Pipe to Pipe Symbol

To connect a new pipe to a pipe symbol, go to

Ribbon: `DM Plumbing->Pipe Symbols->` Connect Pipe to Pipe Symbol

Pulldown Menu: `DM Plumbing->Pipe Symbols->Connect Pipe to Pipe Symbol`

You will be prompted to identify the pipe symbol to which a new pipe is to be connected.

Select pipe symbol near point to connect pipe to:

You will then be prompted to insert pipes on the drawing.

Specify next point for forward pipe or [Set pipe information/Vertical/start New run]:

See the **Insert Pipe** section for more information about inserting pipes.

Insert Pipe Symbol Project Schedule

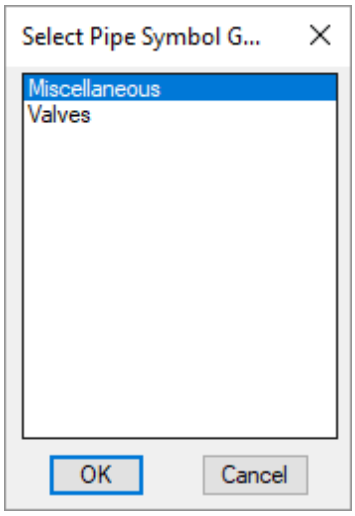
A pipe symbol schedule that lists all of the pipe symbols used in the current project can be inserted on the drawing.

To insert the pipe symbol project schedule into the drawing, go to

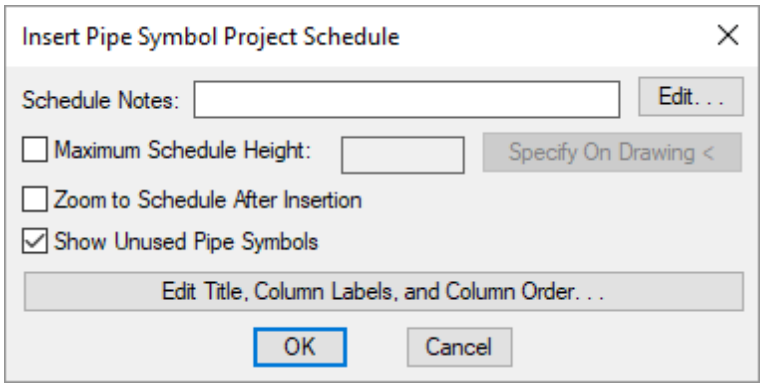
Ribbon: `DM Plumbing->Pipe Symbols->` Insert Pipe Symbol Project Schedule

Pulldown Menu: `DM Plumbing->Pipe Symbols->Insert Pipe Symbol Project Schedule`

Select Pipe Symbol Group Dialog Box



Select the pipe symbol group to be listed on the schedule and press the **OK** button. The **Insert Pipe Symbol Project Schedule** dialog box will appear.



Schedule Notes: A note that will appear below the schedule when inserted on the drawing.

Maximum Schedule Height: Whether the schedule has a maximum height. This height corresponds to inches on the printed page.

If this is not checked, the schedule will be in a single schedule.

If this is checked, you can specify the maximum height of the schedule. When the schedule exceeds this height, it will be continued in a second schedule next to the first. The label of the second schedule will have the *Schedule Title Continued Label* option added to it to indicate that it is a continuation of the first schedule. See the **Miscellaneous** options section for more information.

Specify on Drawing: Press this button to specify the *Maximum Schedule Height* on the drawing. The dialog box will be closed and you will be prompted to specify the height.

Specify maximum schedule height:

The distance that you enter on the drawing will be used as the maximum height. It is simplest to draw a line straight down to where the bottom of the schedule should be located.

Zoom to Schedule After Insertion: Whether the display will be moved to the schedule location after it has been inserted or updated. Check this box if you are having difficulty locating your schedule on a busy drawing.

Show Unused Pipe Symbols: Whether pipe symbols in the schedule that have not been inserted on a drawing will be displayed in the schedule.

Edit Title, Column Labels, and Column Order: Press this button to modify the layout of the schedule on the drawing. See the **Edit Pipe Symbol Schedule List** section for more information.

Inserting or Updating the Schedule on the Drawing

To insert or update the schedule, press the **OK** button.

Inserting the Schedule the First Time

If the pipe symbol schedule is not currently inserted on the drawing, you will be prompted for the insertion location of the schedule.

Specify insertion point for pipe symbol schedule:

The location you specify will be used as the top-left corner for the pipe symbol schedule.

Updating the Schedule Already on the Drawing

If the pipe symbol schedule is already inserted on the drawing, it will be updated in its current location.

You must update the schedule on the drawing when changes are made to the project schedule. The schedule will not update automatically.

If additional graphics, such as revision clouds, have been inserted over the schedule on the drawing, be sure to check their location after updating the schedule.

Related Options

Schedule title justification: Sets the justification for the schedule title.

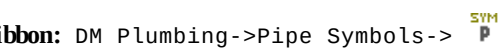
Schedule column label justification: Sets the justification for column headings.

Schedule title continued label: Sets the label added to the schedule title for continued sections.

Pipe Symbol Project Schedule

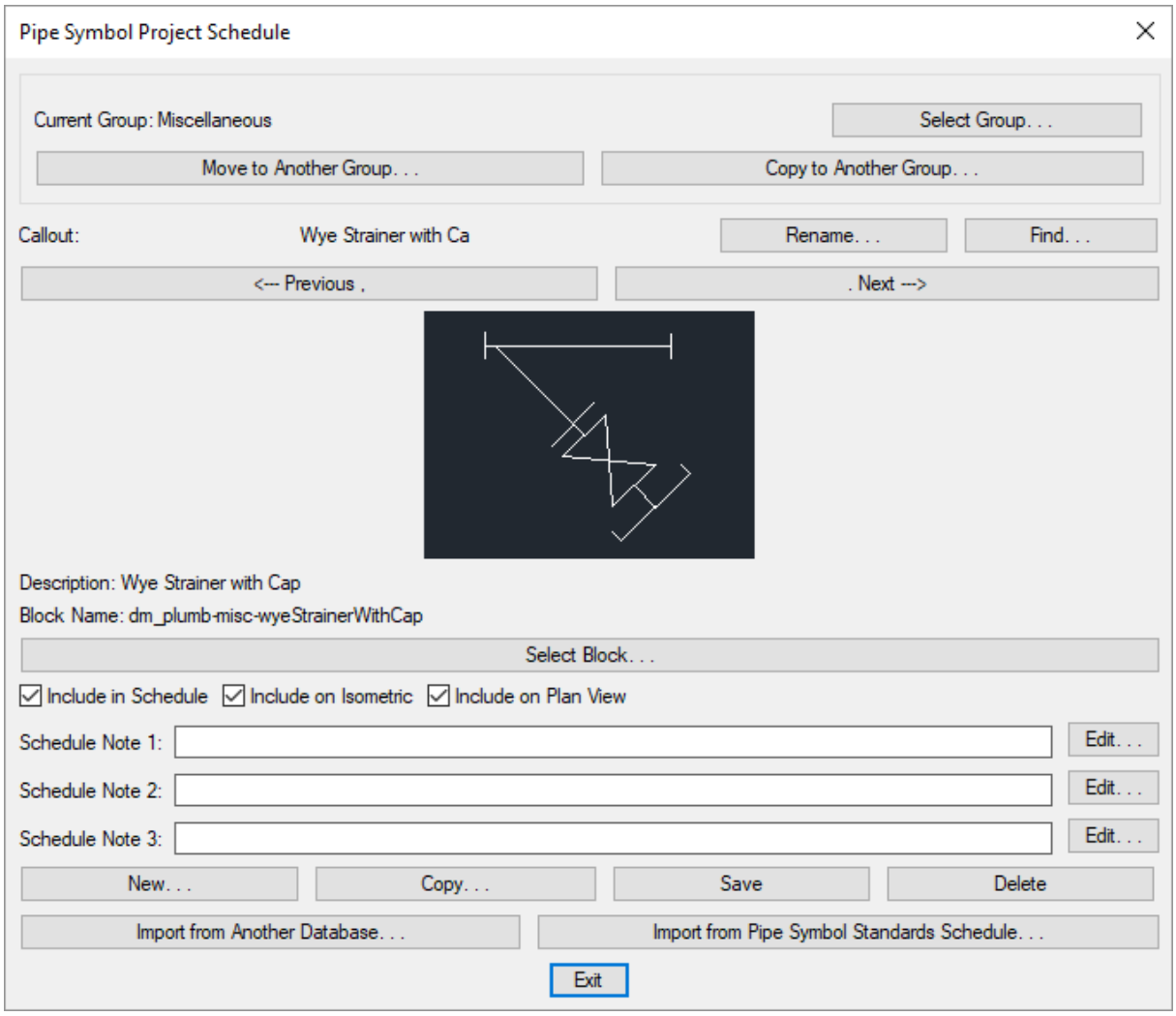
The pipe symbol project schedule contains the pipe symbol types that can be used in the current project.

To create and modify pipe symbol types, go to

Ribbon: `DM Plumbing->Pipe Symbols->`  `Pipe Symbol Project Schedule`

Pulldown Menu: `DM Plumbing->Pipe Symbols->Pipe Symbol Project Schedule`

Pipe Symbol Project Schedule Dialog Box



See the **Common Schedule Dialog Box Features** section for more information about how this dialog box works. This section describes the **Rename**, **Find**, **Previous**, **Next, New**, **Copy**, **Save**, and **Delete** buttons.

See the **Common Pipe Symbols Information** section for more information about the other values that can be specified for pipe symbols using this dialog box.

See the **Import from Another Database** and **Import from Standards Schedule** sections for more information about importing pipe symbols to the current project from other locations.

Current Group: The active pipe symbol group is listed here. All of the pipe symbols that are created and modified will be associated with this group.

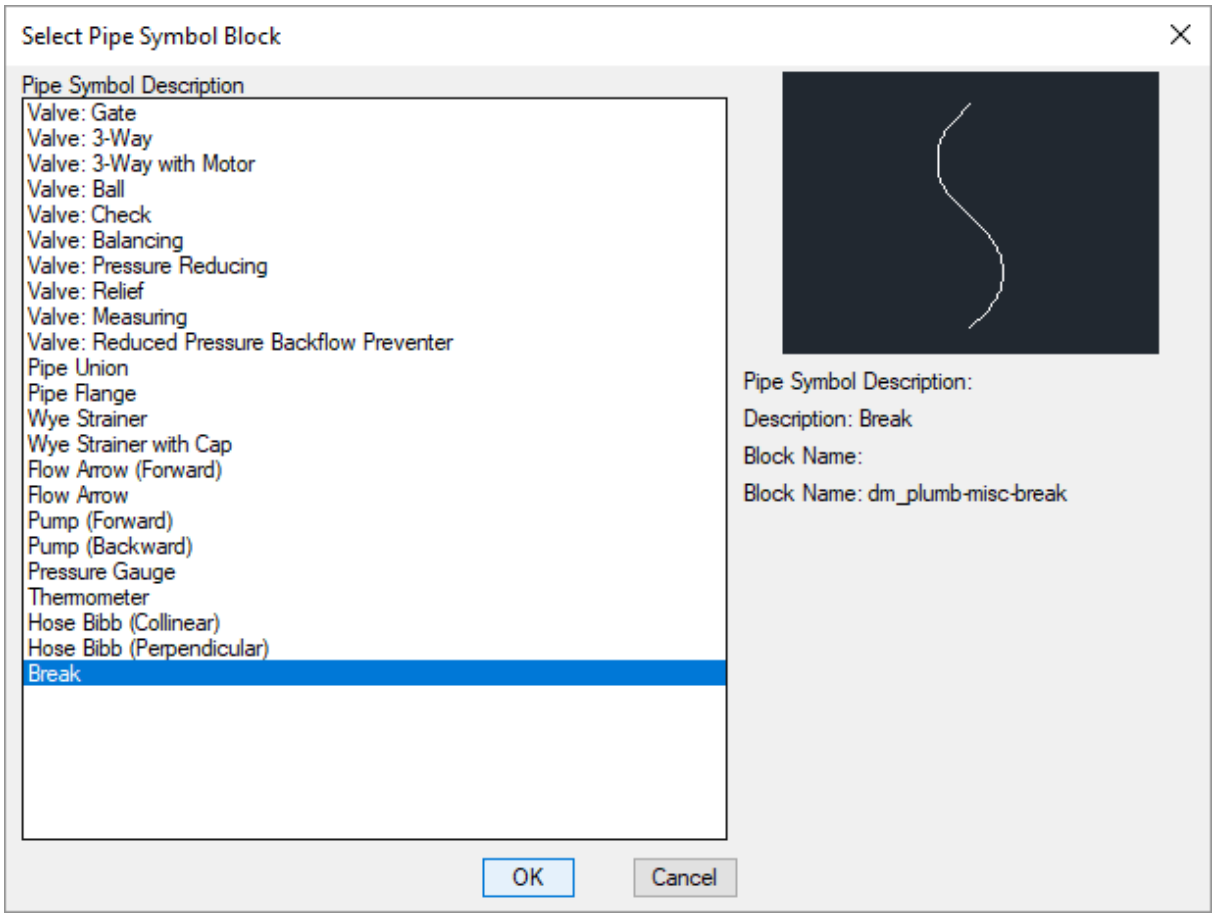
Select Group: Press this button to open the **Pipe Symbol Project Schedule Groups** dialog box. The group selected will become the current group. See the **Common Groups Dialog Box Features** section for more

information.

Move to Another Group: Press this button to move the displayed pipe symbol to another group. A dialog box will prompt you to select the other group to which the pipe symbol will be moved. The *Current Group* will be changed to the selected group. This button is disabled if only one group exists.

Copy to Another Group: Press this button to copy the displayed pipe symbol to another group. A dialog box will prompt you to select the other group to which the pipe symbol will be copied. A copy of the displayed pipe symbol will be created in the other group. This button is disabled if only one group exists.

Select Block: Press this button to open the **Select Pipe Symbol Block** dialog box. This dialog box allows you to choose the block used to represent the pipe symbol on the drawing.



You can add more blocks to this list using the **Pipe Symbol Blocks->Edit Project List** command.

Pipe Symbol Standards Schedule

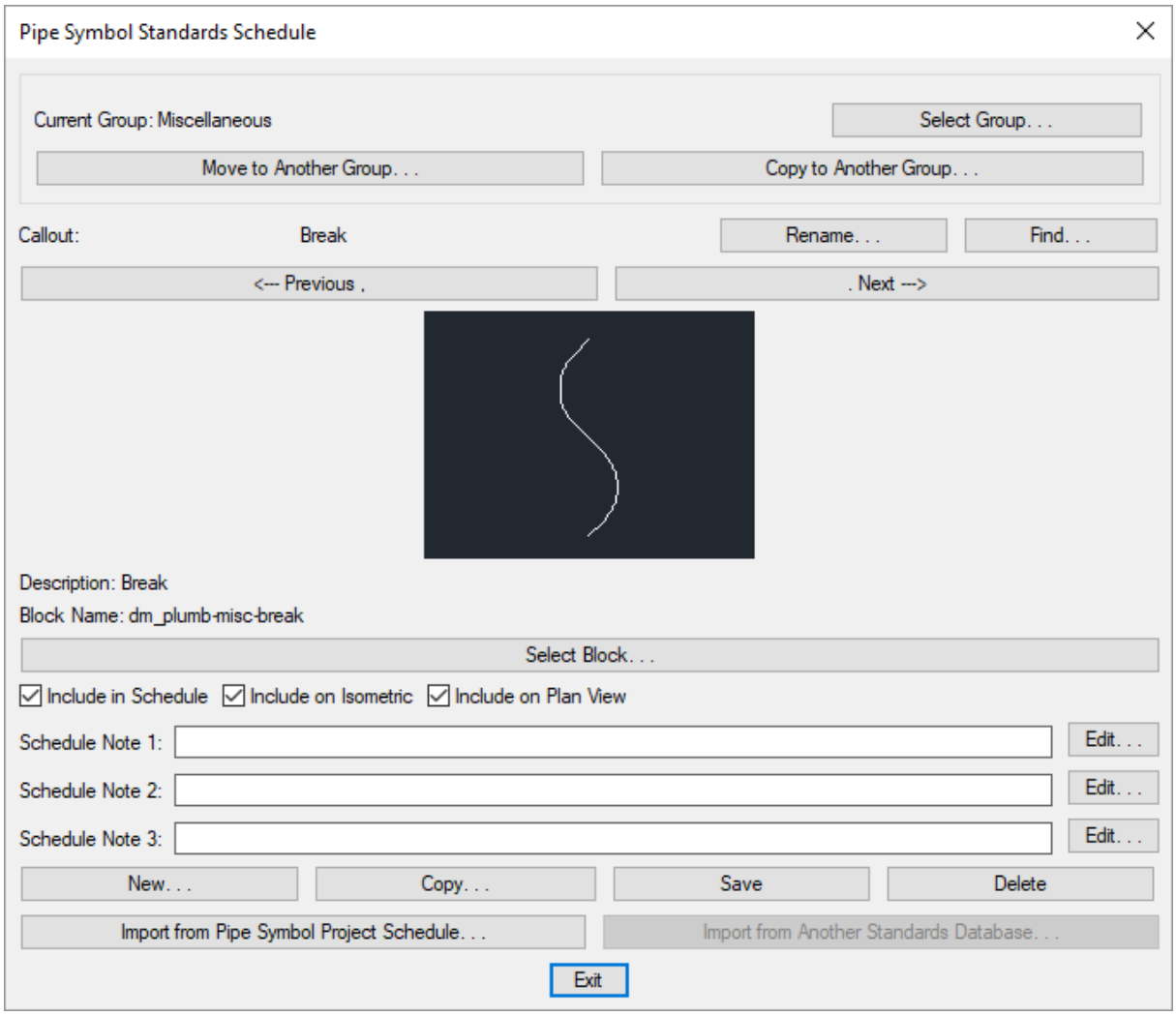
The pipe symbol standards schedule contains the pipe symbol types that may be used by a company on a project. See the **Standards Databases** section for more information about using standards databases.

To create and modify pipe symbol types in the standards schedule, go to

Ribbon: `DM Plumbing->Pipe Symbols->` SYM `Pipe Symbol Standards Schedule`

Pulldown Menu: `DM Plumbing->Pipe Symbols->Pipe Symbol Standards Schedule`

Pipe Symbol Standards Schedule Dialog Box



See the **Common Schedule Dialog Box Features** section for more information about how this dialog box works. This section describes the **Rename**, **Find**, **Previous**, **Next, New**, **Copy**, **Save**, and **Delete** buttons.

See the **Common Pipe Symbols Information** section for more information about the other values that can be specified for pipe symbols using this dialog box.

See the **Import from Project Schedule** and **Import from Another Database** sections for more information about importing pipe symbols from other locations to the standards database.

Current Group: The active group is listed here. All of the pipe symbols that are created and modified will be associated with this group.

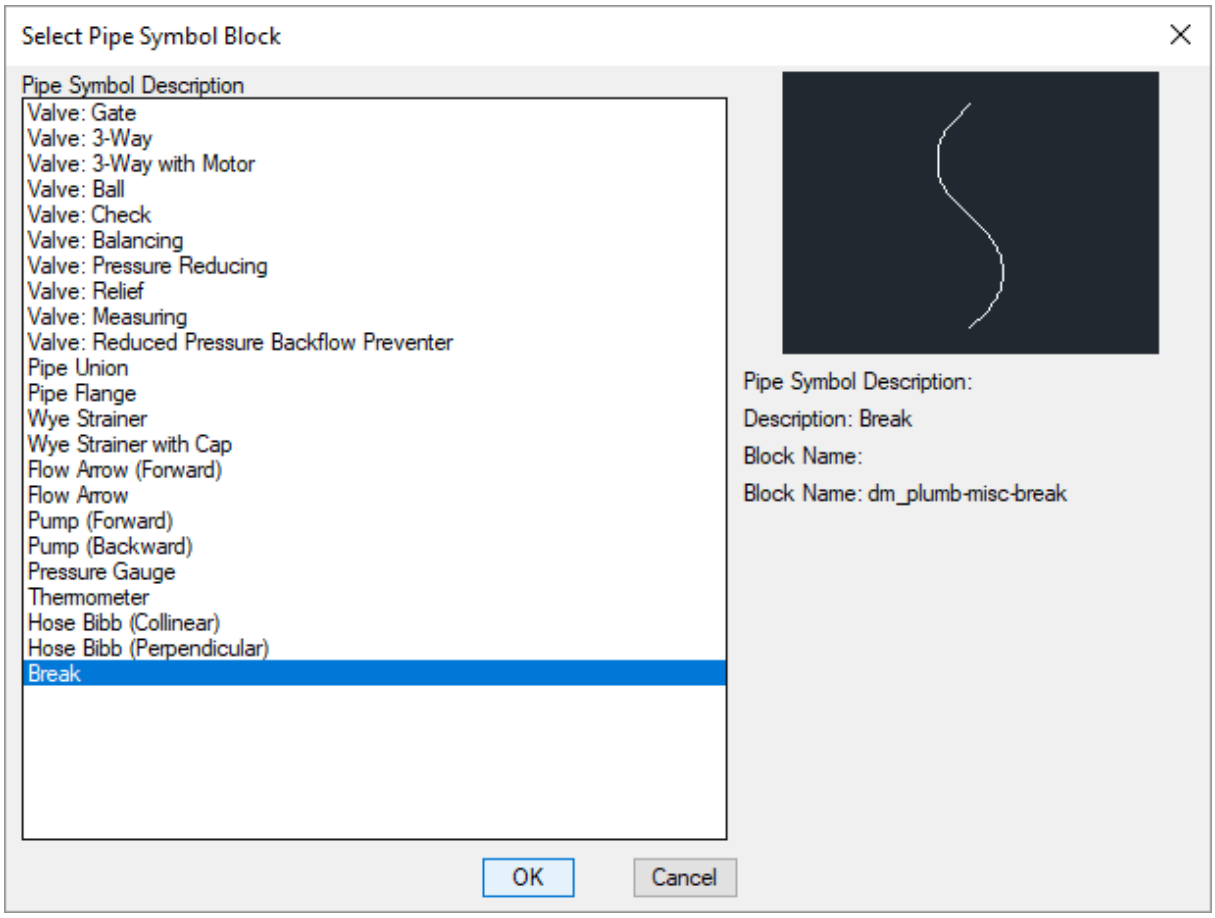
Select Group: Press this button to open the **Pipe Symbol Project Schedule Groups** dialog box. The group selected will become the current group. See the **Common Groups Dialog Box Features** section for more

information.

Move to Another Group: Press this button to move the displayed pipe symbol to another group. A dialog box will prompt you to select the other group to which the pipe symbol will be moved. The *Current Group* will be changed to the selected group. This button is disabled if only one group exists.

Copy to Another Group: Press this button to copy the displayed pipe symbol to another group. A dialog box will prompt you to select the other group to which the pipe symbol will be copied. A copy of the displayed pipe symbol will be created in the other group. This button is disabled if only one group exists.

Select Block: This button opens the **Select Pipe Symbol Block** dialog box. This dialog box allows you to choose the block used to represent the pipe symbol on the drawing.



You can add more blocks to this list using the **Pipe Symbol Blocks->Edit Standards List** command.

Building Definition

This section describes the commands available to define floors.

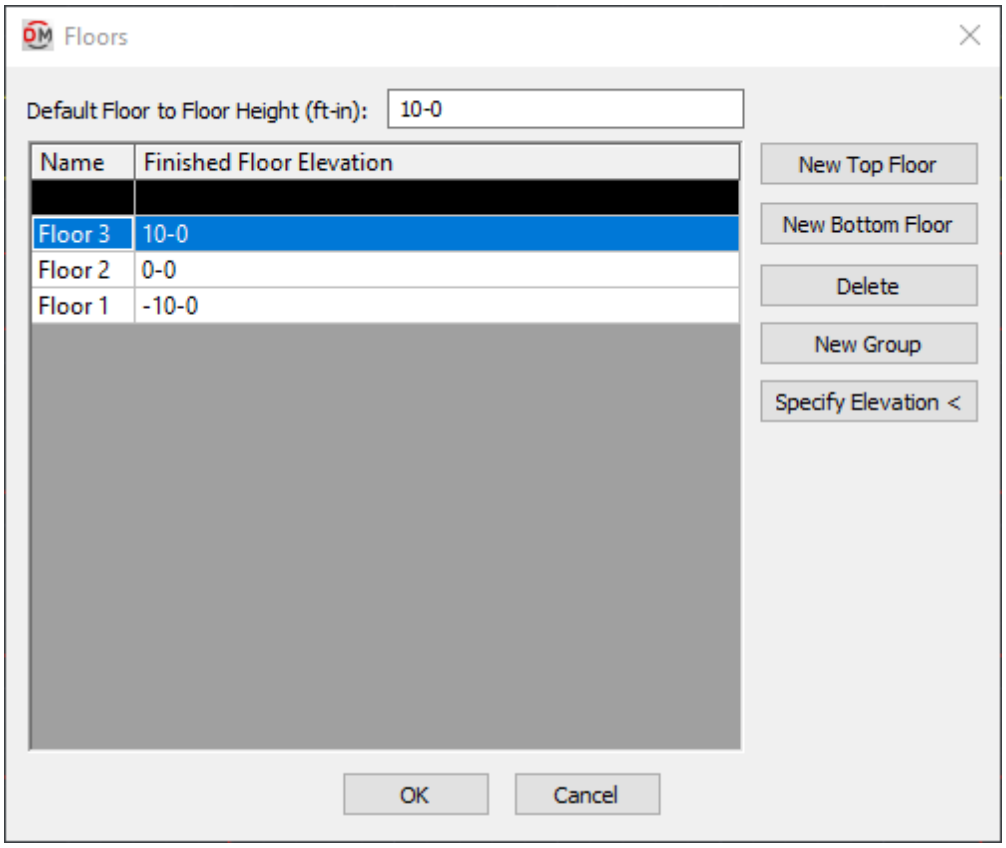
Floors

To create a new floor, go to

Ribbon: `DM Plumbing->Building->` FLOOR `Floors`

Pulldown Menu: `DM Plumbing->Building Definition->Floors`

Floors Dialog Box



Default Floor to Floor Height: The first floor you create will be given an elevation of **0**. Additional floors created using the **New Top Floor** and **New Bottom Floor** buttons will be set at an elevation based upon this value and the elevation of the nearest floor. See the **Elevation** section for more information about setting this value.

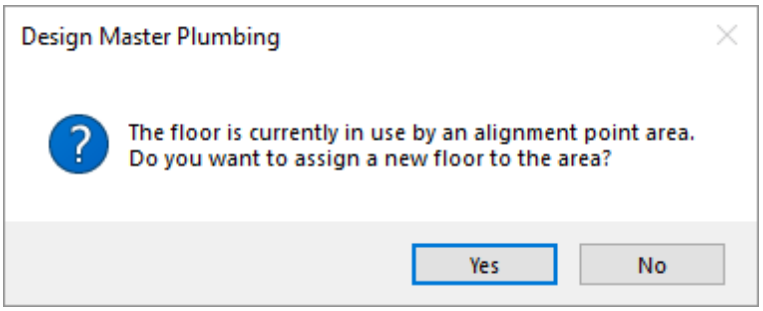
Name: The name of the floor.

Finished Floor Elevation: The elevation of the floor relative to the ground. Floors are ordered by elevation from highest to lowest. If a floor's elevation is changed to be below another floor, the floors will be reordered. See the **Elevation** section for more information about setting this value.

New Top Floor: Press this button to create a new floor that is at the highest point in the building. The initial *Finished Floor Elevation* will be set based upon the *Default Floor to Floor Height* and the next highest floor.

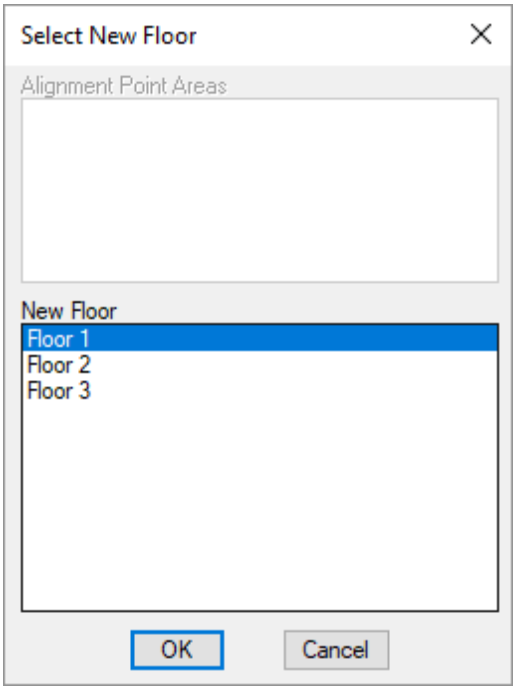
New Bottom Floor: Press this button to create a new floor that is at the lowest point in the building. The initial *Finished Floor Elevation* will be set based upon the *Default Floor to Floor Height* and the next lowest floor.

Delete: Press this button to delete the selected floor. If the selected floor is assigned to an alignment point area, you will be asked if you want to assign a new floor to the alignment point area.



Press the **No** button to cancel the command. The floor will not be deleted.

Press the **Yes** button to select a new floor. The **Select New Floor** dialog box will appear.



Alignment Point Areas: The alignment point areas to which the floor being deleted is currently assigned.

New Floor: The floors available to be assigned to an alignment point area.

Select a floor to be assigned to the alignment point areas and press the **OK** button.

The alignment point areas will be associated with the selected floor and the previous floor will be deleted.

New Group: Press this button to create a new group for a set of floors.

A new floor will be created. A black bar will separate the new floor from the other floors.

Floors that are created will be assigned to the same group as the selected floor.

Specify Elevation: Press this button to specify the *Finished Floor Elevation* for the selected floor on the drawing.

You will be taken to the drawing and prompted to select a point on the ground.

Specify point on ground:

You will then be prompted to select a point on the finished floor.

Specify point on finished floor:

The distance between the two points will be calculated and entered into the *Finished Floor Elevation* field.

Isometrics

This section describes the commands used to create and manage isometric diagrams.

Common Isometric Diagram Information

The values that can be specified for isometric diagrams are listed below.

Floor Offset Multiplier: The amount of space between floors in an isometric diagram.

Angle: The isometric viewing angle represented in the diagram. The available options are southwest (**SW**), southeast (**SE**), northwest (**NW**), and northeast (**NE**).

Pipes to Include: The pipe types to be included in the isometric diagram.

Floors to Include: The floors to be included in the isometric diagram.

Layer Systems: See the **Layer System** section for more information.

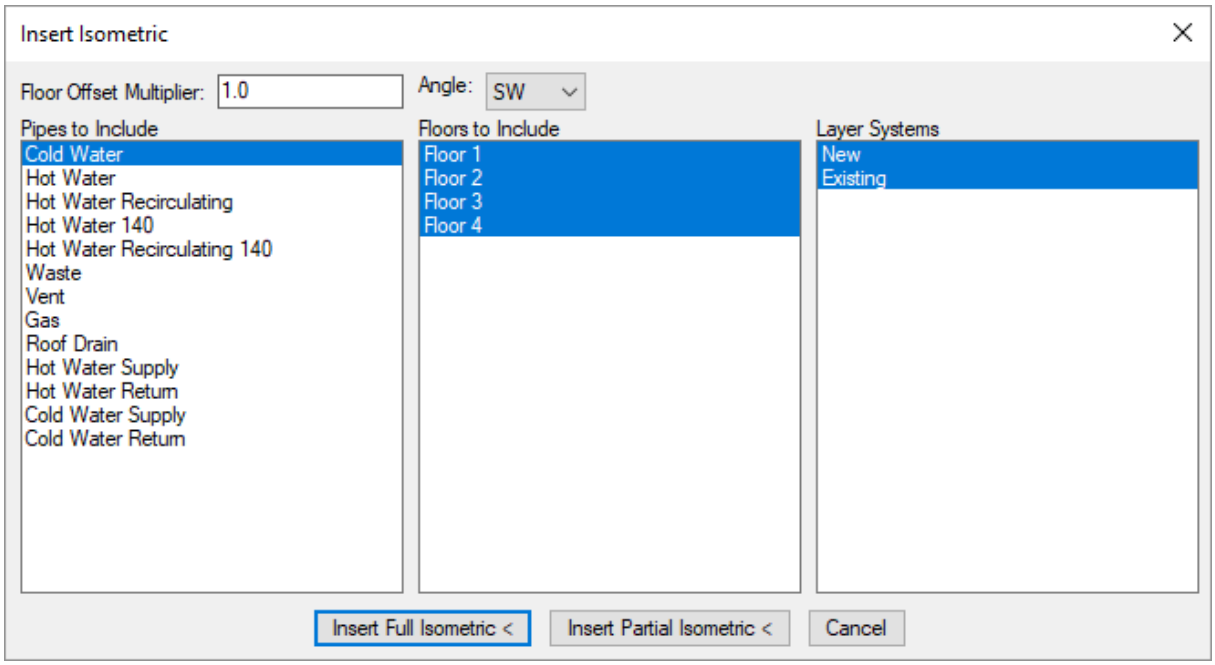
Insert Isometric

To insert an isometric diagram onto a drawing, go to

Ribbon: `DM Plumbing->Isometrics->`  `Insert Isometric`

Pulldown Menu: `DM Plumbing->Isometrics->Insert Isometric`

Insert Isometric Dialog Box



See the **Common Isometric Diagram Information** section for more information about the values in this dialog box.

You can select multiple items in the lists using the **SHIFT** or **CTRL** keys.

Inserting a Full Isometric Diagram

Press the **Insert Full Isometric** button to insert an isometric diagram that displays the all of the selected pipe types, floors, and layer systems.

You will be prompted to select the insertion point for the isometric diagram.

Specify isometric insertion point:

The isometric diagram will be inserted at the specified location.

Inserting a Partial Isometric Diagram

Press the **Insert Full Isometric** button to insert an isometric diagram that displays a specific pipe run.

You will be prompted to identify the pipe at the beginning of the run you want to be displayed.

Select pipe to start isometric at:

The isometric diagram will display all of the next pipes in the run from the selected pipe. See the **Previous and Next Pipes** section for more information about identifying next pipes.

You will then be prompted to select the insertion point for the isometric diagram.

Specify isometric insertion point:

The isometric diagram will be inserted at the specified location.

Update Isometric

The `Update Isometric` command is used to update an isometric diagram to reflect changes that have been made on the plan view.

To update an existing isometric diagram, go to

Ribbon: `DM Plumbing->Isometrics->` `Update Isometric`

Pulldown Menu: `DM Plumbing->Isometrics->Update Isometric`

You will be prompted to identify the isometric diagram to be updated.

Select isometric to update:

The selected isometric diagram will be updated to reflect the latest version of the pipe design on the plan view.

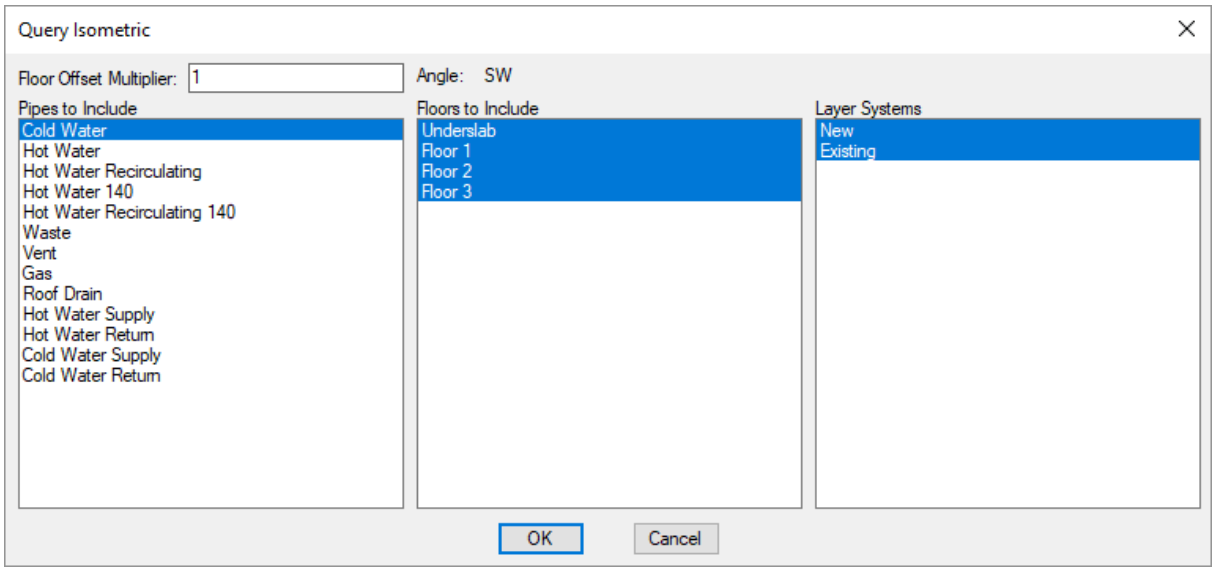
Query Isometric

To modify the settings for an isometric diagram, go to

Ribbon: `DM Plumbing->Isometrics->` `Query Isometric`

Pulldown Menu: `DM Plumbing->Isometrics->Query Isometric`

Query Isometric Dialog Box



Changes can be made to the isometric diagram in the same way as when it was inserted. See the **Insert Isometric Diagram** section for more information.

Offset Isometric

The `Offset Isometric` command is used to stretch part of an isometric diagram without making changes to actual distances or elevations on the plan view.

To offset part of an isometric diagram, go to

Ribbon: `DM Plumbing->Isometrics->`  `Offset Isometric`

Pulldown Menu: `DM Plumbing->Isometrics->Offset Isometric`

You will be prompted to identify the isometric pipe to be offset.

Select isometric pipe to offset:

You will then be prompted to identify the location to which the pipe will be offset.

Specify base point:
Specify second point:

The selected pipe will be moved on the isometric diagram. Pipes connected to the selected pipe will be stretched to stay connected.

Offset Multiple Isometric

The `Offset Multiple Isometric` command is used to stretch multiple sections of an isometric diagram without making changes to actual distances or elevations on the plan view.

To offset multiple parts of an isometric diagram, go to

Ribbon: `DM Plumbing->Isometrics->`  `Offset Multiple Isometric`

Pulldown Menu: `DM Plumbing->Isometrics->Offset Multiple Isometric`

You will be prompted to identify one or more isometric pipes to be offset.

Select isometric pipes to offset:

You will then be prompted to identify the location to which the pipes will be offset.

Specify base point:
Specify second point:

The selected pipes will be moved on the isometric diagram. Pipes connected to the selected pipes will be stretched to stay connected.

Remove Isometric Offset

The `Remove Isometric Offset` command is used to return a pipe offset with the **Offset Isometric** or **Offset Multiple Isometric** command to its original location.

To remove an isometric offset, go to

Ribbon: `DM Plumbing->Isometrics->`  `Remove Isometric Offset`

Pulldown Menu: `DM Plumbing->Isometrics->Remove Isometric Offset`

You will be prompted to identify the isometric pipe from which the offset will be removed.

Select isometric pipe to remove offset:

The pipe will be returned to its original location.

Highlight Isometric Offsets

The `Highlight Isometric Offsets` command is used to identify pipes in the isometric diagram that have been offset using the **Offset Isometric** or **Offset Multiple Isometric** command.

To highlight isometric diagram offsets on the drawing, go to

Ribbon: `DM Plumbing->Isometrics->`  `Highlight Isometric Offsets`

Pulldown Menu: `DM Plumbing->Isometrics->Highlight Isometric Offsets`

You will be prompted to identify the isometric diagram to be highlighted.

Select isometric:

All of the offset pipes in the isometric diagram will be highlighted. A line will be displayed between the origin of the isometric diagram and each pipe to help you locate the highlighted offset pipes.

3D-BIM

This section describes the commands available to perform 3D-BIM modeling and analysis.

Draw 3D Pipes

The `Draw 3D Pipes` command is used to draw the 3D pipes for all of the pipes in a system.

To draw pipes in 3D, go to

Ribbon: `DM Plumbing->3D-BIM->`  `Draw 3D Pipes`

Pulldown Menu: `DM Plumbing->3D-BIM->Draw 3D Pipes`

You will be prompted to select a pipe in the system to be drawn in 3D.

Select pipe in system to draw in 3D:

The selected pipe and any connected pipes will be drawn in 3D.

Related Options

3D circle approximation: Sets the number of sides on polygons used to approximate circles in the 3D model.

Draw hangers in 3D: Sets whether hangers are drawn.

Erase 3D Pipes

To erase the 3D graphics for a pipe run, go to

Ribbon: DM Plumbing->3D-BIM->  Erase 3D Pipes

Pulldown Menu: DM Plumbing->3D-BIM->Erase 3D Pipes

You will be prompted to select a pipe in the system from which to erase the 3D graphics.

Select pipe in system to erase 3D from:

The 3D graphics for the selected pipe and any connected pipes will be erased.

Insert Hanger

To insert a hanger on a pipe, go to

Ribbon: DM Plumbing->3D-BIM->  Insert Hanger

Pulldown Menu: DM Plumbing->3D-BIM->Insert Hanger

You will be prompted to select a point on the pipe where a hanger is to be inserted.

Select pipe at location to insert hanger:

A hanger will be inserted at the specified point. The location of other hangers will be adjusted based upon the newly inserted hanger.

Move Hanger

To move a hanger to a new location on a pipe, go to

Ribbon: DM Plumbing->3D-BIM->  Move Hanger

Pulldown Menu: DM Plumbing->3D-BIM->Move Hanger

You will be prompted to identify which hanger is to be moved.

Select hanger on pipe to move:

You will then be prompted to identify where the hanger is to be placed.

Select the new location

The hanger will be moved to the new location. The location of other hangers will be adjusted based upon the new location of the hanger.

Remove Hanger

To remove a hanger from a pipe, go to

Ribbon: `DM Plumbing->3D-BIM->`  `Remove Hanger`

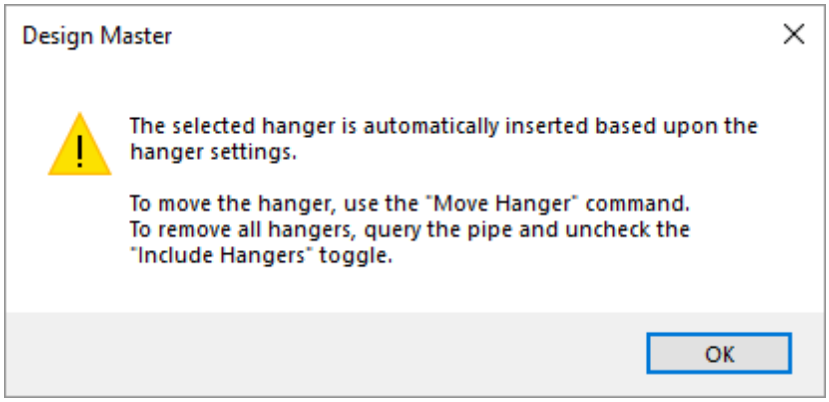
Pulldown Menu: `DM Plumbing->3D-BIM->Remove Hanger`

You will be prompted to identify which hanger is to be removed.

Select hanger on pipe to remove:

Select the hanger to remove.

Not all hangers can be removed. If the selected hanger is necessary based upon the spacing requirements set for the pipe, you will not be able to remove it and the dialog box shown below will appear.



Insert Top Elevation Label

The `Insert Top Elevation Label` command is used to insert an elevation label on a pipe that displays the elevation of the top of the pipe.

To insert a top elevation label on a pipe, go to

Ribbon: `DM Plumbing->3D-BIM->`  `Insert Top Elevation Label`

Pulldown Menu: `DM Plumbing->3D-BIM->Insert Top Elevation Label`

You will be prompted to identify which section of pipe is to be labeled.

Select pipe to insert elevation label on:

You will then be prompted to specify the location of the top elevation label on the drawing. See the **Inserting Notes and Leaders on the Drawing** section for more information about inserting the label.

Related Options

Leader graphic: Sets the block used for elevation label leaders.

Leader location: Sets whether leaders snap to the edge or center of pipes.

Top block: Sets the block used for the top elevation label.

Top label: Sets how the top elevation is displayed on the label.

Include exterior insulation thickness in elevation: Sets whether the top elevation accounts for exterior insulation.

Insert Bottom Elevation Label

The `Insert Bottom Elevation Label` command is used to insert an elevation label on a pipe that displays the elevation of the bottom of the pipe.

To insert a bottom elevation label on a pipe, go to

Ribbon: `DM Plumbing->3D-BIM->`  `Insert Bottom Elevation Label`

Pulldown Menu: `DM Plumbing->3D-BIM->Insert Bottom Elevation Label`

You will be prompted to identify which section of pipe is to be labeled.

Select pipe to insert elevation label on:

You will then be prompted to specify the location of the bottom elevation label on the drawing. See the **Inserting Notes and Leaders on the Drawing** section for more information about inserting the label.

Related Options

Leader graphic: Sets the block used for elevation label leaders.

Leader location: Sets whether leaders snap to the edge or center of pipes.

Bottom block: Sets the block used for the bottom elevation label.

Bottom label: Sets how the bottom elevation is displayed on the label.

Include exterior insulation thickness in elevation: Sets whether the bottom elevation accounts for exterior insulation.

Insert Top and Bottom Elevation Label

The `Insert Top and Bottom Elevation Label` command is used to insert an elevation label on a pipe that displays the elevation of the top and the bottom of the pipe.

To insert a top and bottom elevation label on a pipe, go to

Ribbon: `DM Plumbing->3D-BIM->`  `Insert Top and Bottom Elevation Label`

Pulldown Menu: `DM Plumbing->3D-BIM->Insert Top and Bottom Elevation Label`

You will be prompted to identify which section of pipe is to be labeled.

Select pipe to insert elevation label on:

You will then be prompted to specify the location of the top and bottom elevation label on the drawing. See the **Inserting Notes and Leaders on the Drawing** section for more information about inserting the label.

Related Options

Leader graphic: Sets the block used for elevation label leaders.

Leader location: Sets whether leaders snap to the edge or center of pipes.

Both block: Sets the block used for the top and bottom elevation label.

Top label: Sets how the top elevation is displayed on the label.

Bottom label: Sets how the bottom elevation is displayed on the label.

Include exterior insulation thickness in elevation: Sets whether the top and bottom elevations account for exterior insulation.

Insert Centerline Elevation Label

The `Insert Centerline Label` command is used to insert an elevation label on a pipe that displays the elevation of the center of the pipe.

To insert a center elevation label on a pipe, go to

Ribbon: `DM Plumbing->3D-BIM->`  `Insert Centerline Elevation Label`

Pulldown Menu: `DM Plumbing->3D-BIM->Insert Centerline Elevation Label`

You will be prompted to identify which section of pipe is to be labeled.

Select pipe to insert elevation label on:

You will then be prompted to specify the location of the center elevation label on the drawing. See the **Inserting Notes and Leaders on the Drawing** section for more information about inserting the label.

Related Options

Leader graphic: Sets the block used for elevation label leaders.

Leader location: Sets whether leaders snap to the edge or center of pipes.

Centerline block: Sets the block used for the centerline elevation label.

Centerline label: Sets how the centerline elevation is displayed on the label.

Move Elevation Label

The `Move Elevation Label` command is used to move an elevation label on a pipe.

To move a pipe elevation label, go to

Ribbon: `DM Plumbing->3D-BIM->`  `Move Elevation Label`

Pulldown Menu: `DM Plumbing->3D-BIM->Move Elevation Label`

You will be prompted to identify which elevation label is to be moved.

Select elevation label to move:

You will then be prompted to specify the new location of the elevation label on the drawing. See the **Inserting Notes and Leaders on the Drawing** section for more information about moving the label.

Export Entire Project to IFC File

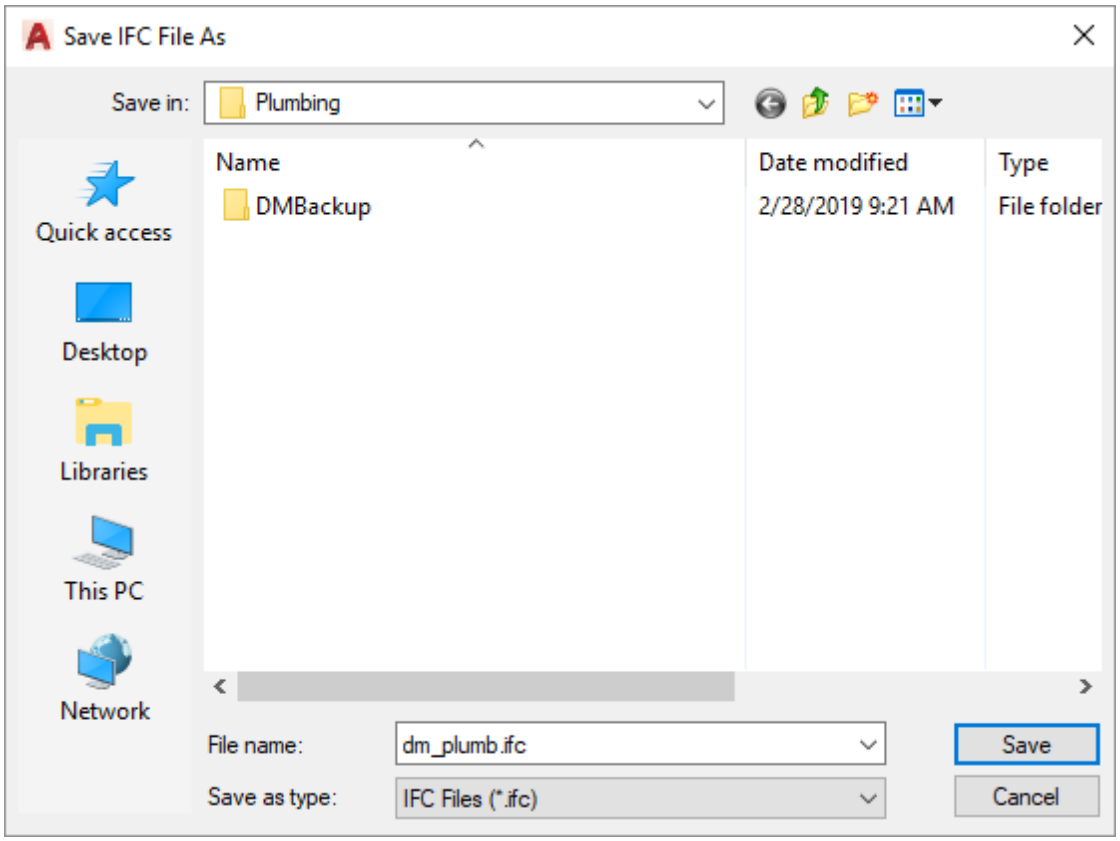
The `Export Entire Project to IFC File` command is used to export all of the 3D-BIM elements from a project to a single IFC file. The IFC file format is recommended for 3D collision detection in Revit.

To export the entire project to an IFC file, go to

Ribbon: `DM Plumbing->3D-BIM->`  `Export Entire Project to IFC File`

Pulldown Menu: `DM Plumbing->3D-BIM->Export Entire Project to IFC File`

Save IFC File As Dialog Box



Enter a name and location for the IFC file, then press the **Save** button. The entire project will be saved to the IFC file.

Related Options

3D circle approximation: Sets the number of sides on polygons used to approximate circles in the 3D model.

Export Drawing to IFC File

The `Export Drawing to IFC File` command is used to export all of the 3D-BIM elements from the current drawing to an IFC file. The IFC file format is recommended for 3D collision detection in Revit.

If you export to an IFC file that does not exist, it will be created with the 3D-BIM elements from the current drawing.

If you export to an IFC file that exists but does not contain any 3D-BIM elements from the current drawing, the 3D-BIM elements from the current drawing will be appended to the end of the IFC file.

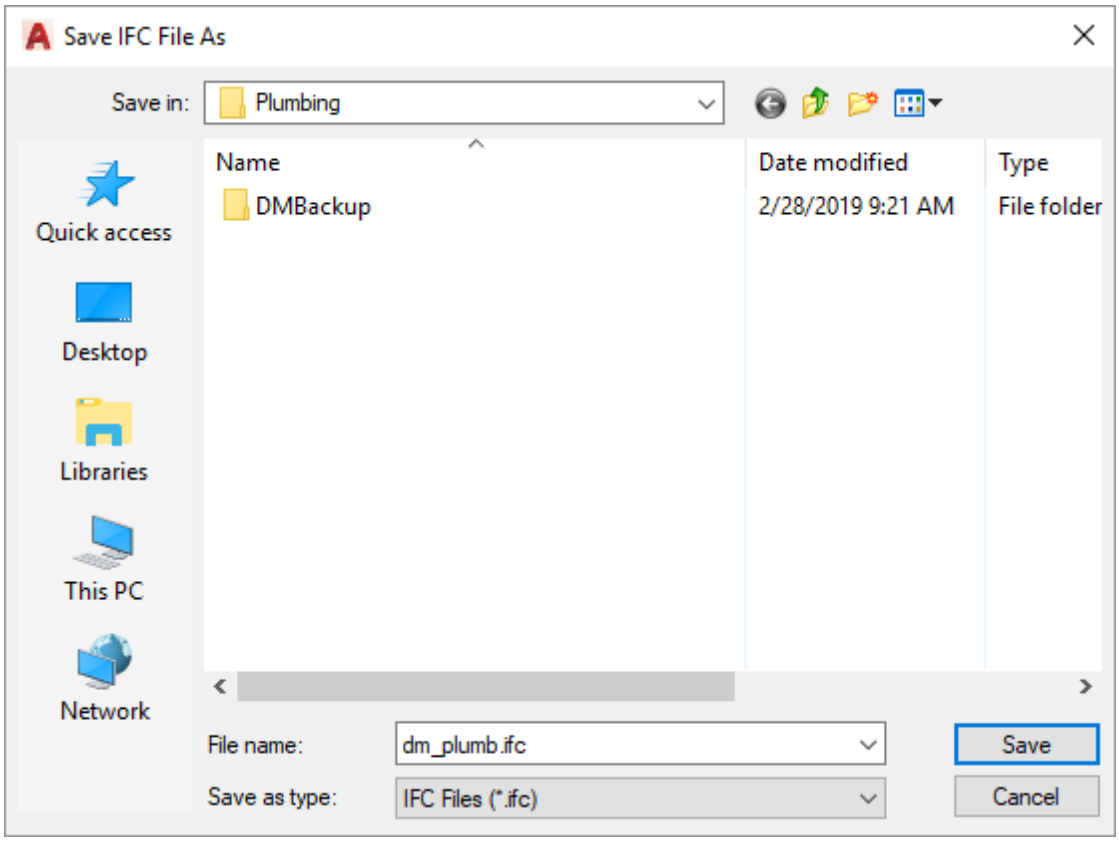
If you export to an IFC file that exists and contains 3D-BIM elements from the current drawing, the existing 3D-BIM elements in the IFC file will be removed and replaced with the current 3D-BIM elements on the drawing.

To export the current drawing to an IFC file, go to

Ribbon: `DM Plumbing->3D-BIM->` DWG IFC `Export Drawing to IFC File`

Pulldown Menu: `DM Plumbing->3D-BIM->Export Drawing to IFC File`

Save IFC File As Dialog Box



Enter a name and location for the IFC file, then press the **Save** button. The current drawing will be saved to the IFC file.

Related Options

3D circle approximation: Sets the number of sides on polygons used to approximate circles in the 3D model.

Export One Area to IFC File

The `Export One Area to IFC File` command is used to export all of the 3D-BIM elements from a single alignment point area to an IFC file. The IFC file format is recommended for 3D collision detection in Revit.

If you export to an IFC file that does not exist, it will be created with the 3D-BIM elements from the current drawing.

If you export to an IFC file that exists, but does not contain any 3D-BIM elements from the selected alignment point area, the 3D-BIM elements from the selected alignment point area will be appended to the end of the IFC file.

If you export to an IFC file that exists, and contains 3D-BIM elements from the selected alignment point area, the

existing 3D-BIM elements in the IFC file will be removed and replaced with the current 3D-BIM elements in the selected alignment point area.

To export a single alignment point area to an IFC file, go to

Ribbon: `DM Plumbing->3D-BIM->` AREA IFC `Export One Area to IFC File`

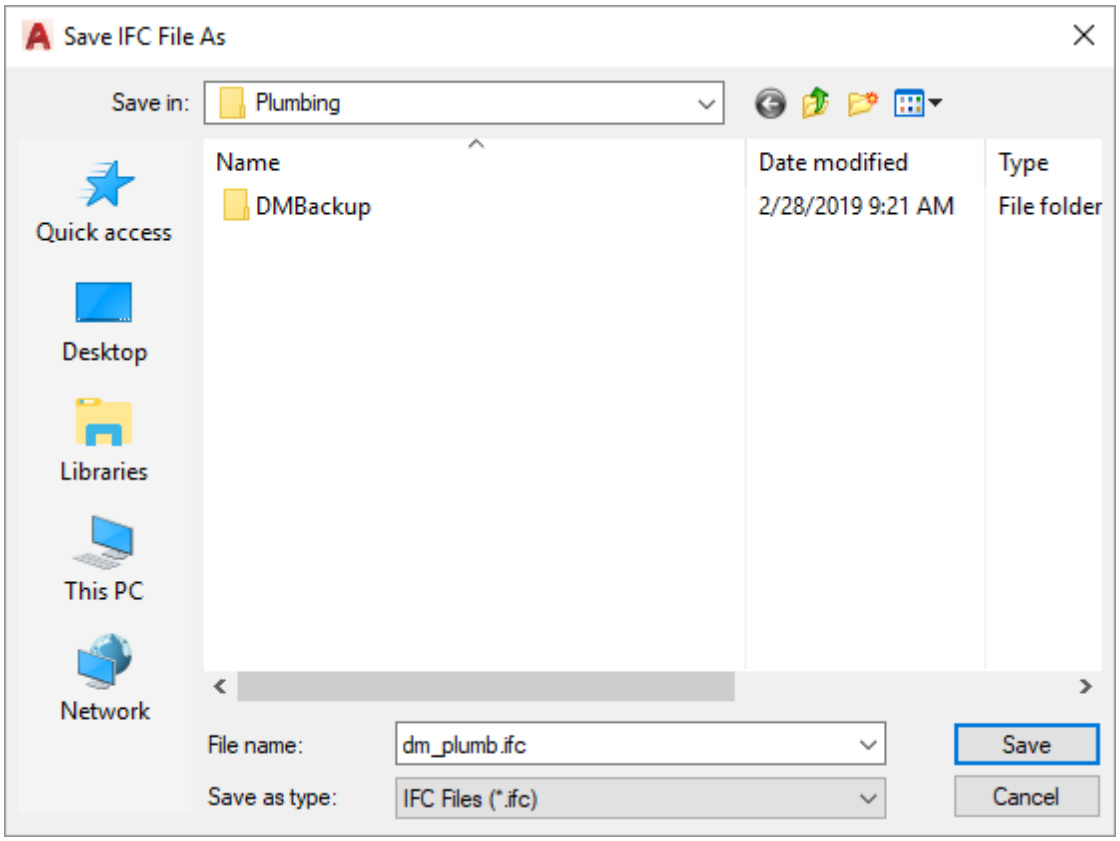
Pulldown Menu: `DM Plumbing->3D-BIM->Export One Area to IFC File`

You will be prompted to identify the alignment point area to be exported.

Select point inside area to export:

The **Save IFC File As** dialog box will appear.

Save IFC File As Dialog Box



Enter a name and location for the IFC file, then press the **Save** button. The selected alignment point area will be saved to the IFC file.

Related Options

3D circle approximation: Sets the number of sides on polygons used to approximate circles in the 3D model.

Export Entire Project to DWG File

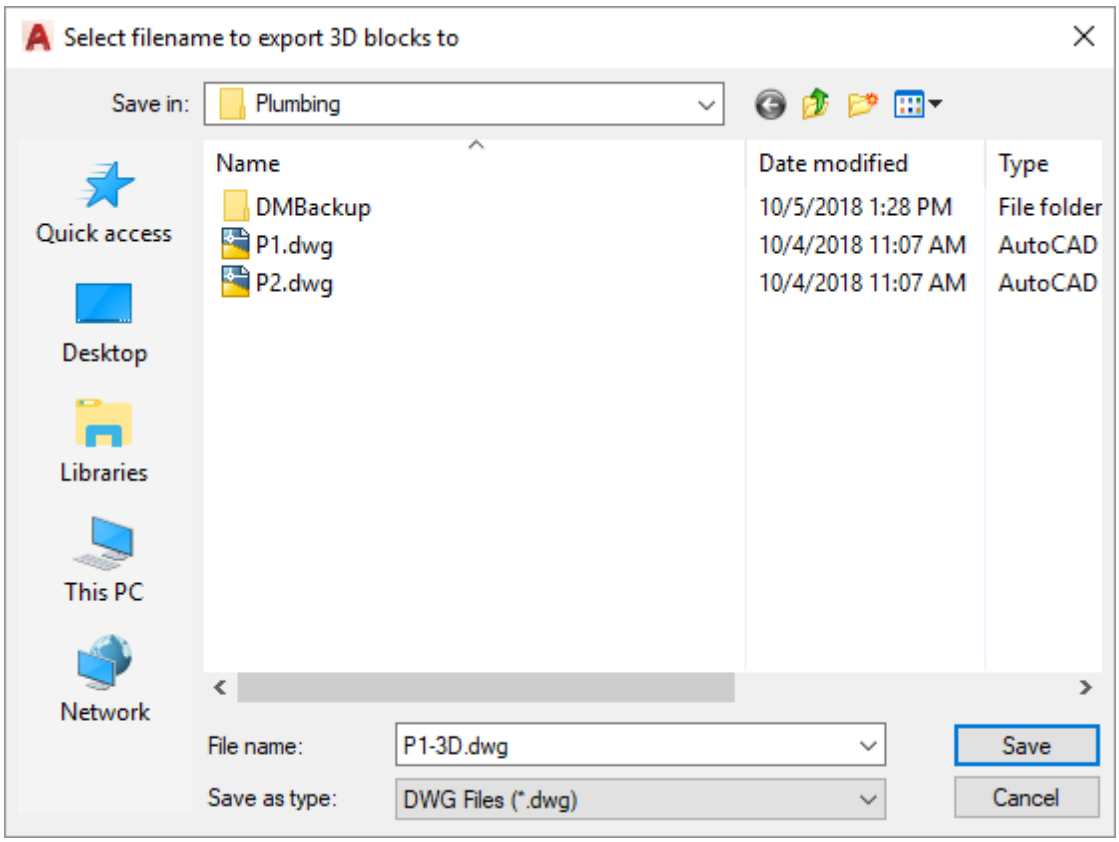
The `Export Entire Project to DWG File` command is used to export all of the 3D-BIM elements from a project to a single DWG file. The DWG file format is recommended for 3D collision detection in Navisworks.

To export the entire project to a DWG file, go to

Ribbon: `DM Plumbing->3D-BIM->` PROJ DWG `Export Entire Project to DWG File`

Pulldown Menu: `DM Plumbing->3D-BIM->Export Entire Project to DWG File`

Select Filename to Export 3D Blocks to Dialog Box



Enter a name and location for the DWG file, then press the **Save** button. The entire project will be saved to the DWG file.

Related Options

3D circle approximation: Sets the number of sides on polygons used to approximate circles in the 3D model.

Export Drawing to DWG File

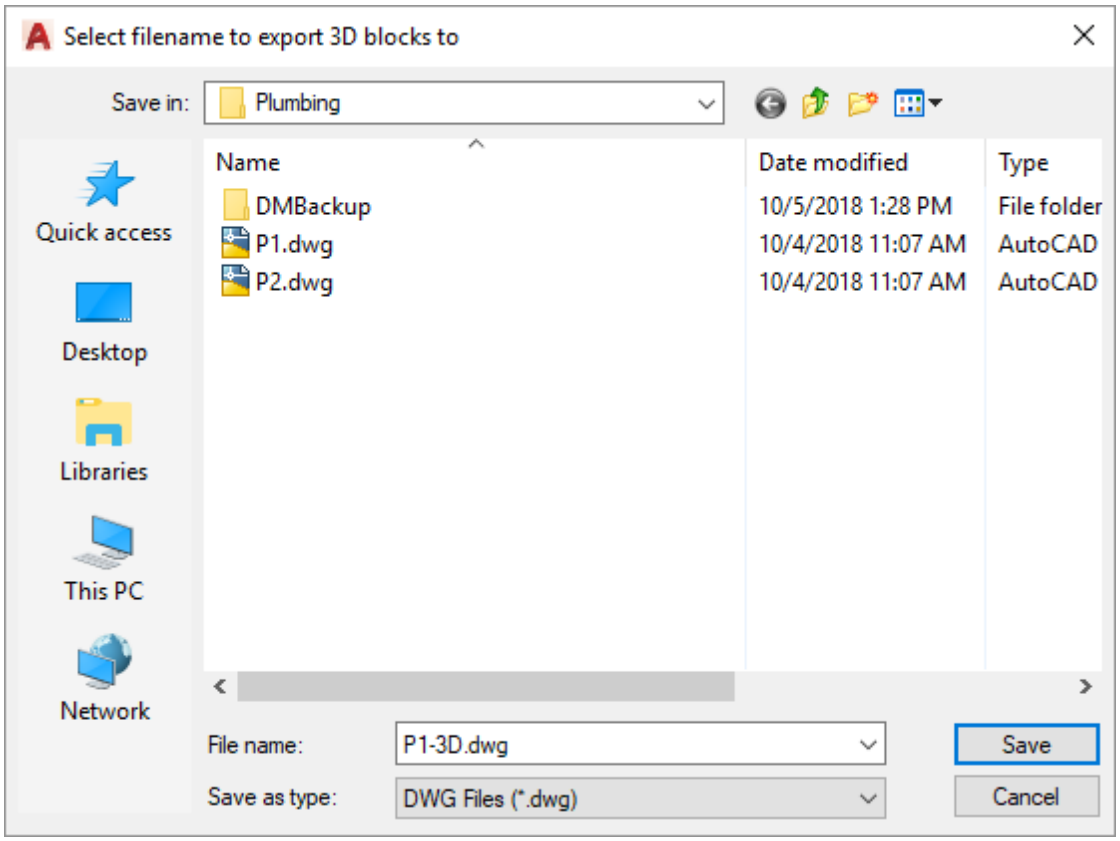
The `Export Drawing to DWG File` command is used to export all of the 3D-BIM elements from the current drawing to a DWG file. The DWG file format is recommended for 3D collision detection in Navisworks.

To export the current drawing to a DWG file, go to

Ribbon: `DM Plumbing->3D-BIM->` `Export Drawing to DWG File`

Pulldown Menu: `DM Plumbing->3D-BIM->Export Drawing to DWG File`

Select Filename to Export 3D Blocks to Dialog Box



Enter a name and location for the DWG file, then press the **Save** button. The current drawing will be saved to the DWG file.

Related Options

3D circle approximation: Sets the number of sides on polygons used to approximate circles in the 3D model.

Export One Area to DWG File

The `Export One Area to DWG File` command is used to export all of the 3D-BIM elements from a single alignment point area to a DWG file. The DWG file format is recommended for 3D collision detection in Navisworks.

To export a single alignment point area to a DWG file, go to

Ribbon: `DM Plumbing->3D-BIM->` AREA DWG `Export One Area to DWG File`

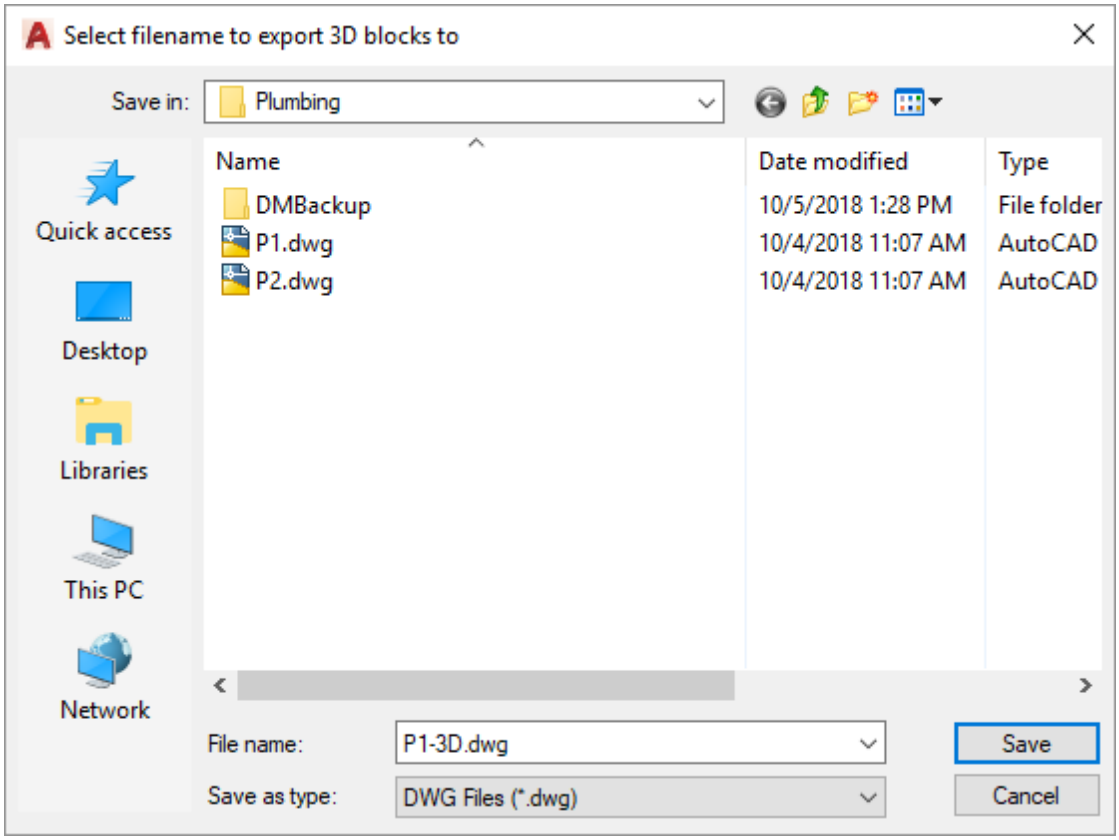
Pulldown Menu: `DM Plumbing->3D-BIM->Export One Area to DWG File`

You will be prompted to identify the alignment point area to be exported.

Select point inside area to export:

The **Save DWG File As** dialog box will appear.

Select Filename to Export 3D Blocks to Dialog Box



Enter a name and location for the DWG file, then press the **Save** button. The selected alignment point area will be saved to the DWG file.

Related Options

3D circle approximation: Sets the number of sides on polygons used to approximate circles in the 3D model.

Layer Management

This section describes the commands available to help you manage your layers. All of the layers created and used are standard CAD layers and can be managed using standard CAD commands. These commands are

included for your convenience, but are not necessary. Everything you can do with these commands can be done with standard CAD commands.

These command specifically change the *On* setting for the layers, toggling them between **On** and **Off**. The *Freeze* setting for the layers is not changed.

If you run these commands while in a paper space viewport, the *VP Freeze* setting will be changed as well. This can be helpful when setting up drawings to display only the 2D or 3D layers in a specific viewport. You can use the **Turn 2D Layers On (and 3D Layers Off)** command in the viewport that should display the 2D pipes and the **Turn 3D Layers on (and 2D Layers Off)** command in the viewport that should display the 3D pipes. You can then return to model space and use the **Turn 2D and 3D Layers On** command to display both the 2D and 3D pipes. You can continue to update both the 2D and 3D drafting while you design, but only have the desired view shown in each viewport.

Turn 2D and 3D Layers On

The `Turn 2D and 3D Layers On` command turns the 2D and 3D pipe layers on.

To turn the 2D and 3D pipe layers on, go to

Ribbon: `DM Plumbing->3D-BIM->`  `Turn 2D and 3D Layers On`

Pulldown Menu: `DM Plumbing->Layer Management->Turn 2D and 3D Layers On`

The 2D and 3D pipe layers will be turned on and visible on the drawing.

If this command is run while in a paper space viewport, the *VP Freeze* setting for the layers will be changed to **Thawed**.

Turn 2D and 3D Layers Off

The `Turn 2D and 3D Layers Off` command turns the 2D and 3D pipe layers off.

To turn the 2D and 3D pipe layers off, go to

Ribbon: `DM Plumbing->3D-BIM->`  `Turn 2D and 3D Layers Off`

Pulldown Menu: `DM Plumbing->Layer Management->Turn 2D and 3D Layers Off`

The 2D and 3D pipe layers will be turned off and not visible on the drawing.

If this command is run while in a paper space viewport, the *VP Freeze* setting for the layers will be changed to **Frozen**.

Turn 2D Layers On (and 3D Layers Off)

The `Turn 2D Layers On (and 3D Layers Off)` command turns the 2D pipe layers on and the 3D pipe layers off.

The 2D and 3D pipes are drawn slightly different. Viewing both of them at the same time can make it difficult to see what is drawn. Turning one on and the other off makes it easier to see the design.

Use this command to view the pipes while in plan view.

To turn the 2D pipe layers on and the 3D pipe layers off, go to

Ribbon: `DM Plumbing->3D-BIM->`  `Turn 2D Layers On (and 3D Layers Off)`

Pulldown Menu: `DM Plumbing->Layer Management->Turn 2D Layers On (and 3D Layers Off)`

The 2D pipe layers will be turned on and visible on the drawing.

If this command is run while in a paper space viewport, the *VP Freeze* setting for the 2D layers will be changed to **Thawed**.

The 3D pipe layers will be turned off and not visible on the drawing.

If this command is run while in a paper space viewport, the *VP Freeze* setting for the 3D layers will be changed to **Frozen**.

Turn 3D Layers On (and 2D Layers Off)

The `Turn 3D Layers On (and 2D Layers Off)` command turns the 3D pipe layers on and the 2D pipe layers off.

The 2D and 3D pipes are drawn slightly different. Viewing both of them at the same time can make it difficult to see what is drawn. Turning one on and the other off makes it easier to see the design.

Use this command to view the pipes while in an isometric or other 3D view.

To turn the 3D pipe layers on and the 2D pipe layers off, go to

Ribbon: `DM Plumbing->3D-BIM->`  `Turn 3D Layers On (and 2D Layers Off)`

Pulldown Menu: `DM Plumbing->Layer Management->Turn 3D Layers On (and 2D Layers Off)`

The 3D pipe layers will be turned on and visible on the drawing.

If this command is run while in a paper space viewport, the *VP Freeze* setting for the 3D layers will be changed to **Thawed**.

The 2D pipe layers will be turned off and not visible on the drawing.

If this command is run while in a paper space viewport, the *VP Freeze* setting for the 2D layers will be changed to **Frozen**.

Utilities

This section describes the utility commands that are available to assist in maintaining the integrity of your project database and drawings.

Coordinate Drawings and Database

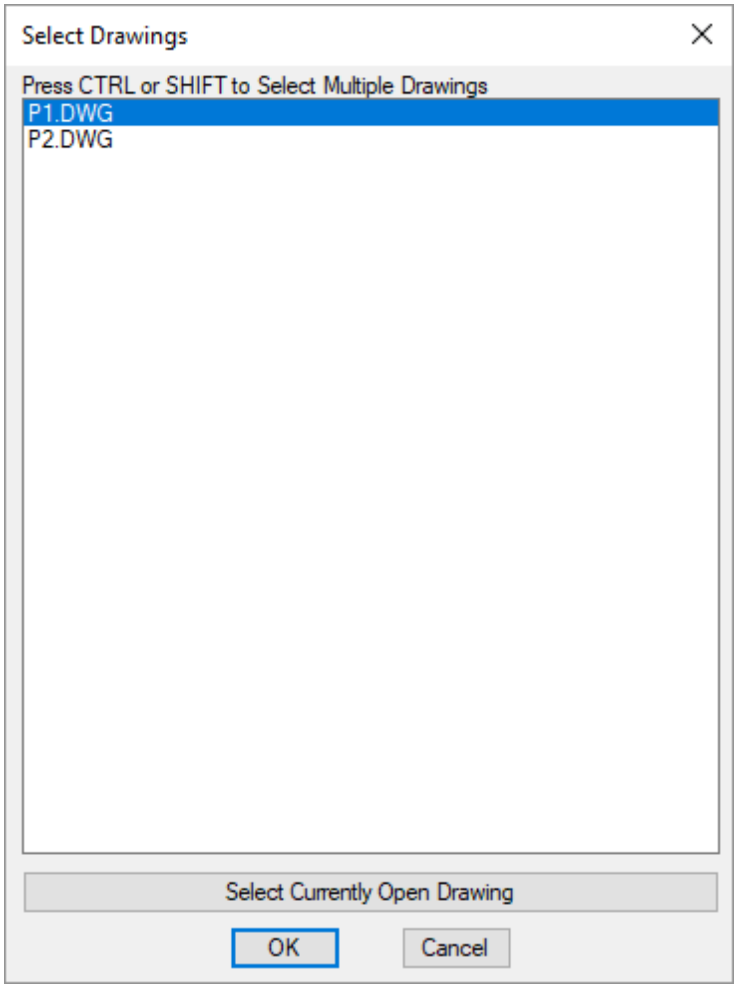
The `Coordinate Drawings and Database` command is used to compare the project database with one or more drawings and confirm that the information matches.

To coordinate a set of selected drawings with the database, go to

Ribbon: `DM Plumbing->Utilities->  ->Coordinate Drawings and Database`

Pulldown Menu: `DM Plumbing->Utilities->Coordinate Drawings and Database`

Select Drawings Dialog Box



Drawing List: Select the drawings you want to coordinate with the database. The current drawing is selected when the command is first run. Use the **`SHIFT`** and **`CTRL`** keys to select multiple drawings in the list. All of the selected drawings will be coordinated with the database.

Select Currently Open Drawing: Press this button to select the current drawing.

Press the **OK** button to coordinate the selected drawings with the database.

The following actions will be performed:

- Devices on the drawing will be added to the database.
- Devices in the database will be added to the drawing. If the command causes a device to be inserted directly on top of another device, the new device will be inserted at the edge of the drawing. Any devices inserted from the database will have a line drawn to them. Review the newly inserted devices and move, delete, or otherwise modify them as appropriate. Once they are on the drawing, you can treat them like standard devices.
- Devices in both the drawing and the database will be reviewed to ensure their locations and settings match.
- Any changes to scheduled devices, such as new graphics for a device type, will be made on the drawing.

When this command is finished, the drawing and the database will match. All devices on the drawing will accurately reflect the information stored in the database.

Devices reinserted on the drawing from the database will be highlighted with lines from the origin to their insertion point. Review these devices to determine whether they should be kept. Use the standard CAD **ERASE** command to remove excess devices from the drawing.

The coordination lines can be removed either by using the standard CAD **ERASE** command and selecting the coordination lines, or by using the **Erase Coordination Lines** command.

When to Use the Coordinate Drawings and Database Command

When you make changes to a drawing, these changes are immediately recorded in the database. Changes are not recorded on the drawing until it is saved. If your CAD program crashes before the drawing is saved, the database will have newer and better information than the drawing. Use the `Coordinate Drawings and Database` command to match the drawing and database, and you can often recover information that was lost.

Changes to customization settings are not immediately reflected on the drawings. If you change your customization settings in the middle of a project, use the `Coordinate Drawings and Database` command to update the drawings.

There are other times when this command can fix errors in your project. A backup of the current drawing and database is made before the command is run in case something unexpected happens during the command.

Erase Coordination Lines

To erase coordination lines generated when using the **Coordinate Drawings and Database** command, go to

Ribbon: `DM Plumbing->Utilities->  ->Erase Coordination Lines`

Pulldown Menu: `DM Plumbing->Utilities->Erase Coordination Lines`

The coordination lines will be erased from the current drawing.

Coordination lines may also be erased using the standard CAD **ERASE** command.

Check for Drawings to Update

The `Check for Drawings to Update` command is used to check for and update any drawings that need to

have changes made to them. Certain changes made on one drawing in a project will require changes to be made to other drawings in the project. Typically, these changes happen automatically.

This command will check for any drawings that need to have changes made and give you a chance to update them all.

To check if any drawings in the current project need to be updated, go to

Ribbon: DM Plumbing->Utilities-> ->Check for Drawings to Update

Pulldown Menu: DM Plumbing->Utilities->Check for Drawings to Update

The drawings that need to be updated will be identified. You will be given a chance to update them automatically if there are any.

Update Pipe Breaks

The Update Pipe Breaks command is used to insert breaks in pipes that cross other pipes with higher elevations. This process should take place automatically. Only use this command if pipe breaks are not occurring.

To sync pipe breaks, go to

Ribbon: DM Plumbing->Utilities-> UTIL ->Update Pipe Breaks

Pulldown Menu: DM Plumbing->Utilities->Update Pipe Breaks

Pipe breaks will be updated on the drawing.

Delete Extra Devices from Database

The Delete Extra Devices From Database command is used to delete devices from the database that are on drawings that no longer exist in the project.

Normally, you would use the standard CAD **ERASE** command to erase devices. They will be erased from the drawing and database.

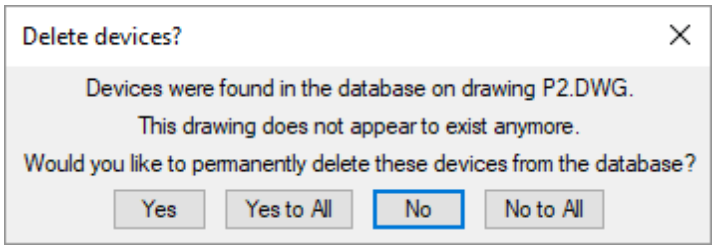
If a drawing is moved or deleted before all of the devices are erased, the records still exist in the database. You cannot erase the device from the drawing because it no longer exists. Using this command, these devices can be deleted from the database.

To delete any devices that exist in the database that either do not have an associated drawing or are on a drawing that no longer exists, go to

Ribbon: DM Plumbing->Utilities-> ->Delete Extra Devices From Database

Pulldown Menu: DM Plumbing->Utilities->Delete Extra Devices From Database

The drawing that each device is on will be compared with the list of drawings in the project. If a drawing in the database does not exist, the **Delete devices?** dialog box will appear.



Yes: Press this button to delete the devices from the listed drawing.

Yes to All: Press this button to delete the devices from all of the drawings that are not found.

No: Press this button to not delete the devices from the listed drawing. Use this button if the drawing should exist and you plan to recreate it.

No to All: Press this button to not delete the devices from all of the drawings that are not found.

Rename Database

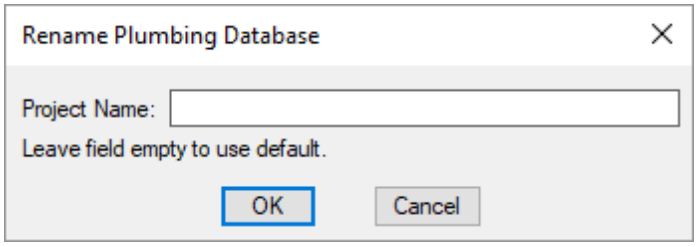
The `Rename Database` command is used to change the name of the database file associated with the current drawing. It will change the suffix of the file when viewed in Windows Explorer. Nothing else in the project will be changed.

To rename the database, go to

Ribbon: `DM Plumbing->Utilities->  ->Rename Database`

Pulldown Menu: `DM Plumbing->Utilities->Rename Database`

Rename Plumbing Database Dialog Box



Project Name: The new name of the database.

Enter the new *Project Name* and press the **OK** button. The suffix of the database file associated with the current drawing will be changed. No other changes will be made in the project.

Repair Database

The `Repair Database` command is used to attempt to repair a project database that has become unusable due to crashes, multiple errors, or other irregularities.

This command can take a long time to run and is intended to be used as a last resort before restoring the database

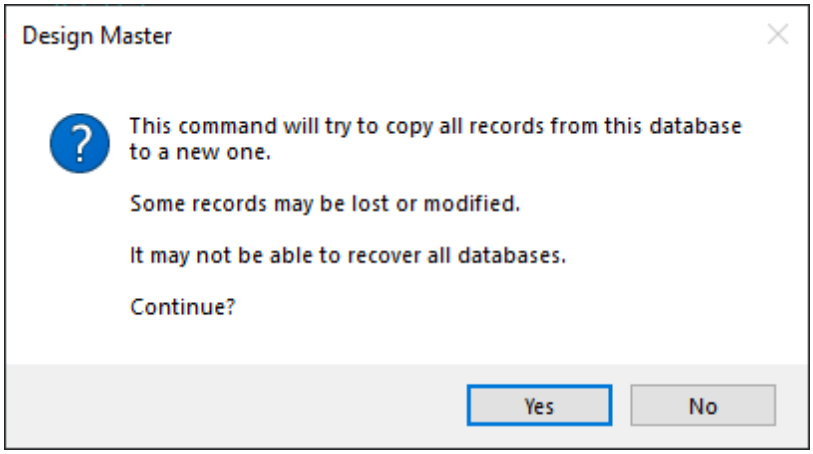
from a backup. Only run this command if you have been instructed to do so by Design Master support.

To repair the database, go to

Ribbon: `DM Plumbing->Utilities->` `UTIL` `->Repair Database`

Pulldown Menu: `DM Plumbing->Utilities->Repair Database`

A **Design Master** dialog box will appear that briefly explains the process and possible outcomes.



Press the **Yes** button to attempt the repair.

Delete DM Backups Over 30 Days Old

The `Delete DM Backups Over 30 Days Old` command is used to delete files from the DMBackup folder. Backups are made on a regular basis for projects and when certain utility commands are run. When a project is opened, any backups over 30 days old are automatically deleted. However, if a project is not opened, backups over 30 days old will not be deleted.

This command will erase all of the backups that it finds in any subfolders of the selected folder. If you have a folder that contains all your projects, you can select the main folder and have all backups from all projects deleted.

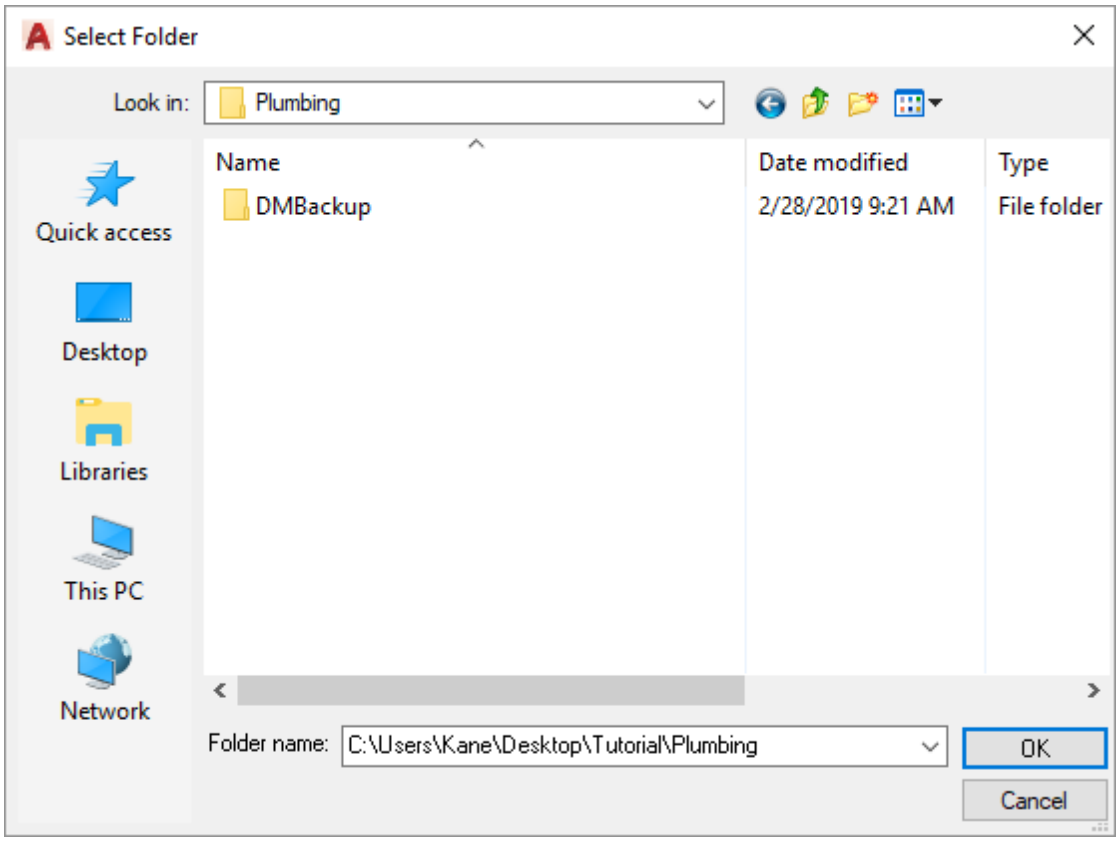
Backups less than 30 days old will not be deleted. You must use Windows Explorer to delete these folders.

To delete backup files that are over 30 days old, go to

Ribbon: `DM Plumbing->Utilities->  ->Delete DM Backups Over 30 Days Old`

Pulldown Menu: `DM Plumbing->Utilities->Delete DM Backups Over 30 Days Old`

Select Folder Dialog Box



Select the folder to delete backups from. All backups over 30 days old will be deleted.

Find Lost Toolbars

The `Find Lost Toolbars` command is used to move all of the toolbars to a visible location on the screen. If your CAD program moves the toolbars to a location that cannot be seen, the toolbars are made unusable. Moving all of the toolbars is the simplest solution to this problem.

To find lost toolbars, go to

Ribbon: `DM Plumbing->Utilities->  ->Find Lost Toolbars`

Pulldown Menu: `DM Plumbing->Utilities->Find Lost Toolbars`

Once this command is entered, all of the toolbars will be displayed. Move any toolbars you want visible to the correct location. Close any toolbars that you do not use.

Reload Ribbons

The `Reload Ribbons` command is used to reload the Design Master Plumbing ribbon tabs. Use this command if the tabs have disappeared from your ribbon.

To reload the ribbon tabs, go to

Pulldown Menu: `DM Plumbing->Utilities->Reload Ribbons`

Once this command is run, the ribbon tabs should be reloaded and visible on your ribbon.

Delete Drawing

The `Delete Drawing` command is used to delete a drawing that contains Design Master Plumbing devices and remove all of the associated information from the database.

If you delete a drawing using Windows Explorer, the database will not be updated. Any devices that existed on the drawing will still exist in the database. It is possible to delete these devices using the **Delete Extra Devices from Database** command, but this method can easily create larger problems.

Deleting the drawing using this command will make sure that the necessary changes to the database are made.

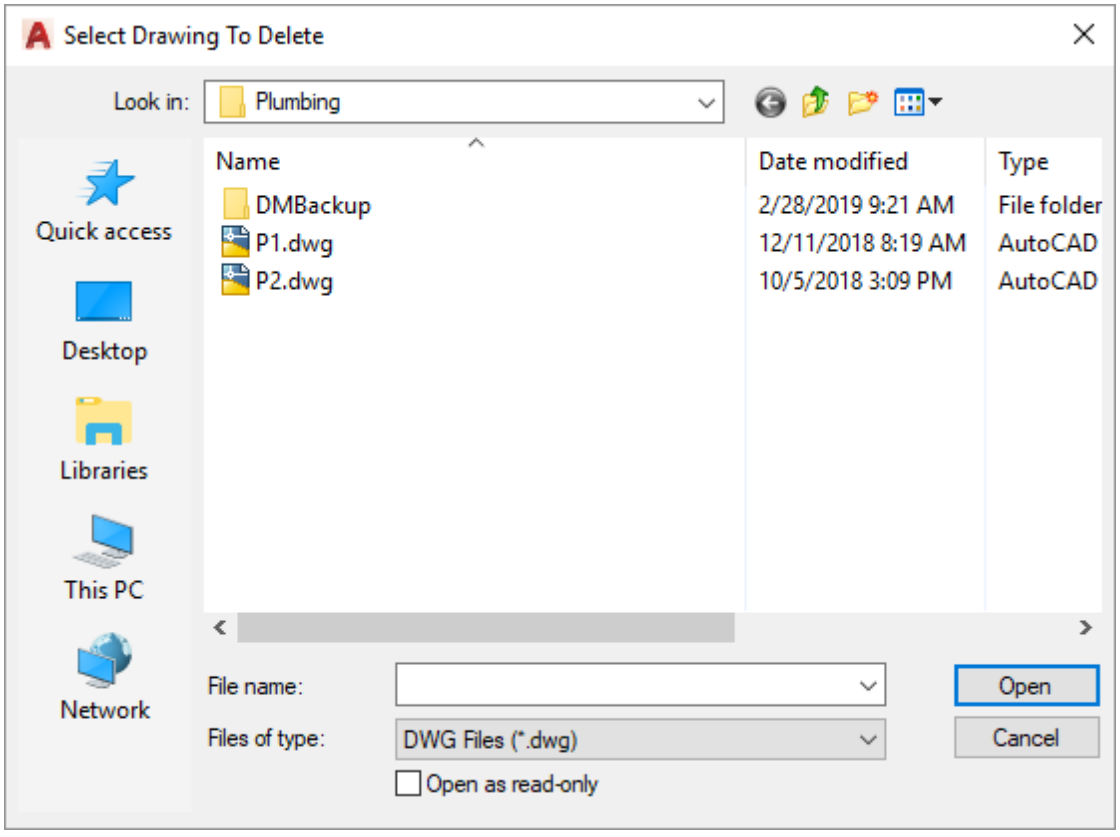
You do not need to use this command if the drawing does not contain Design Master Plumbing devices, though there is no harm if you do.

To delete a drawing, go to

Ribbon: `DM Plumbing->Utilities->  ->Delete Drawing`

Pulldown Menu: `DM Plumbing->Utilities->Delete Drawing`

Select Drawing to Delete Dialog Box



Select the drawing to delete and press the **Open** button.

The drawing will be deleted. All of the devices on the drawing will be deleted from the database.

A backup of the drawing and the database will be made before the command is run in case a drawing is deleted accidentally.

Rename Drawing

The `Rename Drawing` command is used to rename the current drawing. The database will be updated so that any devices associated with the drawing will have their drawing location information changed.

If you rename a drawing using Windows Explorer or the standard CAD **SAVEAS** command, the database does not know if you intend to copy or rename the drawing. It is very easy to create significant errors in your drawings and database if you choose the wrong option.

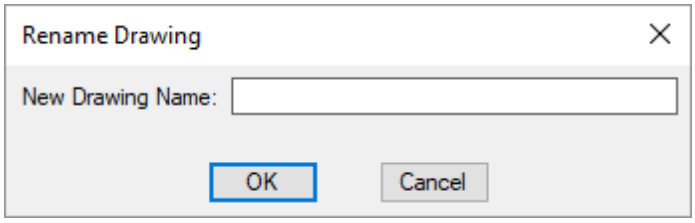
Renaming the drawing using this command will prevent these errors from happening.

To rename the current drawing, go to

Ribbon: `DM Plumbing->Utilities->  ->Rename Drawing`

Pulldown Menu: `DM Plumbing->Utilities->Rename Drawing`

Rename Drawing Dialog Box



New Drawing Name: The name of the new drawing.

Enter the *New Drawing Name* into the dialog box and press the **OK** button. The name of the current drawing will be changed.

Copy Drawing

The `Copy Drawing` command is used to copy the current drawing. Copies of all of the devices on the drawing will be created in the database.

If you copy a drawing using Windows Explorer or the standard CAD **SAVEAS** command, the database does not know if you intend to copy or rename the drawing. It is very easy to create significant errors in your drawings and database if you choose the wrong option.

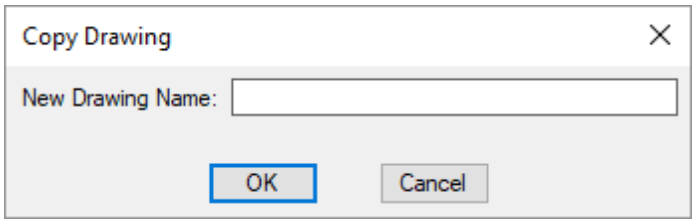
Copying the drawing using this command will prevent these errors from happening.

To copy the current drawing, go to

Ribbon: `DM Plumbing->Utilities->  ->Copy Drawing`

Pulldown Menu: `DM Plumbing->Utilities->Copy Drawing`

Copy Drawing Dialog Box



New Drawing Name: The name of the new drawing.

Enter the *New Drawing Name* into the dialog box and press the **OK** button. A copy of the current drawing will be made using the new name.

Copy Drawing and Remove Links to Database

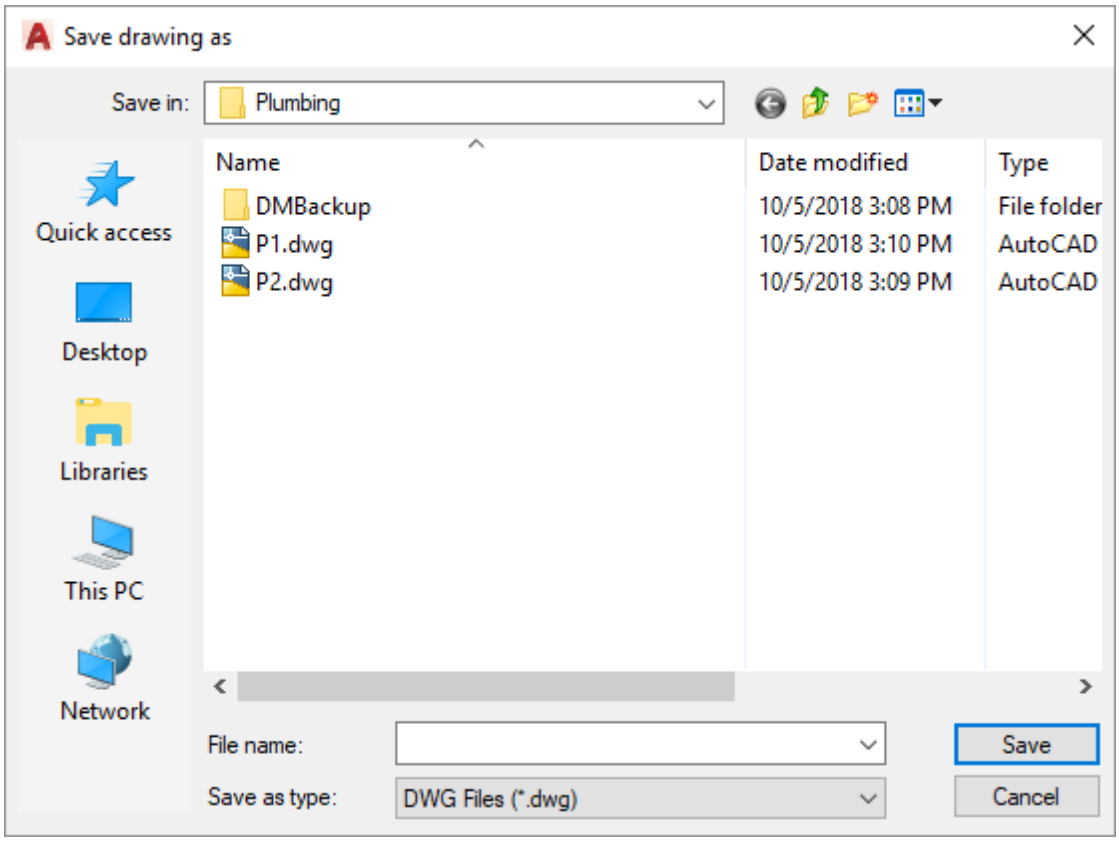
The `Copy Drawing and Remove Links to Database` command is used to make a copy of a drawing and remove all of the links between the Design Master Plumbing entities on the drawing and the database. The appearance of the drawing will not change. All entities on the drawing will remain. However, they will be converted to standard CAD entities and their connection to the database will be removed.

To copy a drawing and remove all of the links to the database, go to

Ribbon: `DM Plumbing->Utilities->  ->Copy Drawing and Remove Links to Database`

Pulldown Menu: `DM Plumbing->Utilities->Copy Drawing and Remove Links to Database`

Save Drawing as Dialog Box



Select a location for the copy, enter a file name, and press the **OK** button. A copy of the current drawing will be made using the new name. All of the Design Master Plumbing links to the project database will be removed.

The project database will not be modified during this command.

Copy Drawing and Remove All DM Entities

The `Copy Drawing and Remove All DM Entities` command is used to make a copy of a drawing with all of the Design Master Plumbing entities on it erased.

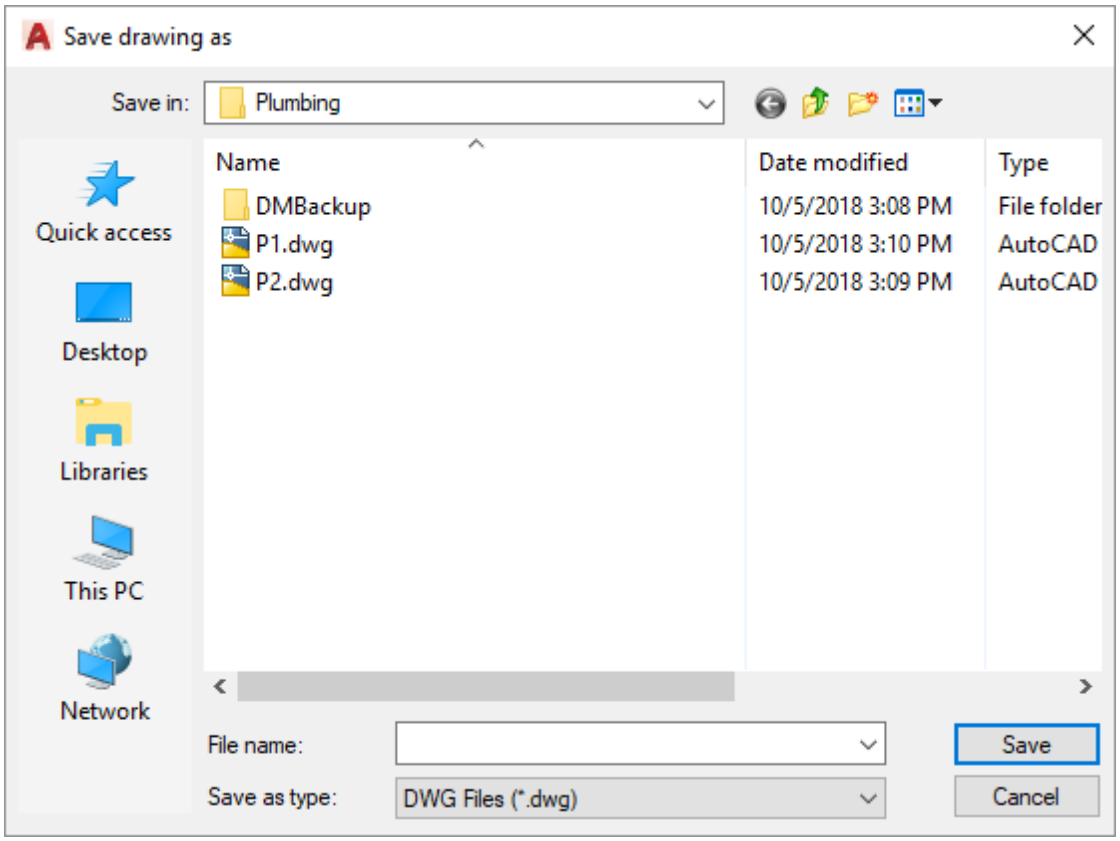
This command is useful when you want to create a new drawing with the same settings as an existing drawing in the project. Using other methods, the copied drawing will copy the Design Master Plumbing entities. Cleaning up these extra devices can cause problems if not done correctly. This command will remove all of the devices for you, leaving you with a new drawing that you can immediately start using.

To copy a drawing and remove all of the Design Master Plumbing entities, go to

Ribbon: `DM Plumbing->Utilities->  ->Copy Drawing and Remove All DM Entities`

Pulldown Menu: `DM Plumbing->Utilities->Copy Drawing and Remove All DM Entities`

Save Drawing as Dialog Box



Select a location for the copy, enter a file name, and press the **OK** button. A copy of the current drawing will be made using the new name. All of the Design Master Plumbing entities on the new drawing will be erased.

The project database will not be modified during this command.

Disconnect Plumbing Database from Drawing

The `Disconnect Plumbing Database from Drawing` command is used to remove all of the links between the Design Master Plumbing entities on the drawing and the database. The appearance of the drawing will not change. All entities on the drawing will remain. However, they will be converted to standard CAD entities and their connection to the database will be removed.

To disconnect the database from the drawing, go to

Ribbon: `DM Plumbing->Utilities->  ->Disconnect Plumbing Database from Drawing`

Pulldown Menu: `DM Plumbing->Utilities->Disconnect Plumbing Database from Drawing`

The project database will not be modified during this command.

Copy or Back Up Project

The `Copy or Back Up Project` command is used to make a complete copy or backup of the current project.

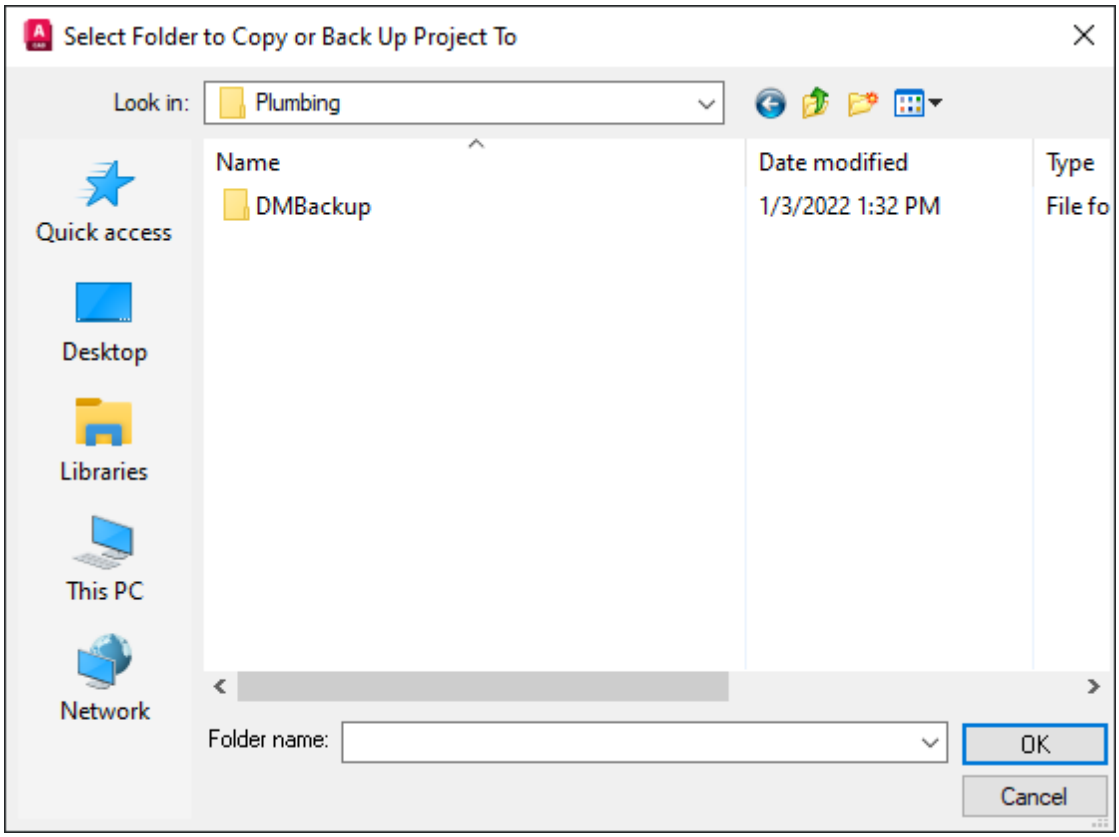
When you copy or back up a project, it is important to copy all of the drawings and the Design Master database files. This command will copy all of the necessary files. Use this command if you want to make a backup of the current state of the project or if you want to make a copy to try a different design approach.

To copy or back up a project, go to

Ribbon: `DM Plumbing->Utilities->  ->Copy or Back Up Project`

Pulldown Menu: `DM Plumbing->Utilities->Copy or Back Up Project`

Select Folder to Copy or Back Up Project To Dialog Box



Select the folder to copy or back up the project to and press the **OK** button. All files associated with the project will be copied and saved to the folder.

Check In Floating License

The `Check In Floating License` command is used with floating licenses to immediately check in the license so that another person can use the software. Floating licenses are checked out in 10-minute intervals. If no commands are run for 10 minutes, the license is automatically released and another person can use the software.

If another person attempts to use the software before the license is released, a warning message will be displayed for the new user, stating that no license is available. The new user can choose to ignore the warning and immediately start using the software. However, a license overuse exception will be recorded on the license server. If there are too many overuse exceptions, you will need to purchase another license.

Using this command, the original user can check in the floating license when they are done with it. The new user can then use the software immediately without causing a license overuse exception to be recorded.

To check in the floating license, go to

Ribbon: `DM Plumbing->Utilities->  ->Check In Floating License`

Pulldown Menu: `DM Plumbing->Utilities->Check In Floating License`

The floating license will be checked in and will be available for another person to use.

Help

This section describes the commands available for obtaining support, maintaining current licenses, and installing software updates.

Common Help Information

You are prompted to provide the following information when sending us a support request. We use this information to respond to your support request.

Name: Your name.

Email Address: Your email address. If possible, we will respond to your support request by email.

Phone Number: Your phone number. If we need additional information beyond what we can gather by email, we will call you.

Additional Information: A description of the problem you are having. The more information you can provide about your problem, the more likely we will be able to solve it for you. For example, specific devices that exhibit the problem you are having.

Your Design Master Plumbing version, CAD program version, and Windows version will be sent automatically with the support request. You do not need to include that information here.

User Manual

To open the Design Master Plumbing User Manual (which you are currently viewing), go to

Ribbon: `DM Plumbing->Utilities->  ->User Manual`

Pulldown Menu: `DM Plumbing->Help->User Manual`

The user manual will be opened in your web browser.

Remote Support

The `Remote Support` command allows us to connect to your computer over the internet. We will be able to see your screen and perform actions on your computer.

To allow us to connect to your computer, go to

Ribbon: `DM Plumbing->Utilities->  ->Remote Support`

Pulldown Menu: `DM Plumbing->Help->Remote Support`

The remote support program will run and allow us to connect to your computer.

An ID number will be displayed, which you will need to read aloud to us.

We use TeamViewer for our remote support. You can visit their website at **http://www.teamviewer.com**. Information about security is available at **http://www.teamviewer.com/en/products/security.aspx**.

Send Project to Design Master Support

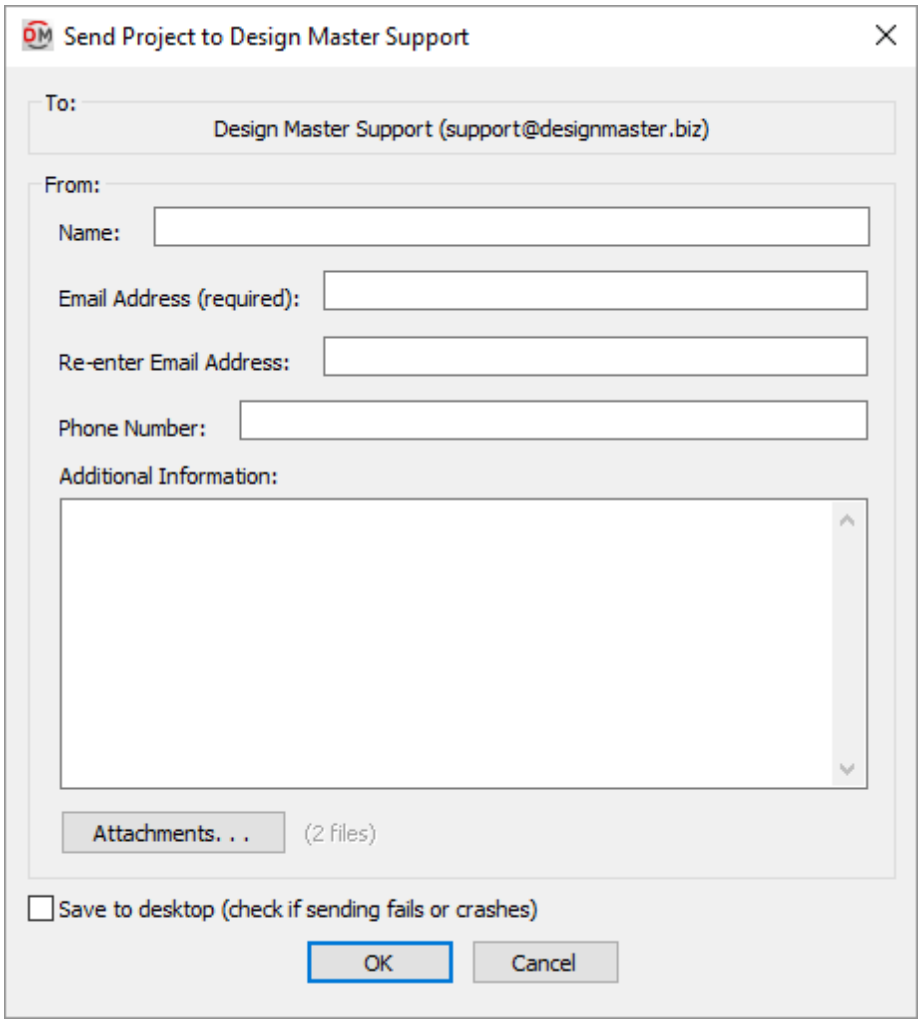
The `Send Project to Design Master Support` command is used to send us the current drawing and the associated Design Master Plumbing database. Providing us with your project helps us recreate the problem you are having and find a solution to it. It is our preferred way for you to report a problem or ask a question. Many problems are specific to a project and having that immediately helps us assist you.

To send a copy of your project's current drawing and database to us, go to

Ribbon: `DM Plumbing->Utilities->  ->Send Project to Design Master Support`

Pulldown Menu: `DM Plumbing->Help->Send Project to Design Master Support`

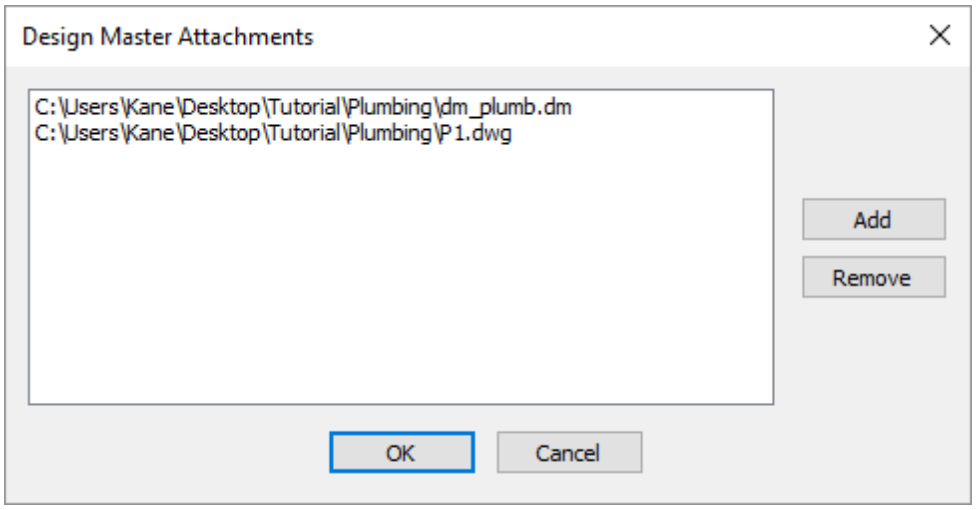
Send Project to Design Master Support Dialog Box



See the **Common Help Information** section for more information about the *Name, Email Address, Phone Number* and *Additional Information* fields.

Attachments: Press this button to change the files that will be sent with the support request.

The **Design Master Attachments** dialog box will appear.



By default, the current drawing and associated Design Master Plumbing database will be included in the list of files to send.

Add: Press this button to select additional files to send.

Remove: Press this button to remove the selected file from the list to send.

Save to desktop: Whether the support request is sent directly to us or saved to your desktop for you to email.

By default, this box is not checked. Support requests are automatically sent with no further input from you.

Some companies block outgoing messages from programs other than your email client. When this happens, you will be given a chance to save a ZIP file to your desktop that you can send to us manually. Detecting this configuration can take a long time.

When this box is checked, the attempt to send the message directly is skipped and you are immediately prompted to save a ZIP file to your desktop. Skipping the attempt to send saves time.

Go to Design Master Support Website

To open the Design Master Support Website, go to

Ribbon: `DM Plumbing->Utilities->  ->Go to Design Master Support Website`

Pulldown Menu: `DM Plumbing->Help->Go to Design Master Support Website`

The support page will be opened in your web browser. This page has useful links and information to help you when you have trouble with our software.

Send Email to Design Master Support

To send an email to us, go to

Ribbon: `DM Plumbing->Utilities->  ->Send Email to Design Master Support`

Pulldown Menu: `DM Plumbing->Help->Send Email to Design Master Support`

A draft email addressed to **support@designmaster.biz** will be opened in your preferred email client. Enter your message and send the email.

Send Standards Databases to Design Master Support

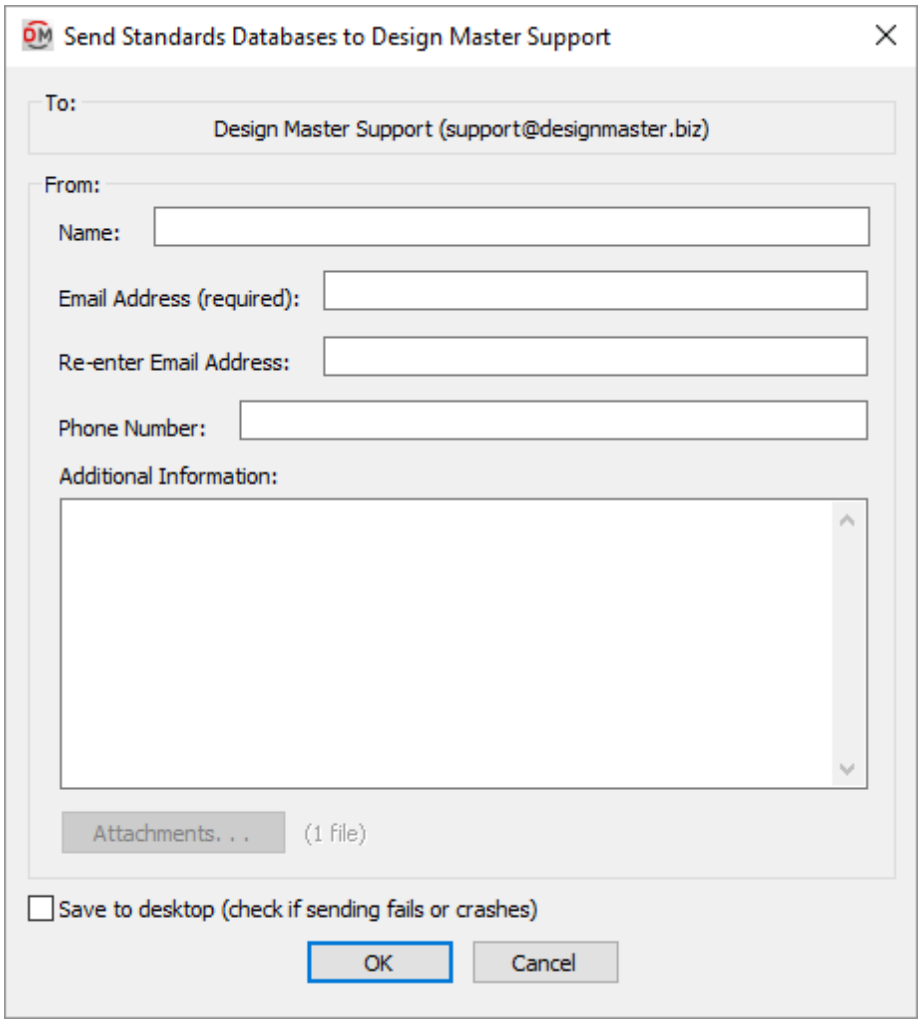
The `Send Standards Databases to Design Master Support` command is used to send us your standards customization database files. We will occasionally ask for these files when helping you solve problems related to your customization.

To send a copy of your standards databases to us, go to

Ribbon: `DM Plumbing->Utilities->` HELP `->Send Standards Databases to Design Master Support`

Pulldown Menu: `DM Plumbing->Help->Send Standards Databases to Design Master Support`

Send Standards Databases to Design Master Support Dialog Box



See the **Common Help Information** section for more information about the *Name, Email Address, Phone Number* and *Additional Information* fields.

All of your standards databases will be sent.

Save to desktop: Whether the support request is sent directly to us or saved to your desktop for you to email.

By default, this box is not checked. Support requests are automatically sent with no further input from you.

Some companies block outgoing messages from programs other than your email client. When this happens, you will be given a chance to save a ZIP file to your desktop that you can send to us manually. Detecting this configuration can take a long time.

When this box is checked, the attempt to send the message directly is skipped and you are immediately prompted to save a ZIP file to your desktop. Skipping the attempt to send saves time.

Set Email Address

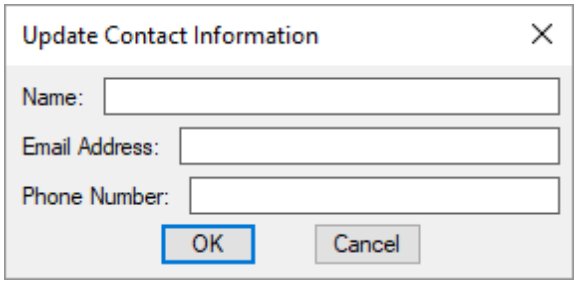
The `Set Email Address` command is used to set your default email address and other contact information used when sending support cases to us.

To set your default contact information, go to

Ribbon: `DM Plumbing->Utilities->  ->Set Email Address`

Pulldown Menu: `DM Plumbing->Help->Set Email Address`

Update Contact Information Dialog Box



See the **Common Help Information** section for more information about the *Name*, *Email Address* and *Phone Number* fields.

Installation Settings

The `Installation Settings` command is used to display the current installation settings. It can be used to verify the installation settings are correct, and modify them if necessary.

To view and modify the installation settings, go to

Ribbon: `DM Plumbing->Utilities->  ->Installation Settings`

Pulldown Menu: `DM Plumbing->Help->Installation Settings`

There are three different installation types.

Local

A local install should be used when there is only one person using Design Master Plumbing in your office. All program and customization files are stored directly on the computer. This install type should be used even if the one person is installing the software on a laptop.

See the **Local Install** section for more information about this install type.

Network

A network install should be used when there are multiple people using Design Master Plumbing in your office. The program files are stored on the computer and are automatically updated from the network. The customization files are stored on the network and are shared between users.

See the **Network Install** section for more information about this install type.

Network Laptop

A network laptop install should be used if the computer is a laptop and multiple people are using Design Master Plumbing in your office. The program files are stored on the laptop and are automatically updated from the network. The customization files are stored on both the network and the laptop. The network customization files will be used when the laptop is connected to the network. The local customization files will be used when the laptop is away from the office and disconnected from the network.

See the **Network Laptop Install** section for more information about this install type.

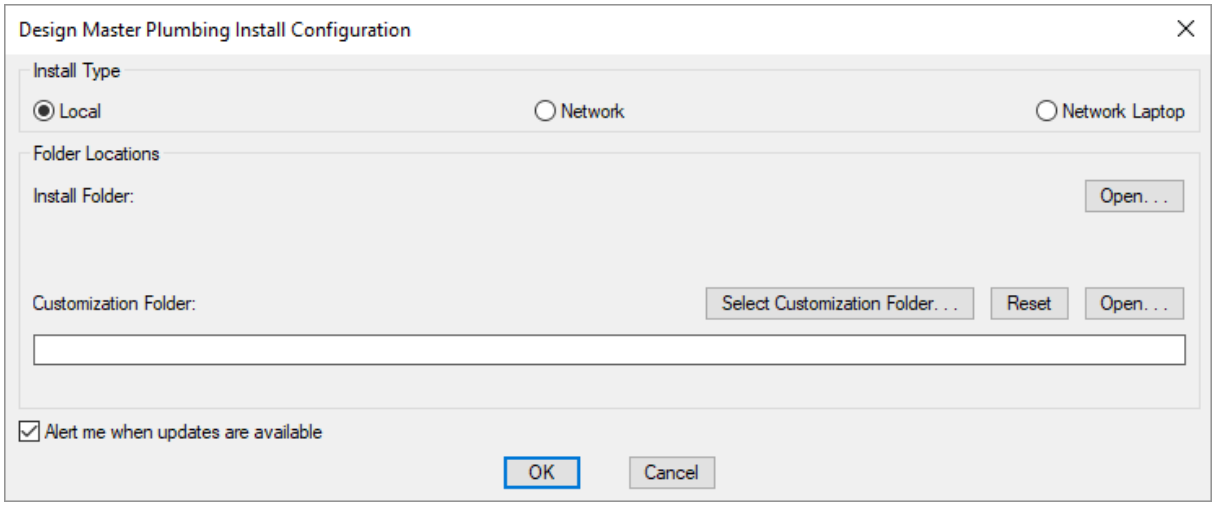
The local customization will automatically be updated with any changes to the network customization once a day. Use the `Update Laptop Customization` command to manually update the customization stored on the computer. See the **Update Laptop Customization** section for more information.

Local Install

This section describes configuring Design Master Plumbing for a local install. A local install should be used when there is only one person using Design Master Plumbing in your office. All program and customization files are stored directly on the computer. This install type should be used even if the person is installing the software on a laptop.

If you have floating licenses, this install type should not be used.

Configuring an Installation on a Local Computer



Install Type: The type of installation. The dialog box will change depending upon the type selected.

- **Local:** The installation type described in this section.
- **Network:** See the **Network Install** section for more information about this install type.
- **Network Laptop:** See the **Network Laptop Install** section for more information about this install type.

Install Folder: The folder where Design Master Plumbing is installed. This folder is forced to be located in your Application Data folder.

Customization Folder: The folder where the customization files are stored.

Select Customization Folder: Press this button to select a new location for the customization folder.

Reset: Press this button to reset the customization to the default location, located in your Application Data folder.

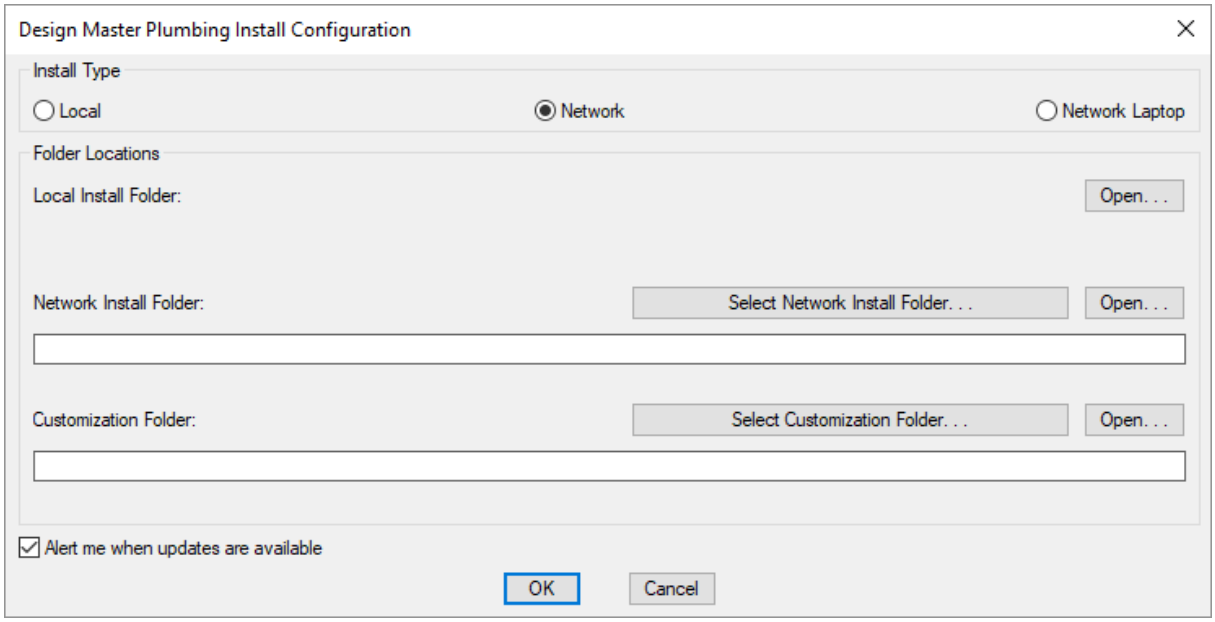
Open: There are two **Open** buttons in the dialog box. Press this button to open Windows Explorer to one of the folders listed in the dialog box. The first button opens the install folder. The second button opens the customization folder.

Alert me when updates are available: Whether updates are checked for automatically. If this is checked, an update check will occur the first time you run a command each day. An alert will appear if an update is available.

Network Install

This section describes configuring Design Master Plumbing for a network install. A network install should be used when there are multiple people using Design Master Plumbing in your office. The program files are stored on the computer and are automatically updated from the network. The customization files are stored on the network and are shared between users.

Configuring an Installation on a Network



Install Type: The type of installation. The dialog box will change depending upon the type selected.

- **Local:** See the **Local Install** section for more information about this install type.
- **Network:** The installation type described in this section.
- **Network Laptop:** See the **Network Laptop Install** section for more information about this install type.

Local Install Folder: The folder on the local computer where Design Master Plumbing is installed. This folder is forced to be located in your Application Data folder.

Network Install Folder: The folder on the network where Design Master Plumbing is installed. This folder should be on the network. All computers in your office should use the same network install folder.

Updates should be installed to this folder. Updates to this folder will automatically be copied to the local install folder.

Customization Folder: The folder where the customization files are stored. This folder should be on the network. All computers in your office should use the same customization folder.

Select Customization Folder: Press this button to select a new location for the customization folder.

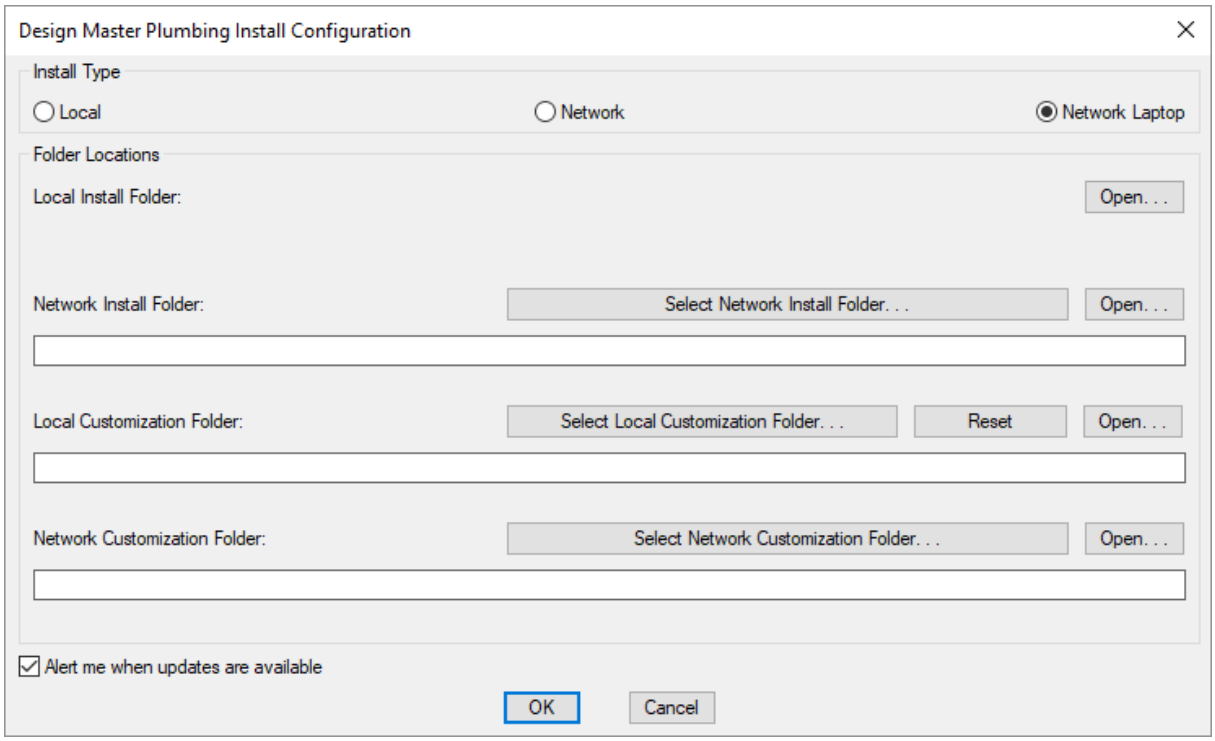
Open: There are three **Open** buttons in the dialog box. Press this button to open Windows Explorer to one of the folders listed in the dialog box. The first button opens the local install folder. The second button opens the local install folder. The third button opens the customization folder.

Alert me when updates are available: Whether updates are checked for automatically. If this is checked, an update check will occur the first time you run a command each day. An alert will appear if an update is available.

Network Laptop Install

This section describes configuring Design Master Plumbing for a network laptop install. A network laptop install should be used if the computer is a laptop and multiple people are using Design Master Plumbing in your office. The program files are stored on the laptop and are automatically updated from the network. The customization files are stored on both the network and the laptop. The network customization files will be used when the laptop is connected to the network. The local customization files will be used when the laptop is away from the office and disconnected from the network.

Configuring an Installation on a Laptop



Install Type: The type of installation. The dialog box will change depending upon the type selected.

- **Local:** See the Local Install section for more information about this install type.

- **Network:** See the **Network Install** section for more information about this install type.
- **Network Laptop:** The installation type described in this section.

Local Install Folder: The folder on the local computer where Design Master Plumbing is installed. This folder is forced to be located in your Application Data folder.

Network Install Folder: The folder on the network where Design Master Plumbing is installed. This folder should be on the network. All computers in your office should use the same network install folder.

Updates should be installed to this folder. Updates to this folder will automatically be copied to the local install folder.

Local Customization Folder: The folder where the local customization files are stored. This customization folder is used if a network connection is not available.

Select Local Customization Folder: Press this button to select a new location for the customization folder.

Reset: Press this button to reset the customization to the default location, located in your Application Data folder.

Network Customization Folder: The folder where the customization files are stored. This folder should be on the network. All computers in your office should use the same customization folder.

This folder is used when the computer is connected to the network. The files in this folder are copied to the local customization folder once each day.

Select Network Customization Folder: Press this button to select a new location for the customization folder.

Open: There are four **Open** buttons in the dialog box. Press this button to open Windows Explorer to one of the folders listed in the dialog box. The first button opens the local install folder. The second button opens the local install folder. The third button opens the local customization folder. The fourth button opens the network customization folder.

Alert me when updates are available: Whether updates are checked for automatically. If this is checked, an update check will occur the first time you run a command each day. An alert will appear if an update is available.

Update Local Install from Network

The `Update Local Install from Network` command is used to update the program files on your computer from the program files on the network if you have a **network install** or **network laptop install**.

This process should take place automatically. Only use this command if there is a problem.

To update the local install from the network, go to

Ribbon: `DM Plumbing->Utilities->  ->Update Local Install from Network`

Pulldown Menu: `DM Plumbing->Help->Update Local Install from Network`

The program files on your computer will be updated.

Check for Updates

The `Check for Updates` command compares the version of Design Master Plumbing you have installed with the latest version that is available on our website. You will be given instructions for installing a newer version if one is available.

To check for updates, go to

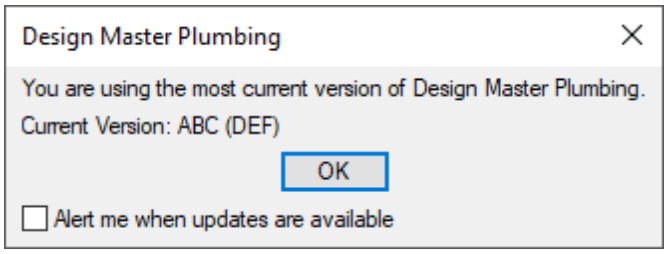
Ribbon: `DM Plumbing->Utilities->  ->Check for Updates`

Pulldown Menu: `DM Plumbing->Help->Check for Updates`

The dialog box that appears depends upon whether an update is available from our website.

Update Not Available

If an update is not available on our website, the following dialog box will appear.

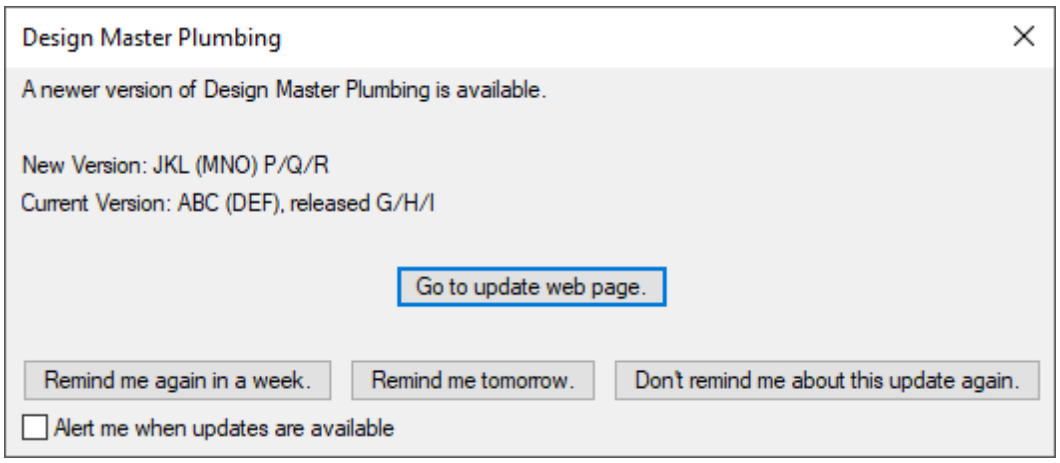


Current Version: The current version of the software. **ABC** will be replaced with the release number. **DEF** will be replaced with the build number.

Alert me when updates are available: Whether updates are checked for automatically. If this is checked, an update check will occur the first time you run a command each day. An alert will appear if an update is available.

Update Available

If the versions are different, you will be prompted to install the latest version.



New Version: The new version of the software available from our website. **JKL** will be replaced with the new release number. **MNO** will be replaced with the new build number. **P/Q/R** is the date the new version was released.

Current Version: The current version of the software. **ABC** will be replaced with the currently installed release number. **DEF** will be replaced with the currently installed build number. **G/H/I** is the date the currently installed version was released.

Go to update web page: Press this button to go to a page on our website about the new release. The page will include a list of new features, install instructions, and a download link.

Remind me again in a week: Press this button to close the dialog box. You will be reminded about the new version again in one week.

Remind me tomorrow: Press this button to close the dialog box. You will be reminded about the new version again tomorrow.

Don't remind me about this update again: Press this button to close the dialog box. You will not be reminded about the new version again.

Alert me when updates are available: Whether updates are checked for automatically. If this is checked, an update check will occur the first time you run a command each day. An alert will appear if an update is available.

Install Patch

The `Install Patch` command is used to install patches we send to you. These patches will be ZIP files sent in response to crash reports or support requests. We send patches to specific users to solve problems they are currently having. They are not posted to our website.

We regularly release updated versions of Design Master Plumbing that include all of the patches we sent to customers. These updates are available from our website. You do not need to use this command to install these updates.

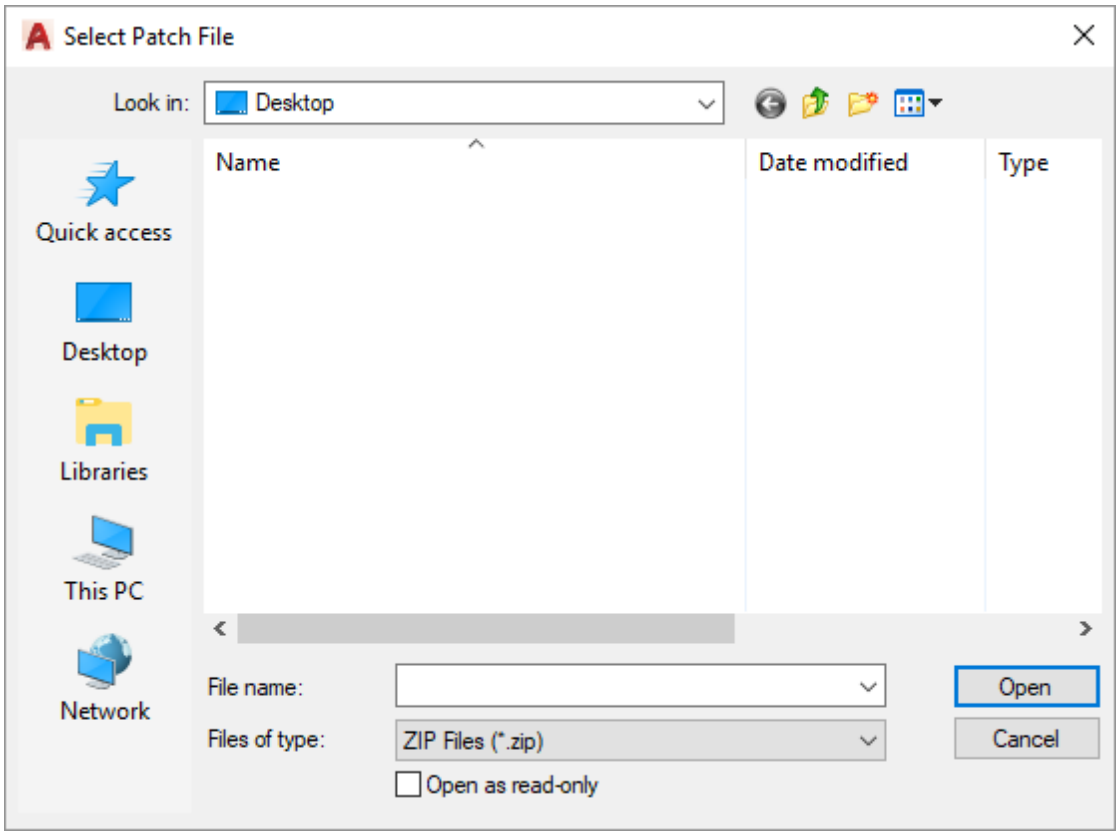
Once you have installed a patch, you will not need to install it again. All future patches or updates you receive will include the patch.

To install a software patch, go to

Ribbon: `DM Plumbing->Utilities->  ->Install Patch`

Pulldown Menu: `DM Plumbing->Help->Install Patch`

Select Patch File Dialog Box



Select the patch ZIP file and press the **Open** button. The patch will be installed on your computer. If you have a **network install**, it will also be installed on the network. Installing it to the network will update all of the other computers in your office.

The patch file will be erased after it is installed. It is erased to discourage you from installing it again in the future.

Restart your CAD program after installing the patch. The error you were seeing should now be resolved.

Install License

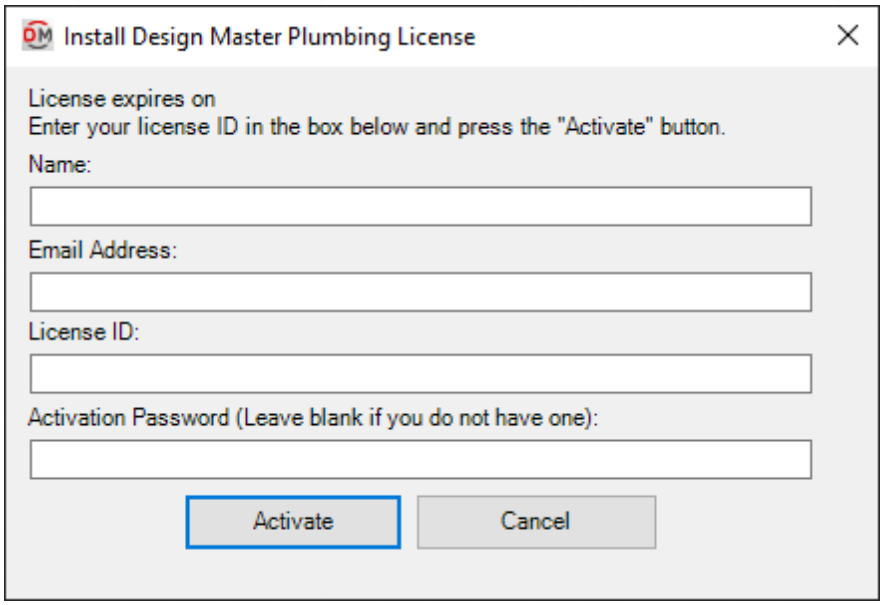
The `Install License` command is used to activate the license for Design Master Plumbing.

To activate a license, go to

Ribbon: `DM Plumbing->Utilities->  ->Install License`

Pulldown Menu: `DM Plumbing->Help->Install License`

Install Design Master Plumbing License Dialog Box



Enter your *Name*, *Email Address*, *License ID*, and *Activation Password* in the fields provided. If you did not receive a password, leave the *Activation Password* field blank.

Press the **Activate** button to activate your license.

About

To view general information about the Design Master Plumbing software, go to

Ribbon: `DM Plumbing->Utilities->  ->About`

Pulldown Menu: `DM Plumbing->Help->About`

A dialog box will appear that includes the version of software you are running and your current license status.

Customization

This section describes the commands available to customize the software. A wide variety of customization options are included to allow you to match the drawings that are created to your existing company standards.

General Customization Commands

Most of the customization sections include four commands:

- `Edit Project List`
- `Edit Standards List`
- `Copy Project List to Standards`
- `Copy Standards List to Project`

This section describes these general commands and how they work for the customization commands.

Edit Project List

The `Edit Project List` command is the first command listed in each customization section. It is used to modify the customization settings in the current project database. It allows you to make changes to a specific project without affecting other projects.

Edit Standards List

The `Edit Standards List` command is the second command listed in each customization section. It is used to modify the customization settings in a standards database. These settings can be used when you start a new project. Changes here do not affect any projects already created.

If only one standards database exists, the command will immediately start editing that database using the appropriate dialog box.

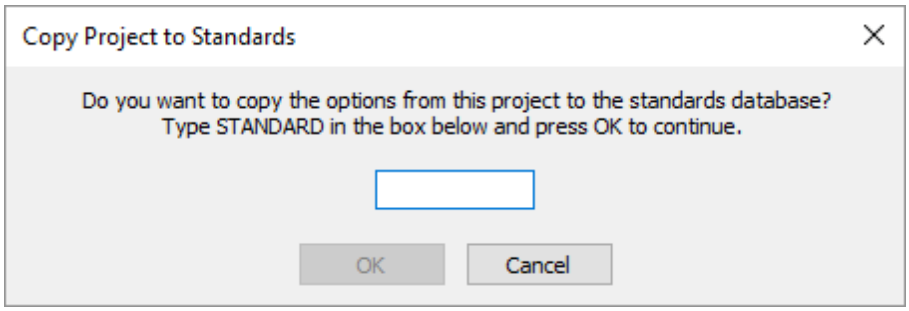
If more than one standards database exists, you will be prompted to select the standards database to edit. After you select the standards database to edit, the appropriate dialog box will appear with the settings from that standards database displayed.

Copy Project List to Standards

The `Copy Project List to Standards` command will copy the settings from the project database to a standards database. Often, it is simplest to start your first project and customize it as you go. When you are finished, you can use this command to copy the settings for use with future projects.

If only one standards database exists, the settings will be copied to that standards database. The **Copy Project to Standards** dialog box will appear immediately.

If more than one standards database exists, you will be prompted to select a standards database to which the settings will be copied. After you make your selection, the **Copy Project to Standards** dialog box will appear.



To copy the settings, type **STANDARD** and press the **OK** button. This step helps prevent you from accidentally overwriting the settings in your standards database.

Copy Standards List to Project

The `Copy Standards List to Project` command will copy the settings from a standards database to the project database. You can use this to update projects you have already started with new settings you have set in your standards database.

If only one standards database exists, the settings will be copied from that standards database.

If more than one standards database exists, you will be prompted to select the standards database from which the settings will be copied.

User Options

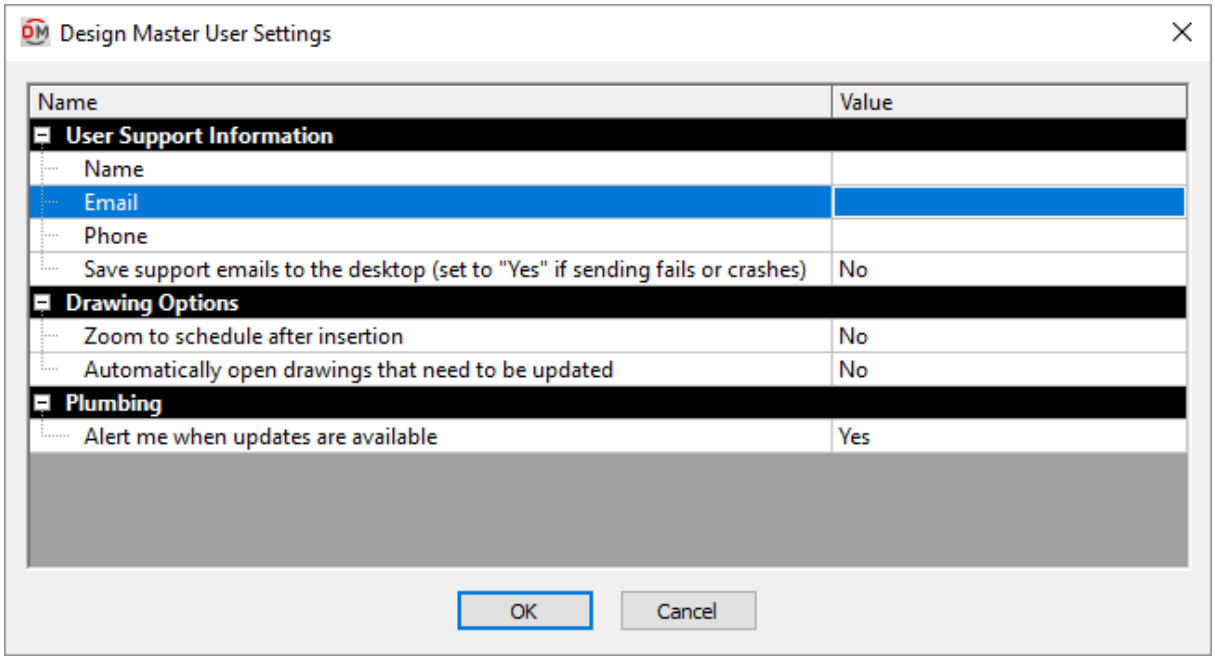
The `User Options` command allows you to customize settings that are specific to you. These settings are stored on your computer. They are not stored in the project, master, or standards database. Some of these settings are shared with other Design Master programs you have installed on your computer.

To update your user settings, go to

Ribbon: `DMP: Customization->User Customization->` OPT USER `User Options`

Pulldown Menu: `DM Plumbing->Customization->User Options`

Design Master User Settings Dialog Box



The **Design Master User Options** dialog box contains a list of all of the user options and their current settings. The options are arranged in groups in the list. The groups are described in the sections below:

- **User Support Information**
- **Drawing Options**
- **Plumbing**

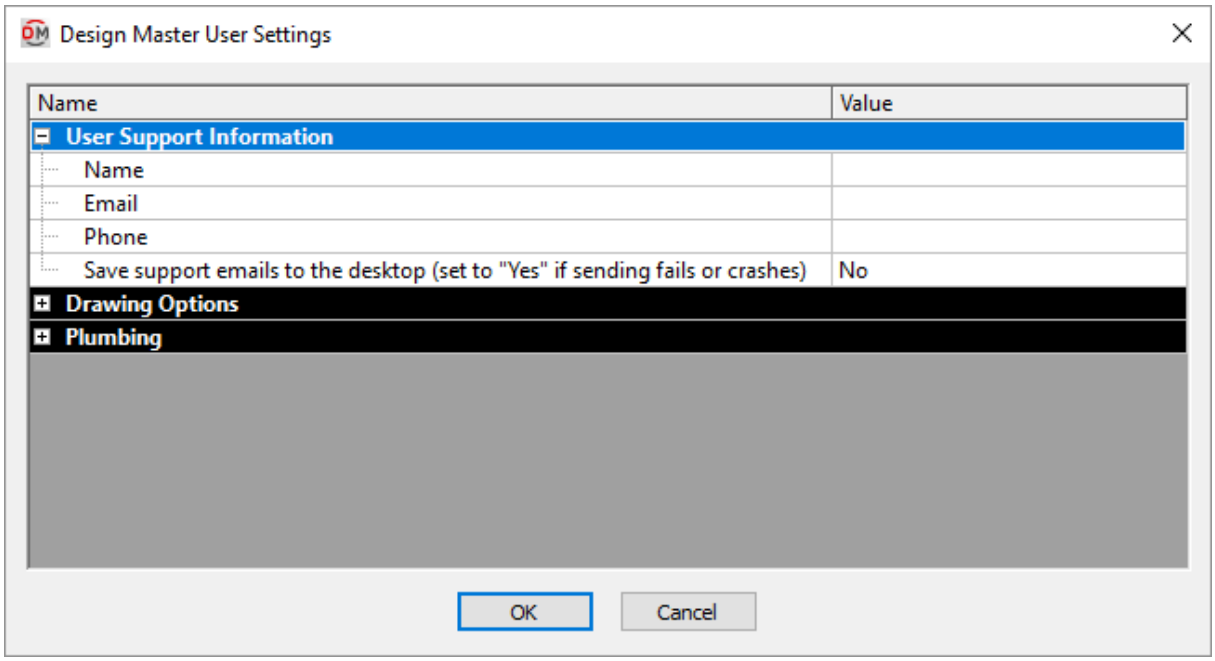
Editing a Setting

To edit an option setting, select the *Value* in the list and enter a new value.

Press the **OK** button to save your changes.

User Support Information

This section describes the options available in the **User Support Information** group in the **Design Master User Settings** dialog box.



Name: Your name.

Email: Your email address. This is the email address we will use when replying to support requests from you.

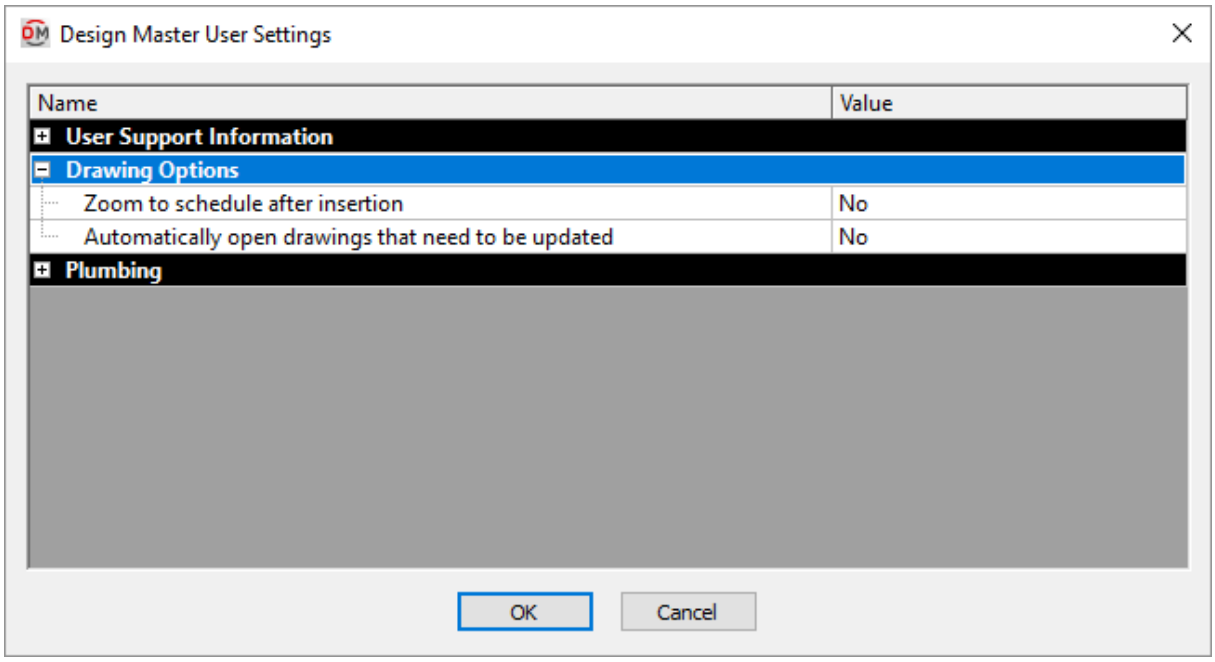
Phone: Your phone number. This phone number will be sent with any support requests you send. It is not a required field, but having it in the support requests helps us call you if we need additional information.

Save support emails to the desktop (set to "Yes" if sending fails or crashes): Support requests and bug reports can be emailed directly from Design Master Plumbing. Some company's networks disable this ability, causing the send to fail or crash. When this happens, the information is saved to a file on your desktop that you can email to us manually.

- **Yes:** Design Master Plumbing does not attempt to send the email directly to us. Instead, it saves it to the desktop. Choose this setting if you consistently have trouble sending us support emails through our software. Determining that the send step will fail can take time. When you know it will fail, skipping it will save you time.
- **No:** Design Master Plumbing will attempt to send the email directly to us. When possible, this is the setting you should use.

Drawing Options

This section describes the options available in the **Drawing Options** group in the **Design Master User Settings** dialog box.



Zoom to schedule after insertion: After you insert a schedule on the drawing, you can specify whether the drawing should zoom to the schedule or remain at the same location.

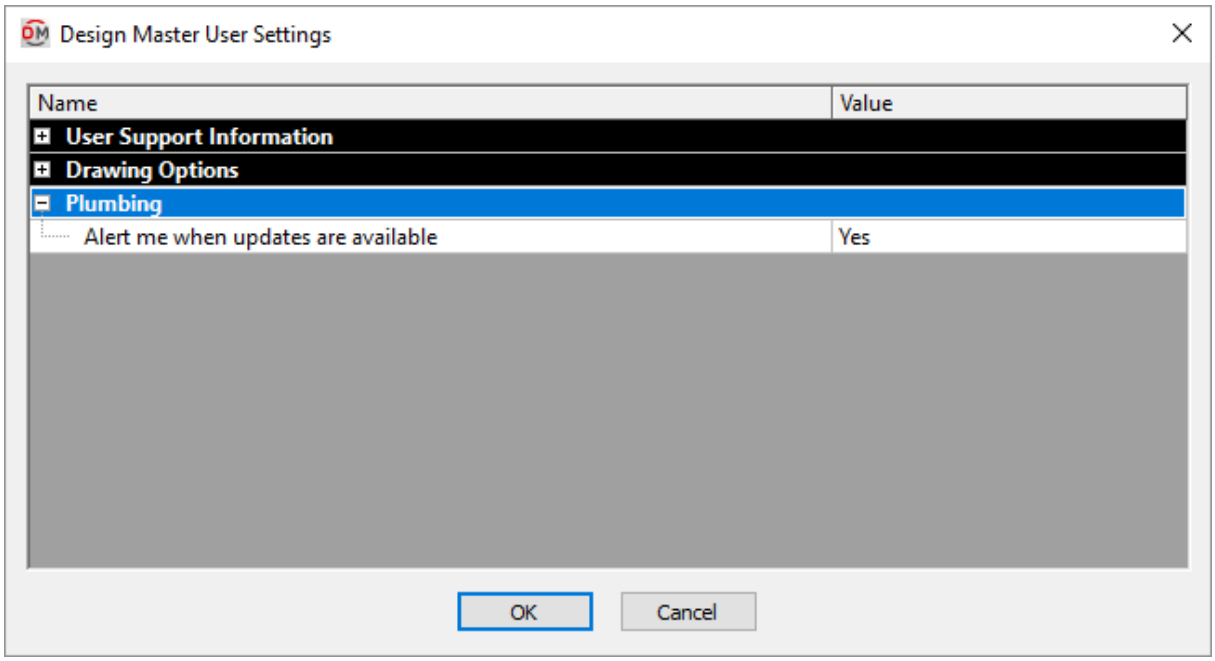
- **Yes:** The drawing will zoom to the schedule after it has been inserted.
- **No:** The drawing will remain at the same location after a schedule is inserted.

Automatically open drawings that need to be updated: Design Master Plumbing projects can span multiple drawings. Changes in one drawing can require that changes be made in another drawing. In order to make the changes in the other drawing, it must be opened.

- **Yes:** When a change in another drawing is required, the other drawing will be opened. This will take a moment, but when it is finished, the current drawing will remain active. If the other drawing is already open, nothing will happen.
- **No:** When a change in another drawing is required, you will be alerted at the command line, but it will not automatically be opened. The alert will continue to appear at the command line until you manually open the drawing and it is updated.

Plumbing

This section describes the options available in the **Plumbing** group in the **Design Master User Settings** dialog box.



Alert me when updates are available: Whether updates are checked for automatically. If this is checked, an update check will occur the first time you run a command each day. An alert will appear if an update is available.

Options

The `Options` commands allow you to customize a variety of settings that affect the calculations in your project and appearance of your drawings.

See the **General Customization Commands** section for more information about how the `Edit Project List`, `Edit Standards List`, `Copy Project List to Standards`, and `Copy Standards List to Project` commands work.

To edit the options project list, go to

Ribbon: `DMP: Customization->Project Customization->` OPT P `Options`

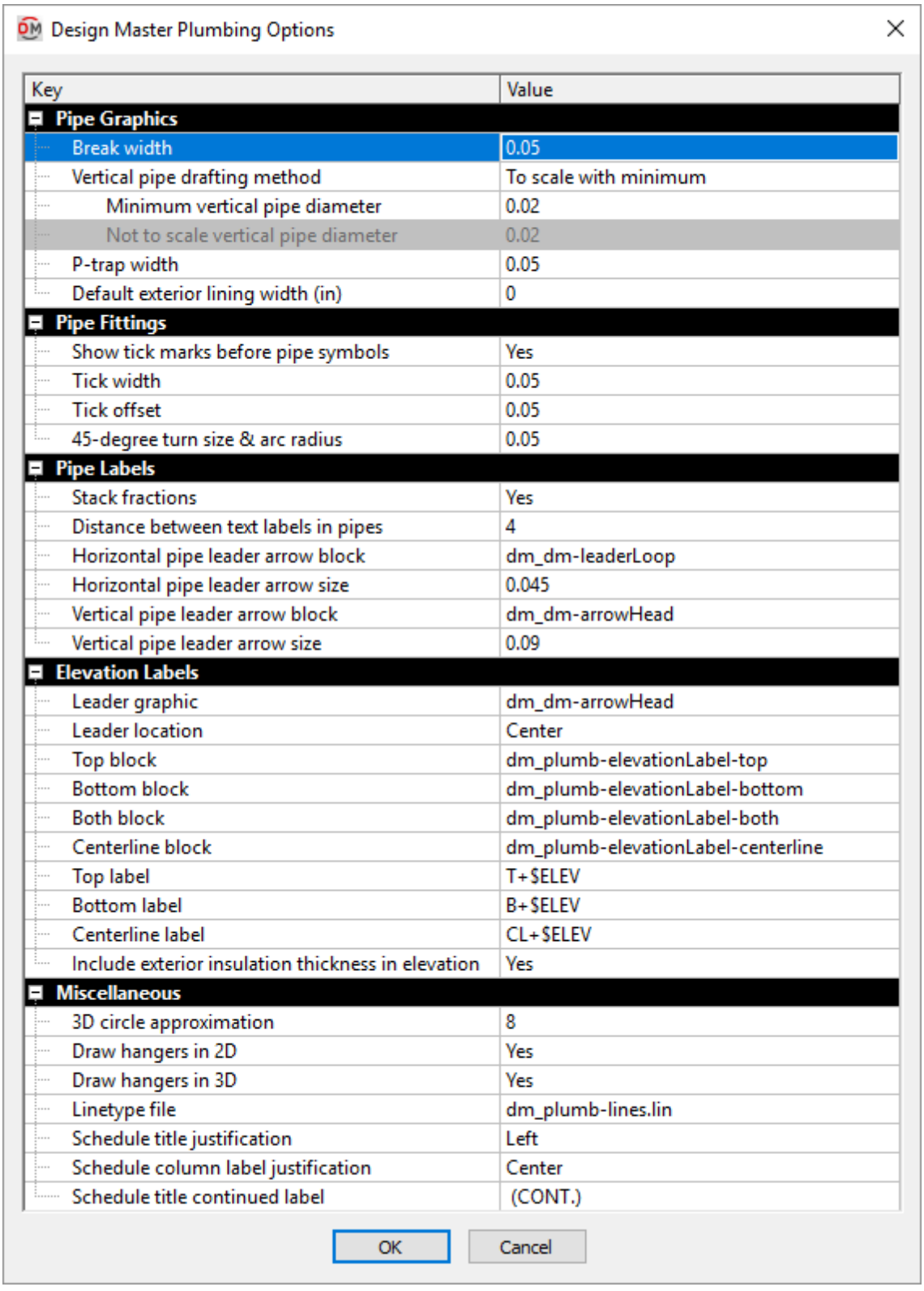
Pulldown Menu: `DM Plumbing->Customization->Options->Edit Project List`

To edit the options standards list, go to

Ribbon: `DMP: Customization->Standards Customization->` OPT S `Options`

Pulldown Menu: `DM Plumbing->Customization->Options->Edit Standards List`

Design Master Plumbing Options Dialog Box



The **Design Master Plumbing Options** dialog box contains a list of all of the options and their current settings. The options are arranged in groups in the list.

Editing a Setting

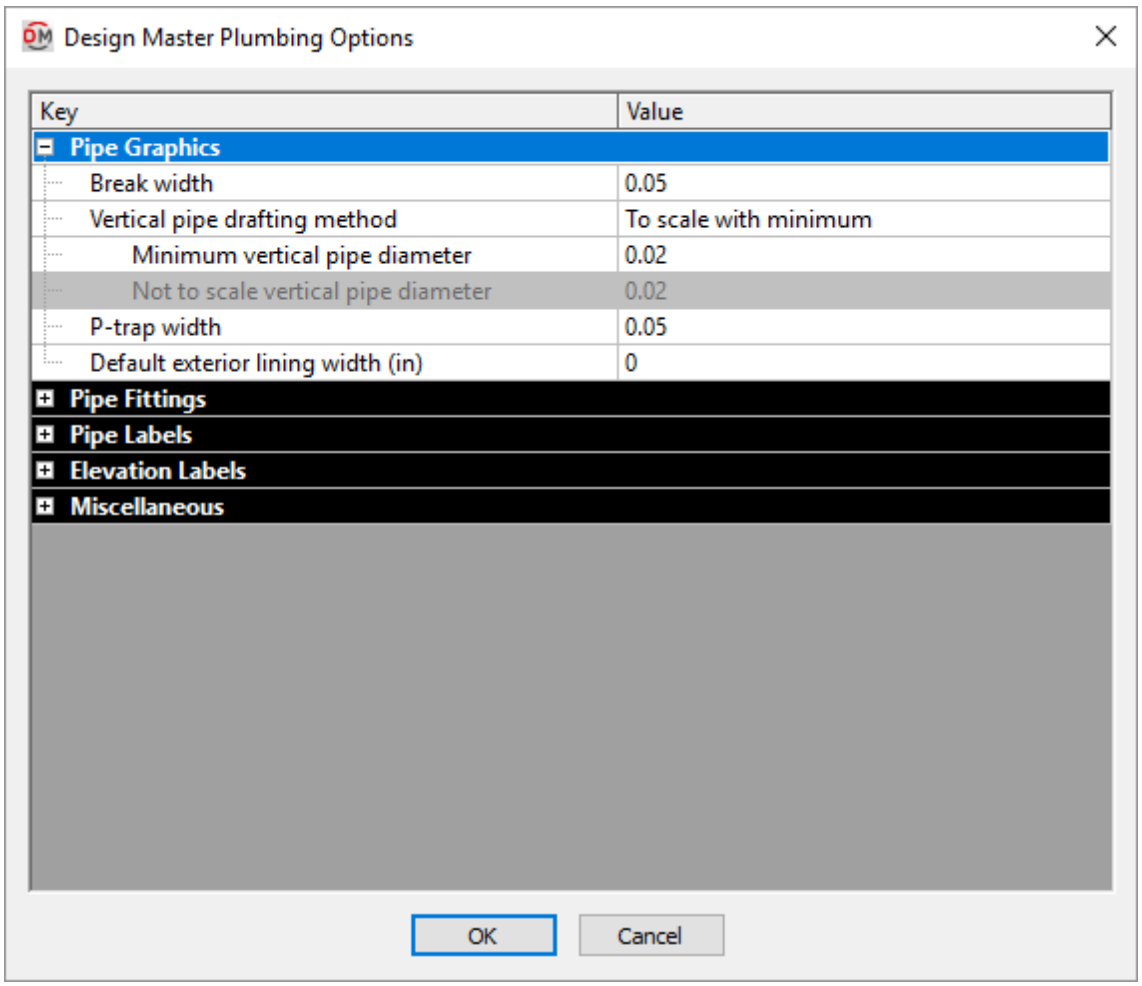
To edit an option setting, select the *Value* in the list and enter a new value.

Press the **OK** button to save your changes.

If the change you made to the options does not immediately appear on the drawing, run the **Coordinate Drawings and Database** command. This command will update the drawing to use the new settings you have specified.

Pipe Graphics

This section describes the options available in the **Pipe Graphics** group in the **Design Master Plumbing Options** dialog box.



Break width: When two pipes cross, a break is automatically inserted on the pipe at a lower elevation. This value determines the width of the break, in inches on the printed page.

Vertical pipe drafting method: How vertical pipes are drawn.

- **To scale:** Vertical pipe graphics are inserted at the size indicated. The size is not dependent upon the scale of the drawing. For example, a 3" pipe will be inserted as a 3" circle.

- **To scale with minimum:** Vertical pipe graphics are inserted at the size indicated when above the minimum size specified in the *Minimum vertical pipe diameter* field. For example, pipes below 2" in diameter will be drawn with a 2" circle to make them easier to see when printed; a 4" pipe will still be inserted as a 4" circle.
- **Not to scale:** Vertical pipe graphics are drawn at the size specified in the *Not to scale vertical pipe diameter* field, regardless of the diameter of the pipe.

Minimum vertical pipe diameter: If *Vertical pipe drafting method* is set to **To scale with minimum**, vertical pipes with a diameter below this value will be drawn as a circle with this value as the diameter.

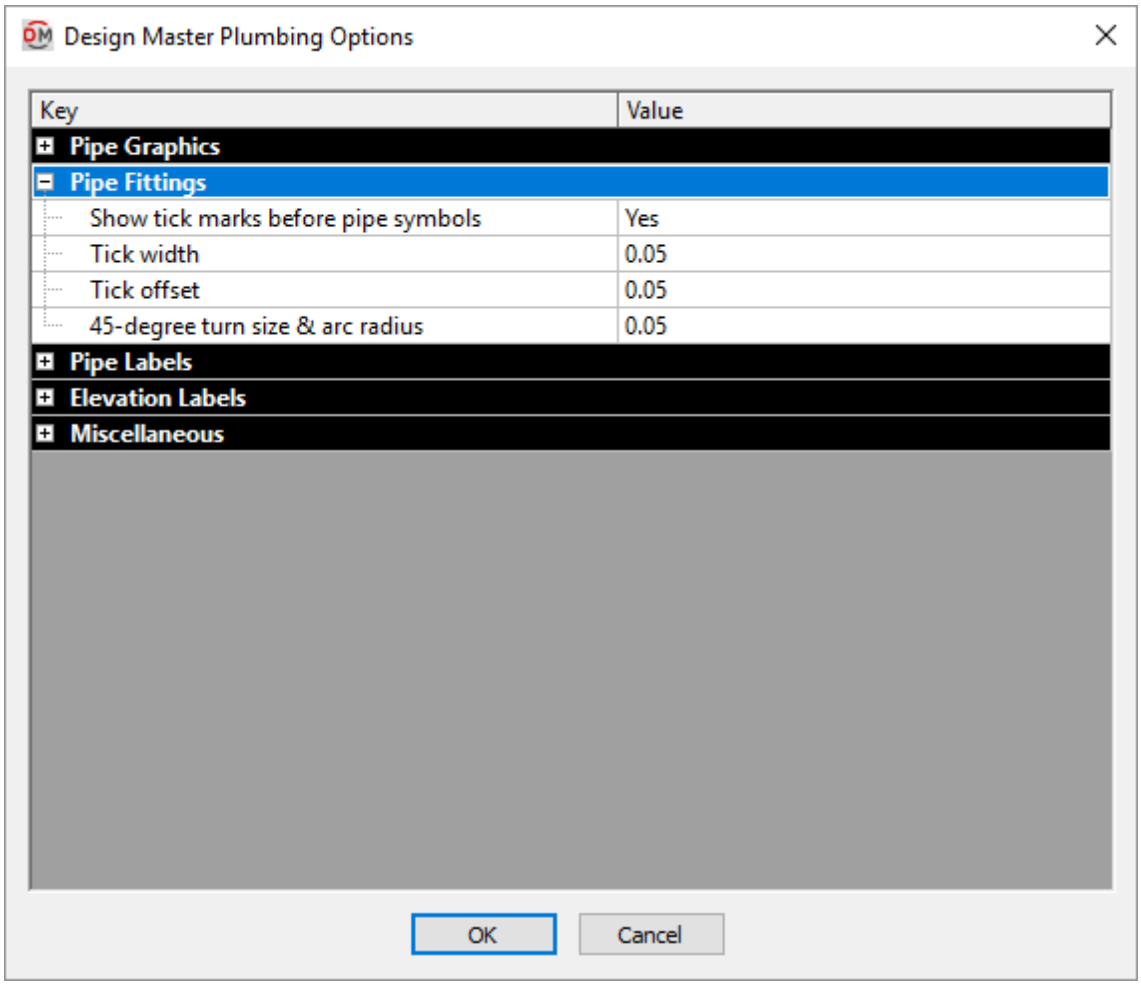
Not to scale vertical pipe diameter: If *Vertical pipe drafting method* is set to **Not to scale**, vertical pipes will be drawn as a circle with this value as the diameter.

P-trap width: The width at which p-traps are drawn, in inches on the printed page.

Default exterior lining width: When a new pipe is created, the exterior insulation is set to this value. See the **Common Pipe Information** section for more information.

Pipe Fittings

This section describes the options available in the **Pipe Fittings** group in the **Design Master Plumbing Options** dialog box.



Show tick marks before pipe symbols: Whether tick marks are inserted on the pipe when a pipe symbol is inserted.

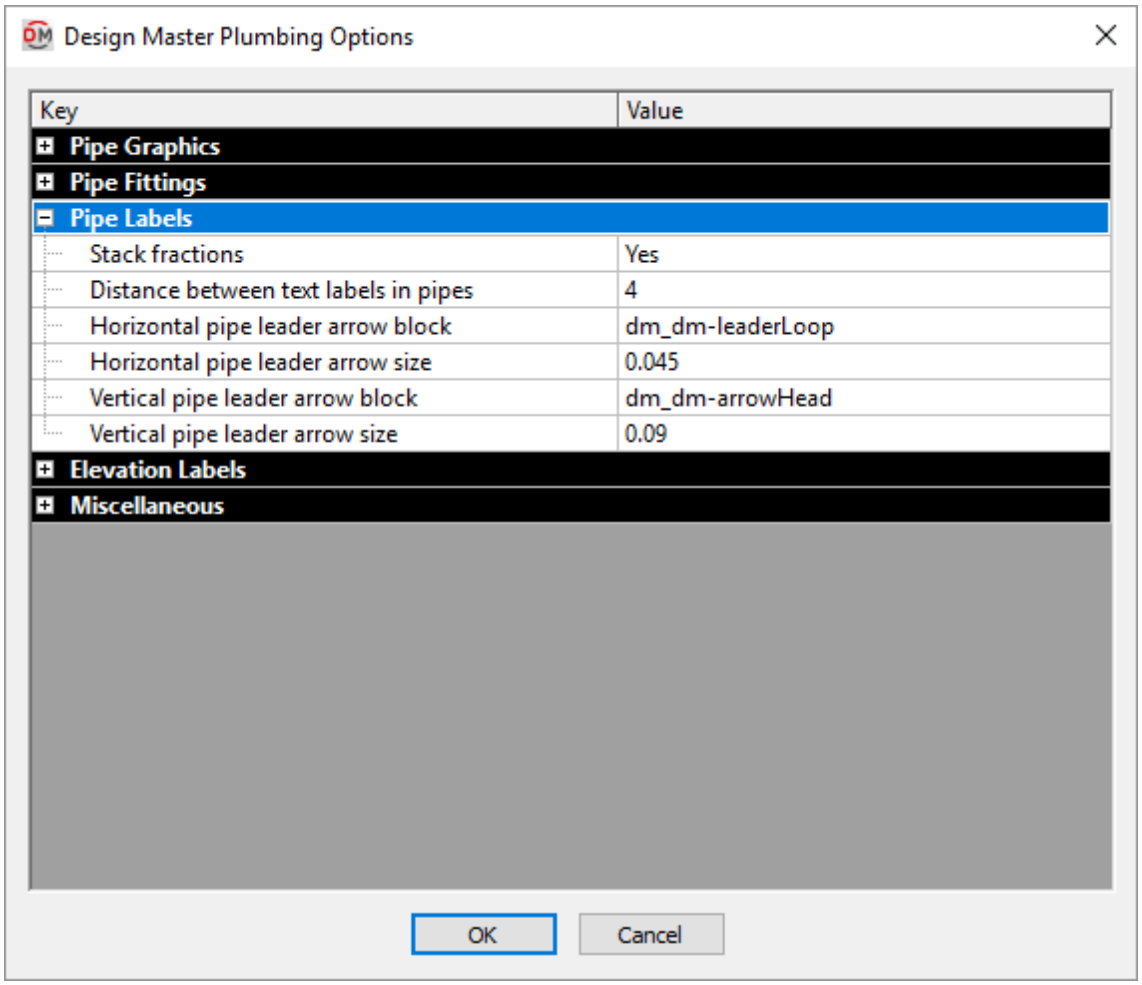
Tick width: The width of tick marks.

Tick offset: How far from the pipe symbol the tick marks will be inserted.

45-degree turn size & arc radius: The length of 45-degree angle pipe segments inserted for elbows and tees, and the radius of arc elbows and tees. See the **Pipe Types** section for more information.

Pipe Labels

This section describes the options available in the **Pipe Labels** group in the **Design Master Plumbing Options** dialog box.



Stack fractions: Whether fractions are displayed as stacked (½") or slashed (1/2").

Distance between text labels in pipes: The amount of space between inline text on pipes. See the **Pipe Linetypes** section for more information.

Horizontal pipe leader arrow block: The block used for leader arrowheads that point to horizontal pipes.

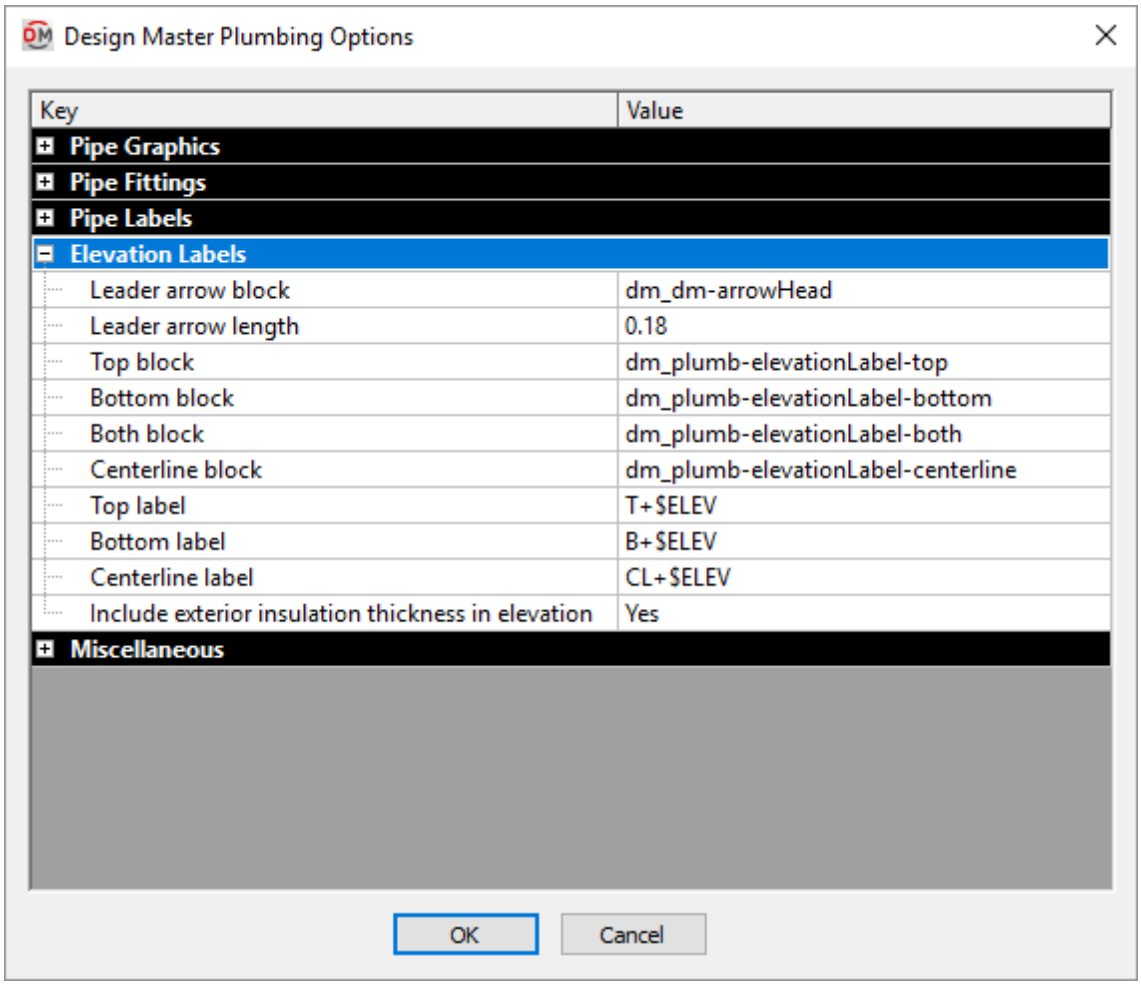
Horizontal pipe leader arrow size: The length of leader arrowheads that point to horizontal pipes.

Vertical pipe leader arrow block: The block used for leader arrowheads that point to vertical pipes.

Vertical pipe leader arrow size: The length of leader arrowheads that point to vertical pipes.

Elevation Labels

This section describes the options available in the **Elevation Labels** group in the **Design Master Plumbing Options** dialog box.



Leader arrow block: The block used for leader arrowheads.

Leader arrow length: The length of the leader arrowhead.

Top block: The block used for the elevation label when the **Insert Top Elevation Label** command is used.

Bottom block: The block used for the elevation label when the **Insert Bottom Elevation Label** command is used.

Both block: The block used for the elevation label when the **Insert Top and Bottom Elevation Label** command is

used.

Centerline block: The block used for the elevation label when the **Insert Centerline Elevation Label** command is used.

Top label: The text that is used to display the top elevation in the label.**$ELEV** is replaced with the elevation.

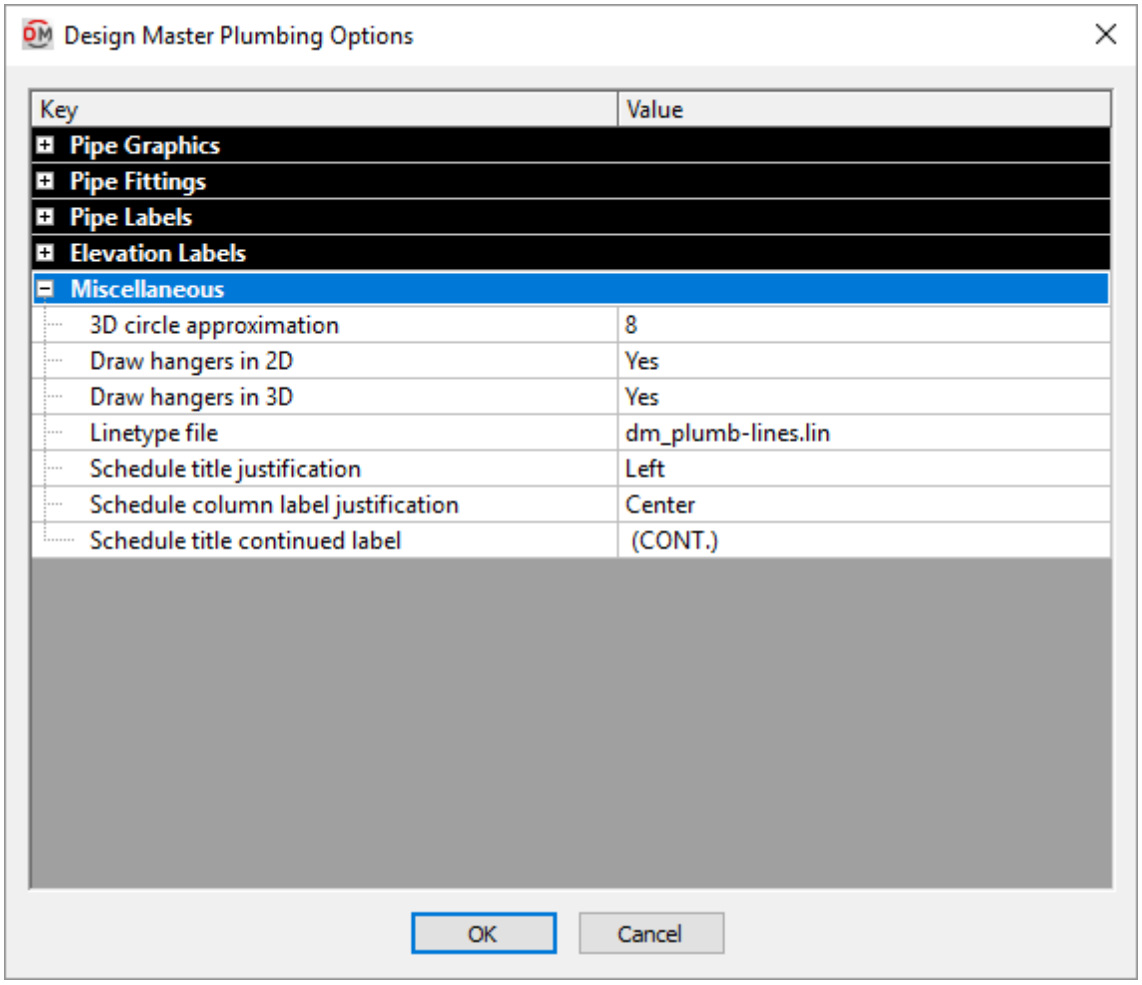
Bottom label: The text that is used to display the top elevation in the label.**$ELEV** is replaced with the elevation.

Centerline label: The text that is used to display the top elevation in the label.**$ELEV** is replaced with the elevation.

Include exterior insulation thickness in elevation: Whether the top and bottom elevations include the exterior insulation thickness.

Miscellaneous

This section describes the options available in the **Miscellaneous** group in the **Design Master Plumbing Options** dialog box.



3D circle approximation: Circles are approximated in the 3D model as polygons. This option sets the number of

sides of a polygon used to represent a circle. Higher numbers more closely approximate a circle, but greatly increase file size. The minimum number value for this option is 8.

Draw hangers in 2D: Whether hangers are drawn in 2D.

Draw hangers in 3D: Whether hangers are drawn in 3D. This setting has no impact on exporting hangers to an IFC file. It only affects whether they are visible in your CAD program.

Linetype File: The linetype file for the project. If a new layer is created with a linetype that does not exist in the drawing, it will be loaded from this file.

Schedule title justification: The justification for the title at the top of all of the schedules.

- **Left:** The schedule title is justified to the left.
- **Center:** The schedule title is centered.

Schedule column label justification: The justification for the label at the top of each column in all of the schedules.

- **Left:** The column labels are justified to the left.
- **Center:** The column labels are centered.

Schedule title continued label: The text in this option is added to the schedule title when the schedule is broken into multiple sections.

When inserting schedules, there is an option to set a maximum height for the schedule. If the schedule exceeds this height, the schedule is continued in a second section next to the first. The title of the second and following sections is the schedule title plus the text in the *Schedule title continued label* option.

Block Creation

This section describes the commands used to create custom blocks.

Create Pipe Symbol Block from Entities

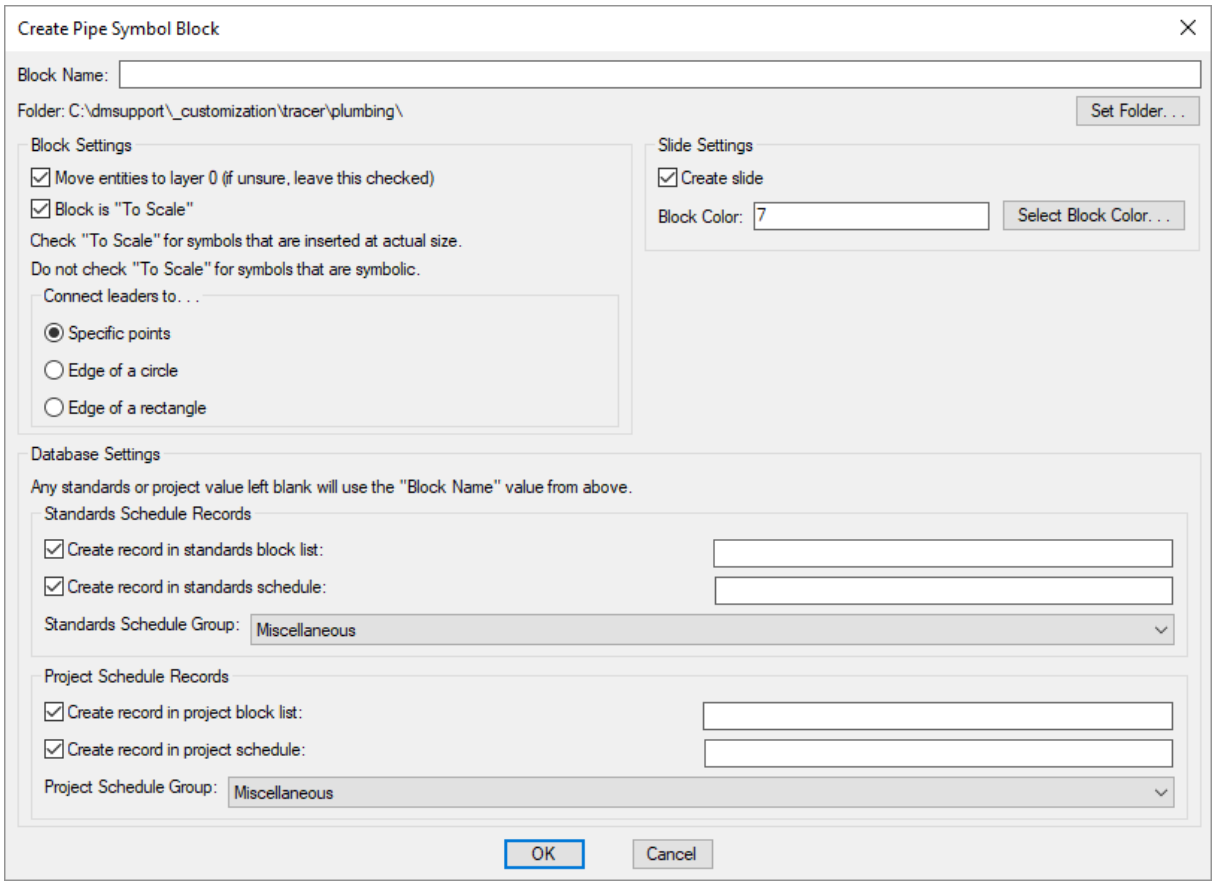
The `Create Pipe Symbol Block from Entities` command is used to create a 2D block that can be used for a pipe symbol. Specific entities on the current drawing are used to create the block. The entities selected will be removed from the drawing during this process.

To create the block, go to

Ribbon: `DMP: Customization->Block Creation->Create Pipe Symbol Block from Entities`

Pulldown Menu: `DM Plumbing->Customization->Block Creation->Create Pipe Symbol Block from Entities`

Create Pipe Symbol Block from Entities Dialog Box



Block Name: The name of the block. This will be the name of the block on the drawing and the name of the drawing file saved to your computer.

Folder: The folder where the block will be saved. The default location is your customization folder.

Set Folder: Press this button to change the folder where the block will be saved.

Block Settings

Move entities to layer 0: Whether the entities you select for the block are moved to layer 0 or left on the layer they are currently on. If you are not sure what this means, leave this box checked.

See the help for your CAD program for more information about setting layers in blocks.

To Scale: Whether the block is to scale.

If this box is checked, the block is to scale. Blocks that are to scale are inserted on the drawing at their actual size. The scale factor for the block will be 1. Changing **DIMSCALE** will not change the size of the symbol.

If this box is not checked, the block is not to scale. The size of the block will vary depending upon the scale of the drawing. The scale factor of the block will be equal to the **DIMSCALE** setting of the drawing. Changing **DIMSCALE** will change the size of the symbol.

Connect leaders to: Where leaders are connected to the block.

- **Specific points:** The leaders are connected to specific points on the block. Choose this option for blocks that are not circles or rectangles.
- **Edge of a circle:** The leaders are connected to the edge of a circle. Choose this option if the block has a circle in it that you want the leaders to connect to.
- **Edge of a rectangle:** The leaders are connected to the edge of a rectangle. Choose this option if the block has a rectangle in it that you want the leaders to connect to.

Slide Settings

Create slide: Whether a slide for the block should be automatically created. The slide is used in the pipe symbol dialog boxes to display the graphics.

If you do not create a slide for a block, an "X" will be shown in the dialog boxes. The block will still display properly on the drawing.

You can manually create the slide later using the `Create Slide` command. See the **Create Slide** section for more information.

Block Color: The color to use for the block in the slide.

Select Block Color: Press this button to set *Block Color* using the standard CAD **Select Color** dialog box.

Standards Schedule Records

Create record in standards block list: Whether the block is added to the standards block list. If this box is checked, you can specify a label for the block in the standards list. If you leave the label field blank, the block name is used as the label in the standards list.

Create record in standards schedule: Whether a record using the block is created in the standards schedule. If this box is checked, you can specify a name for the entry in the standards schedule. If you leave the name field blank, the block name is used as the name of the entry in the standards schedule.

Standards Schedule Group: The group with which the record will be associated in the standards schedule.

Project Schedule Records

Create record in project block list: Whether the block is added to the project block list. If this box is checked, you can specify a label for the block in the project list. If you leave the label field blank, the block name is used as the label in the project list.

Create record in project schedule: Whether a record using the block is created in the project schedule. If this box is checked, you can specify a name for the entry in the project schedule. If you leave the name field blank, the block name is used as the name of the entry in the project schedule.

Project Schedule Group: The group with which the record will be associated in the project schedule.

Enter the information needed to create the block and press the **OK** button.

You will be prompted to select entities on the drawing to include in the block.

Select entities to use in the block:

You will then be prompted to specify where pipes will connect to the block. You may specify as many points as you need.

Specify location pipe will connect to pipe symbol/<Finish specifying connections>:

You will then be prompted to specify where leaders will connect to the block. The prompts depend upon the option you chose in the dialog box.

- **Specific points:** Specify the points where leaders can connect to the block. You may specify as many points as you need.

  Specify connection point:

- **Edge of a circle:** Specify two points on opposite sides of the circle to connect the loops and leaders to.

  Specify point on one side of circle:
  Specify point on opposite side of circle:

- **Edge of a rectangle:** Specify two corners of the rectangle to connect the loops and leaders to.

  Specify first corner of rectangle:
  Specify opposite corner of rectangle:

The block, slide, and database records will be created for you. The entities selected for the block will be removed from the drawing.

If a slide is created, the screen will flash during the creation process. When it is finished, you should return to your original view of the drawing.

Create Slide

The `Create Slide` command is used to create a slide using an area of your drawing. A slide is an image file that is displayed in dialog boxes to represent the block that is selected.

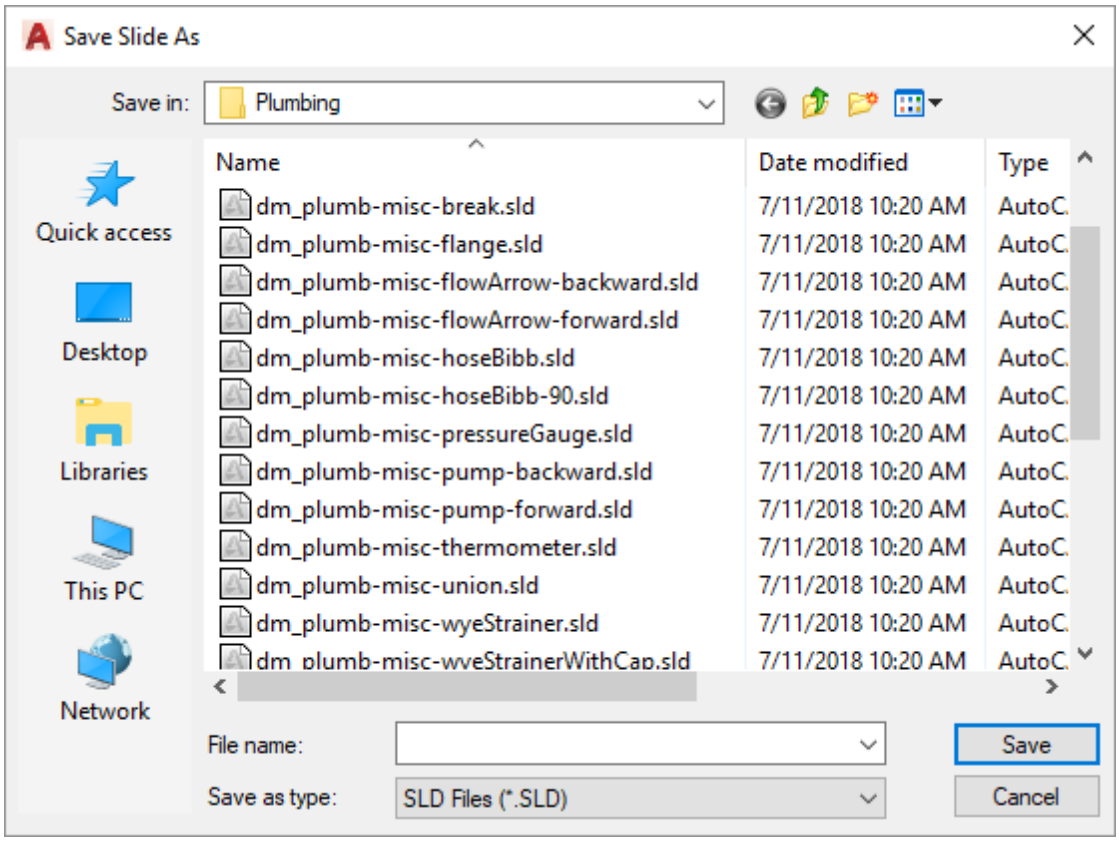
The slide file must have the same name as the block that it represents. If a block is selected that does not have a corresponding slide, an "X" will be shown in the dialog box instead. The block will still insert properly if a corresponding slide does not exist.

To create a slide, go to

Ribbon: `DMP: Customization->Block Creation->Create Slide`

Pulldown Menu: `DM Plumbing->Customization->Block Creation->Create Slide`

Save Slide As Dialog Box



Specify the name of the slide file to create, then press the **Save** button to create the slide.

You will be prompted to draw a box on your drawing. A snapshot of everything inside the box will be saved in the slide.

Specify first corner of slide:

You will then be asked to specify the opposite corner of the box.

Specify second corner:

The screen will flash while the slide is being created.

Insert Non-Rotating Text

The `Insert Non-Rotating Text` command is used to create text that can be included in a custom block that will not rotate when the block is rotated.

Normal CAD text rotates when a block is rotated. If a block is rotated 180 degrees, the text will appear upside-down.

Text created using this command will always be displayed at angle 0. When the block is rotated, the text is rotated back to 0.

To insert non-rotating text on the current drawing, go to

Ribbon: `DMP: Customization->Block Creation->Insert Non-Rotating Text`

Pulldown Menu: `DM Plumbing->Customization->Block Creation->Insert Non-Rotating Text`

You will be prompted to identify where the non-rotating text is to be inserted on the drawing.

Insertion point for non-rotating text:

The point specified will be the center point for the inserted text. You will then be prompted to enter the text itself.

Text value:

You will then be prompted to specify the height of the text.

Text height:

The text will be inserted on the drawing.

Once the text is inserted, you can modify it using standard CAD commands.

Make sure you select the text when choosing entities to create a block.

Open Block from Drawing

The `Open Block from Drawing` command is used to select a block on the drawing and open it in your CAD program. This command is useful when making changes to your customization. To make a change to a block that appears on your drawing, you can select it using this command.

To open a block from the current drawing, go to

Ribbon: `DMP: Customization->Customization Utilities->Open Block from Drawing`

Pulldown Menu: `DM Plumbing->Customization->Open Block from Drawing`

You will be prompted to select the block to be opened.

Select block to open:

The drawing that the selected block is based upon will be opened. Use standard CAD commands to make changes to the block.

After changes are made to the block, use the **Redefine Block in this Drawing** command to update the block definition on the current drawing. Otherwise, none of the changes you made will appear on your drawing.

Redefine Block in this Drawing

The `Redefine Block in this Drawing` command is used to update a block definition on a drawing after changes have been made to the drawing the block is based upon.

When a block is inserted on the drawing, the definition for that block is stored on the drawing. If the drawing that the block is based upon is later changed, the definition on the drawings where it has been inserted is not updated.

You must update the block definition manually. It is possible to do this using the standard CAD **INSERT** command, but the Redefine Block in this Drawing command simplifies the process.

To update a block on your drawing, go to

Ribbon: DMP: Customization->Customization Utilities->Open Block from Drawing

Pulldown Menu: DM Plumbing->Customization->Redefine Block in this Drawing

You will be prompted to select the block to be updated.

Select block to redefine:

The definition for the selected block will be updated to match the drawing that it is based upon.

Pipe Symbol Blocks

The Pipe Symbol Blocks commands allow you to customize the list of blocks available to be used for pipe symbols in the project and standards schedules.

See the **General Customization Commands** section for more information about how the Edit Project List, Edit Standars List, Copy Project List to Standards, and Copy Standards List to Project commands work.

To edit the pipe symbol blocks project list, go to

Ribbon: DMP: Customization->Project Customization->  Pipe Symbol Blocks

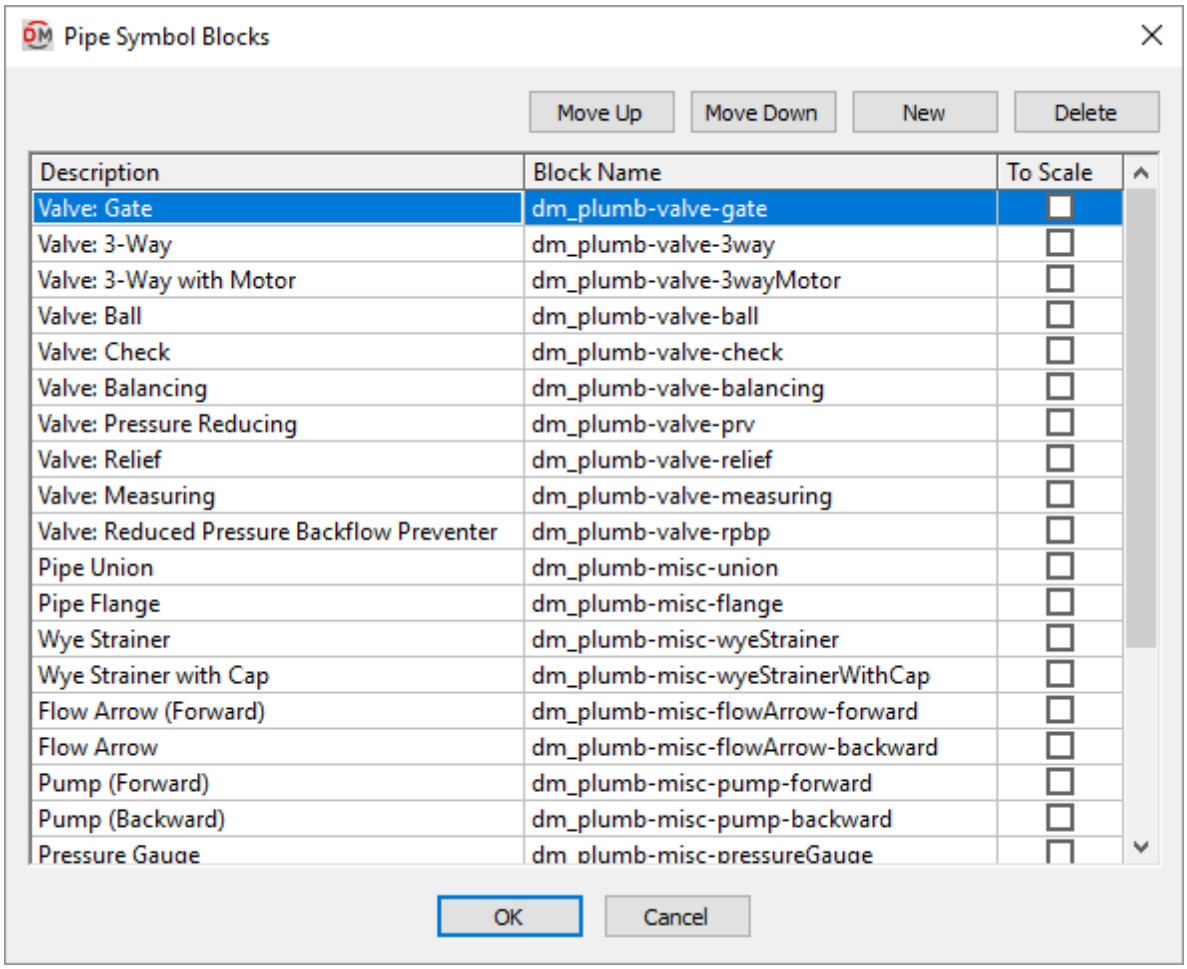
Pulldown Menu: DM Plumbing->Customization->Pipe Symbol Blocks->Edit Project List

To edit the pipe symbol blocks standards list, go to

Ribbon: DMP: Customization->Standards Customization->  Pipe Symbol Blocks

Pulldown Menu: DM Plumbing->Customization->Pipe Symbol Blocks->Edit Standards List

Pipe Symbol Blocks Dialog Box



Move Up: Press this button to move the selected block up in the list of blocks.

Move Down: Press this button to move the selected block down in the list of blocks.

New: Press this button to create a new block.

Delete: Press this button to delete the selected block. If the block is currently used by a record in the schedule, you will be asked if you want to replace the block in the schedule with another block.

Description: The name of the block that is displayed when you select the block in the pipe symbol schedule dialog box.

Block Name: The file name of the block.

To Scale: Whether the block is to scale. See the **Create Pipe Symbol Block from Entities** section for more information.

Layers

The `Layers` command is used to customize the layers used when inserting items on the drawing.

See the **General Customization Commands** section for more information about how the `Edit Project List`, `Edit Standards List`, `Copy Project List to Standards`, and `Copy Standards List to Project` commands work.

To customize the layers project list, go to

Ribbon: `DMP: Customization->Project Customization->`  `Layers`

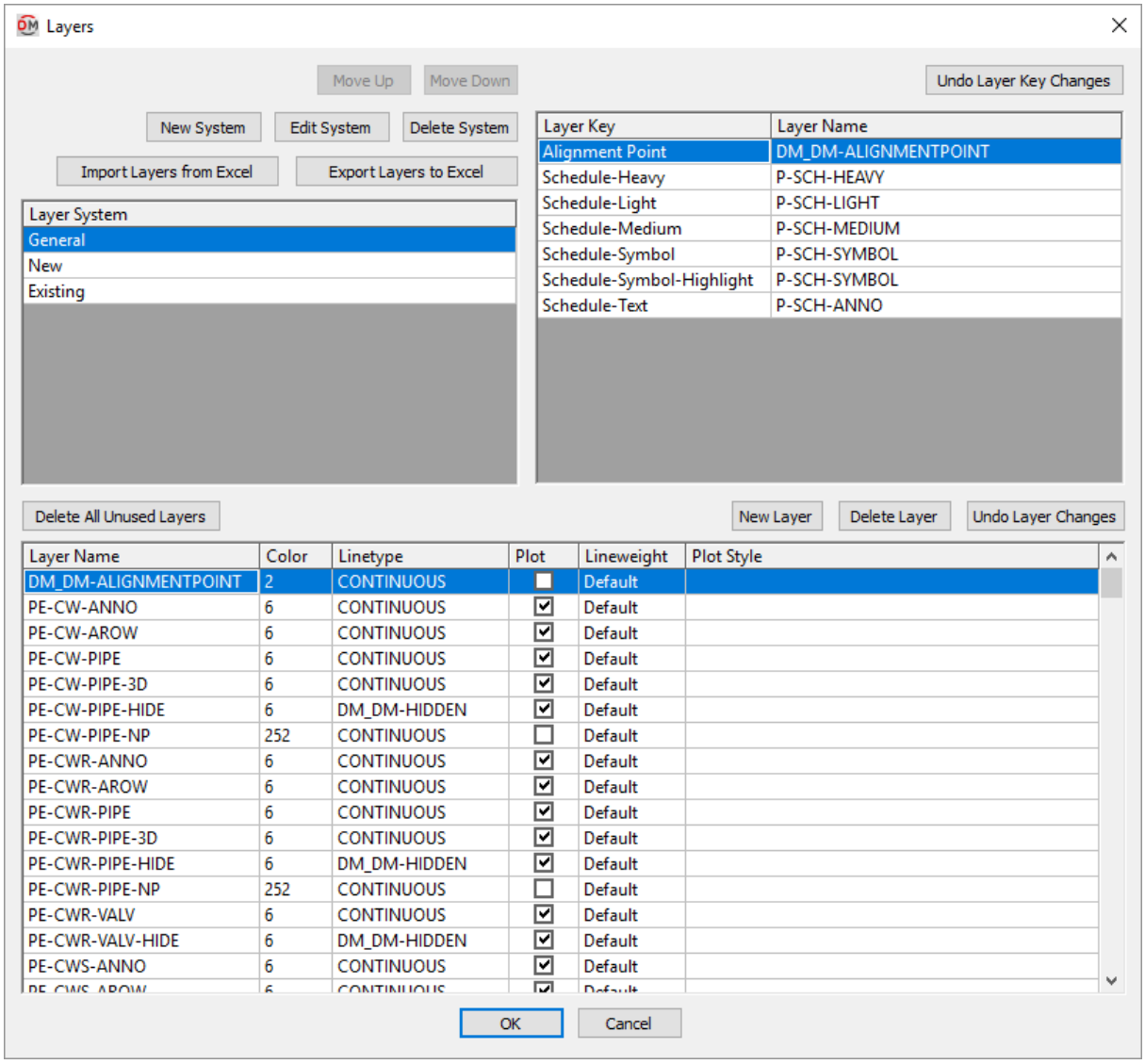
Pulldown Menu: `DM Plumbing->Customization->Layers->Edit Project List`

To customize the layers standards list, go to

Ribbon: `DMP: Customization->Standards Customization->`  `Layers`

Pulldown Menu: `DM Plumbing->Customization->Layers->Edit Standards List`

Layers Dialog Box



Layer Systems

Move Up: Press this button to move the selected row up in the *Layer System* list.

Move Down: Press this button to move the selected row down in the *Layer System* list.

New System: Press this button to create a new layer system.

Edit System: Press this button to rename the selected layer system.

Delete System: Press this button to delete the selected layer system.

Layer System: The list of layer systems currently defined.

> *General:* This layer system is used to store all of the layers not associated with the pipe design, such as schedules. Pipes and fixtures cannot be assigned to this layer system. It cannot be deleted or moved.

Layer Keys

Undo Layer Key Changes: Press this button to revert the layer key settings to their values when the dialog box was opened.

Layer Key: This column lists all of the different items that can be inserted using the software. The names in this column are fixed. Each layer key can be mapped to a layer that will be used when that type of item is inserted on the drawing. Multiple layer keys can use the same layer.

Layer Name: This column lists the layer that will be used when inserting items of the corresponding *Layer Key* type on the drawing. The layers you can choose from are defined in the lower section of the dialog box.

Layers

The layer list displays all of the layers that can be assigned to layer keys. The settings for each layer can be set in the list.

Layer Name: The name of the layer.

Color: The color number of the layer.

Linetype: The linetype of the layer.

Plot: Whether the layer will be plotted.

Lineweight: The lineweight of the layer. Only used when plotting with STBs.

Plot Style: The plot style of the layer. Only used when plotting with STBs.

Managing Layers

The following buttons in the **Layers** dialog box can be used to manage the layers in the dialog box.

Delete All Unused Layers: Press this button to delete all layers that are not associated with a layer key.

New Layer: Press this button to add a new layer.

Delete Layer: Press this button to delete the selected layer.

Undo Layer Changes: Press this button to revert the layer settings to their values when the dialog box was opened.

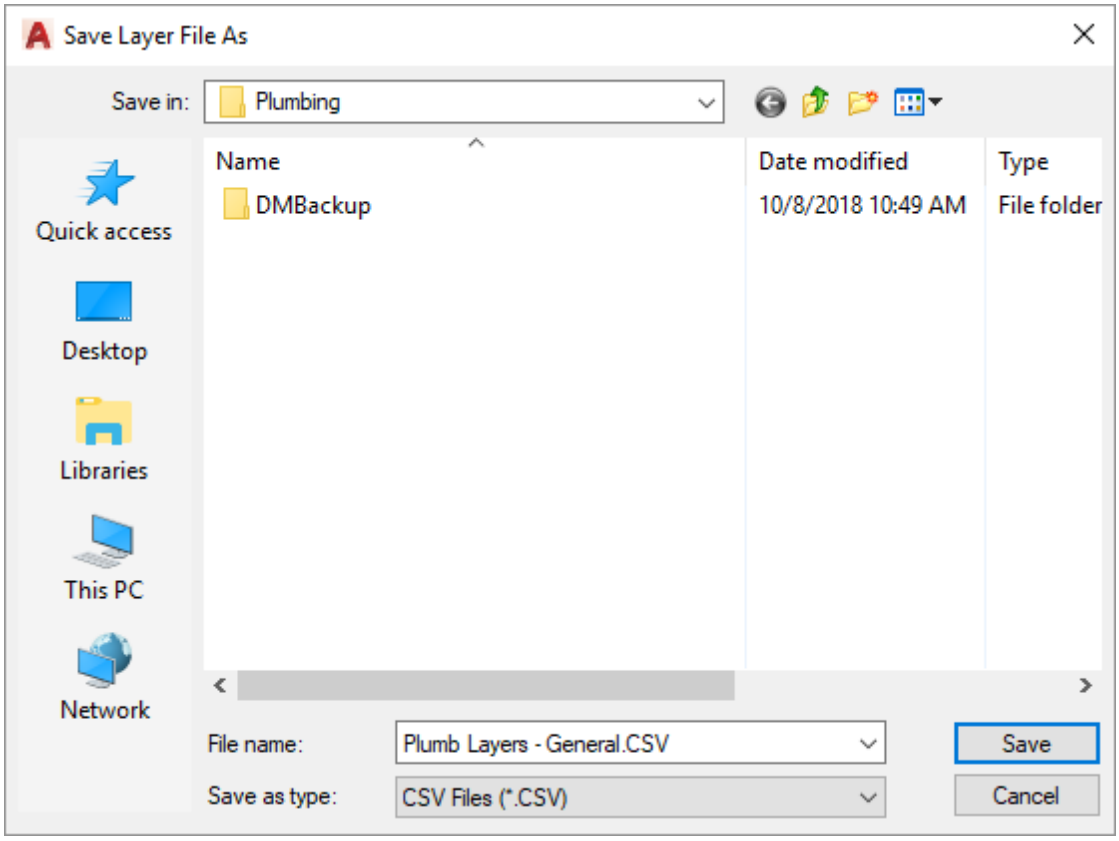
Using Excel to Modify Layer Settings

The **Import Layers from Excel** and **Export Layers to Excel** buttons are used to import and export the layer settings to Excel. Using Excel is recommended when modifying large numbers of layer settings.

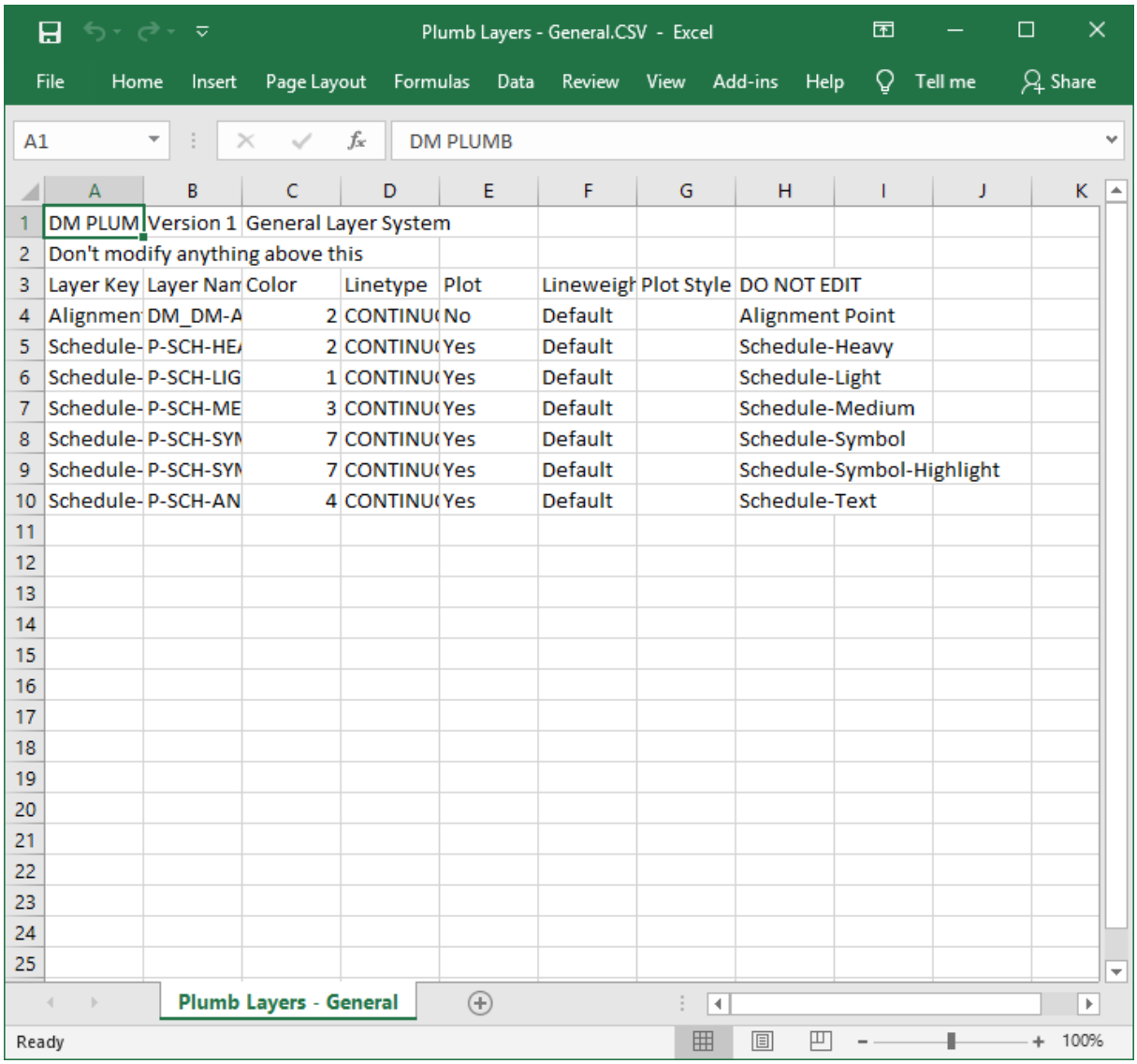
Import Layers from Excel: Press this button to load the layer setting information entered in Excel into the dialog

box. The layer settings will be applied to the selected layer system.

Export Layers to Excel: Press this button to export the layer settings to a CSV file that can be opened in Excel. The **Save Layer File As** dialog box will appear.



The currently selected layer system will be saved to the file you select. The file will be opened for immediate editing. When modifying the file, do not change the header rows, the first column, or the last column. Restrict your changes to the *Layer Name*, *Color*, *Linetype*, *Plot*, *Lineweight*, and *Plot Style* columns.



Update Drawing Layers to Match Project List

The `Update Drawing Layers to Match Project List` command is used to update the layer definitions on the drawing. Once a layer is created on a drawing, it is not modified. Changes you make to the color, lineweight, or other attributes are not overwritten. This command is the only way to modify layers that already exist.

To update existing layers on a drawing to match new definitions in the project list, go to

Ribbon: `DMP: Customization->Project Customization->` `Update Drawing Layers to Match Project List`

Pulldown Menu: `DM Plumbing->Customization->Layers->Update Drawing Layers to Match Project List`

The layer definitions on the drawing will be updated to match the definitions in the project list.

Schedule Labels

This section describes how to customize the layout of schedules on the drawing.

Common Schedule Dialog Box Information

Buttons

Move Up: Move the selected row up in the list. This moves the corresponding schedule column to the left.

Move Down: Move the selected row down in the list. This moves the corresponding schedule column to the right.

Grid Rows

The first row is the schedule title. It cannot be moved. The schedule title always appears at the top of the schedule. The other rows correspond to a column in the schedule. The rows at the top of the list will be displayed on the left of the schedule.

Grid Columns

Key: The identifier for the column, describing what value it will display. The value in this column is fixed and cannot be changed.

The **Schedule Title** key is a special key. The *Label* of this key is the title of the schedule. The *Width* and *Display* values of this key are ignored. The width of the title is based upon the width of the columns in the schedule. The title is always displayed with the schedule.

Label: The name that will be displayed for the schedule column.

You can define a second header for a column by separating the two headers with a | character. The first header will be merged across multiple columns with the same first header. See the **Column Subheadings in Schedules** article in the knowledge base for more information.

Width: The width of the column in inches on the printed page.

Justification: The justification of the text values in the column. The justification of the title for the schedule and of the column headers are set using the *Schedule title justification* options and the *Schedule column label justification* option in the **Options** command.

- **Left:** The text is left-justified.
- **Center:** The text is center-justified.
- **Right:** The text is right-justified.

Display: Whether the column is shown on the schedule. If this is not checked, the value will not be displayed.

Related Options

Schedule title justification: Sets the justification for the schedule title.

Schedule column label justification: Sets the justification for column headings.

Schedule title continued label: Sets the label added to the schedule title for continued sections.

Edit Pipe Symbol Schedule List

To edit the pipe symbol schedule project list, go to

Ribbon: `DMP: Customization->Project Customization->`  `Pipe Symbol Schedule Label Group`

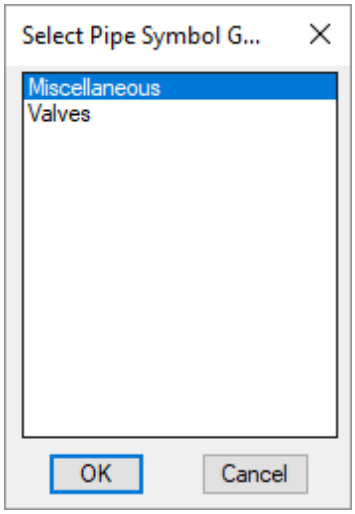
Pulldown Menu: `DM Plumbing->Customization->Schedule Labels->Project Lists->Edit Pipe Symbol Schedule Project List`

To edit the pipe symbol schedule standards list, go to

Ribbon: `DMP: Customization->Standards Customization->`  `Pipe Symbol Schedule Label Group`

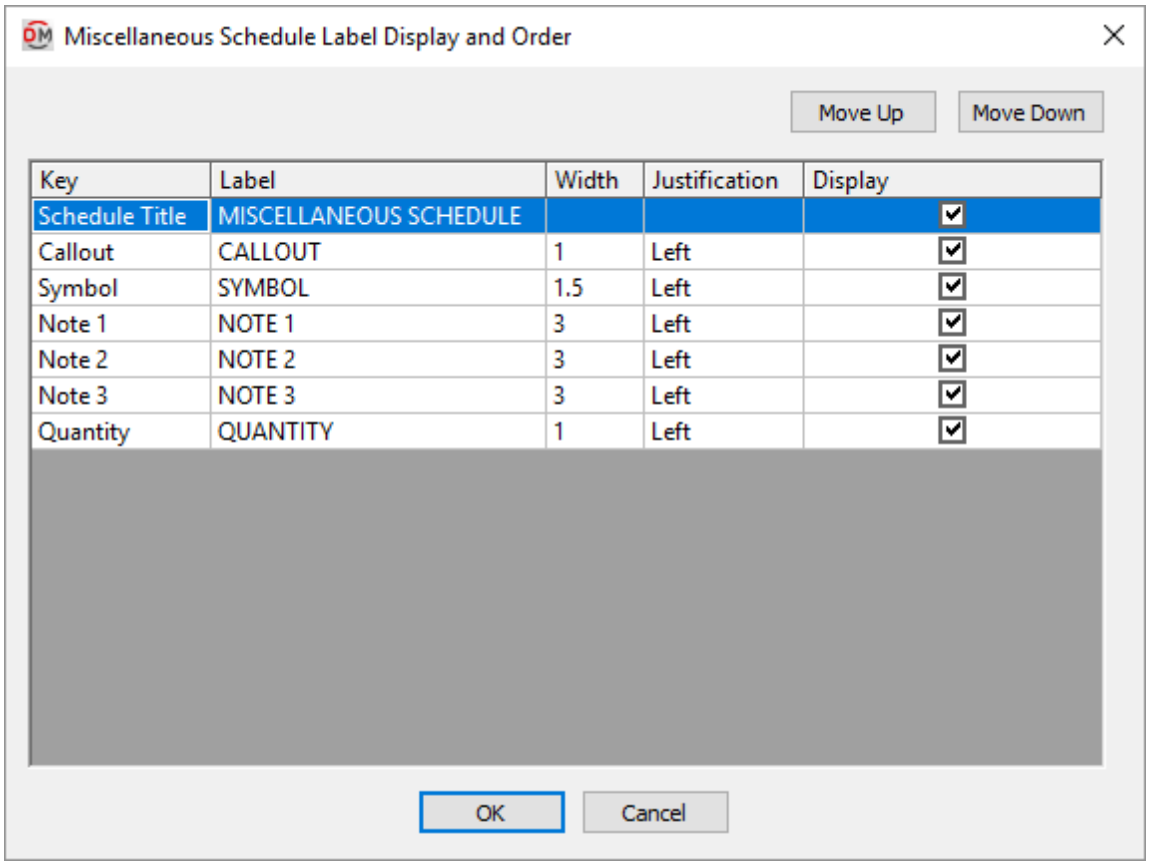
Pulldown Menu: `DM Plumbing->Customization->Schedule Labels->Standards Lists->Edit Pipe Symbol Schedule Standards List`

Select Pipe Symbol Group Dialog Box



Select the pipe symbol group to edit and press the **OK** button. The **Schedule Label Display and Order** dialog box for the selected group will appear.

Schedule Label Display and Order Dialog Box



See the **Common Schedule Dialog Box Information** section for more information about using the **Move Up** and **Move Down** buttons and the *Key*, *Label*, *Width*, *Display*, and *Schedule Title* fields.

Values in the *Key* column are listed alphabetically below.

Callout: The name of the pipe symbol as defined in the pipe symbol schedule.

Note 1: Note taken from the schedule.

Note 2: Note taken from the schedule.

Note 3: Note taken from the schedule.

Quantity: The number of pipe symbols inserted in the project. If a pipe symbol type is not inserted, "NOT USED" will be displayed.

Symbol: The graphic that is used for the pipe symbol.

Edit Pipe Sizing Table Schedule List

To edit the pipe sizing table schedule project list, go to

Ribbon: `DMP: Customization->Project Customization->` SIZE LABEL `Pipe Sizing Table Schedule Label Group`

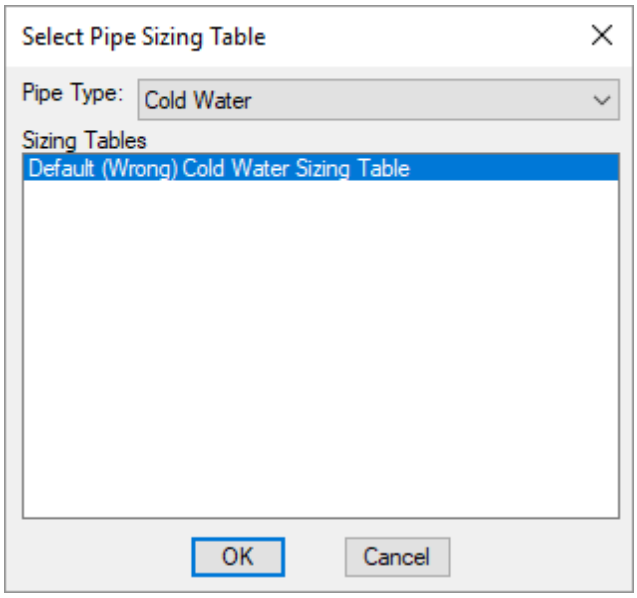
Pulldown Menu: `DM Plumbing->Customization->Schedule Labels->Project Lists->Edit Pipe Sizing Table Schedule Project List`

To edit the pipe sizing table schedule standards list, go to

Ribbon: `DMP: Customization->Standards Customization->`  `Pipe Sizing Table Schedule Label Group`

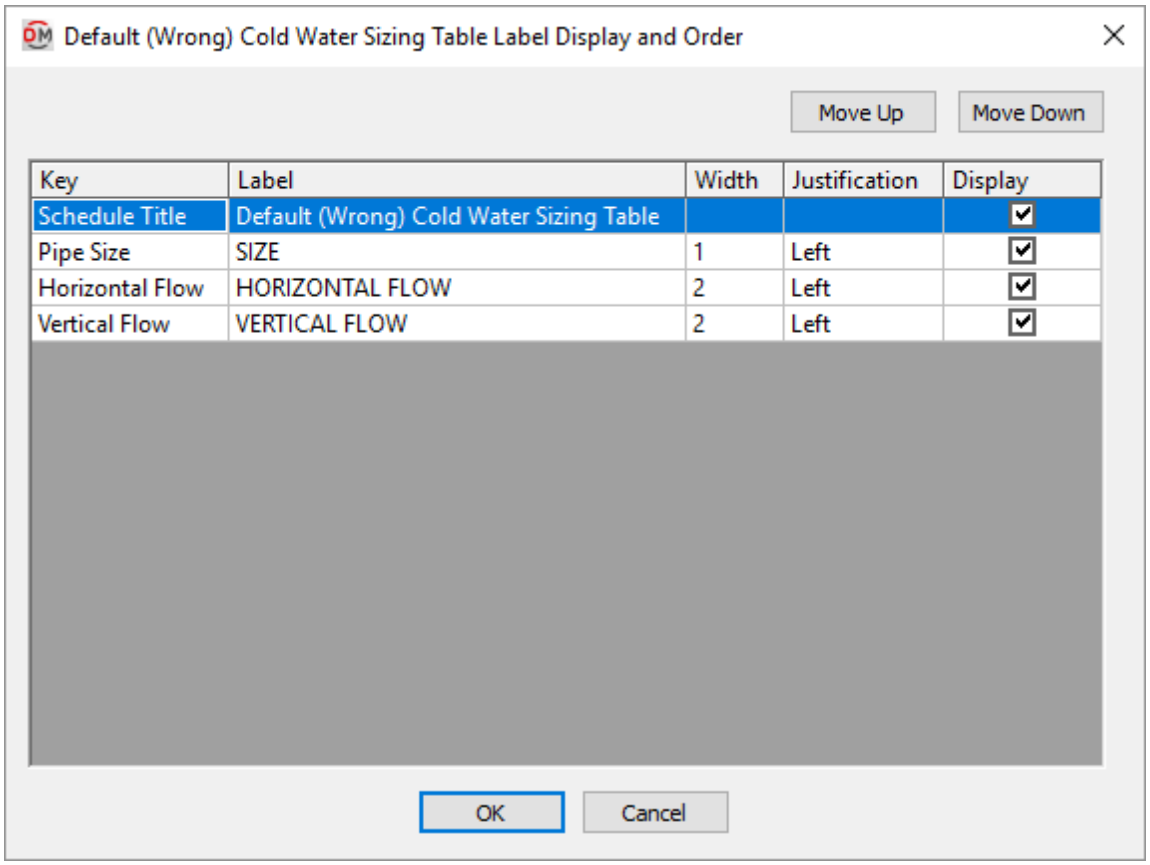
Pulldown Menu: `DM Plumbing->Customization->Schedule Labels->Standards Lists->Edit Pipe Sizing Table Schedule Standards List`

Select Pipe Sizing Table Dialog Box



Select the pipe sizing table to edit and press the **OK** button. The **Table Label Display and Order** dialog box for the selected group will appear.

Table Label Display and Order Dialog Box



See the **Common Schedule Dialog Box Information** section for more information about using the **Move Up** and **Move Down** buttons and the *Key*, *Label*, *Width*, *Display*, and *Schedule Title* fields.

Pipe Size: The pipe size specified in the **Pipe Sizing Tables** dialog box.

Horizontal Flow: The horizontal flow specified in the **Pipe Sizing Tables** dialog box.

Vertical Flow: The vertical flow specified in the **Pipe Sizing Tables** dialog box.

Edit Default Schedule Notes

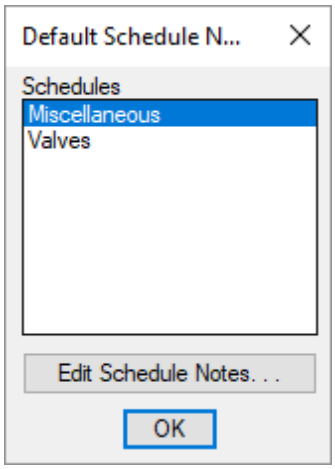
The `Edit Default Schedule Notes` command is used to set the *Schedule Notes* field in the **Insert Pipe Symbol Project Schedule** dialog box for each pipe symbol group.

To edit the default notes that appear at the bottom of pipe symbol project schedules, go to

Ribbon: `DMP: Customization->Standards Customization->` SCH NOTE `Default Schedule Notes`

Pulldown Menu: `DM Plumbing->Customization->Schedule Labels->Standards Lists->Edit Default Schedule Notes`

Default Schedule Notes Dialog Box



Schedules: The available pipe symbol group schedules that can be edited.

Edit Schedule Notes: Press this button to edit the schedule note for the selected pipe symbol group.

Text Styles

The `Text Styles` commands allow you to customize the text heights and fonts used for labels and schedules.

See the **General Customization Commands** section for more information about how the `Edit Project List`, `Edit Standards List`, `Copy Project List to Standards`, and `Copy Standards List to Project` commands work.

To customize text styles in the current project, go to

Ribbon: `DMP: Customization->Project Customization->` TEXT P `Text Styles`

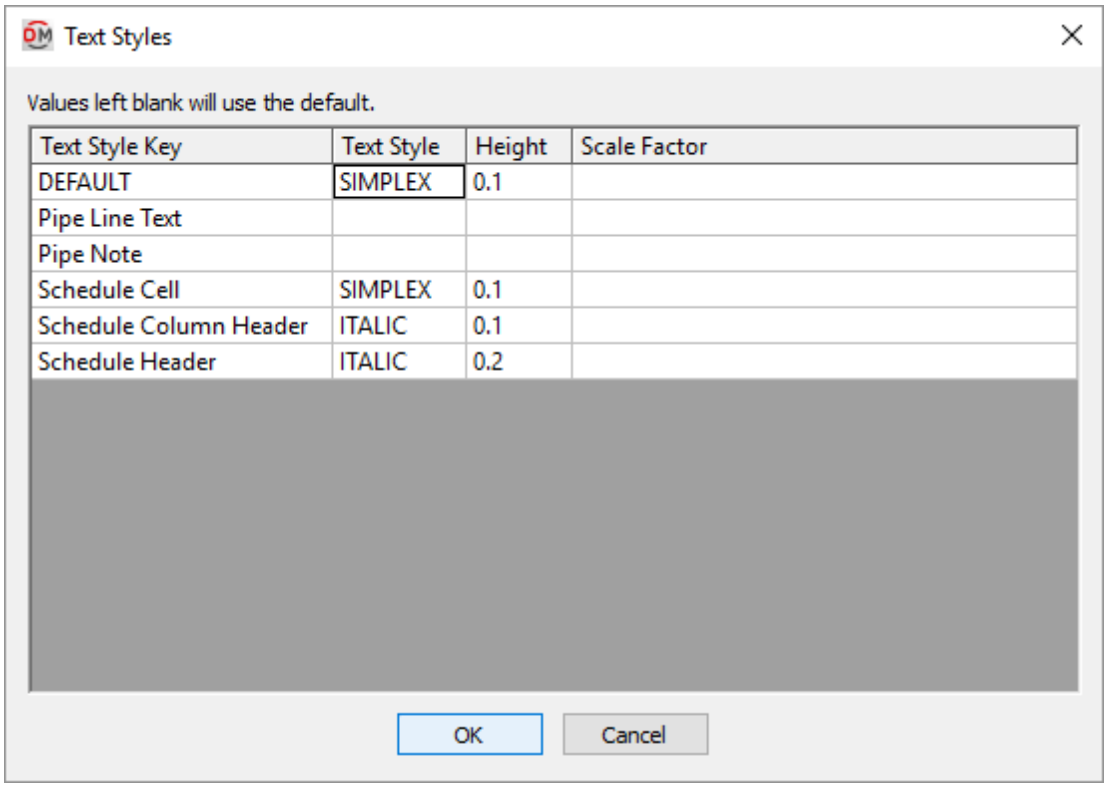
Pulldown Menu: `DM Plumbing->Customization->Text Styles->Edit Project List`

To customize standard text styles, go to

Ribbon: `DMP: Customization->Standards Customization->` TEXT S `Text Styles`

Pulldown Menu: `DM Plumbing->Customization->Text Styles->Edit Standards List`

Text Styles Dialog Box



Text Style Key: This list indicates where the text style is used. These values cannot be edited.

Text Style: Sets the text style in your CAD program to be associated with the corresponding *Text Style Key*. The **Default** key must have a text style defined. The text style in other keys may be left blank. Blank keys will use the text style defined for the **Default** key.

If the text style currently exists on the drawing, it will be used as defined.

If the text style does not exist, it will be created using an SHX file of the same name. If an SHX file cannot be found, the **Standard** text style will be used.

To use a TrueType font, create the text style and associate it with the desired font.

Height: Sets the text height for the key. The **Default** key must have a height defined. The height in other keys may be left blank. Blank keys will use the height defined for the **Default** key.

The units for the height are inches on the printed page. To set 1/10" text for the drawing, use the value **0.1**. To set 1/8" text, use **0.125**. When text is inserted, this value will be multiplied by **`DIMSCALE`** to determine the height of the text on the drawing.

Scale Factor: Sets the character spacing for the text. This value is not currently used.

Pipe Types

The `Pipe Types` commands are used to customize the pipe types used in your project.

See the **General Customization Commands** section for more information about how the `Edit Project List`,

`Edit Standards List`, `Copy Project List to Standards`, and `Copy Standards List to Project` commands work.

To customize the pipe types in the current project, go to

Ribbon: `DMP: Customization->Project Customization->` TYPE P `Pipe Types`

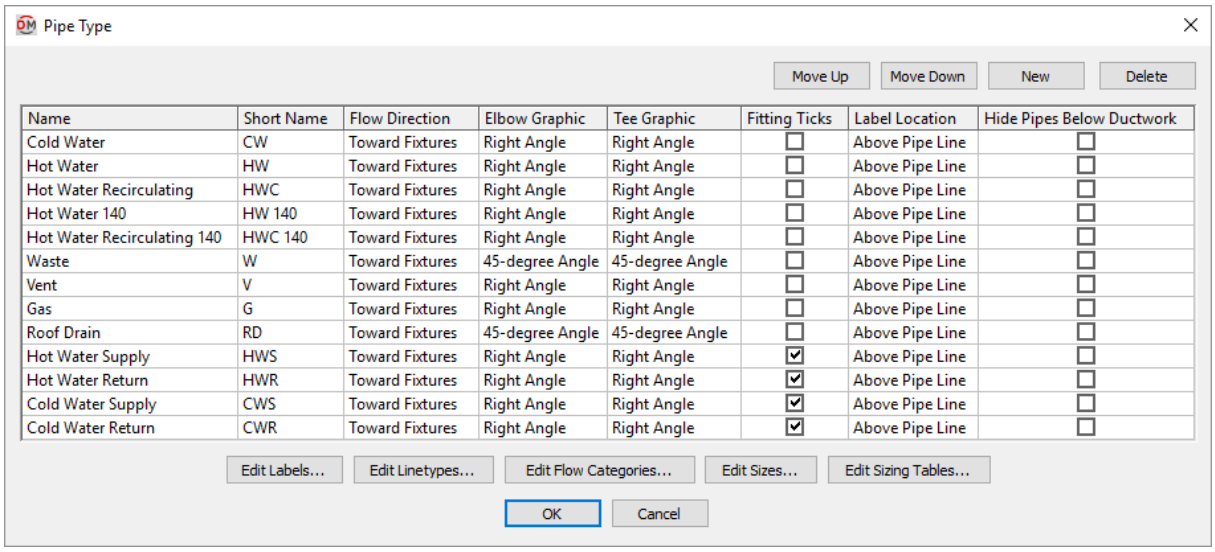
Pulldown Menu: `DM Plumbing->Customization->Pipe Types->Edit Project List`

To customize the pipe type standards, go to

Ribbon: `DMP: Customization->Standards Customization->` TYPE S `Pipe Types`

Pulldown Menu: `DM Plumbing->Customization->Pipe Types->Edit Standards List`

Pipe Type Dialog Box



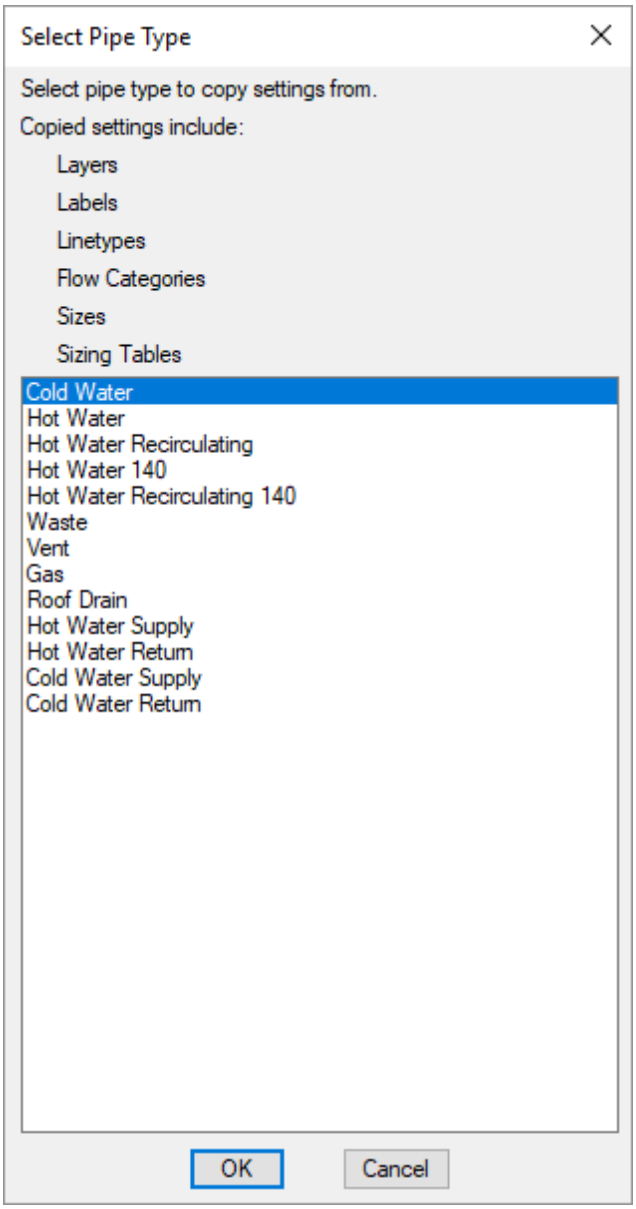
Name	Short Name	Flow Direction	Elbow Graphic	Tee Graphic	Fitting Ticks	Label Location	Hide Pipes Below Ductwork
Cold Water	CW	Toward Fixtures	Right Angle	Right Angle	☐	Above Pipe Line	☐
Hot Water	HW	Toward Fixtures	Right Angle	Right Angle	☐	Above Pipe Line	☐
Hot Water Recirculating	HWC	Toward Fixtures	Right Angle	Right Angle	☐	Above Pipe Line	☐
Hot Water 140	HW 140	Toward Fixtures	Right Angle	Right Angle	☐	Above Pipe Line	☐
Hot Water Recirculating 140	HWC 140	Toward Fixtures	Right Angle	Right Angle	☐	Above Pipe Line	☐
Waste	W	Toward Fixtures	45-degree Angle	45-degree Angle	☐	Above Pipe Line	☐
Vent	V	Toward Fixtures	Right Angle	Right Angle	☐	Above Pipe Line	☐
Gas	G	Toward Fixtures	Right Angle	Right Angle	☐	Above Pipe Line	☐
Roof Drain	RD	Toward Fixtures	45-degree Angle	45-degree Angle	☐	Above Pipe Line	☐
Hot Water Supply	HWS	Toward Fixtures	Right Angle	Right Angle	☑	Above Pipe Line	☐
Hot Water Return	HWR	Toward Fixtures	Right Angle	Right Angle	☑	Above Pipe Line	☐
Cold Water Supply	CWS	Toward Fixtures	Right Angle	Right Angle	☑	Above Pipe Line	☐
Cold Water Return	CWR	Toward Fixtures	Right Angle	Right Angle	☑	Above Pipe Line	☐

Move Up: Press this button to move the selected pipe type up in the list.

Move Down: Press this button to move the selected pipe type down in the list.

Delete: Press this button to delete the selected pipe type. The pipe type cannot be deleted if it is currently in use.

New: Press this button to create a new pipe type. The **Select Pipe Type** dialog box will appear.



Select the pipe type to copy settings from and press the **OK** button. A new pipe type will be created. The layers, labels, linetypes, flow categories, sizes, and sizing tables for the new pipe type will match the settings for the pipe type that was copied.

Name: The full name of the pipe type.

Short Name: The shorthand name of the pipe type. This value is used when generating new layer names for the pipe type.

Flow Direction: Sets the flow direction of the pipe type toward or away from fixtures. This setting only affects the direction of the arrowhead when inserting the pipe on the drawing.

Elbow Graphic: How the pipe type is drawn when two pipes connect at an angle.

- **Right Angle:** No additional graphics will be drawn.

- **45-degree Angle:** A line will be inserted at a 45-degree angle to the connecting pipe segments.
- **Arc:** An arc will be inserted between the connected pipe segments.

Tee Graphic: How the pipe type is drawn when two pipes connect at a tee.
- **Right Angle:** No additional graphics will be drawn.
- **45-degree Angle:** A line will be inserted at a 45-degree angle to the connecting pipe segments.
- **Arc:** An arc will be inserted between the connected pipe segments.

Fitting Ticks: Whether tick marks are displayed on the pipe at pipe symbols. If *Show tick marks before pipe symbols* is set to **No**, tick marks will not be shown for pipe symbols. See the **Pipe Fittings** section for more information.

Label Location: Where pipe labels will be inserted on the pipe.
- **Above Pipe Line:** The label will be inserted above or below the pipe line.
- **In Pipe Line, Rotated to Match Pipe Angle, Displayed by Default:** The label will be inserted inside and parallel to the pipe line. The label will be displayed on new pipes that are inserted.
- **In Pipe Line, Rotated to 0, Displayed by Default:** The label will be inserted inside the pipe line at a rotation angle of 0. The label will be displayed on new pipes that are inserted.
- **In Pipe Line, Rotated to Match Pipe Angle, Not Displayed by Default:** The label will be inserted inside and parallel to the pipe line. The label will not be displayed on new pipes that are inserted.
- **In Pipe Line, Rotated to 0, Not Displayed by Default:** The label will be inserted inside the pipe line at a rotation angle of 0. The label will not be displayed on new pipes that are inserted.

Hide Pipes Below Ductwork: Whether the pipe type will be displayed with hidden lines when it runs underneath ductwork drawn by Design Master HVAC. Hidden pipes will appear as dashed lines when underneath the ductwork.

If this box is checked, settings in the **Pipe Linetypes** dialog box for the pipe linetype will be disabled. The pipe linetype must be set to **CONTINUOUS**.

Edit Labels: Press this button to open the **Pipe Labels** dialog box.

Edit Linetypes: Press this button to open the **Pipe Linetypes** dialog box.

Edit Flow Categories: Press this button to open the **Pipe Flow Categories** dialog box.

Edit Sizes: Press this button to open the **Pipe Sizes** dialog box.

Edit Sizing Tables: Press this button to open the **Pipe Sizing Tables** dialog box.

Related Options

45-degree turn size & arc radius: Sets how 45-degree angle and arc elbows and tees are displayed.

Pipe Labels

The `Pipe Labels` commands are used to customize the pipe labels used in your project.

See the **General Customization Commands** section for more information about how the `Edit Project List`, `Edit Standards List`, `Copy Project List to Standards`, and `Copy Standards List to Project` commands work.

To customize the pipe labels in the current project, go to

Ribbon: `DMP: Customization->Project Customization->` LABEL P `Pipe Labels`

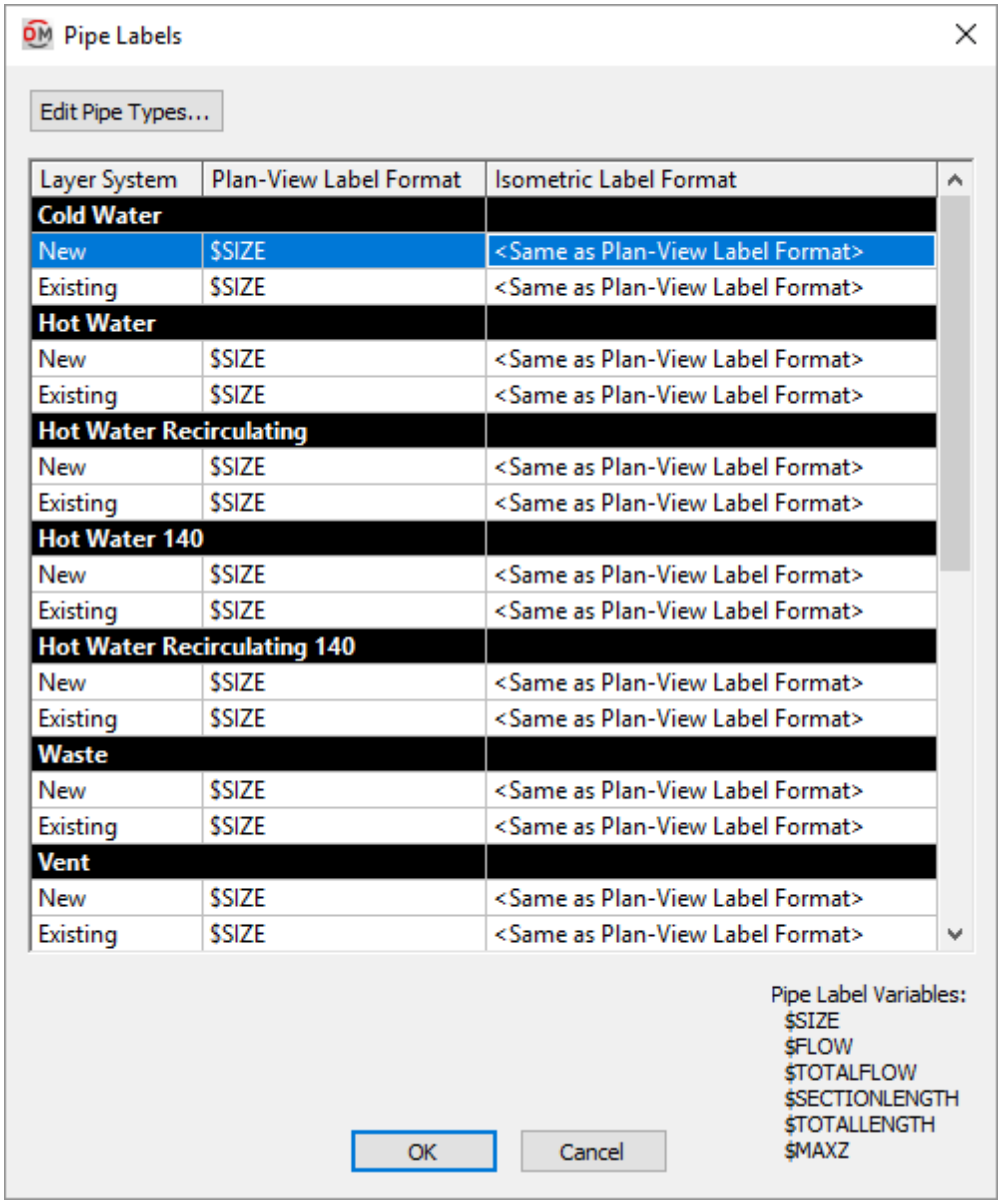
Pulldown Menu: `DM Plumbing->Customization->Pipe Labels->Edit Project List`

To customize the pipe type standards, go to

Ribbon: `DMP: Customization->Standards Customization->` LABEL S `Pipe Labels`

Pulldown Menu: `DM Plumbing->Customization->Pipe Labels->Edit Standards List`

Pipe Labels Dialog Box



Edit Pipe Types: Press this button to open the **Pipe Types** dialog box.

Layer System: The layer system for each pipe type. This list cannot be edited in this dialog box. See the **Pipe Types** and **Layers** sections for more information about editing this list.

Plan-View Label Format: The information to be displayed when the label is inserted on the plan view.

Isometric Label Format: The information to be displayed when the label is inserted in an isometric diagram. Enter <**Same as Plan-View Label Format**> to use the value entered in the *Plan-View-Label Format* field.

Pipe Label Variables: The available variables you can include in the pipe label.

$SIZE: The size of the pipe.
$FLOW: The calculated pipe flow value for the pipe.
$SECTIONLENGTH: The distance from the pipe being labeled to the furthest downstream pipe.
$TOTALLENGTH: The total length of the longest run in the pipe system, regardless of which pipe is being labeled.
$MAXZ: The maximum height of any pipe in the system.

Press the **OK** button to save your changes. Run the **Update Drawing Graphics** command to display the updated information on existing pipe labels.

Pipe Linetypes

Different linetypes are used to represent different pipe systems (e.g., a single dash for cold water, two dashes for hot, etc.). These dashes appear at certain intervals on each section of pipe so the pipe type is easily identified.

Longer sections do not need dashes to be shown as close together as shorter sections. The `Pipe Linetypes` commands allow you to set up multiple linetypes for each pipe type, each with a different minimum length setting so that the identifying dashes and graphics will appear at intervals appropriate to the length of the pipe section.

See the **General Customization Commands** section for more information about how the `Edit Project List`, `Edit Standards List`, `Copy Project List to Standards`, and `Copy Standards List to Project` commands work.

To customize pipe linetypes for the current project, go to

Ribbon: `DMP: Customization->Project Customization->`  `Pipe Linetypes`

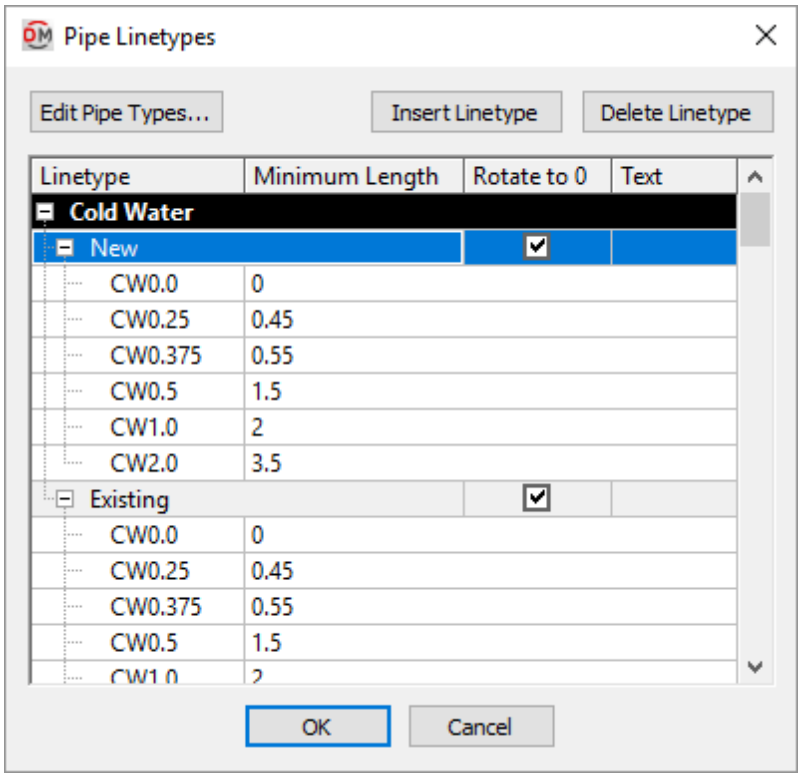
Pulldown Menu: `DM Plumbing->Customization->Pipe Linetypes->Edit Project List`

To customize the pipe linetype standards, go to

Ribbon: `DMP: Customization->Standards Customization->`  `Pipe Linetypes`

Pulldown Menu: `DM Plumbing->Customization->Pipe Linetypes->Edit Standards List`

Pipe Linetypes Dialog Box



See the **Pipe Types** section for more information about pipe types.

Edit Pipe Types: Press this button to open the **Pipe Types** dialog box.

Insert Linetype: Press this button to add a new linetype to the list.

Delete Linetype: Press this button to delete the selected linetype from the list.

Linetype: The name of the linetype in your CAD program to use for the pipe. If the linetype does not exist on the drawing, it will be loaded automatically from the *Linetype file* specified in the `Options` command. See the **Linetype File** section for more information.

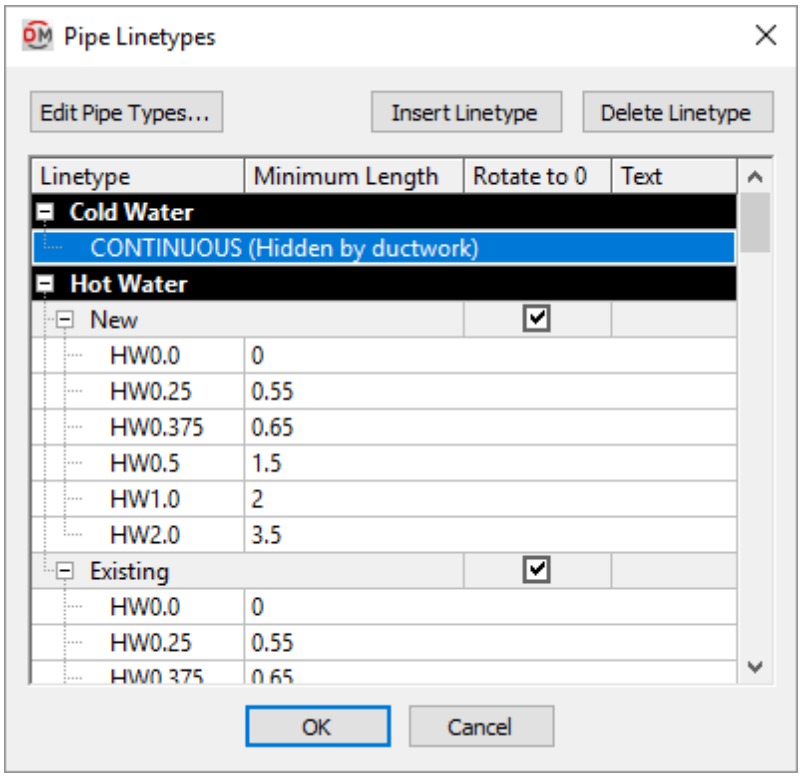
Minimum Length: The minimum pipe length for which the linetype will be used.

Rotate to 0: If this is checked, the text in the *Text* field will be inserted at a rotation angle of 0. If this is not checked, the text will be parallel to the pipe.

Text: Text that is inserted on the pipe line when the pipe is inserted.

Hide Pipes Below Ductwork

If *Hide Pipes Below Ductwork* is checked for a pipe type in the **Pipe Types** dialog box, you will not able to assign a linetype to that pipe. The pipe will automatically be assigned a **CONTINUOUS** linetype as shown below.



Related Options

Distance between text labels in pipes: Sets how frequently inline text is inserted on pipes.

Linetype file: Sets the default linetype used if the linetype specified in this dialog box does not exist in the drawing.

Pipe Flow Categories

The `Pipe Flow Categories` commands are used to customize the flow categories used in your project.

See the **General Customization Commands** section for more information about how the `Edit Project List`, `Edit Standards List`, `Copy Project List to Standards`, and `Copy Standards List to Project` commands work.

To customize pipe flow categories for the current project, go to

Ribbon: `DMP: Customization->Project Customization->` FLOW P `Pipe Flow Categories`

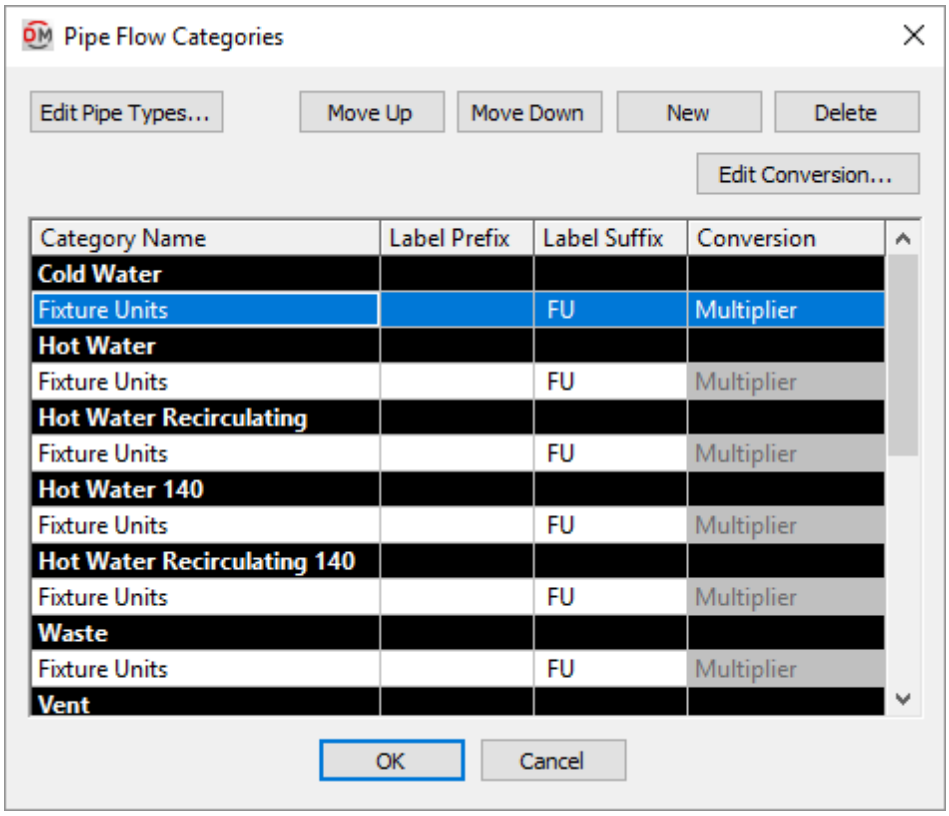
Pulldown Menu: `DM Plumbing->Customization->Pipe Flow Categories->Edit Project List`

To customize the pipe flow categories standards, go to

Ribbon: `DMP: Customization->Standards Customization->` FLOW S `Pipe Flow Categories`

Pulldown Menu: `DM Plumbing->Customization->Pipe Flow Categories->Edit Standards List`

Pipe Flow Categories Dialog Box



Edit Pipe Types: Press this button to open the **Pipe Types** dialog box.

Move Up: Press this button to move the selected pipe flow category up in the list.

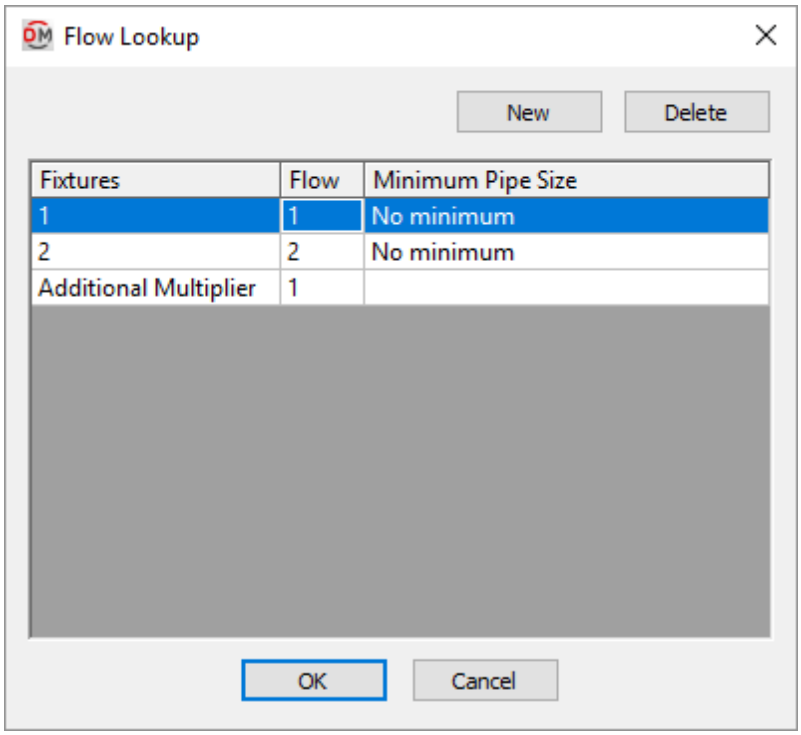
Move Down: Press this button to move the selected pipe flow category down in the list.

New: Press this button to create a new pipe flow category.

Delete: Press this button to delete the selected pipe flow category. The pipe flow category cannot be deleted if it is currently in use or is the only flow category for a pipe type.

Edit Conversion: Press this button to edit the conversion factor for the selected pipe flow category.

- **Multiplier:** If the *Conversion* field is set to **Multiplier**, you will be prompted to enter a new multiplier.
- **Lookup Table:** If the *Conversion* field is set to **Lookup Table**, the **Flow Lookup** dialog box will appear.



Fixtures: The number of fixtures connected to the pipe system.

Flow: The total flow for the specified number of *Fixtures*.

Minimum Pipe Size: The minimum size to which the pipe can be sized automatically.

Additional Multiplier: If the number of fixtures exceeds the highest value in the *Fixtures* column, this value will be added to the total flow for each additional fixture.

Category Name: The name of the pipe flow category.

Label Prefix: Text that is added before the flow value in the pipe label. See the **Pipe Labels** section for more information about displaying flow values in pipe labels.

Label Suffix: Text that is added after the flow value in the pipe label. See the **Pipe Labels** section for more information about displaying flow values in pipe labels.

Conversion: The method used to convert the selected pipe flow category to the primary flow category. This field is disabled for the primary flow category.

- **Multiplier:** The value of the flow category is multiplied by this value to convert it to the primary flow category.
- **Lookup Table:** The conversion is based upon the values in the **Flow Lookup** dialog box described above.

Pipe Sizes

The `Pipe Sizes` commands are used to customize the pipes used in your project.

See the **General Customization Commands** section for more information about how the `Edit Project List`,

`Edit Standards List`, `Copy Project List to Standards`, and `Copy Standards List to Project` commands work.

To customize pipe sizes for the current project, go to

Ribbon: `DMP: Customization->Project Customization->` SIZE P `Pipe Sizes`

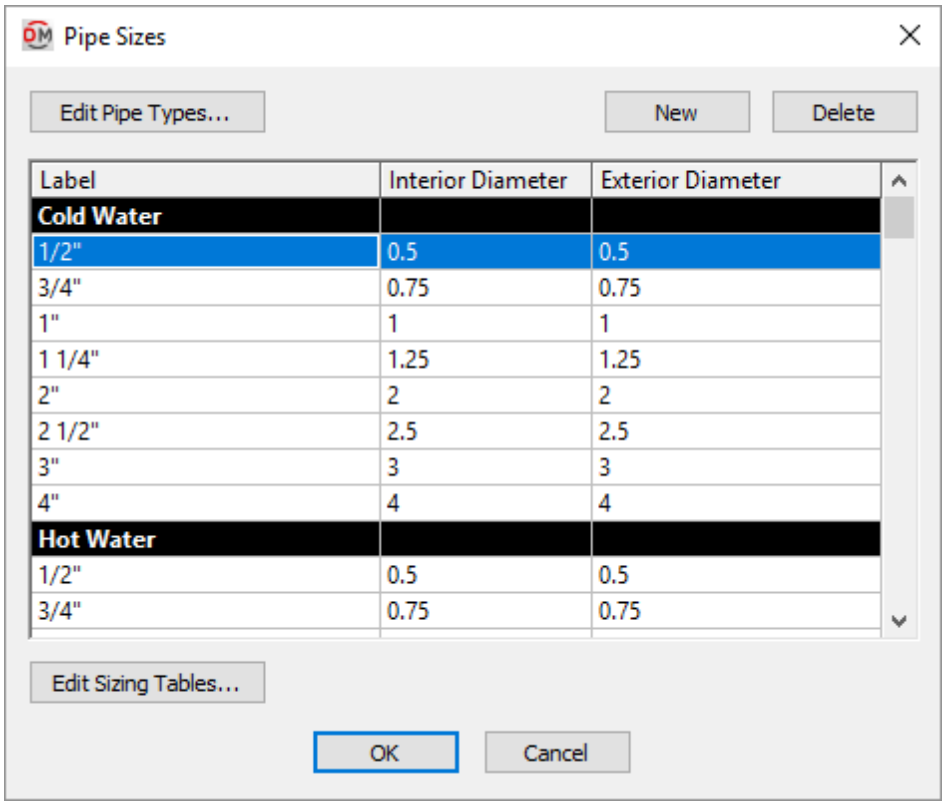
Pulldown Menu: `DM Plumbing->Customization->Pipe Sizes->Edit Project List`

To customize the pipe sizes standards, go to

Ribbon: `DMP: Customization->Standards Customization->` SIZE S `Pipe Sizes`

Pulldown Menu: `DM Plumbing->Customization->Pipe Sizes->Edit Standards List`

Pipe Sizes Dialog Box



Edit Pipe Types: Press this button to open the **Pipe Types** dialog box.

New: Press this button to create a new pipe size. The new row will be added to the bottom of the list when it is created. When you enter a value in the *Interior Diameter* field, the size will be sorted to the correct location in the list based upon that value.

Delete: Press this button to delete the selected pipe size. The pipe size cannot be deleted if it is currently in use or is the only size for a pipe type.

Label: The text that will be displayed for the pipe size in the pipe label and pipe sizing tables.

Interior Diameter: The diameter of the inside of the pipe in inches.

Exterior Diameter: The diameter of the pipe in inches.

Edit Sizing Tables: Press this button to open the **Pipe Sizing Tables** dialog box.

Pipe Sizing Tables

The `Pipe Sizing Tables` commands are used to customize how pipes are sized in your project.

See the **General Customization Commands** section for more information about how the `Edit Project List`, `Edit Standards List`, `Copy Project List to Standards`, and `Copy Standards List to Project` commands work.

To customize pipe sizing tables for the current project, go to

Ribbon: `DMP: Customization->Project Customization->`  `Pipe Sizing Tables`

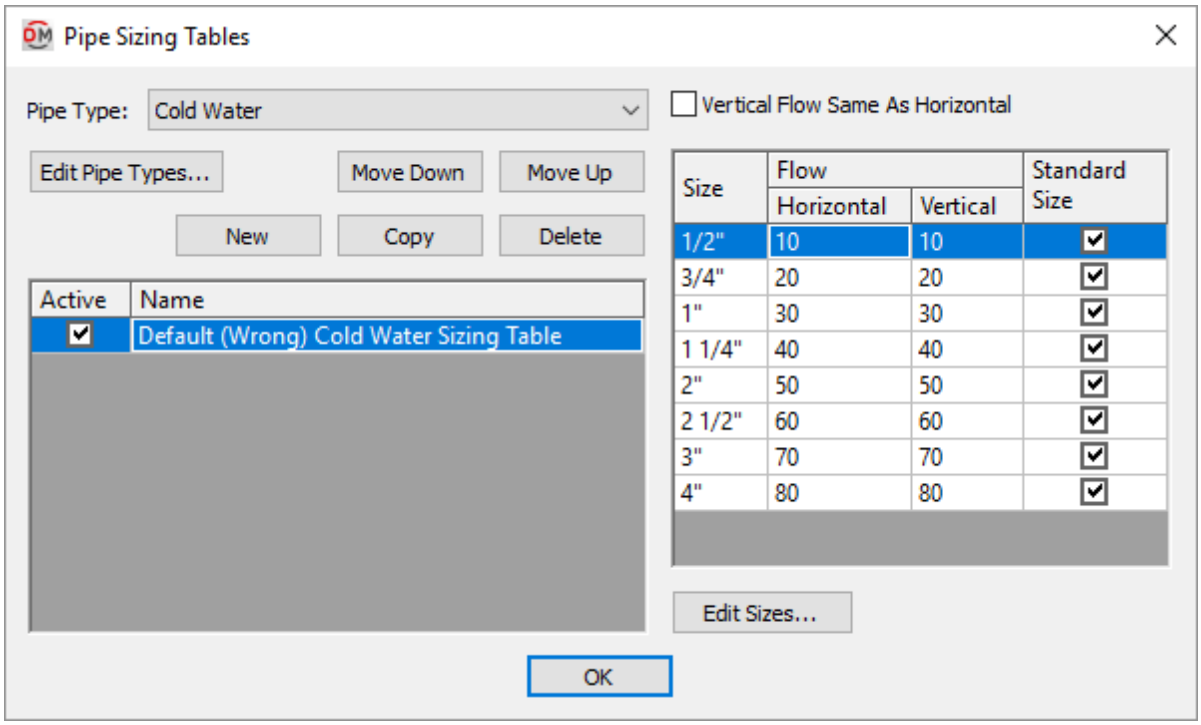
Pulldown Menu: `DM Plumbing->Customization->Pipe Sizing Tables->Edit Project List`

To customize the pipe sizing table standards, go to

Ribbon: `DMP: Customization->Standards Customization->`  `Pipe Sizing Tables`

Pulldown Menu: `DM Plumbing->Customization->Pipe Sizing Tables->Edit Standards List`

Pipe Sizing Tables Dialog Box



Pipe Type: The active pipe type for which the sizing tables are being edited.

Edit Pipe Types: Press this button to open the Pipe Types dialog box.

Move Up: Press this button to move the selected pipe sizing table up in the list.

Move Down: Press this button to move the selected pipe sizing table down in the list.

New: Press this button to create a new pipe sizing table.

Copy: Press this button to copy the selected pipe sizing table. You will be prompted to enter a name and pipe type for the copy.

Delete: Press this button to delete the selected pipe sizing table. The pipe sizing table cannot be deleted if it is currently in use or is the only sizing table for a pipe type.

Pipe Sizing Table List

This list displays the sizing tables for the active *Pipe Type*. The values for the selected pipe sizing table appear in the table on the right side of the dialog box.

If the *Active* box is checked, the pipe sizing table will be used for pipe sizing calculations. At least one pipe sizing table must be active for each pipe type.

Pipe Sizing Table

Vertical Flow Same As Horizontal: Whether the horizontal flow and vertical flow values are the same. If this is

checked, the *Vertical Flow* field will be disabled.

Size: The size of the pipe. See the **Pipe Sizes** section for more information.

Horizontal Flow: The maximum flow for horizontal pipes of this *Size*. If the flow exceeds this value, the next largest pipe size will be used.

Vertical Flow: The maximum flow for vertical pipes of this *Size*. If the flow exceeds this value, the next largest pipe size will be used.

Standard Size: Whether the pipe size is used when sizing pipes automatically.

Edit Sizes: Press this button to open the **Pipe Sizes** dialog box.

Update Drawing Graphics

The `Update Drawing Graphics` command is used to update items on the drawing to reflect any changes in the customization.

To update items on the drawing, go to

Ribbon: `DMP: Customization->Project Customization->Update Drawing Graphics`

Pulldown Menu: `DM Plumbing->Customization->Update Drawing Graphics`

The following items will be updated:

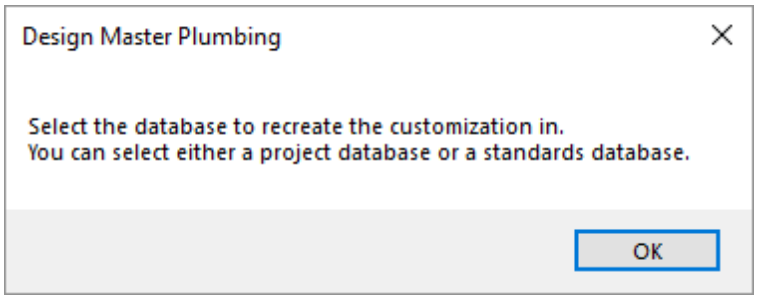
- Pipe symbol blocks
- Pipe linetypes
- Pipe graphics
- Pipe labels
- Layers
- Text

Recreate Missing Customization

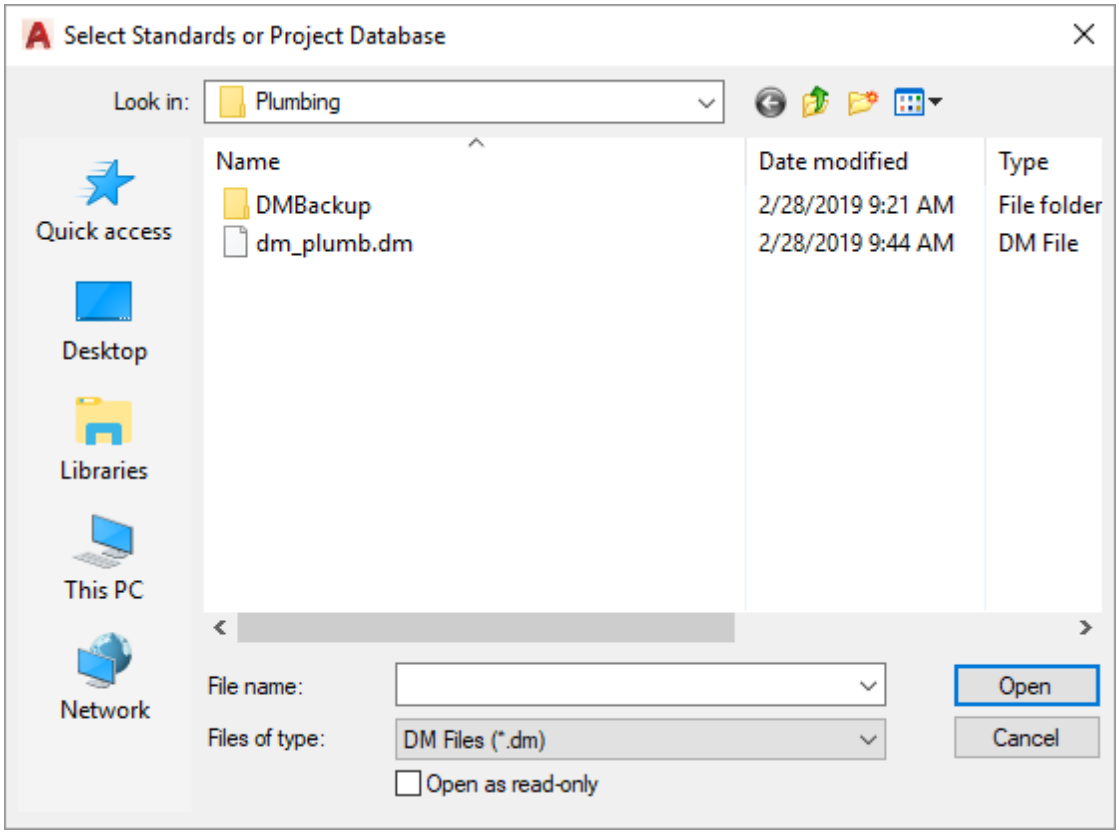
To recreate customization that is missing in the project or standards database, go to

Ribbon: `DMP: Customization->Customization Utilities->Recreate Missing Customization`

Pulldown Menu: `DM Plumbing->Customization->Recreate Missing Customization`



Press the **OK** button. The **Select Standards or Project Database** dialog box will open.



Select the standards or project database and press the **Open** button. Any missing customization records will be added to the database. It will not change any existing customization values.

The **Select Standards or Project Database** dialog box will open the current project folder by default. To update your standards database, you must browse to your customization folder.

The default location for the customization folder is `C:\Users\<User Name>\AppData\Roaming\Design Master Software\Plumbing Customization` where <User Name> is the name you use to log in to your computer.

Update Laptop Customization

The `Update Laptop Customization` command is used to update the local customization on a laptop to match the customization stored on the network. The local customization is automatically updated once a day when you open your CAD program. This command is used to manually update the local customization. It is only necessary to use this command if the customization on your network has changed during the day.

To update the local customization on a laptop, go to

Ribbon: `DMP: Customization->Customization Utilities->Update Laptop Customization`

Pulldown Menu: `DM Plumbing->Customization->Update Laptop Customization`

The customization will be copied from the network to the local drive.

See the **Installation Settings** section for more information about configuring your computer as a laptop.

Manage Standards Databases

The `Manage Standards Databases` command is used to create, modify, and delete standards databases. Each standards database has its own set of customization settings. Multiple standards databases are used when more than one set of standards is used in a company.

To manage your standards databases, go to

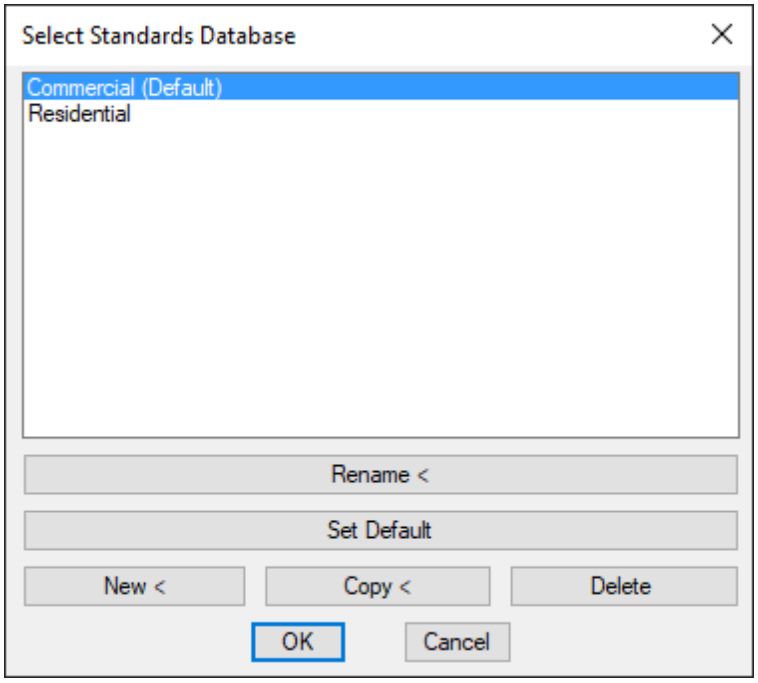
Ribbon: `DMP: Customization->Customization Utilities->Manage Standards Databases`

Pulldown Menu: `DM Plumbing->Customization->Manage Standards Databases`

If only one standards database exists, you will be prompted to create a new one. If you do not create another database, the command will end. If you do create another database, the **Select Standards Database** dialog box will then appear.

If more than one standards database exists, the **Select Standards Database** dialog box will appear.

Select Standards Database Dialog Box



Each standards database is a separate file stored in your customization folder. The file name will be "dm_plumb-standards<Name>.dm", where <Name> is the name of the standards database as displayed in the dialog box. If a standards database is named "dm_plumb-standards.dm", it will display as "Default".

The default location for the customization folder is `C:\Users\<User Name>\AppData\Roaming\Design`

`Master Software\Plumbing Customization` where <User Name> is the name you use to log in to your computer.

Rename: Press this button to rename the selected standards database. The name that is displayed and the name of the file will be changed.

Rename: Press this button to set the selected standards database as the default when starting a new project.

New: Press this button to create a new standards database. A new standards database file will be created in the customization folder.

Copy: Press this button to copy the selected standards database. A new standards database file with the same settings will be created in the customization folder.

Delete: Press this button to delete the selected standards database.

Alignment Points

This section describes how to use alignment points and alignment point areas.

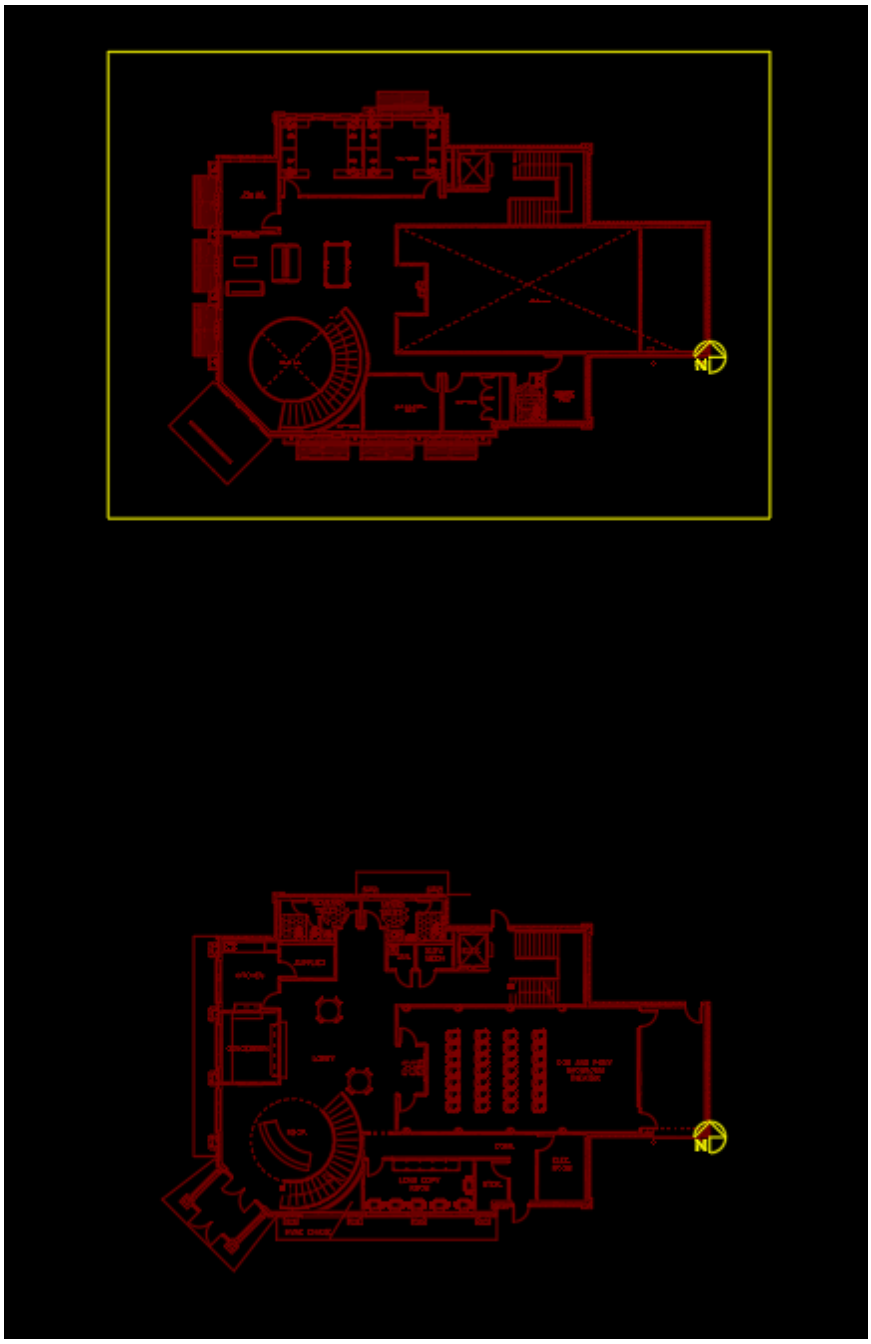
An alignment point is the origin of the coordinate system used for the items inserted on the drawings. The location relative to the alignment point is used when exporting 3D-BIM elements or calculating distances between items.

Make sure you set a location for the alignment point that will be easy to locate on all of the floors of the building and that will not move during the course of the project. A corner of the building, a column, or the intersection of two architectural grids lines are all examples of good alignment point locations.

Multiple Alignment Points

A drawing can have more than one alignment point. The first alignment point inserted is used for all items on the drawing. Additional alignment points are inserted with boxes, called alignment point areas, around them. All items in the alignment point area are associated with the corresponding alignment point. Any items not inside an alignment point area are associated with the first alignment point.

The following example shows a drawing file with multiple alignment point areas and floor plans. Notice how an alignment point area is drawn around the second alignment point.



Common Alignment Point Information

The values that can be specified for alignment points are listed below.

Alignment Point Area Name: The name of the alignment point.

Floor: The floor associated with the alignment point area.

Pipe Types: The pipe types associated with the alignment point. For each pipe type and floor, there is one

corresponding alignment point.

Once a pipe has been inserted in an alignment point area, that pipe type will be locked to that alignment point. That pipe type cannot be removed from the alignment point without first erasing the pipes in the area.

Insert Alignment Point

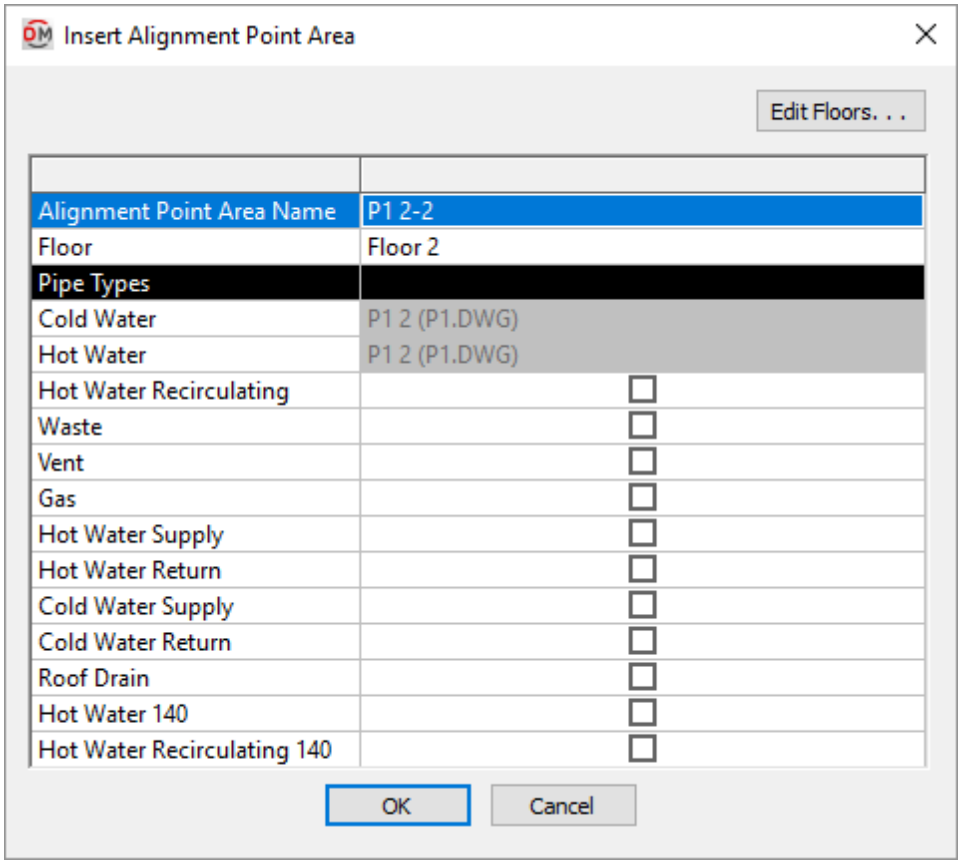
The `Insert Alignment Point` command is used to insert alignment points and alignment point areas on the drawing. Multiple alignment points can be inserted on a drawing.

To insert an alignment point on the current drawing, go to

Ribbon: `DM Plumbing->Building->` `Insert Alignment Point`

Pulldown Menu: `DM Plumbing->Alignment Points->Insert Alignment Point`

Insert Alignment Point Area Dialog Box



See the **Common Alignment Point Information** section for more information about the values in this dialog box.

Edit Floors: Press this button to open the **Floors** dialog box.

Enter the *Alignment Point Area Name*, *Floor*, and *Pipe Types* and press the **OK** button. You will be prompted to

identify the location of the alignment point on the drawing.

Specify insertion point:

The alignment point will be used to coordinate the current drawing with other drawings. The alignment point should be set in the same place on every drawing in the project folder. You will then be prompted to identify the direction of north on the drawing.

Specify rotation angle:

If this is the first alignment point inserted on the drawing, the command will end.

If there are other alignment points on the drawing, you will be prompted to specify the boundaries of the alignment point area.

First corner of alignment point area:

Second corner of alignment point area:

The alignment point area must surround its respective alignment point.

Query Alignment Point Area

To query and edit an existing alignment point, go to

Ribbon: `DM Plumbing->Building->`  `Query Alignment Point Area`

Pulldown Menu: `DM Plumbing->Alignment Points->Query Alignment Point Area`

If there is only one alignment point on the drawing, the **Query Alignment Point Area** dialog box will appear.

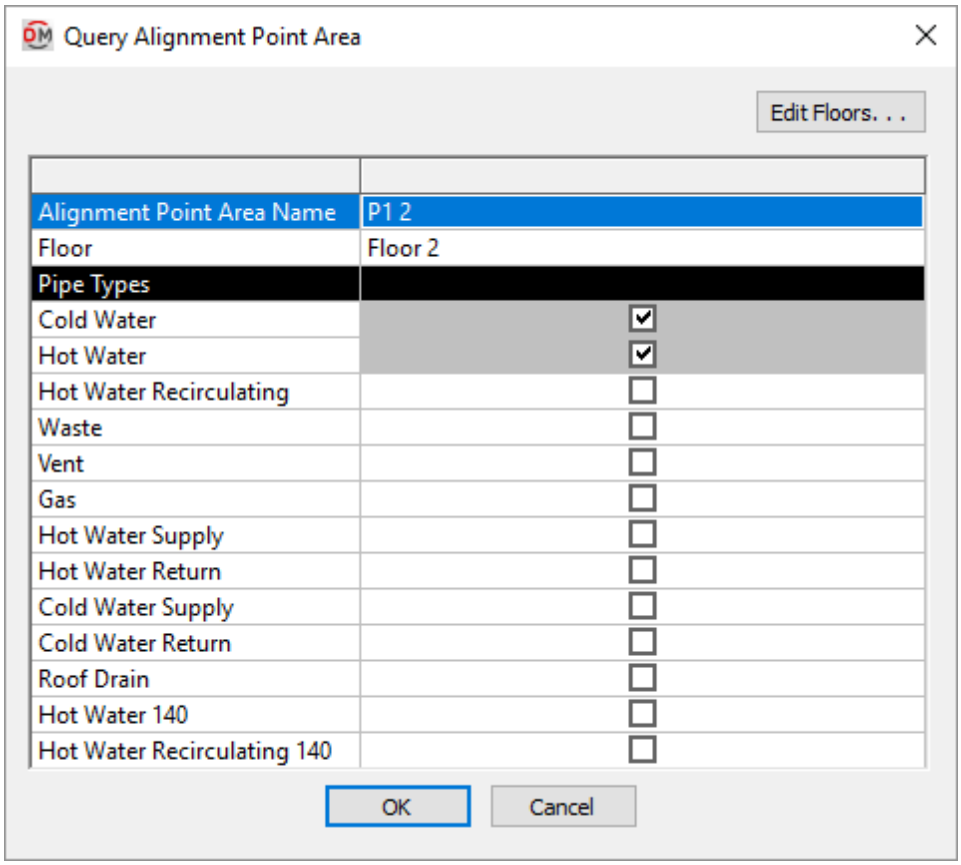
If there is more than one alignment point on the drawing, you will be prompted to indicate which alignment point you want to query.

Specify point in alignment point area to use:

Select a point inside the alignment point area that corresponds to the alignment point you want to query.

The **Query Alignment Point Area** dialog box will appear.

Query Alignment Point Area Dialog Box



Changes can be made to the alignment point in the same way as when it was inserted. See the **Common Alignment Point Information** section for more information.

Move Alignment Point

The `Move Alignment Point` command can be used to move an alignment point on the drawing. You can also use standard CAD commands to move the alignment point.

To move an alignment point, go to

Ribbon: `DM Plumbing->Alignment Points->`  `Move Alignment Point`

Pulldown Menu: `DM Plumbing->Alignment Points->Move Alignment Point`

If there is only one alignment point on the drawing, you will be prompted for the new location.

If there is more than one alignment point on the drawing, you will be prompted to indicate which alignment point you want to move.

Specify point in area to move alignment point in:

Select a point inside the alignment point area that corresponds to the alignment point you want to move.

You will then be prompted to indicate the new location for the alignment point.

Specify second point or <use first point as displacement>:

After the alignment point is moved, the location of all of the devices in the database will be updated to reflect the new location.

You cannot move an alignment point outside of its alignment point area.

Rotate Alignment Point

The `Rotate Alignment Point` command can be used to rotate an alignment point on the drawing. You can also use standard CAD commands to rotate the alignment point.

To rotate an alignment point, go to

Ribbon: `DM Plumbing->Alignment Points->`  `Rotate Alignment Point`

Pulldown Menu: `DM Plumbing->Alignment Points->Rotate Alignment Point`

If there is only one alignment point on the drawing, you will be prompted for the new rotation angle.

If there is more than one alignment point on the drawing, you will be prompted to indicate which alignment point you want to rotate.

Specify point in area to rotate alignment point in:

Select a point inside the alignment point area that corresponds to the alignment point you want to rotate.

You will then be prompted to indicate the new rotation for the alignment point.

Specify rotation angle or [Copy/Reference] <0>:

After the alignment point is rotated, the location of all of the devices in the database will be updated to reflect the new rotation angle.

Offset Alignment Point for 3D Export

The `Offset Alignment Point for 3D Export` command can be used to specify the origin when exporting a drawing to 3D for collision detection. By default, the alignment point acts as the origin. Use this command if having the alignment point as the origin causes problems in the 3D export.

To offset the origin from an alignment point, go to

Ribbon: `DM Plumbing->Alignment Points->`  `Offset Alignment Point for 3D Export`

Pulldown Menu: `DM Plumbing->Alignment Points->Offset Alignment Point for 3D Export`

You will be prompted to specify the offset relative to the first alignment point inserted on the drawing.

Specify origin for 3D export / <Reset origin to alignment point location>:

Specify a point on the drawing to act as the origin when the drawing is exported. Press **ENTER** to reset the origin to the location of the alignment point.

Remove Alignment Points from non-DM Drawing

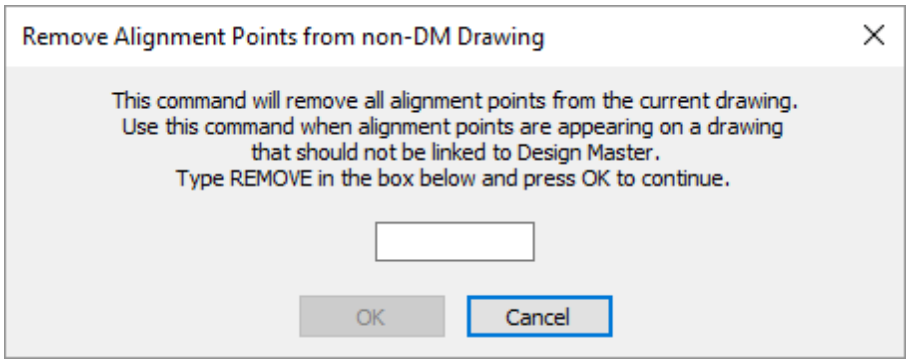
The `Remove Alignment Points from non-DM Drawing` command is used to remove all alignment points from a drawing that does not use Design Master features. This command is the only way to fully remove alignment points from a drawing.

To remove all alignment points from a drawing, go to

Ribbon: `DM Plumbing->Alignment Points->`  `Remove Alignment Points from non-DM Drawing`

Pulldown Menu: `DM Plumbing->Alignment Points->Remove Alignment Points from non-DM Drawing`

Remove Alignment Points from non-DM Drawing Dialog Box



To remove the alignment points, type **REMOVE** and press the **OK** button. This step helps prevent you from removing the alignment points accidentally.

Start New Plumbing Project

This section describes how to start a new project.

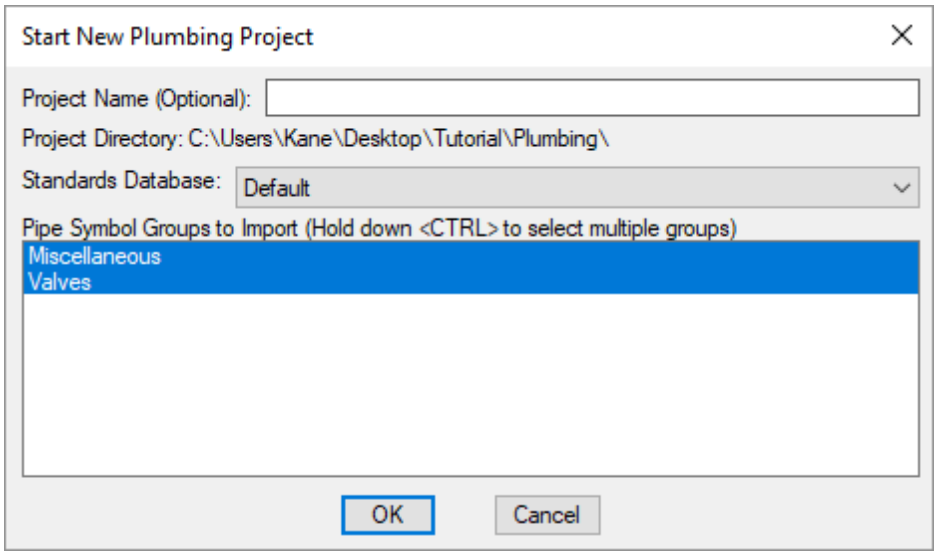
When you start a new project, a database file will be created in the same folder as the current drawing. The file name will be "dm_plumb<Name>.dm", where <Name> is the name of the project. This is the database file where all of the information about your project is stored.

To create a new database file, go to

Ribbon: `DM Plumbing->Utilities->` NEW PROJ `Start New Plumbing Project`

Pulldown Menu: `DM Plumbing->Start New Plumbing Project`

Start New Plumbing Project Dialog Box



Project Name (Optional): The project name that is added to the end of the file name. This name is only used on the file name. It is not used anywhere else in the project. If you leave this field blank, the project database name will be "dm_plumb.dm".

Project Directory: The folder in which the database will be created. The folder displayed and used is the folder that contains the current drawing.

Standards Database: The standards database from which to copy project options and settings. See the **Standards Databases** section for more information about the standards database and which settings are stored in it.

Pipe Symbol Groups: Select one or more pipe symbol groups from the standards database to import to the new project. You can select multiple groups using the **SHIFT** and **CTRL** keys. See the **Standards Database Groups** section for more information about pipe symbol groups.

Concepts and Procedures

This section describes concepts and procedures you will use with Design Master Plumbing. It describes how to apply the commands in the **Command Reference** section to create your plumbing project.

Project Drawing and Database Management

When you create a new project, a database file will be created in the same folder as the current drawing. The file name will be "dm_plumb<Name>.dm", where <Name> is the name of the project. This is the database file where all of the information about your project is stored. Your project drawings are now connected to this database file, and the information contained in the drawings and the database must match.

You must consider how changes to your drawings will affect the database. Recommendations for common scenarios when working on a Design Master Plumbing project are listed below. You can also visit the **Project and Database Management Webinar** in the knowledge base.

Project Folders

Each project needs to be in a separate folder that contains one dm_plumb.dm database file. All of the drawing files for the project need to be in the same folder as the database. You should not copy drawings from one project to another.

Saving Your Changes

Always save your changes to a drawing with Design Master Plumbing devices in it. Never close a drawing without saving your changes.

Any changes you make to the drawing are saved to the database immediately. If you close the drawing without saving, the database and drawing will no longer match. This can result in missing or extra devices, incorrect calculations, and other problems.

If you close a drawing without saving, or your CAD program crashes, use the **Coordinate Drawings and Database** command to make the drawing and database match again.

Creating a Backup

To back up your project, you must copy both the drawings and the database file. Copying just the drawings is not enough.

The two simplest methods are copying the entire folder to a new location, or using the **Copy or Backup Project** command.

Alternative Designs

To try an alternative design in your project, do not copy drawings inside the same project folder. This will result in duplicate devices and inaccurate calculations. Instead, make a copy of the project in its own folder. Treat the alternative design as a separate project.

Copy the entire folder to a new location, or use the **Copy or Backup Project** command.

Copying a Drawing

To copy a drawing that contains Design Master devices, use the **Copy Drawing** command. This will create an exact copy of the drawing in the project folder. Copies of all of the devices on the drawing will be created in the database.

(You can use Windows Explorer or the standard CAD **SAVEAS** command to copy a drawing, but these methods add some complications so we do not recommend them.)

Renaming a Drawing

To rename a drawing that contains Design Master devices, use the **Rename Drawing** command. This will rename the drawing. The original drawing will no longer exist.

(You can use Windows Explorer or the standard CAD **SAVEAS** command to rename a drawing, but these methods add some complications so we do not recommend them.)

CAD Program Crashes

CAD program crashes can leave your drawing and your database in an inconsistent state. This is a special situation that needs to be handled carefully to prevent your database from being corrupted.

Your CAD Program Created a Recover Drawing

If your CAD program created a recovery drawing, try to open that file. If it opens, compare it with the original drawing file. Decide which you want to use. If you want to use the recovery drawing, rename the original drawing something different using Windows Explorer, then rename the recovery drawing to the original drawing name using Windows Explorer. Run the **Coordinate Drawings and Database** command on the drawing to make the drawing and database match, then continue working.

If you choose to work in the original drawing, delete any recovery drawings that were created. Run the **Coordinate Drawings and Database** command on the original drawing to make the drawing and database match, then continue working.

Your CAD Program Did Not Create a Recover Drawing

If your CAD program did not create a recover drawing, then you must open your original drawing. Run the **Coordinate Drawings and Database** command on the drawing to make the drawing and database match, then continue working.

Standards Databases

Standards databases are used to store default settings for new projects. You can make changes to the customization settings, store them in these files, and reuse them.

These databases are stored in your plumbing customization folder. For companies with more than one user, we recommend that the plumbing customization folder be on your network. This allows you to share the customization between all of your users. Otherwise, synchronizing the customization on all of the different

computers is complicated.

When you create a project, the settings from the standards databases are copied to its project database. Once it is created, the project database is no longer associated with the standards database. Changes to the project database will not affect the standards database, and changes to the standards database will not affect the project database.

Standards Database Groups

Groups allow you to organize the records in your standards schedule.

When you create a project, all of the records from a group can be copied to the project. Copying a group is helpful when you have a common type of project with similar schedules. You can set up the schedule once in the standards as a group, then reuse it in new projects.

While working on a project, you can import records from a group into the project. You can create multiple groups for different types of schedule entries or different manufacturers. The organization of the groups makes it easier to find the record you want to import.

Common Schedule Dialog Box Features

New: Press this button to create a new record in the schedule. The record will be created with default information.

Copy: Press this button to copy the displayed record in the schedule. The new record will be created with the same information as the displayed record.

Save: Press this button to save any changes made to the displayed record in the schedule. If you make changes and do not press this button, you will be prompted to save your changes before selecting a new record or closing the schedule dialog box.

Delete: Press this button to delete the displayed record from the schedule. If there are any items inserted on a drawing in the project that use the record, you will not be able to delete it. You must first delete all of the items from the drawings before you can delete the record.

Rename: Press this button to rename the displayed record in the schedule. Any labels on the drawing will be updated.

Find: Press this button to select a schedule record from a list of all of the items in the schedule. The record you select will be displayed in the dialog box, allowing you to view and modify it.

Next: Press this button to display the next record in the schedule. The next record is determined by sorting the entries in the schedule alphabetically. If you press this button when viewing the last record, it will wrap back to the beginning and display the first record.

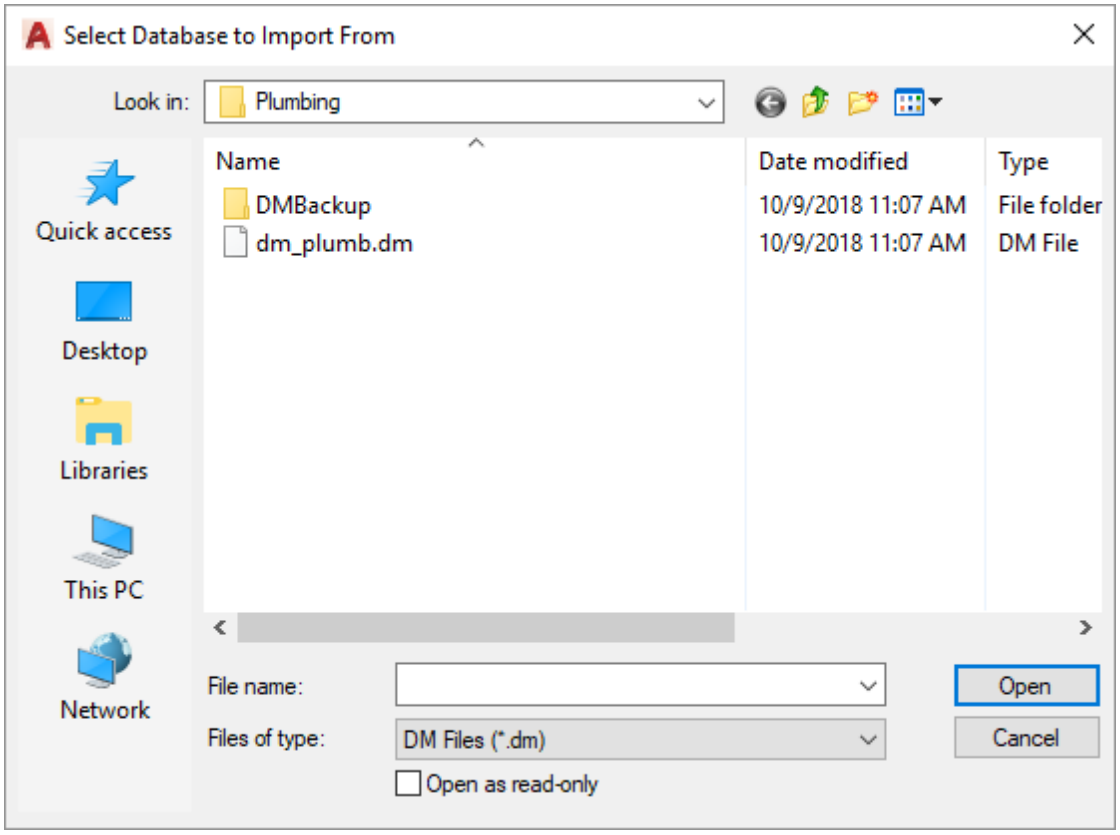
Previous: Press this button to display the previous record in the schedule. The previous record is determined by sorting the entries in the schedule alphabetically. If you press this button when viewing the first record, it will wrap to the end and display the last record.

Import from Another Database

The **Import from Another Database** button is used to import records from a schedule in another project to the current project. This button can be used to copy an entire schedule or a single record. This button allows you to

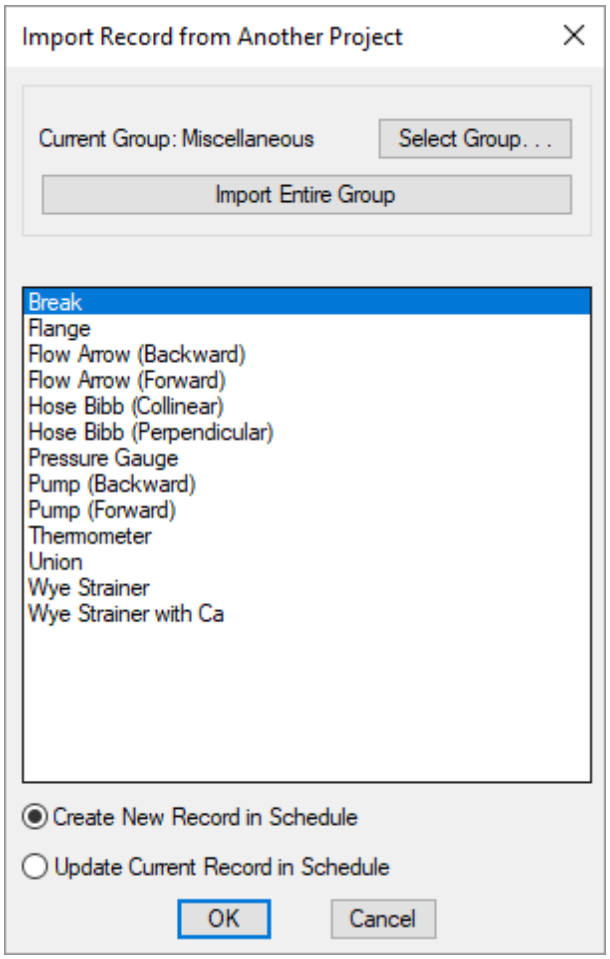
reuse schedules in new projects.

When you press this button, the **Select Database to Import From** dialog box will appear and prompt you to select the project from which the schedule records will be imported.



Select the database from which to import. You must select a Design Master Plumbing database. The database must be updated to the most current version. If it is not, you will be prompted to open a drawing in the project to convert the database. After it is updated, you will then be able to import from it.

After you select the database, the **Import Record from Another Project** dialog box will appear and prompt you to select the records to import.



Current Group: The group in the other project schedule from which the records will be imported.

Select Group: Press this button to select a new group from which to import records.

Import Entire Group: Press this button to import all of the records from the *Current Group* to the project.

New records will be created in the project for each record being imported. If a record with the same name already exists in the current schedule, a new record will be created with **(Copy)** appended to the record name. The existing record will not be modified.

You will be prompted if you want to delete existing records in the project schedule. If you delete the existing records, any records that have devices associated with them will not be deleted.

Record List: The list of records in the *Current Group*. Select the records to import from this list. You can select multiple records using the **SHIFT** and **CTRL** keys.

Create New Record in Schedule: Select this option to create a new record in the project schedule for each record being imported. The record will be created with the same name as the record in the other project. If a record with the same name already exists in the current schedule, a new record will be created with **(Copy)** appended to the record name. The existing record will not be modified.

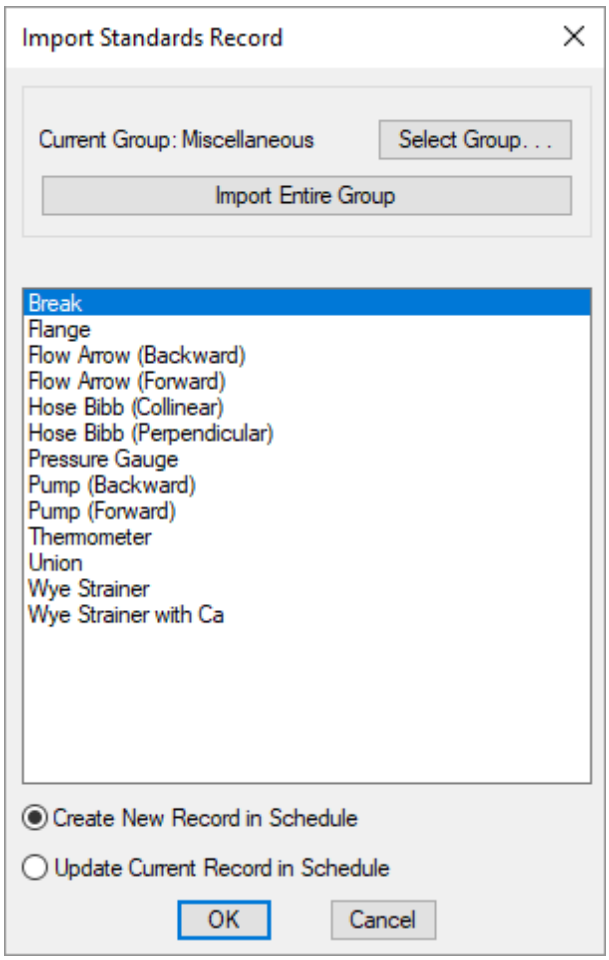
Update Current Record in Schedule: Select this option to update the current record in the project schedule with

the information from the imported record. All of the information in the project schedule will be overwritten.

Import from Standards Schedule

The **Import from Standards Schedule** button is used to import records from the standards schedule to the project schedule after the project has been created. This button allows you to import an entire group or individual records.

When you press this button, the **Import Standards Record** dialog box will appear.



Current Group: The group in the standards schedule from which the records will be imported.

Select Group: Press this button to select a new group from which to import records.

Import Entire Group: Press this button to import all of the records from the *Current Group* to the project.

New records will be created in the project for each record being imported. If a record with the same name already exists in the current database, a new record will be created with **(Copy)** appended to the record name. The existing record will not be modified.

You will be prompted if you want to delete existing records in the project schedule. If you delete the existing records, any records that have items associated with them on a drawing will not be deleted.

Record List: The list of records in the *Current Group*. Select the record to import from this list. You can select multiple records using the **SHIFT** and **CTRL** keys.

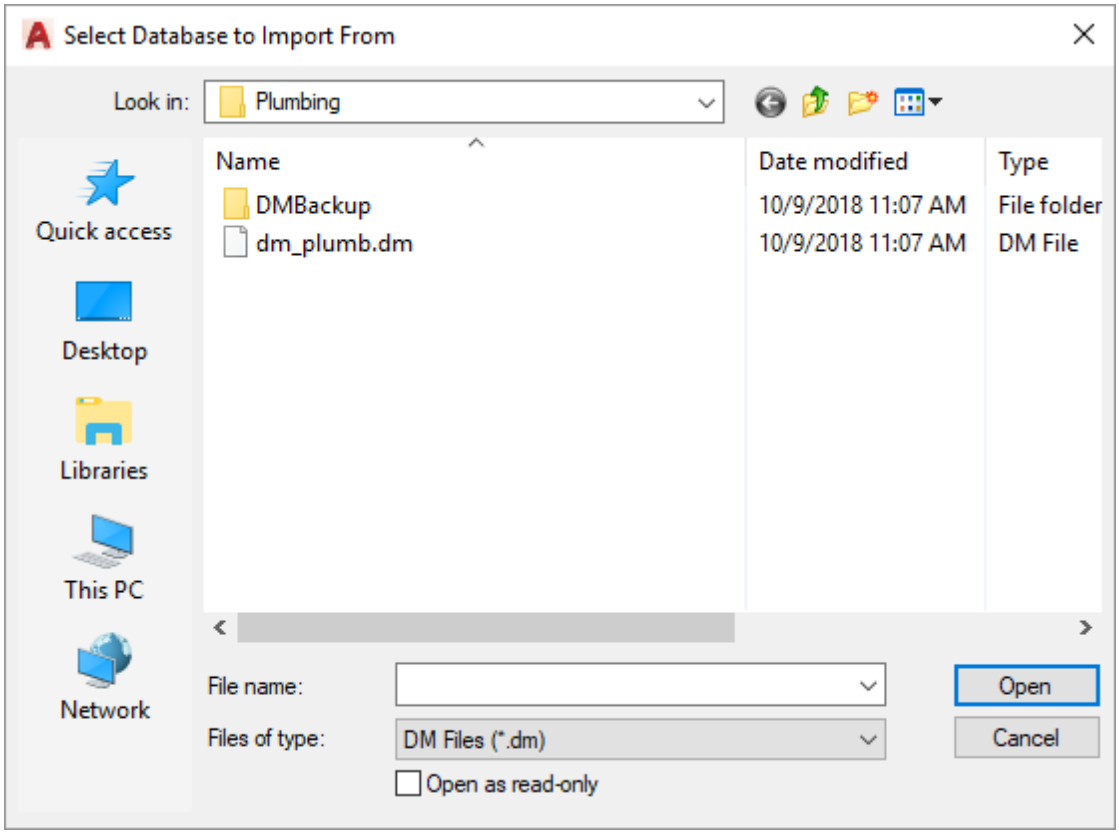
Create New Record in Schedule: Select this option to create a new record in the project schedule for each record being imported. The record will be created with the same name as the record in the standards schedule. If a record with the same name already exists in the current database, a new record will be created with **(Copy)** appended to the record name. The existing record will not be modified.

Update Current Record in Schedule: Select this option to update the current record in the project schedule with the information from the imported record. All of the information in the project schedule will be overwritten.

Import from Project Schedule

The **Import from Project Schedule** button is used to import records from a project schedule to the standards schedule. This button can be used to copy an entire project schedule or a single record. This button allows you to create your standards schedule from a project schedule.

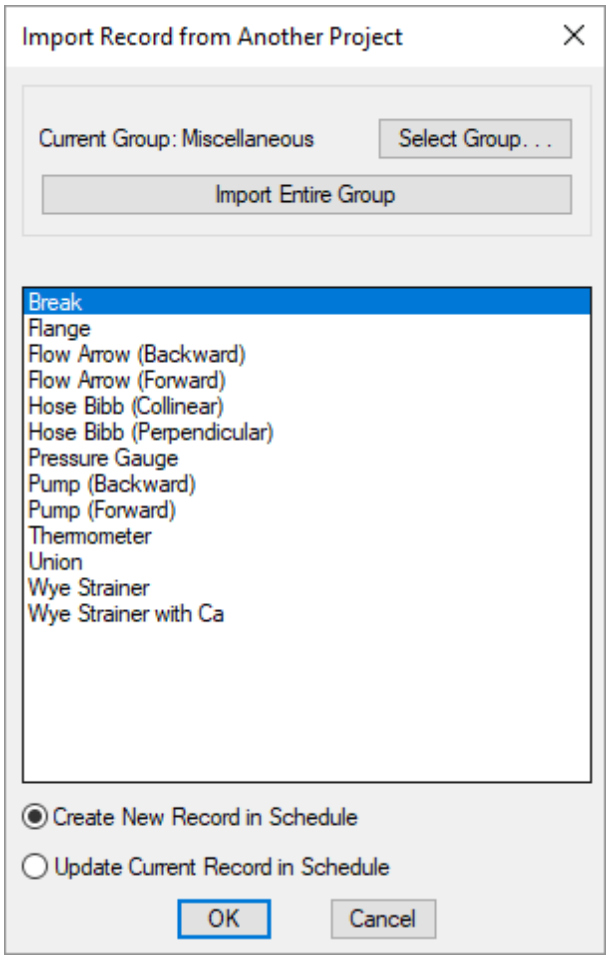
When you press this button, the **Select Database to Import From** dialog box will appear and prompt you to select the project from which the schedule records will be imported.



Select the database from which to import. You must select a Design Master Plumbing database. The database must be updated to the most current version. If it is not, you will be prompted to open a drawing in the project to convert the database. After it is updated, you will then be able to import from it.

After you select the database, the **Import Record from Another Project** dialog box will appear and prompt you to

select the records to import.



Current Group: The group in the project schedule from which the records will be imported.

Select Group: Press this button to select a new group from which to import records.

Import Entire Group: Press this button to import all of the records from the *Current Group* to the standards schedule.

New records will be created in the standards schedule for each record being imported. If a record with the same name already exists in the standards schedule, a new record will be created with **(Copy)** appended to the record name. The existing record will not be modified.

You will be prompted if you want to delete existing records in the standards schedule.

Record List: The list of records in the *Current Group*. Select the records to import from this list. You can select multiple records using the **SHIFT** and **CTRL** keys.

Create New Record in Schedule: Select this option to create a new record in the standards schedule for each record being imported. The record will be created with the same name as the record in the project schedule. If a record with the same name already exists in the standards schedule, a new record will be created with **(Copy)** appended to the record name. The existing record will not be modified.

Update Current Record in Schedule: Select this option to update the current record in the standards schedule with the information from the imported record. All of the information in the standards schedule will be overwritten.

Common Settings

This section describes settings that are common to fixtures, pipes, and floors.

Elevation

Fixtures, pipes, and floors can all be assigned an elevation. 2D and 3D blocks for fixtures and pipes will be inserted at the specified elevation.

Elevations are specified as **feet-inches**. For example, an elevation of 5 feet 6 inches should be entered as "5-6". A single number without a dash is interpreted as an elevation in feet.

Layer System

All devices that can be inserted on a drawing are assigned a layer system. The layer system controls the layers that are used when the device is inserted.

Layer systems can be created using the **Layers** command. See the **Layers** section for more information.

To change the layer of a device, change the layer system. Do not change the layer directly in your CAD program; if you do, it will likely be changed back at some point in the future.

Common Groups Dialog Box Features

Schedules in the project and standards database can be organized into groups. Groups allow you to organize the records in your schedule.

Each group has its own schedule. When you insert a pipe symbol, you first select the group, then select the pipe symbol.

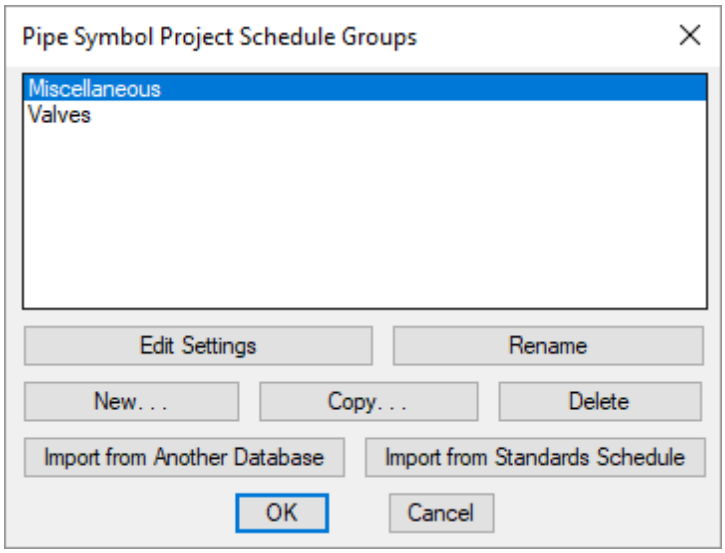
The **Select Group** button on project and standards schedule dialog boxes opens the **Schedule Groups** dialog box. This dialog box is used to create and modify schedule groups. The specific labels will vary based upon the type of schedule you are modifying, but the functionality is the same for all types.

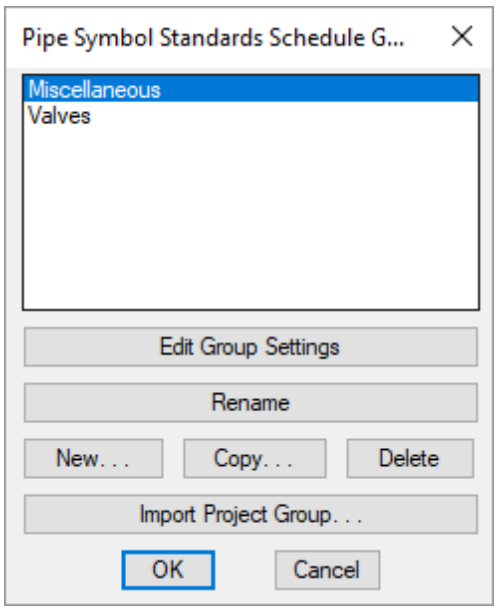
When you create a project, all of the records from a group can be copied to the project. Copying a group is helpful when you have a common type of project with similar schedules. You can set up the schedule once in the standards as a group, then reuse it in new projects.

While working on a project, you can import records from a group into the project. You can create multiple groups for different types of schedule entries or different manufacturers. The organization of the groups makes it easier to find the record you want to import.

In a project, groups are used to organize the pipe symbols. Each group has a separate schedule that can be inserted on the drawing. The layout of each schedule can be different for each group.

Pipe Symbol Project/Standards Schedule Groups Dialog Box





Copy: Press this button to copy the selected group. The group that is created will be empty and have no schedule entries in it. Any group settings will be copied from the selected group.

Delete: Press this button to delete the selected group. You cannot delete a group that still has schedule entries in it.

Import from Another Database: See the **Import from Another Database** section for more information about this button.

Import from Standards Schedule: See the **Import from Standards Schedule** section for more information about this button.

Import Project Group: See the **Import from Project Schedule** section for more information about this button.

Press the **OK** button to return to the previous dialog box with the selected group active.

Inserting Notes and Leaders on the Drawing

All notes are inserted using a common user interface. You will be prompted to specify the location of the note on the drawing by dragging the text to the proper location.

When locating the note, a leader will automatically be inserted if the note is located far enough away from the item. When the note is too close the the item, the leader line will be removed.

You can toggle the leader on and off by right-clicking or pressing **SPACE**.

Related Options

You can customize the block used for the leader arrow and its length. See the **Miscellaneous Options** section for more information.

Previous and Next Pipes

The commands in Design Master Plumbing sometimes refer to next and previous pipes. This section describes how to identify those pipes in your system.

These terms are used when discussing pipes that are connected to a specific pipe you have selected.

The **Previous Pipe** is the pipe that runs toward the equipment from the reference pipe. It is typically larger than the reference pipe. For supply pipes, previous pipes are upstream from the reference pipe. For return pipes, previous pipes are downstream from the reference pipe. Pipes only have a single previous pipe.

Next Pipes refer to the pipes that run toward the fixture from the reference pipe. They are typically smaller than the reference pipe. For supply pipes, next pipes are downstream from the reference pipe. For return pipes, next pipes are upstream from the reference pipe. Pipes can have multiple next pipes.

Technical Support

Technical support is available by phone, email, or live chat on our website. We are available Monday through Friday, 9am to 5pm Eastern time.

Limited support by email is available evenings, weekends, and holidays.

Email: **support@designmaster.biz**

Phone: 1-866-516-9497 x2

Live Chat: **http://www.designmaster.biz/chat/**

System Requirements

To run Design Master Plumbing, you need AutoCAD 2007 or later or BricsCAD within the last 3 years, and a computer capable of running your specific version of AutoCAD or BricsCAD.

Complete system requirements are available on our website.