PCA Symbol Editor - User Guide

Learn how to publish new symbols in the PCA RDL Platform

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1. Introduction

1.1 Purpose of the Symbol Editor

The PCA Symbol Editor is a web application within the PCA RDL Platform.

It allows users to upload SVG-based engineering symbols and enrich them with metadata so that they can use structured data to present information that is today found in technical diagrams (e.g., P&IDs).

While an SVG file defines the visual appearance of a symbol, the Symbol Editor adds the semantic layer or metadata describing what the symbol represents, how it connects, and how it behaves when used in data-driven diagrams.

This ensures consistent and interoperable symbols across organizations and tools.

1.2 What this guide covers

This guide provides step-by-step instructions for how to:

- Upload an SVG file with the visuals of an engineering symbol.
- Add and edit symbol metadata such as name, description, and category.
- Define connection points and center of rotation used in data-driven diagrams.
- Save symbols for review and publication in the PCA Symbol Library. It assumes that SVG files are prepared in Figma using the Engineering Symbols Tool Figma-plugin to ensure compatibility with the Symbol Editor.

1.3 Prerequisites

Before using the Symbol Editor, make sure you have:

- A valid SVG file, exported from Figma using the Engineering Symbols Tool plugin.
- Access to the PCA Symbol Editor web application.

1.4 Related Documents

- Drawing symbols in Figma - User guide
  can be found on https://www.posccaesar.org/pages/documentation

2. Getting started

2.1 Accessing the Symbol Editor

1. Open your browser and navigate to https://poscceaser.org/
2. Log in to your PCA workspace using your assigned credentials.
3. From the Extend library button, select Symbol Editor.
4. The application opens in your browser and displays the symbol workspace.

If you cannot access the tool, contact your PCA system administrator.

2.2 User Interface Overview

When you open the Symbol Editor, the workspace consists of three main areas:

Area	Description
Symbol Workspace	Displays the selected or uploaded SVG file, and the corresponding connection points and the point for center of rotation. You can move and place connection points and the center of rotation here to desired locations in this workspace.
Left Slider	Used to upload new symbols or select existing ones. Editing an existing symbol and saving changes creates a new version. The original symbol remains in the library but is marked as replaced. To access the left slider, click the >> icon in top left corner of the Symbol Workspace.
Right Slider	The metadata panel is where you add metadata for the selected symbol that you are viewing in the Symbol Workspace. To access the right slider, click the << icon in top right corner of the Symbol Workspace.

3. Adding a New Symbol

3.1 Uploading an SVG File

The SVG file defines the symbol's visual representation.

To upload it:

1. Click on the "Select symbol" button in the top-left corner of the Symbol Workspace.
2. The Left Slider now appears on the left side of the screen.
3. Click "Choose file to upload" and select the SVG file from your computer.
4. The system parses the SVG and displays the symbol in the main canvas.

If the upload fails, verify that:

- The SVG file contains only vector paths.
- The file has been processed using the "Engineering Symbols Tool" plugin in Figma.

When successful, the symbol appears in Symbol Workspace and is ready for metadata, connection points, and center of rotation.

3.2 Adding Metadata

To enrich the symbol with metadata:

1. Click on the "Edit details" button in the top-right corner of the Symbol Workspace.
2. The Right Slider now appears on the right side of the screen.
3. Fill out the form:

Field	Description
Name	A unique, descriptive name for the symbol (e.g., Gate Valve)
Description	Explain what the symbol represents.
Package name	(Optional) Groups several symbols into one review package by assigning the same package name.
Replaces	Specifies the symbol that this one replaces, if applicable.
Ontology	Identifies which ontology the symbol belongs to.

Justification	Explains why the symbol is being added; used by reviewers.

3.3 Adding connection points

Connection points are optional and define where lines in technical diagrams can attach to a symbol.

To add a connection point:

1. Click the “Add connector” icon in the top-left of the Right Slider.
2. A new connector appears in the top-left corner of the symbol area and is also added as metadata in the Right Slider.
3. Drag the connector to the correct location or adjust its X and Y coordinates in the metadata drawer.
4. Choose an angle (0°, 90°, 180°, 270°) to define the connector’s attachment direction.

Note: The arrow of the connection point currently defines only the line approach angle, not the direction of flow or signal.

3.4 Defining the center of rotation

Some cases require symbols to be rotated for clarity and usability.

To enable this, it is required that each symbol have a defined center of rotation. This is the point that the symbol will rotate around.

To set the center of rotation:

1. Click the “Add center of rotation” icon in the Right Slider.
2. The rotation point appears in the top-left corner of the Symbol Workspace and is also added as metadata in the Right Slider.
3. Drag it to the desired position or edit the X and Y coordinates in the Right Slider.

Note: If a center of rotation is not added, the symbol cannot be rotated in diagrams.

3.5 Saving and Submitting for Review

Until you click Save, nothing is stored in the library. Your changes exist only in your browser session.

If you navigate away, close the tab, or press Cancel, your work will be lost.

To save:

1. Click the Save button on the Right Slider.

The symbol is stored in the library with status “Pending Review”. Users can start using it immediately, but the “Pending Review” status signals that it has not yet been formally approved. After review, the status will change to Approved or Rejected depending on the outcome.

4. Symbol Review and Publication

4.1 Review Process

All newly saved symbols are queued for review. Reviewers verify visual design, metadata completeness, ontology alignment, and if the symbol has a purpose for the wider industry.

4.2 Symbol Statuses

Status	Description
Pending Review	Symbol is newly created and awaiting review.
Published	Symbol has passed review.
Rejected	Symbol has failed review.
Deprecated	Symbol has been replaced by a new version that has been published.

5. Editing Existing Symbols

Direct editing of a published symbol is not possible.

Instead, select an existing symbol, make your modifications using the Symbol Workspace and the Right Slider, and save it.

A new symbol with a unique ID is created, containing the updated content and a reference to the symbol it replaces.

Example: A new version of Gate Valve replaces an older version of Gate Valve. The older version remains in the library but is marked as deprecated.

6. Troubleshooting and Best Practices

6.1 Troubleshooting issues

Issue	Possible cause	Solution

6.2 General tips for best practice

- Always clean your SVG in Figma before uploading.
- Use clear, consistent names for all metadata fields.
- Test symbols in a sandbox environment before publishing.
- Keep version notes when replacing existing symbols.