Customizing Units

If you did not find a suitable Using Units in the standard libraries (ISO-80000), you can:

- Creating a custom Value Type
- Creating custom Unit

Creating a custom Value Type

If you want to use a different Value Type than our library provides, you can create a custom Value Type and specify a desired Using Units for it from the ISO-80000 package.

To create a custom Value Type

- 1. Select a package in the Containment tree where you want to create a new Value Type.
- 2. Right-click it and select Create Element.
- 3. In the opened dialog, search for a Value Type and select it.
- 4. Type its name in the following syntax: quantity name[unit name]. (e.g. volume[liter]).
- 5. Press Enter.
- 6. Double-click the newly created Value Type to open its Specification window.
- 7. In the Specification window, specify the Unit property value:
 - a. Click
 - b. In the Select Instance Specification dialog, clear the Apply Filter box.
 - c. Make sure the ISO-80000 library is loaded in your project.



- d. Select the required Unit from the ISO-80000 package (e.g.litre).
- 8. Click Close.

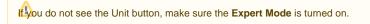
The new Value Type is defined in your project and can be used as a type for a Value Property.

Creating custom Unit

If you need to use imperial units (e.g. inch, foot, mile) or other units that are not defined in the ISO-80000 standard, you can create a custom Unit in your project. A Using Units must always be related to a Quantity Kind, but a Quantity Kind need not have any associated Units. Often equations can be expressed in terms of quantities that include Quantity Kinds without specifying Units.

To create a custom Unit

1. From the Block Definition Diagram palette, expand the Value Type button and select the Unit button.



- 2. Click the mouse pointer on the diagram pane. The Select Classifier dialog opens automatically.
- 3. In the Select Classifier dialog, find the Unit Block, double-click it to select and click OK. The new Unit is created.
- 4. Type its name (e.g. mile).
- 5. Double-click the Unit shape to open its Specification window.
- 6. In the Specification window specify:
 - The Quantity Kind property value:
 - a. Click
 - b. In the Select Quantity Kind dialog, clear the Apply Filter box.
 - c. Make sure the ISO-80000 library is loaded in your project.



- d. Select the required quantity from the ISO-80000 package (e.g. distance).
- The symbol of Unit:
 - a. In the Property group list, select Slots.
 - b. Select the symbol slot and click the Create Value button.
 - c. Type the unit symbol in the Value area (e.g. mi).
 - d. Click Close.

The new Unit is created and can now be specified for the Value Type and then used in your project as a type of Value Property.

Related pages

- SysML Block Definition Diagram
 Instance Table
 Package import
 Using QUDV model library
 Using Units
 Quantity Kind
 Value Type
 Value Property
 Block