PREMA MagiCAD Plugin User guide

03/06/2024

MagiCAD

Content

1 Chapter 1. General

1.1 About this document

This document contains instructions on using PREMA MagiCAD plugin.

PREMA MagiCAD plugin allows to insert, copy, update and view technical data of PREMA shunt units with MagiCAD. Plugin supports the following Premablock product lines:

- Premablock
- Premablock green
- Premablock flex

1.2 Installing the software

1.2.1 Required third-party software

PREMA MagiCAD plugin works with the following MagiCAD for AutoCAD versions

- MagiCAD 2024 and AutoCAD 2021-2024
- MagiCAD 2025 and AutoCAD 2021-2025

Before installation

1. Administrator privileges are recommended for installation.

2. **Notice if you have several AutoCAD versions on your workstation.**
   Before you run the plugin installer, start MagiCAD to make sure that PREMA MagiCAD Plugin installs on the same AutoCAD platform as MagiCAD.

1.2.2 Installation

1. Download the plugin setup file from MagiCAD portal:

   https://portal.magicad.com/download/ProductSearch?searchStr=Prema&categoryId=3

2. Run the PREMA MagiCAD plugin installer on your workstation.

1.3 Starting the program

Before you start using *PREMA MagiCAD plugin*, (re)-start MagiCAD and open or create a Ventilation and piping project.

The plugin is automatically loaded and is ready to be used once AutoCAD is started next time after installing the plugin. If for some reason the plugin is not loaded in AutoCAD CUI file needs to be loaded manually.

Run **CUILOAD** in AutoCAD, and browse the customization file from following directory:

Directory for cui/cuix file is by default for

XP: *C:\Documents and Settings\All Users\Application Data\Prema MagiCAD plugin*
Win7: *C:\Users\All Users\Prema MagiCAD plugin* or *C:\ProgramData\Prema MagiCAD plugin*
Win8 / Win8.1 / Win10: *C:\ProgramData\Prema MagiCAD plugin*

The CUILOAD steps are required only if customizations in AutoCAD are not loaded automatically.

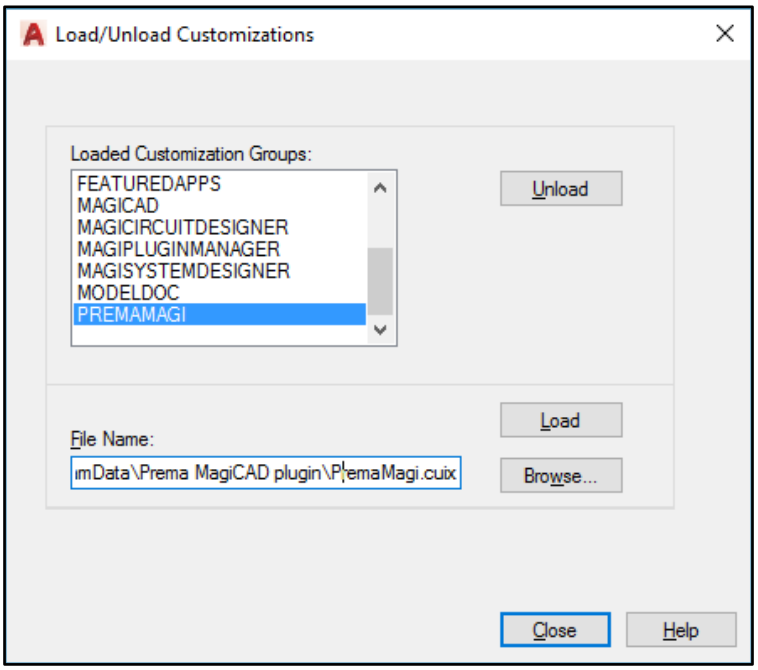


Figure 1 CUI loading in AutoCAD

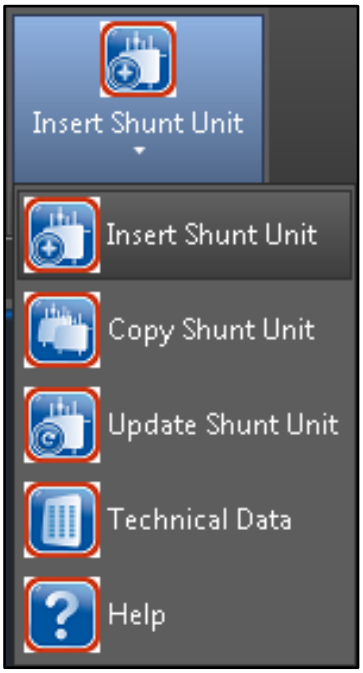


Figure 2 PREMA Ribbon functions

2 Chapter 2. Functions

2.1 PREMA MagiCAD Plugin UI

Plugin contains following functions:

 Insert shunt unit

- Starts the PREMA dimensioning program and inserts new shunt unit to MagiCAD.

 Copy Shunt Unit

- Starts PREMA copy shunt unit -operation.

 Update shunt unit(s)

- Starts PREMA update shunt unit(s) -operation.

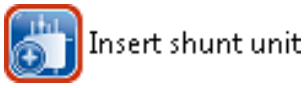
 Technical data

- Starts Technical data dialog for selected shunt unit.

 Help

- Opens PREMA plugin’s user guide document.

2.1.1 Insert Shunt Unit



Follow these steps for Inserting PREMA shunt unit to MagiCAD drawing:

1. Draw and balance the secondary circuit. This is important because PREMA MagiCAD plugin sends flow and pressure drop data to the dimensioning program.

2. Click Insert shunt unit -button from PREMA MagiCAD plugin.

3. Once operation is started, user is first prompted to select the MagiCAD system for the primary circuit. The selected system will be set for the shunt unit that is exported to the MagiCAD via plugin.

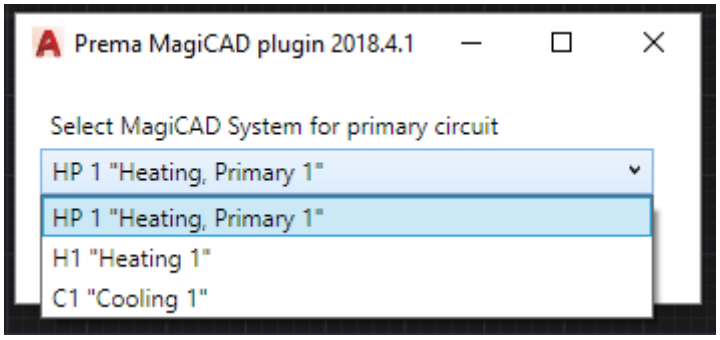


Figure 3 Primary system selection

4. Next user is prompted to select the supply and return pipes of the secondary circuit. It is important to select that part of the pipe that should be connected to the shunt unit. Reason for this is that plugin sends flow and pressure drop information read from the selected pipes to shunt unit calculation.

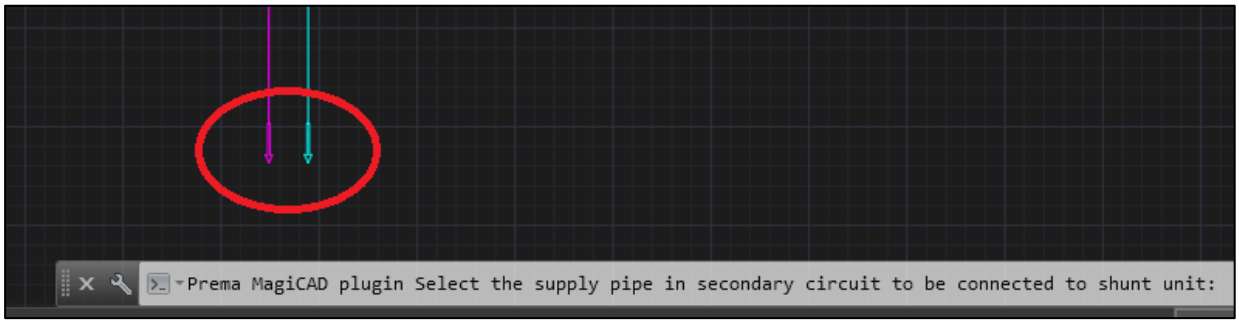


Figure 4 Secondary system pipes selection

5. After secondary circuit pipe selections PREMA dimensioning program is started:

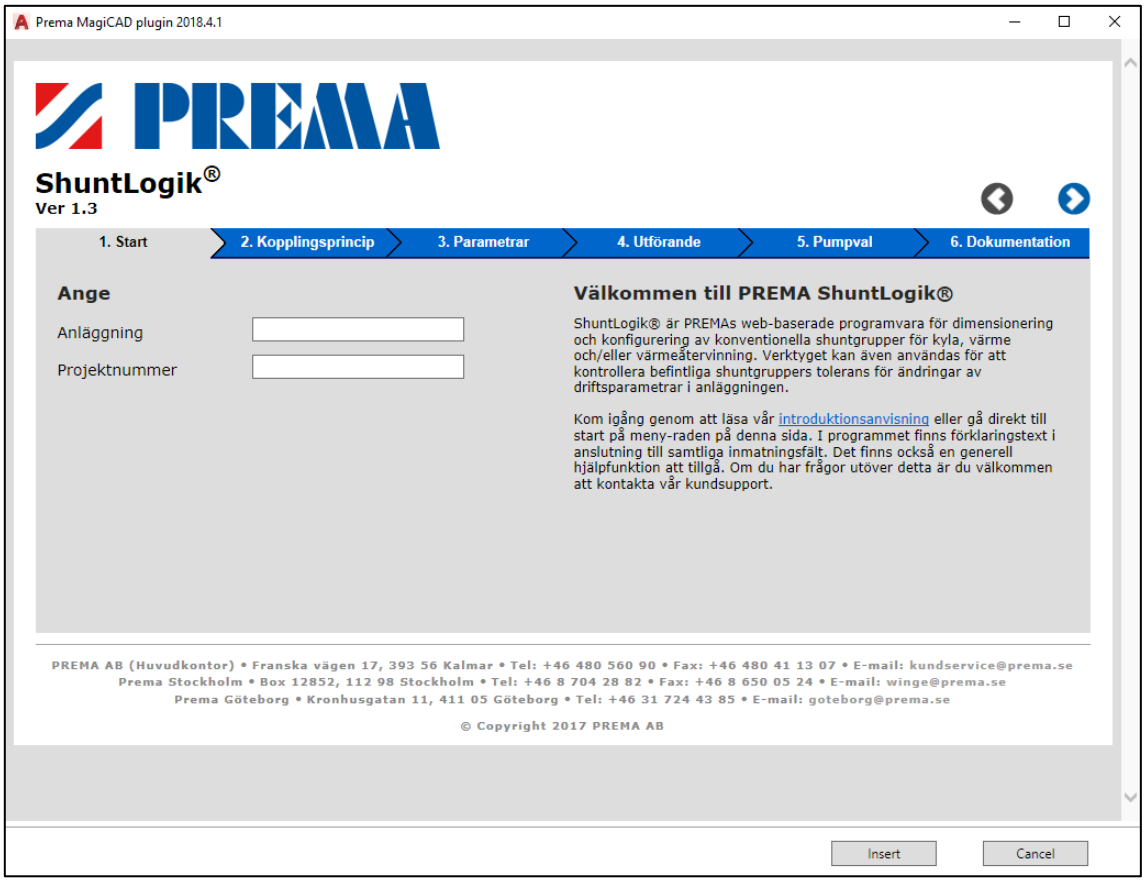


Figure 5 ShuntLogik dimension program in plugin view

If you notice any problems in displaying the PREMA dimensioning program, please confirm that you have Internet Explorer 9 or later installed on your workstation.

6. After user has selected the installation name and project number the Premablock product is selected.

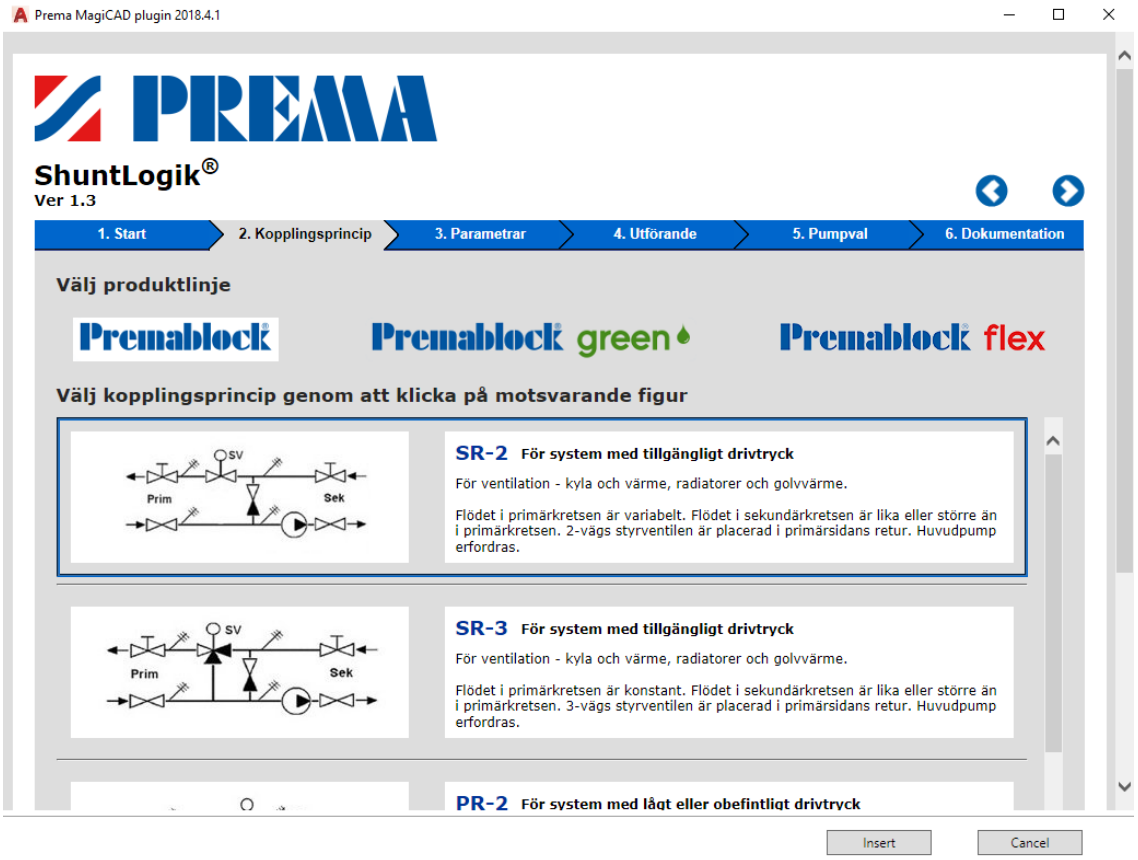


Figure 6 Premablock product selection

7. Calculation parameters are set based on selected MagiCAD system and selected secondary circuit pipes. The user has to input an estimation of the primary circuit minimum driving pressure, designation and position in order to complete the calculations. Marked with red in the picture below.

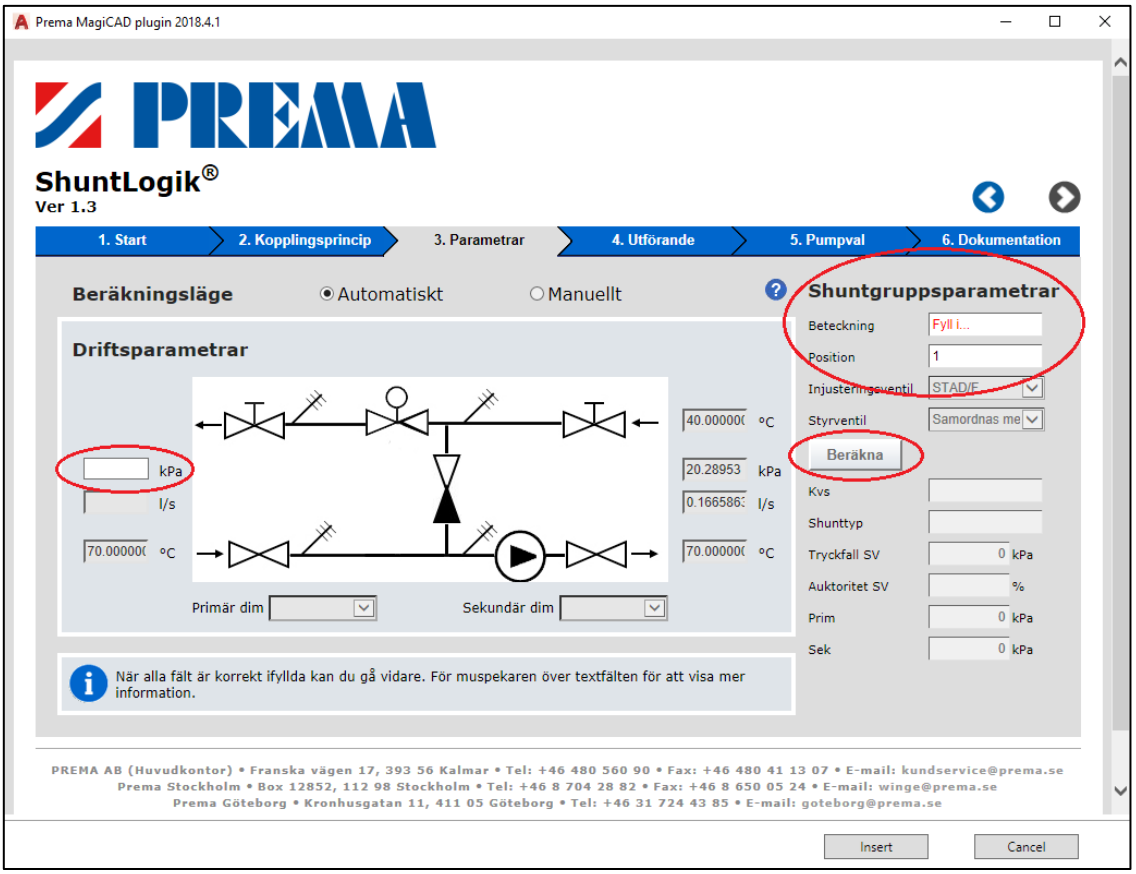


Figure 7 Premablock parameter selection and calculation

8. Selected product is exported to MagiCAD from final page of the dimensioning program. User clicks the insert button (highlighted with red) to insert the selected shunt unit to MagiCAD. Please note that insert operation is not functional before the last page of the dimensioning program is reached.

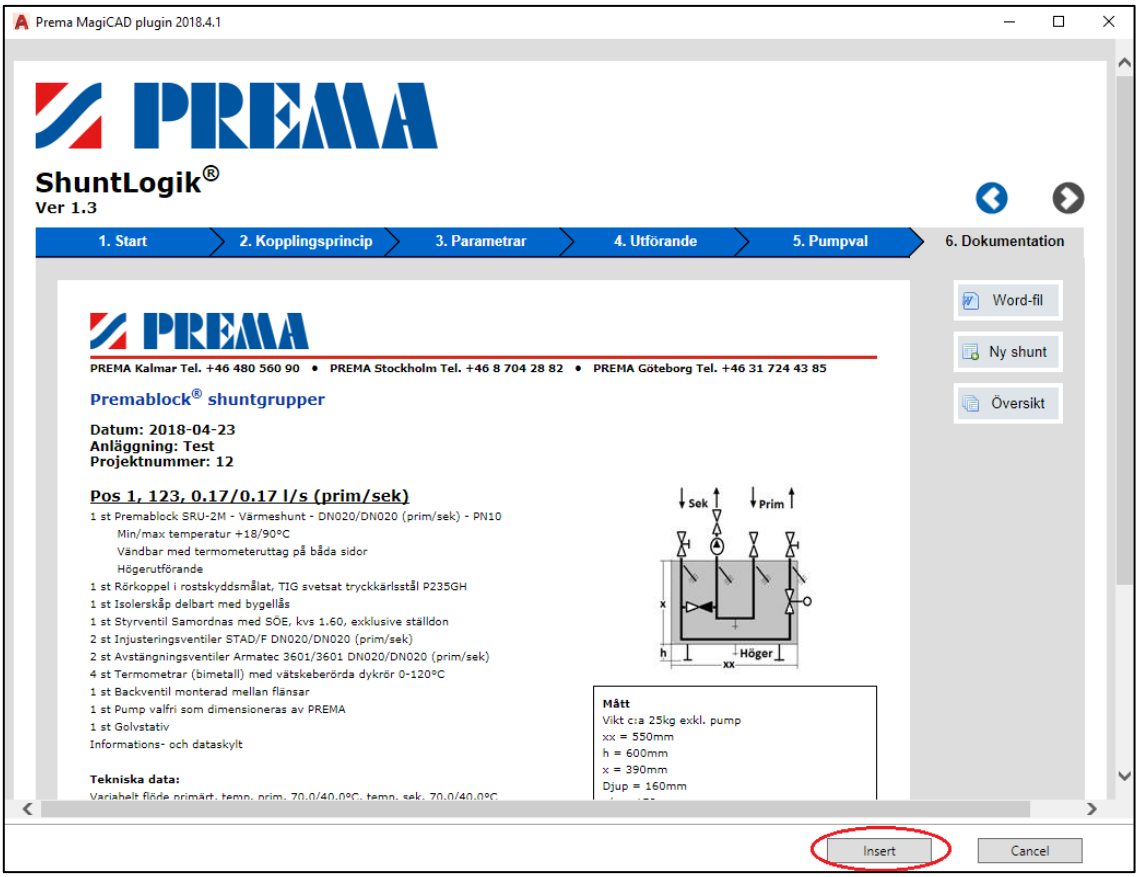


Figure 8 Premablock final step and insert to MagiCAD operation

Once product is inserted in to MagiCAD it should be connected to primary and secondary circuits.

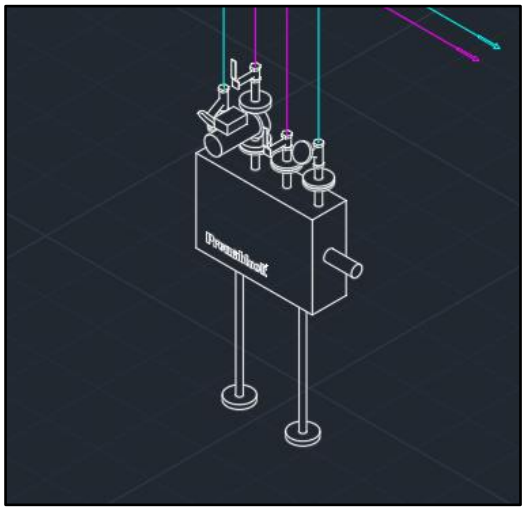


Figure 9 Shunt unit inserted to MagiCAD and connected to primary and secondary circuits

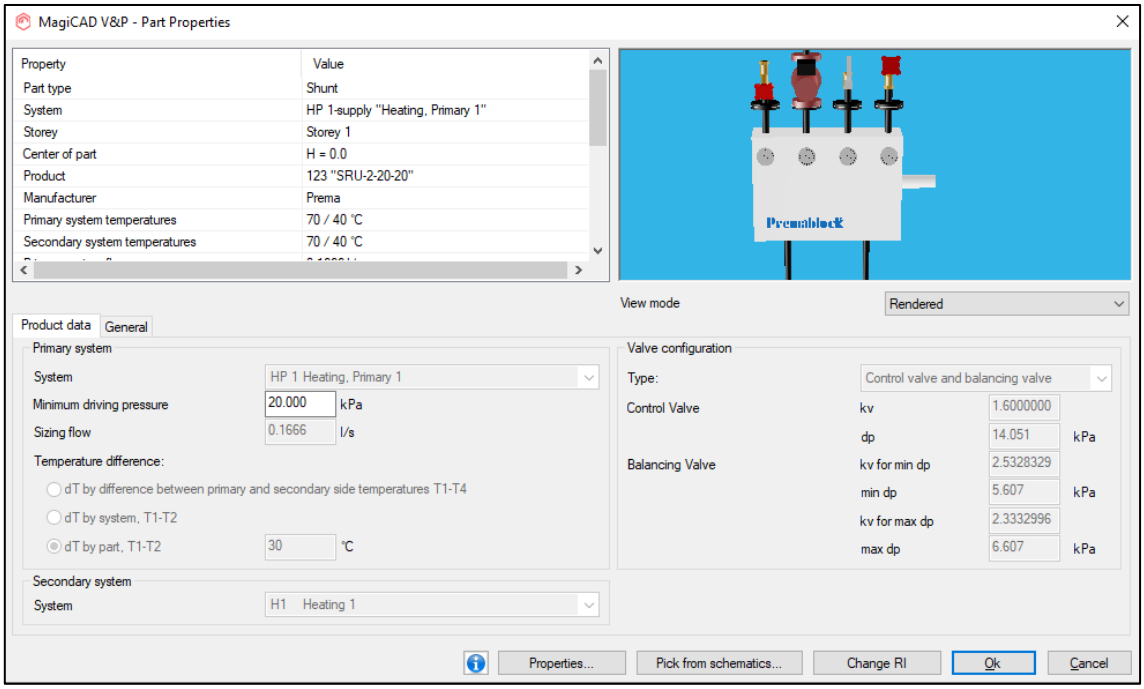
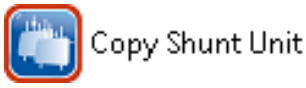


Figure 10 Shunt part properties dialog in MagiCAD

2.1.2 Copy Shunt Unit



This feature allows user to copy an existing shunt unit within the drawing. The copied shunt unit can be pasted single or multiple times into the drawing.

1. The feature is initialized by clicking on the “Copy Shunt Unit” button on the PREMA ribbon.
2. User is then asked to select a shunt unit to be copied. The selected shunt should be updated beforehand and be connected to pipework.

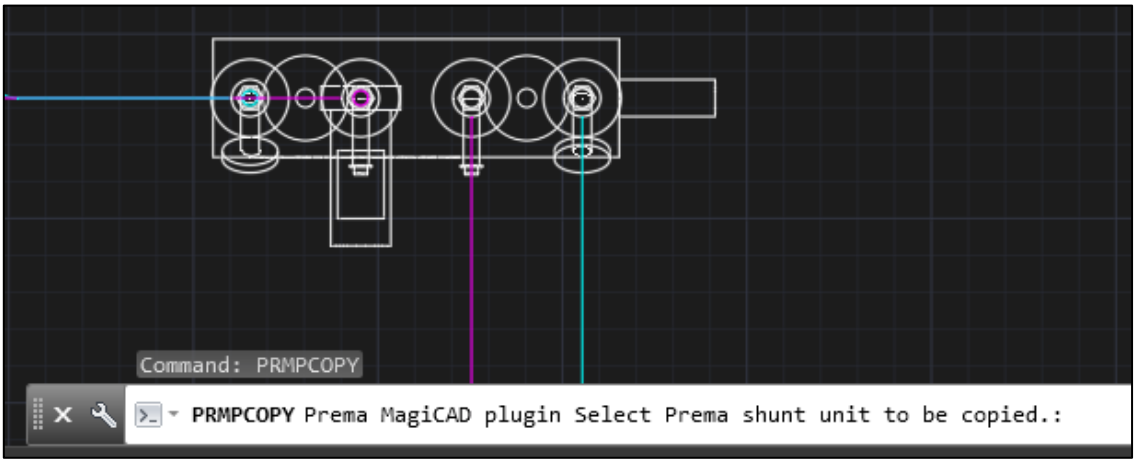


Figure 11 Shunt copy operation

3. After selecting an existing valid shunt unit from the drawing user is prompted with a dialog asking user to select a secondary system for the new shunt unit copy, from a dropdown selection box. User is also asked to write a new user code for the product before continuing. The prefilled values in the dialog are from the original shunt.

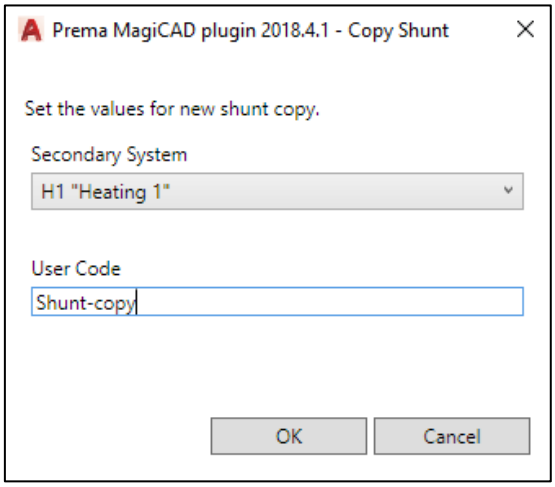


Figure 12 Copy shunt dialog

4. After pressing OK user can paste the newly copied shunt unit into the drawing.

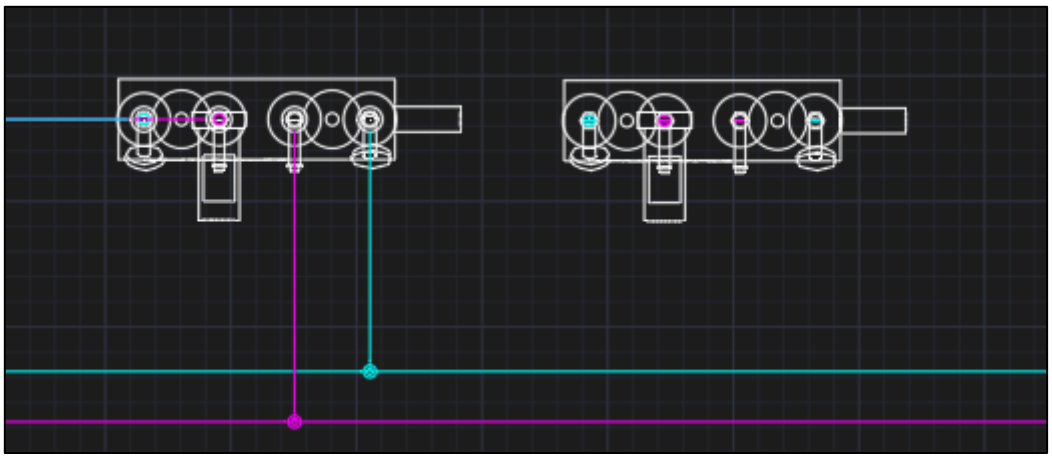
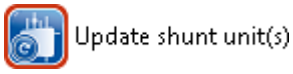


Figure 13 New copy inserted beside the original shunt

5. When user has positioned the shunt unit into the drawing, the same dialog as before is opened again asking if the user wants to paste another copy of the selected shunt unit. User can add a new copy of the original by filling the required information and pressing OK. This can be repeated multiple times.

6. After inserting the last copy. User will press cancel from the dialog and connect all the inserted shunt copies to the pipework. After the shunt units are connected and the balancing calculations have been completed they should be updated using the plugins update feature.

2.1.3 Update Shunt Unit(s)



Shunt(s) should be updated after the primary circuit is finished. The reason for this is that the PREMA dimensioning calculation will now get the accurate driving pressure value straight from MagiCAD instead of an estimation from the user.

Before updating the shunts, make sure that the shunts are connected to the pipework and that the MagiCAD balancing calculation has been done for the systems to which the updated shunts are connected to.

When *update shunt unit(s)* –operation is started, user is first prompted to select shunt unit(s) to be updated. User can select a single shunt unit or multiple shunt units for the update.

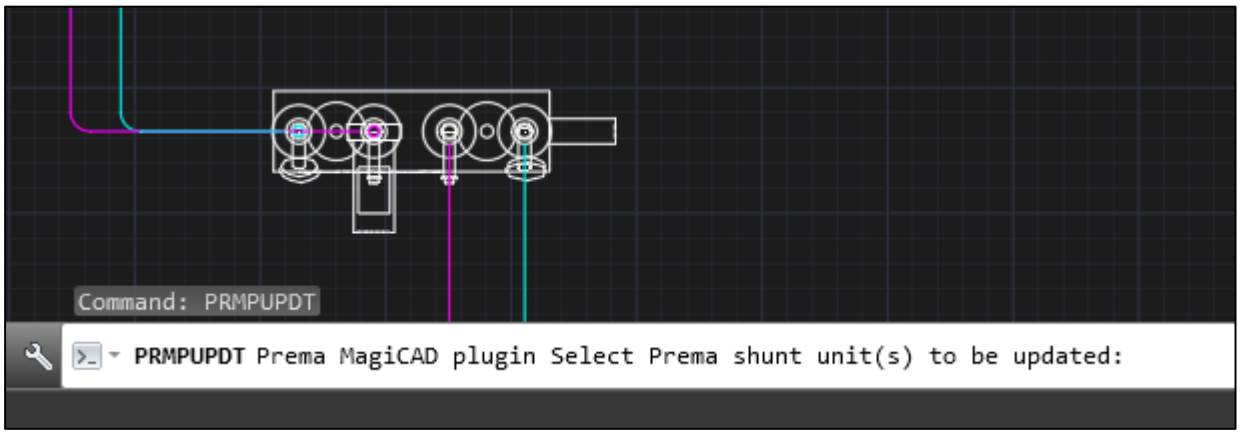


Figure 14 Shunt update operation

After the selection is done, depending on how many shunts where selected the dimensioning program is opened in either single shunt unit update mode or in batch update mode.

NOTICE: The batch update shouldn't be done for shunts which have changes on the secondary circuit's driving pressure, temperature or flow. Also shunts with changes on primary system temperatures should be excluded from the batch update. In these cases the shunts should be updated separately because there might be changes to the shunts' components, configuration and price which user should be aware of.

Single Shunt Update

1. If only a single shunt unit is selected for the update then the single shunt update mode is chosen. The single shunt update will bring user to the 3 step of the application where all the previous values are prefilled to the fields.

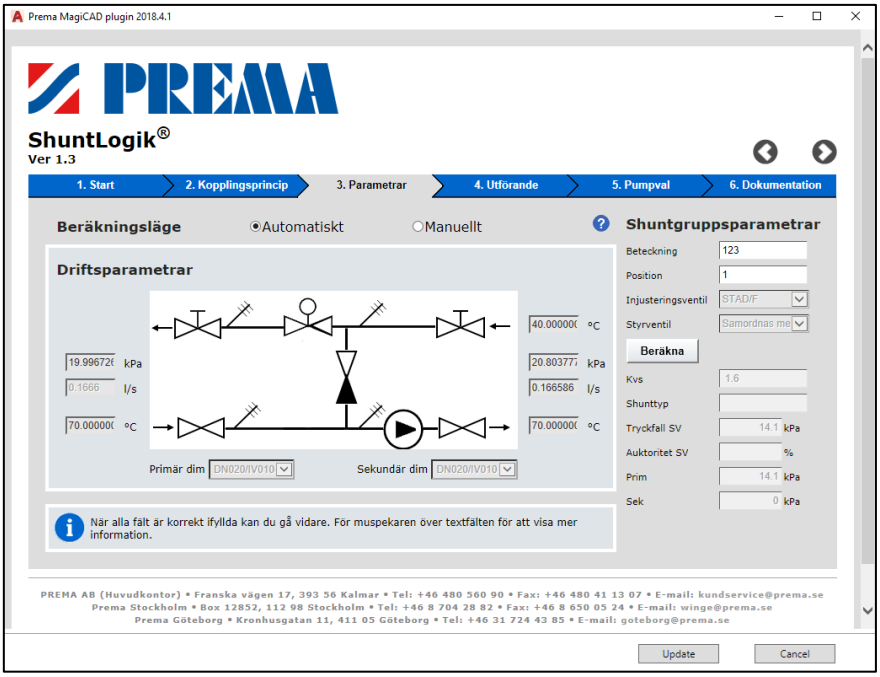


Figure 15 Shunt update operation in parameters

2. Pre-selections on configuration page is made based on the original shunt unit configuration:

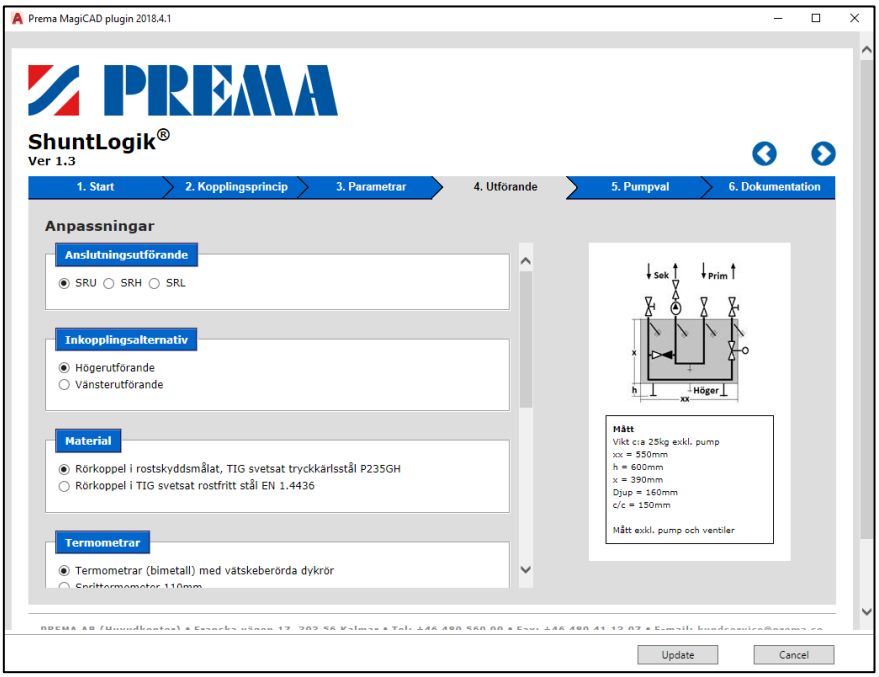
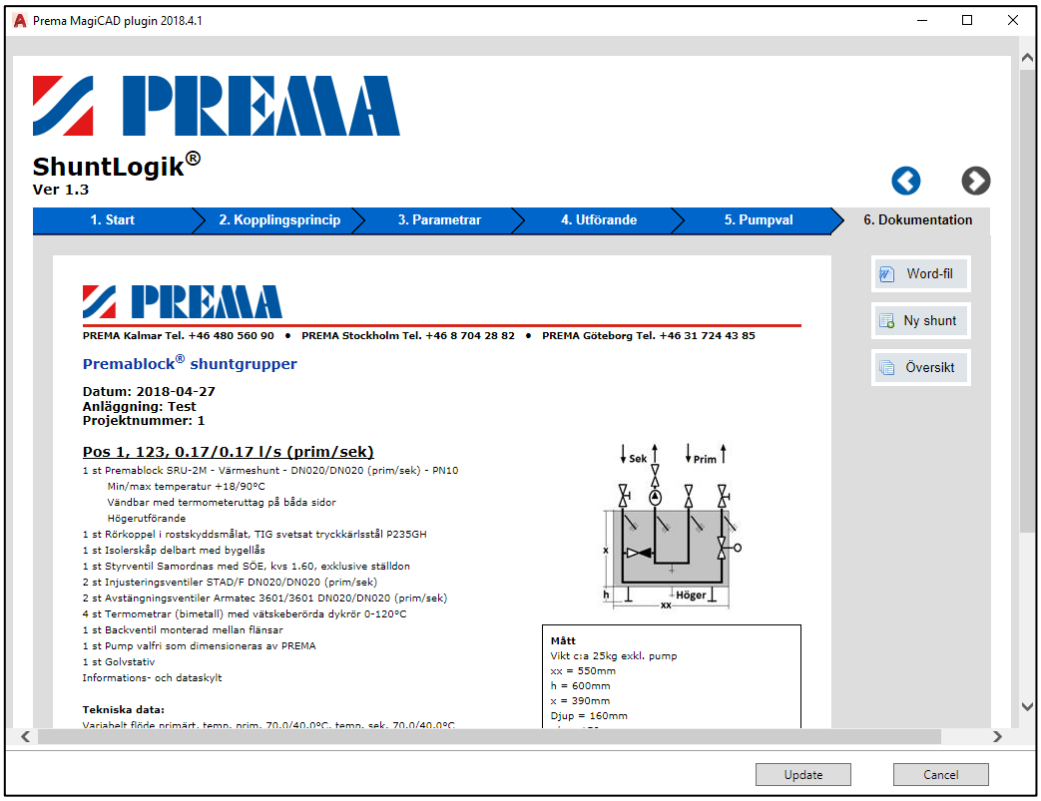


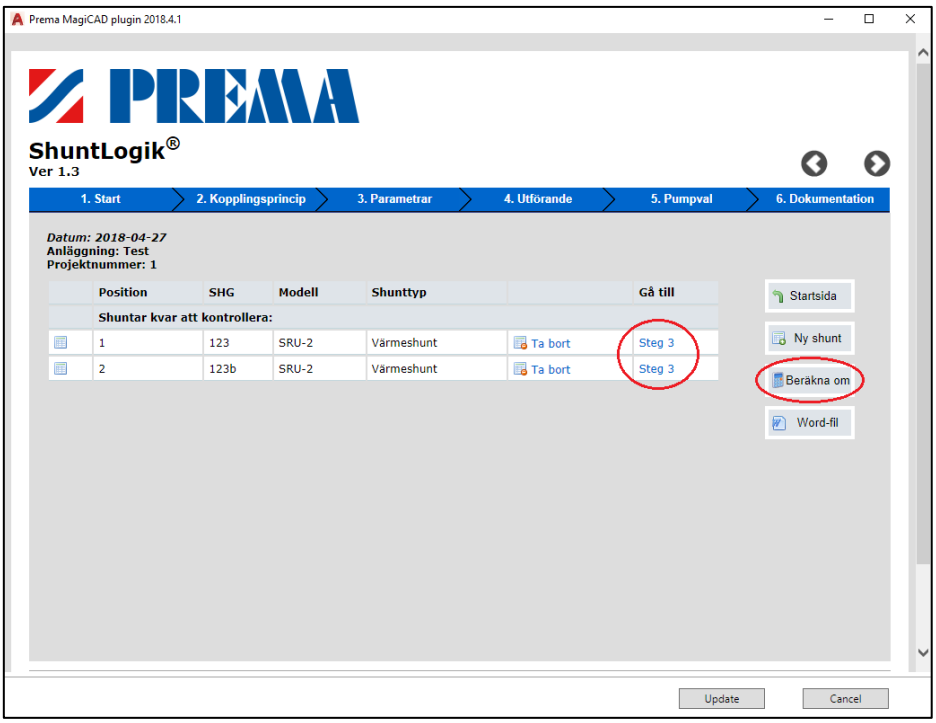
Figure 16 Shunt update operation accomplishment

3. Update to MagiCAD is done from final page of the dimensioning program like in the insert operation:



Batch Update

1. If multiple shunt units where selected for the update then the batch update mode is chosen. The batch update will bring the user to the overview page. The user can either recalculate all the selected shunts one by one or all at once by clicking on the recalculate button. If user wishes to recalculate them one by one user can click on the step 3 buttons and go through the steps 3– 6 for each of the selected shunts.



2. If user decides to recalculate the shunt units one by one, after each recalculation user must return to the overview page by clicking on the overview button.

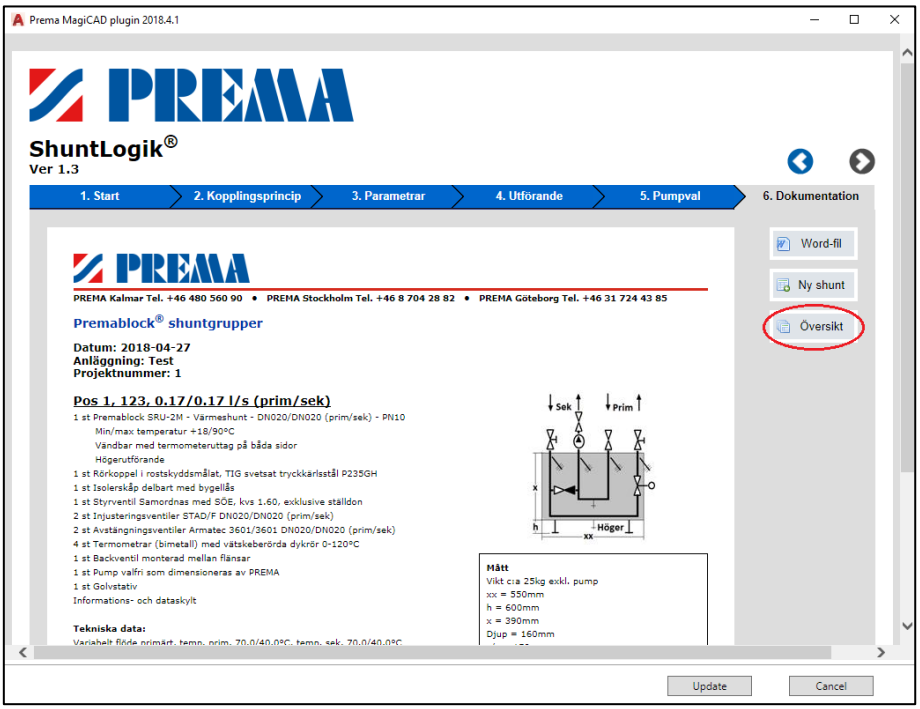


Figure 17 Returning from last page to batch update page

3. After all the shunt units are recalculated, the update button can be clicked in order t return updated products into MagiCAD:

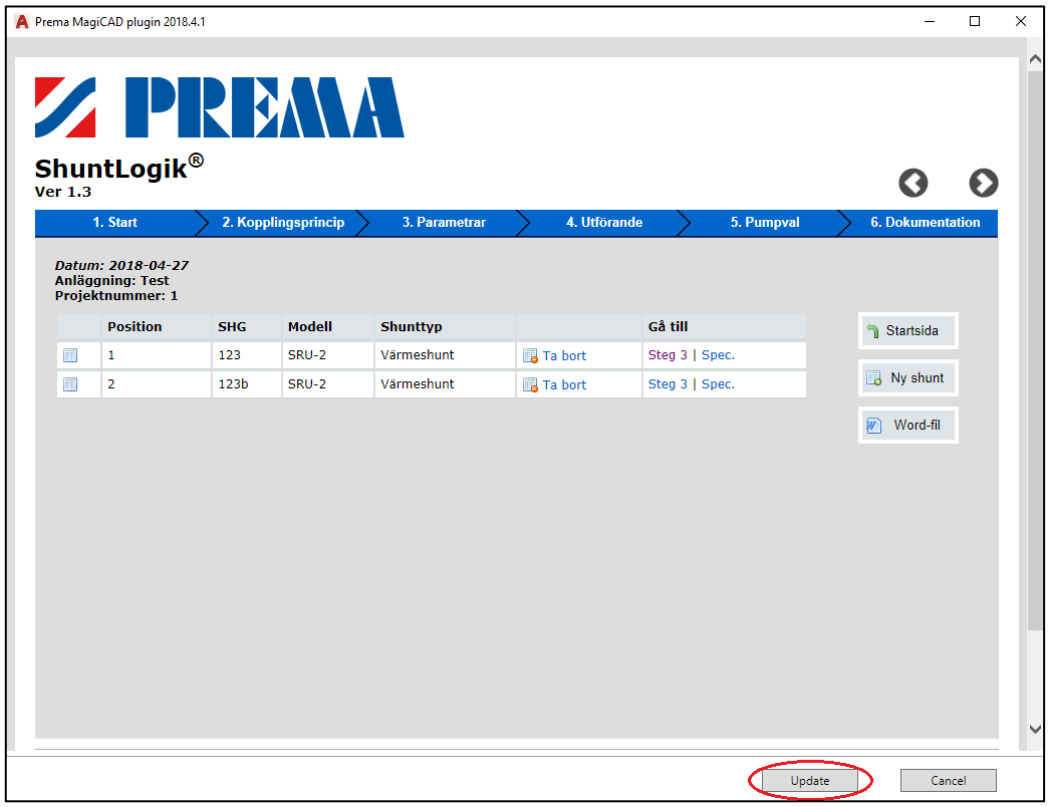


Figure 18 Batch update finished

4. If none of the shunt units have changed or alterated geometry then the plugin will inform the user of the successful update with the following message:

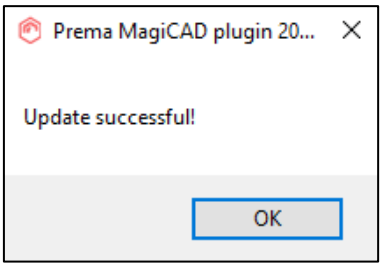


Figure 19 Plugin update status dialog

5. If any of the shunt units have changes in their geometry the following window is shown. Only the shunts with changes in the geometry are listed in this window. This window prompts user to reconnect all the listed shunt units back to the pipework.

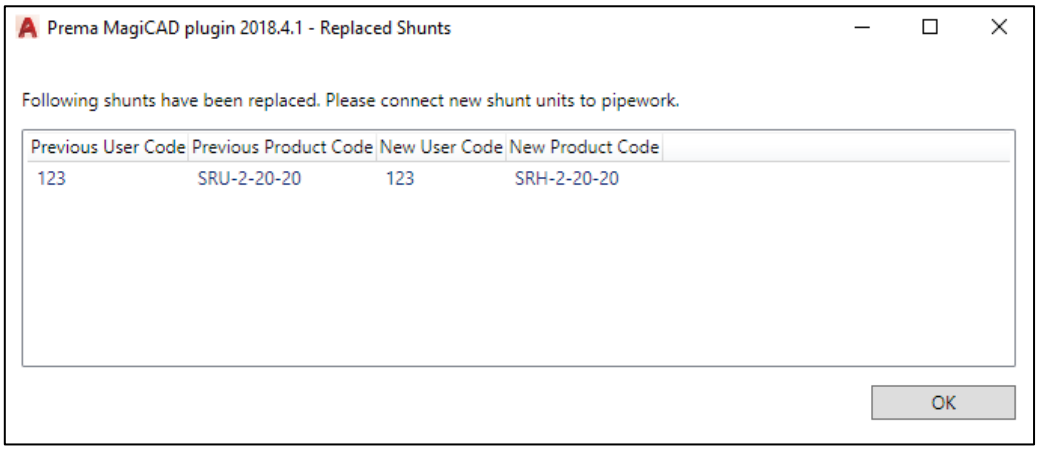


Figure 20 Plugin geometry change update status window

2.1.4 Technical Data

When technical data operation is started, user is prompted to select the shunt unit which technical data is wanted to view. After that following dialog is displayed:

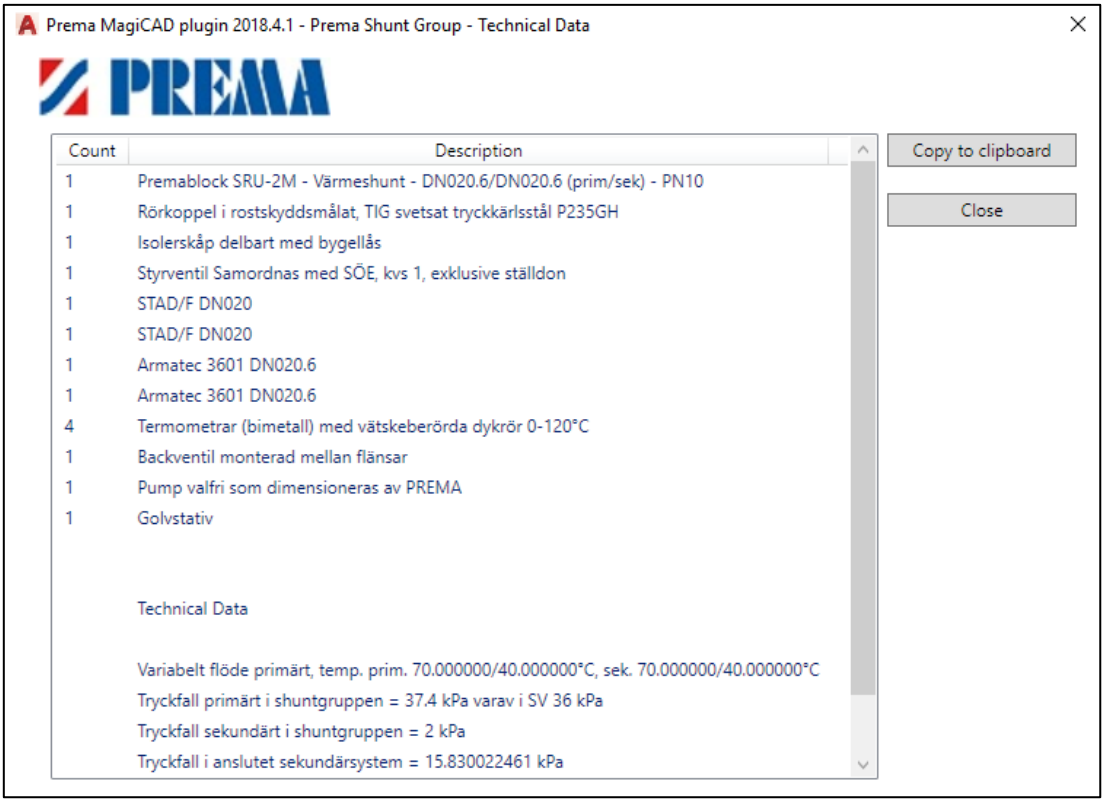


Figure 21 Shunt technical data dialog

Copy to cliboard functionality copies the content of the listview to clipboard allowing user the copy and paste shunt units bill of materials to users own documentation.

2.1.5 Help

This feature is initialized by clicking on the Help button at PREMA ribbon. The plugin will open the *PREMA MagiCAD plugin - Users guide.pdf* located at *C:\ProgramData\Prema MagiCAD plugin*. User needs to have a PDF compatible reader installed.

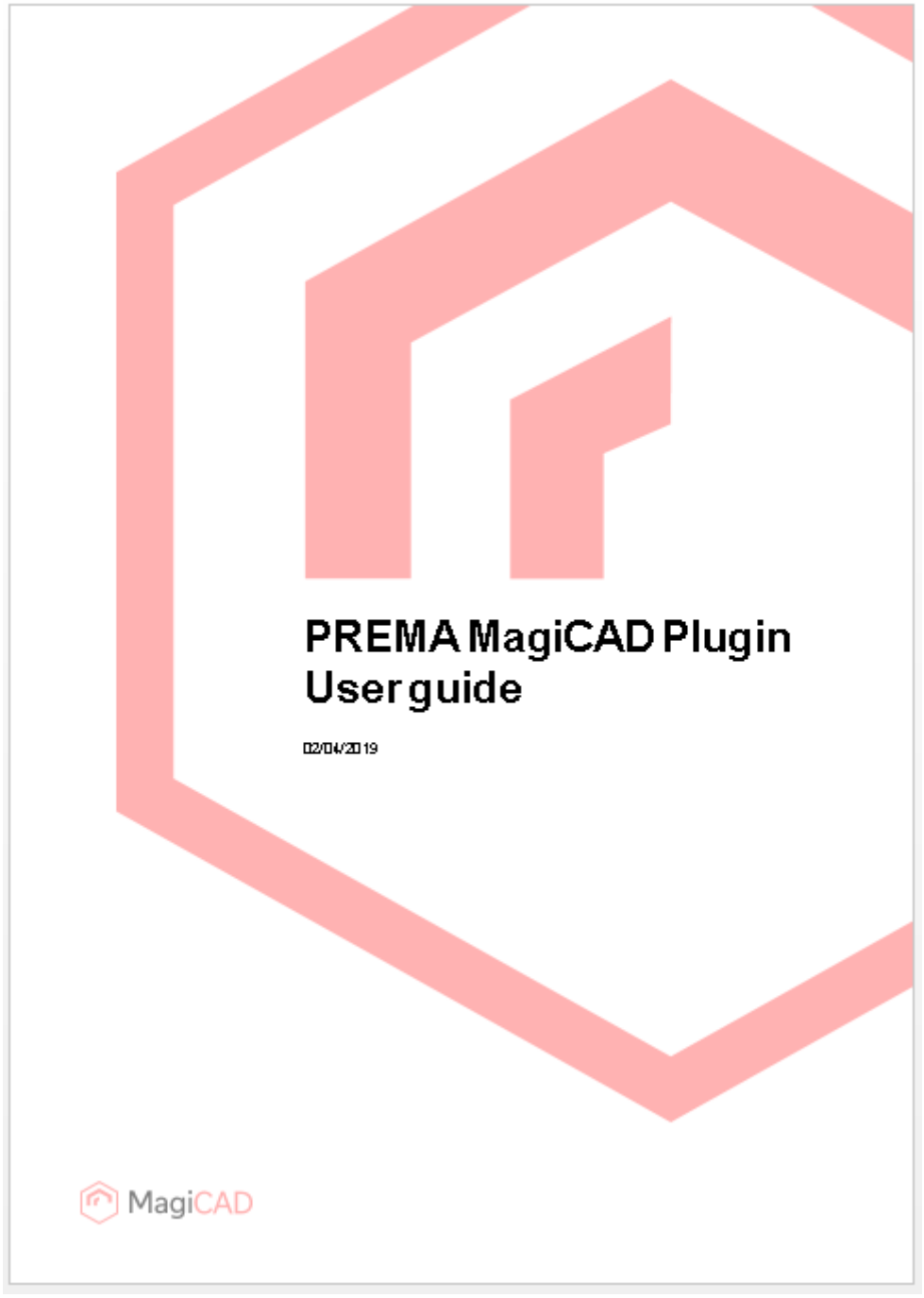


Figure 22 PREMA MagiCAD plugin users guide PDF